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Making a Mark: Wits School of Construction Economics and Management and Its Contribution to the Construction and Property Fields

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MAKING A MARK

Wits School of Construction Economics and Management and Its Contribution to the Construction and Property Fields

By

Professor Samuel Laryea, Alexandra Smit-Stachowski, Bongi Mphuti

At the

UNIVERSITY OF WITWATERSRAND

University of Witwatersrand

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ABOUT THE AUTHORS

Prof Samuel Laryea



Professor Samuel Laryea is the Head of the School of Construction Economics and Management at Wits University, and Chair of the West Africa Built Environment Research (WABER) Conference. He holds a PhD in Construction Management and Postgraduate Certificate in Academic Practice from the University of Reading, UK; and BSc Honours in Building Technology from Kwame Nkrumah University of Science and Technology, Ghana, where he was President of the Students' Representative Council. His research areas are construction procurement, tendering, contracts, and management. He has authored over 70 publications in international outlets and is a rated researcher by the National Research Foundation.

Alexandra Smit-Stachowski



Alexandra Smit-Stachowski is a born-and-bred African with German roots. The former journalist who worked with Caxton and Independent Newspapers in South Africa, spent time in Germany in a marketing capacity. She returned home at the end of 2014 and has committed to being a servant leader in politics and as an LGBTQIA+ ally. Alex was the editor of the 'Jozi Cadre' under the leadership of Sasabona Manganye, current ANC Gauteng Regional Secretary, during the pandemic.

She has worked in the education, non-governmental and research fields and provides editing services for professionals from various universities. Notable authors including Dr David Dube, Kgomotso Lekalake and Lillian Saïd have entrusted her to edit their political, spiritual and self-help books.

Bongi Mphuti



Bongi Mphuti is a qualified librarian with a Master's in Business Leadership from the University of South Africa, an Honours degree in Information Science from the University of Johannesburg, and a Bachelor's degree in Library and Information Science from the University of Zululand.

In her career, she has served in academic libraries and was instrumental as a member of the Wits Libraries' task team tasked with for the library's organizational design. This included compiling business processes, redesigning the library structure, and reviewing all library job descriptions. Bongi has an outreach programme for children from Nancefield Hostel in Soweto, to teach and help children to be responsible citizens through connecting with God and His principles. She is passionate about the Information Literacy programme and open-access publishing, and has presented three conference papers, two years in a row.

DEDICATION

Prof Samuel Laryea – I was introduced to the world of construction in my childhood by my late father, Henry D.A. Laryea, a building engineer, who also influenced the early path I took to studying building construction in high school, but unfortunately did not live long enough to see where that path has taken me to date. I also dedicate this book to my family who have always been a constant presence in my life and supported me to be who and where I am today. Lastly, this book is for the different generations of students, staff and friends of the School of Construction Economics and Management. Thank you to all of you for making a mark! For the generations yet to come - always follow your dreams and make a greater mark!

Alexandra Smit-Stachowski – I would like to dedicate my contribution to my brother, Rob, and to my father in construction, PDH Stachowski, in whose shadow, I watched as lorries filled with workmen in hard hats and boots, built roads, bridges and houses. Thank you also to my partner, Kurt Swart, who quit his quantity surveying career to become a journalist, which is where we met. Lastly, this is for my Ellery, always. I'd also like to thank Prof for giving me this opportunity of writing a book!

Bongi Mphuti – I would like to give a dedication to God the Creator and the Constructor! To my husband Daniel, and my two sons Thato and Keketso, including my friend Dolly Msibi and her family, for their unfailing support. A special appreciation to my colleagues, just to name a few Pitso Marema, Mabore Seshibe, Thuli Dhlamini, Sally Gaude, Prof Nnamdi Elleh, and to all students who were part of the project. This book was inspired by the exhibition I presented for the two FEBE (Faculty of Engineering & Built Environment) Schools (CEM and SoAP) served by the Wits Martienssen Library, when Wits celebrated 100 years in 2022. I would like to thank Prof Samuel Laryea for bringing this vision into fruition.

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Many thanks to previous Heads of School, Professors Ronnie Schloss, Elizabeth Pienaar and David Root, Prof. Ehsan Saghatforoush, and existing and former staff including Raymond Ndlovu and Prof. Franco Frescura, who gave their time to answer questions. We're also grateful for the time, Dean Thokozani Majozi gave us for the foreword to this book.

Many thanks also to the alumni, Fred Bihl, Mark Osborne, Ronald Smith, Karl Trusler, Shoayb Loonat, Mabuse Moja, Thapelo Tlhapane, Aziz Tayob, Nyiko Mathebula, Ndiphiwe Madikza and Mosha Senyolo.

This work would not have been possible without the students and graduates of Wits who wrote and edited The African Architect, South African Architectural Journal, The South African Architectural Record, Wits Review, and Wits Vuvuzela. All articles, reports, books used to provide additional details for this work are duly acknowledged in the References.

FOREWORD



By Executive Dean of the Faculty of Engineering and the Built Environment, Professor Thokozani Majozi

Dean Thokozani Majozi © Author

It is with great honour and immense privilege that I provide the foreword to this remarkable and unparalleled publication by the esteemed School of Construction Economics and Management. The School of Construction Economics and Management (CEM) stands as one of seven distinguished Schools within the Faculty of Engineering and the Built Environment, boasting the largest student enrolment.

To contextualize, the Faculty currently accommodates nearly seven thousand students, with an undergraduate to postgraduate student ratio of 70:30. Remarkably, almost 20% of these students hail from CEM.

CEM is the sole School in the Faculty that maintains an almost equal split of 50:50 between undergraduate and postgraduate students.

The overarching goal for the entire Faculty is to achieve a 60:40 ratio within the next three years, and CEM is already leading the way in this endeavour. Furthermore, the School has implemented numerous initiatives since the arrival of the new Head of School, Prof. Samuel Laryea, who assumed the mantle from Prof. David Root, having set the School on a highly positive trajectory. A significant portion of these initiatives directly align with and contribute to the Faculty's vision and core values.

In November 2021, the Faculty adopted a vision to produce 21st century global leaders of local significance in the space of Engineering and the Built Environment.

At the core of this vision is to educate our students to be globally competitive without losing sight of national challenges.

This vision is underpinned by four pillars, i.e. strategic objectives, as stated below.

- *Diversity*, *equity and inclusion*

Diversity, equity, and inclusion are essential elements that contribute to creating a fair and inclusive society where everyone is valued and respected for their unique characteristics and experiences. Diversity acknowledges the presence of differences within a group, such as race, ethnicity, gender, sexual orientation, age, abilities, and more. Equity promotes fairness and ensures that all students have equal access to opportunities and resources. Inclusion goes beyond mere tolerance by actively inviting and valuing diverse perspectives and fostering a sense of belonging for all our students. Embracing diversity, promoting equity, and fostering inclusion are key components in building a more just and empathetic community that celebrates and thrives on the richness of its differences.

- *Transforming the undergraduate curriculum*

If our intention is to produce 21st century graduates as articulated in the vision, then our curriculum ought to reflect that ambition. We cannot this vision through 20th century thinking and approach. As an initial step in this regard, we have introduced Data Driven Decision Making for Engineering and Built Environment Professionals as a course offered to all our first year students from 2024 onwards. This is aimed to be a four year course that will be rolled over the next three years, and will constitute a key part of our undergraduate offering.

- *Improving the impact of our research and innovation*

Our Faculty is at the forefront of research and innovation on the continent. However, we cannot rest on our laurels. In order to sustain our relevance, our research must be impactful at all levels. In particular, we have identified societal engagement as an area that will demand our heightened attention in the long term. Whilst we continue to conduct ground-breaking research, we should also be mindful of immediate needs for the societies that we seek to serve. Issues of water, energy and digitalisation come to the fore in this regard. It is for this reason that the Faculty has adopted these three areas as core themes that underpin most of what we do research and innovation. A strategic fund has been set aside and collaboration with African Rainbow Minerals (ARM) initiated to drive this objective.

- *Digitalisation of administration*

Very little can be achieved efficiently in an environment where administration is not streamlined, hence this strategic pillar. We have embarked on a steep drive to ensure that Faculty administration processes are fully digitalised to ensure smooth performance in all our operations. Foremost in our objectives are the reduction of turnaround times for theses and dissertation submissions, as well as digitisation of all our students and personnel records.

The School of Construction Economics and Management has demonstrated a strong commitment to these strategic objectives, leading to significant transformation within the Faculty and possibly the entire University.

Notably, the School boasts a diverse academic staff, with twelve South African black females contributing to its faculty. This reflects the School's ability to attract top talent both locally and globally, enhancing its reputation and influence. Additionally, the School has set a precedent within the Faculty by establishing a postdoctoral program that is internally resourced and managed. Moreover, under the guidance of Professor Samuel Laryea, the School has implemented writing retreats to support early career academics in enhancing the quality and quantity of their publications. Furthermore, all academic programmes offered by the School are fully accredited by relevant governing bodies.

PREFACE

The School of Construction and Economics and Management (SCEM) began with a humble handful of Quantity Surveying students in 1928, to grow exponentially to our current student population of 1,400.

From only offering one programme resulting in a diploma, SCEM now offers 14 programmes in the undergraduate and postgraduate categories in 2024. The institution has grown from a department into a School that currently is the largest among seven Schools in the Faculty of Engineering and the Built Environment (FEBE). It has produced over 10,000 graduates who are all over the world, making their mark!

The School's current student profile comprises 49% undergraduate and 51% postgraduate students. SCEM currently hosts almost 30% of the Postgraduate student population across FEBE, and about 20% of the entire FEBE student population. The remarkable 96-year story has been collected and written up for students, alumni and the public alike to see the growth, contribution, impact and how SCEM left a mark on the community.

The story began when Wits University celebrated its Centenary in 2022. It saw the Centenary as a time of reflection and celebration for the global university community. It was the chance for each of the five faculties, and 33 schools within the University to reflect on their individual history and contributions to society.

The School of Construction Economics and Management embarked on a seemingly simple exercise to identify the people who had served as Head of the School, from its inception to the time of Wits' Centenary. This proved to be a difficult and inconclusive task, and we faced many obstacles. The information was simply not available from one single source or office!

The Head of School Secretary, Mantiseng 'Tiny' Sithole, who had been part of the School for about 30 years, and close to retirement, was also unable to get the relevant information. She retired in February 2023, yet at the time of her retirement, we still did not have the full list of Heads of Department or Heads of School, from the inception of the quantity surveying and building science disciplines at Wits University, till the present.

Another interesting observation was that the Class year photos hanging on the School walls only date back to 1970. This is, despite the fact that the School or quantity surveying programme has a much longer history predating the 1970's. This also revealed a historical gap that needed to be filled.

Bongi Mphuti, the Senior Librarian in charge of the Martienssen Library, which is the Built Environment library, shared by the School of Architecture and Planning (SoAP) and the School of Construction Economics and Management (CEM), also conceived the idea of mounting an exhibition showcasing the history of the two Schools in the built environment disciplines, as part of the Centenary celebration in 2022.

This event revealed significant gaps in history of the School of Construction Economics and Management in particular, and proved inconclusive, as the library was only able to identify the Heads up to the 1980s, when Professor Ronnie Schloss became a Head of Department, and later on the first Head of School from the year 2000, when the university restructured the Faculties and created the School of Construction Economics and Management from a combination of the erstwhile Department of Quantity Surveying and Department of Building.

Later in 2022, the School introduced a new Property Studies qualification as an addition to its programmes. As not enough information about the School's history could be found or put together for the Martienssen Library exhibition, it revealed a significant vacuum pertaining to the history of the School, and also highlighted a significant gap pertaining to the history and key developments on quantity surveying and building science education in South Africa. This gap in historical knowledge was why we chose to invest time and resources in the research, and write this book.

Wits was the first university in South Africa and the wider African continent to offer formal university education in the form of diplomas and degrees in the fields of quantity surveying and building science. This book traces the history of the School of Construction Economics and Management back to its roots, which is founded in the Building Science and Quantity Surveying courses that were offered by the University of Witwatersrand, dating back to 1928.

The historical developments around the development of quantity surveying and building science education from that time to now, need to be properly documented given the important roles of the quantity surveying and building science professions to

the development of South Africa, from the post Anglo-Boer war era to now. That was also one of the main reasons for writing this book.

This book is a historical account on the Wits School of Construction Economics and Management, its contributions and impact in society, which is very significant and leaves a positive impression of academic and industry development, despite historical hurdles. It looks at the past, present, and future of the School in the broader context of South African history and the overall development of the university.

The process of writing this book has been both challenging and exciting with interesting discoveries about the academic disciplines and the growth trajectory of the School. It was challenging uncovering information from various sources within the university and external sources. It has also been an interesting process learning about the rich history and contributions of a key School within the university to the South African and global society.

This book chronicles the careers of some graduates of the School who served in the highest leadership and management roles, and made an indelible mark in the construction industry locally and internationally. The School's graduates have made substantial contributions to the growth and advancement of the South African construction and property sectors and their respective statutory councils including the South African Council for Quantity Surveying Profession (SACQSP), South African Council for Project and Construction Management Professions (SACPCMP) and the South African Council for the Property Valuers Profession (SACPVP). The School's graduates have also played leading roles in major construction firms that have built some of the iconic buildings in South Africa and other parts of the world. In recent years, many of the School's graduates are increasingly being recruited by firms in Europe, Middle East, Australia, and the US, indicating the quality of their education and their value to employers and the global construction industry.

Through a meticulous search through the Wits university archives and available published material, a huge amount of history and contributions of the School could be produced in this book. As these sources spoke their minds, many of their quotes are produced verbatim - so we can appreciate their wisdom.

When gaps emerged in the historical chronology, we turned to those who studied and taught at Wits in the various phases of our Faculty. The Alumni and past Academics

took time from their busy schedules as many are still instrumental in building our country, to answer several questions and share their fondest memories and what they believe is the state of the industry currently.

The original 15-page document has grown and developed, as has the School, into a fully-fledged manuscript of interviews, yet-unheard-of stories and a vibrant and vital document, to be read and shared widely.

The story arc includes the factual history of the School of Construction and Economic Management from birth until now, and is peppered with amusing anecdotes and pictures. Students' awards were mentioned, where the information was available.

This also serves to remember the inspiring academics including Professors Harry Bell-John, Geoff Pearse, Doug Calderwood, Ronnie Schloss and the lecturers who led our current leaders in the fields of quantity surveying, construction management, building sciences and property development, onto the path they have carved, so they can make a mark.

This story is filled with chutzpah, grit, determination, humour and a few mishaps, but proves without a doubt that the time spent by students at Wits and SCEM has resulted in lasting friendships, business savvy and in professionals in the built environment who are making their mark across the country, the continent and the world. This is their story and the story of the School of Construction and Economic Management.

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GENESIS OF THIS BOOK

Tasked with uncovering the history of the school, the researchers chose a mixture of archival research with a literature review (primarily online), interviews (face-to-face, online, and email), and questionnaires, with those who worked and studied at the school to give their bird's eye view.

The journals, edited by the students and staff instrumental in the faculty, included *The African Architect, South African Architectural Journal, The South African Architectural Record, Wits Review, Future Build*, *University of Witwatersrand Gazette* and *Wits Vuvuzela*. As these are directly linked to the school, they have proven invaluable and give voice to the school, at that time.

Student dissertations and online articles were also included. Below is a list of the publications that were used in the research:

Academic Journals	**Publication Date**
The African Architect	1911 – August
The African Architect	1912 – January, June, August
The African Architect	1913 – September
The African Architect	1914 – July
The South African Architectural Journal, Building	1924 – March, June, December
The South African Architectural Record	1925 – September
The South African Architectural Record	1927 – September
The South African Architectural Record	1928 – December
The South African Architectural Record	1931 – June, September, December
The South African Architectural Journal	1932 – March, April, May, September
South African Architectural Record	1940 – May

South African Architectural Record	1942 – April, July
South African Architectural Record,	1944 – January, April
South African Architectural Record	1945 – December
South African Architectural Record	1946 – February, May, June, December
South African Architectural Record	1947 – February, June, July, August, December
South African Architectural Record	1948 – March, August, October
South African Architectural Record	1950 – September, October
South African Architectural Record	1951 – February, May, September, November
The Institute of South African Architects and Chapter of South African Quantity Surveyors Fifth Congress	1951 – May
South African Architectural Record	1952 – January, June
Man-Made Johannesburg', Duncan Howie, Ugo Tomaselli, Gilbert Herbert, South African Architectural Record	1952 – January
South African Architectural Record	1953 – January, May, September
The Institute Of South African Architects – Its First Twenty-Five Years – An Historical Essay, J. S. Lewis, Supplement to the South African Architectural Record	1953 – May
South African Architectural Record	1954 – May

'The Faculty of Architecture of the University of the Witwatersrand, Johannesburg and its role in the community', Monte Bryer	1977
'The Department Of Building Science of the University Of Witwatersrand', DM Calderwood	1978
Metropolis Architectural Students Congress	1986 – April
FutureBuild	1983, 1984, 1993, 1994
Dissertation/Thesis	
'*The Views of The Property Industry On The Curriculum Of The Undergraduate Property Studies Degree In The School Of Construction Economics And Management At The University Of The Witwatersrand*,' Graeme Michael Jay, University of Witwatersrand	2011
'*Apartheid Politics and Architecture in South Africa'*, Walter Peters, University of the Free State	2014 – July
Articles (Print and Online)	
'*Wits introduces property degree'* News24	2001 - November 1
'Property management course proves popular', BizCommunity	2010
'Building Bridges,' Wits Vuvuzela	2012 - March 30
'Communication Skills', Wits Vuvuzela	2012 - May 24

'Wits University Deputy Vice-Chancellor Beatrys Lacquet, Wits Vuvuzela, (Charting the pioneering women in academia - Wits Vuvuzela)	2013 – November
'*Teamwork makes the Dream work*,' Wits Vuvuzela	2014 - August 29
'*Mens Res Expected to Slaughter a Cow'*, Wits Vuvuzela	2017 - September 28
'*Obituary – Judith Frankel Lipkin BSc QS'* - Wits Review	2018 – April
'New ARC Chairperson hailed as a champion of students' Wits Vuvuzela	2018 – April 6
'*Mens Res Celebrates Graduating Raiders,'* Wits Vuvuzela	2018 - April 7
'*Fees Must Fall Protests Cost Universities R800m'*, Wits Vuvuzela	2018 – August 18
'*Witsie is first black woman to conquer edge in real estate'*, Wits Vuvuzela	2019 – August 10
'*Basketball Wits Tournament celebrates women in sport*,' Wits Vuvuzela	2019 – August 12
'*Braam hotel to be converted to student accommodation,'* Wits Vuvuzela	2019 – August 16
'*Witsie moves mountains for young athletes'*, Wits Vuvuzela	2019 – September 9
Rethinking Black tax', Wits Vuvuzela	2019 – September 27
Demystifying the fourth industrial revolution,' Wits Vuvuzela	2019 – October 4
Historical and Business Websites	

Harry Bell-John, Doug Calderwood, *University of the Witwatersrand School of Architecture and Planning (SoAP)*', ArteFacts	www.artefacts.co.za
Thabo Senyolo Biography	https://www.senyolo.co.za/about-us.html
Franco Frescura Biography	https://www.sahistory.org.za/francofrescura/franco-full-biography.html
David Gurney Biography	https://gurneyplanninganddesign.co.za/#about

When the archival review concluded, the researchers chose to conduct interviews with past staff members and alumni to help fill in the gaps of the historical review.

Some interviews were held face-to-face, but most chose an email interview with five set questions as a semi-structured interview, with room to elaborate and revise answers, as they saw fit. Those who chose email interviews, did so due to work and time constraints, and for the option to take their time to answer the questions comprehensively.

Initially a Google link to a questionnaire was sent to alumni (about 50 in total) and three replies were returned. After reminders, the librarian sent it to additional staff and alumni and a further two responded. Tips from those interviewed and research, led to the additional contact details of those who completed the final group of 17 respondents.

As the gathered anecdotal data was rich with unrecorded information and professional observations, much of it is included in the dedicated chapter, 'In Their Own Words'.

Below is a list of those interviewed:

Name	Relation to School	Qualification	Interviews
Academics			
Ronnie Schloss	Head of School (and Alumnus) (1983 – 2002)	BSc QS (1968)	Face-to-face (4 and 11 August, 15 September, 2023)
Elizabeth Pienaar	Head of School (2003 – 2006)	BSc QS (1979)	Face-to-face (21 February, 2024)
David Root	Head of School (2011 – 2020)		Face-to-face (8 August, 2023)
Ehsan Saghatforoush	Academic		Email (12 September, 2023)
Alumni			
Fred Bihl	Alumnus	BSc QS (1959)	Email (30 August, 1 September, 2023)
Aziz Tayob	Alumnus	BArch (1969)	Email (9 October, 2023)
Ronald Smith	Alumnus	BSc QS, (1972)	Email (12 and 14 August and 2 October, 2023)
Mark Osborne	Alumnus	Studied BSc QS (70s)	Face-to-face (4 and 24 August, 2023)
Franco Frescura	Alumnus	BArch (1977) MArch (cum laude) (1978) PhD (1986)	Email (21 and 22 September, 2023)
Karl Trusler	Alumnus	BSc QS Honours (1980)	Online Zoom interview (31 August 2023), email clarification (27 October, 2023)
Thabo Senyolo	Alumnus	BSc QS (1986)	Email interview (2, 4 and 5 November, 2023)

Shoayb Loonat	Alumnus	BSc QS (1999) UNISA Bachelor of Commerce, Management cum laude (2005), UNISA MBL, (2017)	Face-to-face (20 August 2023). Email clarification (22 September, 2023)
Mabuse Moja	Alumnus	BSc Property Studies (2006) MSc Building, Real Estate	Email interview (August)
Mosha Senyolo	Alumnus	BSc QS (2009) MSc Building Science (2019)	Online Zoom interview (14 August 2023), email clarification (2 November 2023)
Thapelo Tlhapane	Alumnus	BSc QS (2011)	Email (6 and 8 September, 2023)
Nyiko Chris Mathebula	Alumnus	BSc QS (2011)	Email (4 September, 2023)
Ndiphiwe Madikiza	Alumnus	BSc QS (2022)	Email (30 August, 2023)
Admin Staff			
Raymond Ndlovu	Employee (1985 - now)		WhatsApp audio interview (30 October, 2023)

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ABBREVIATIONS

Association of South African Quantity Surveyors - ASQS

Builders, Architects, Quantity Surveyors and Town Planners – BAQT

Chartered Institute for Building - CIOB

Faculty of Engineering and the Built Environment – FEBE

Industry Advisory Board - IAB

Quantity Surveyor - QS

Royal Institute of British Architects – RIBA

Royal Institute of Chartered Surveyors - RICS

School of Construction and Economics and Management – SCEM

South African Property Owners Association – SAPOA

South African Council for Quantity Surveying Profession – SACQSP

South African Council for Project and Construction Management Professions - SACPCMP

South African Council for the Property Valuers Council – SACPVP SACPVC?

The Building Industries Federation South Africa - BIFSA

The National Building Research Institute - NBRI

The South African Architectural Report – SAAR

The National Union of South African Students - NUSAS

University of Witwatersrand - Wits

In 1952, Wits lecturer Gilbert Herbert, wrote a wonderful piece, stating how the history of SCEM would not be complete, without the stories of all those involved.

OF THE BUILDING INDUSTRY

By Lecturer, Gilbert Herbert B.Arch., Dip.T. P, A.R.I.B.A., M.I.A.



“If this story of building Johannesburg were to be complete, it should tell of the mergers and syndicates, negotiations and hagglings, bargains struck and pressures exerted, shares sold and companies formed, before the finances of a large building project are arranged: and it should also tell of the painfully slow saving, that doing without long-wanted luxuries, the years of flat-dwelling or house-renting, that precede the accumulation of the necessary amount of capital for the average middle-class home.

Something, too, should be told of the wavering and the doubts and the sudden failures of courage — to build? To buy? To rent? To continue living with mother? — Before the fateful decision is made.

Nor is the story complete unless it tells of a long day’s work under the hot Johannesburg sun, of aching back muscles and of pouring sweat, of sandwiches and a billy of tea and a quick look at the Mail or the Transvaler, of difficult foremen and impossible demands, of dust-laden air and the sweet scent of freshly sawn timber that works cleanly and planes smooth.

The story of building is the story of Jan the bricklayer, whose father and grandfather before him were not artisans but farmers, before boys succumbed to the lure of the city; it is the story of Harry the carpenter, whose father was a Pole, and who liked to do things with his hands; it is the story of Nkamando, whose father was a headman in the green fields of the Transkei.

The story of building is not only the story of bricks and mortar, but of strikes and lockouts, negotiations and awards. It is the story of a new way of life, of the industrialisation of a people.

If we are to tell the story of building, we must not talk only of the Institute and the Chapter. We must tell too of Andy, who worked day and night for five years, in order to save the necessary money to come to the School of Architecture.

We must tell of the years of study and the years of heartbreak, the projects that fall through and the commissions that are lost: we must tell of the fight for integrity, the fight against prejudice.

Our story must show the architect in all lights: the suave diplomat handling so deftly his client's wife, who knows nothing about architecture but knows what she likes; the ruthless sleuth tracking down clues in the Case of the Smoking Chimney; the temperamental artist discarding crumbled reams of butter paper in the elusive search for perfection in design; the harassed mathematician in the baffling processes of penultimate certificates.

We would need, in a complete story, to find out something about the men who devote years of study to the problems of disease in timber, or discolouration of paints, or shear forces in steel. We would have to tell of the men who dig the clay and burn the bricks; who sell the sandpaper and the ceiling board; who make the windows and who forge the steel; who drive the lorries, and work the cranes.

We would have to spend an eight-hour day with the mechanic at his bench, the clerk in his office: we would have to be out all day with the estate agent, dealing with building's very foundation, the site. To make our story complete, we must know more about men, and how they feel.

We must understand the burning joy of creation that activates the architect and the craftsman: we must know the pleasures of ownership, to understand the intense thrill which the potential home-owner feels at the turning of the first sod.

We must learn to differentiate between the house-warming party, which is the symbol of having, of possession, and the roof-wetting ceremony, which is the symbol of doing, of accomplishment. To tell the story of the building of Johannesburg fully and completely, each of these stories must be told". ('Man-Made Johannesburg', 1952)

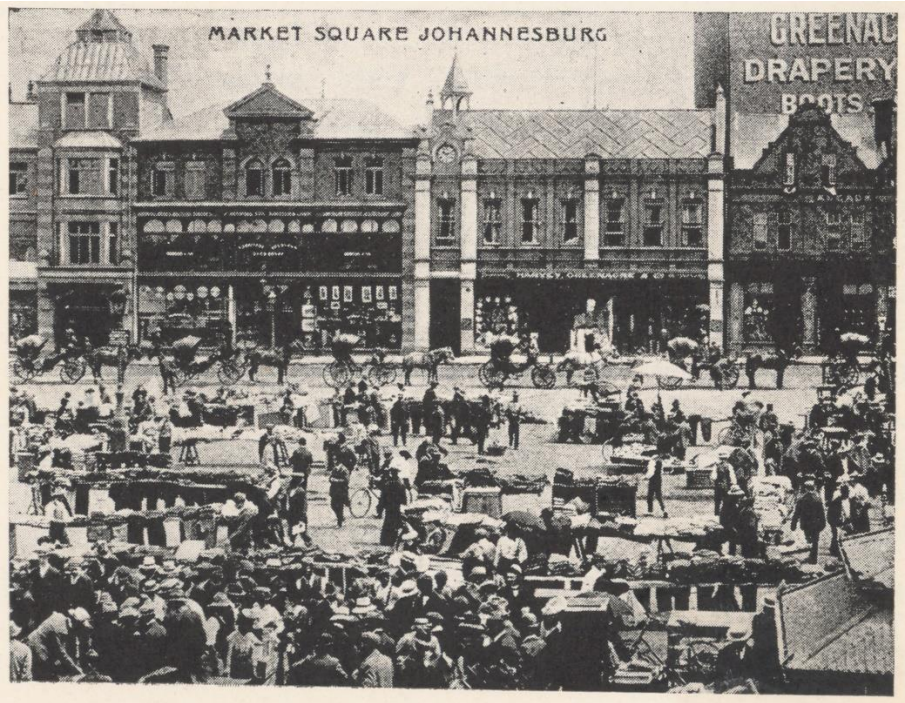
BIRTH OF JOHANNESBURG

Diving deep into the history books, one learns that the origins of Johannesburg were officially determined on the 8th September, 1886, when President Paul Kruger proclaimed certain portions of farms on which Johannesburg now stands, as public diggings. The population in Johannesburg was then recorded as a mere 50 people!

The Witwatersrand was a flurry of gold mining, and among the diggers in the feverish gold rush days was Colonel Ignatius Ferreira. He outspanned his wagon near the spot of the previous Stock Exchange, and other pioneers settled around him. This place was known as Ferreira's Camp. It was the beginning of Johannesburg.

In December of 1886, President Kruger visited Turffontein, and proclaimed it a township. The name of Johannesburg originates as a hybrid tribute to three influential explorers - Johann Rissik, a surveyor of the old South African Republic (who later became Administrator of the Transvaal), General Johannes Joubert, the first Government mining official, and Johannes Meyer, formerly a field cornet (Stoloff, 1948, p. 60).

The city was run by a Mining Commissioner who was responsible to the then Republican Government. In 1890, the first semblance of local government appeared. The community was given the choice of electing certain members to the Sanitary Board. Mr. J.E. de Villiers was tasked with laying out the township.



Market Square in 1900

© South African Architectural Record, (1948) (Stoloff, 1948, p. 63)

De Villiers wanted to place Johannesburg at Langlaagte, but found that the wish was to settle nearer Ferreira's Camp. Johannesburg was then laid out in two narrow strips,

in the centre was a mine owned by the Oranjeslaagte syndicate, with its shaft where the Law Courts are found.

The central area of Johannesburg contained this mining property, and was laid out by Mr. W. Auret Pritchard. He found that the streets in these sections did not synchronise; so subsequently laid out the centre strip to coincide with the southern side.

He and De Villiers were given the choice of taking payment for his work in stands, or in cash. De Villiers took his payment in stands, and later resold at a handsome profit. Pritchard, however, had little faith in the future of the town at the time, and accepted cash! He changed his mind and bought his first property in 1891, saying he believed that the Rand was good for another 100 years.

Various portions of Johannesburg were laid out by Mr. Simmonds, and Simmonds Street was named after him. Mr. Harry Marshall was very interested in the early development of the city, and Marshall's Town and Marshall Street were named after him. This naming of streets showed a little later how quickly the story of the beginning of the town was forgotten, even by the early population.

Mr. W. A. Martin, a Johannesburg pioneer, was offered the Carlton Hotel stand for £1,500. This was when the first street lamps in Johannesburg were erected in Market Square. The first gas lamp was erected in front of the Landdrost's Court on November 17, 1892, by the Johannesburg Lighting Company.

During the South African War, from May 1900 to May 1901, the town affairs were administered under Martial Law by a military governor. Under Lord Milner's proclamation No. 16 of 1901, the nominated Town Council was selected from the prominent Johannesburg men who were in the town. The first civic elections in Johannesburg were held in December, 1903.

Subsequent academic scholars investigated further to detail the birth of Johannesburg as a metropolis. N. L Hanson (B.Arch., A.R.I.B.A., M.I.A) described the construction of this former mining town at the Man-Made Johannesburg Exhibition of the Transvaal Provincial Institute of Architects and the Council of Architectural Students of the University of the Witwatersrand, held in 1952.

Hanson said that the city's mining camp origins gave a compactness and simplicity to the first organised layout, which left a permanent mark. Consequent rebuilding, which

took place over many decades did not mean a new layout. Instead, it resulted in overbuilding on existing subdivisions and led to building over of open spaces, resulting in the city of today.

He felt that the character of the building of the city building stems from the fact that "*Johannesburg has always been a fortune-hunter's paradise and graveyard. In the early days this character led to the building of substantial 'magnates' homes and congested blocks of cottages, the latter to deteriorate to slums at a later date*" ('Man-Made Johannesburg', 1952, p. 3).

In those days, building resources did not exist, so 'houses' were imported in the form of corrugated iron, and the paraphernalia of the Victorian cast-iron age was added. By historical coincidence, the crude street pattern was in line with its contemporary American grid-iron, which explains for the affinity often noted by visitors. The foundation of the city on gold left an indelible stamp in the mines and their dumps, penetrating and dividing the city; and in the varied manifestations of rapid industrialisation, as a delayed Industrial Revolution. This is when the tradition of the single detached dwelling was born.

After the First World War, changes became clear as the Witwatersrand expanded, due to general wartime and post-war industrial expansion. This formed Johannesburg's metropolitan character and ensured the sporadic and unpredictable permanency of development.

The time became ripe for discord, and in this climate was when the first fully organised school of architecture, later offering quantity surveying and construction, started at the University of the Witwatersrand.

At the same time, the repercussions of the contemporary movement in architecture were felt throughout the Western world, including South Africa. It was not long before the first students were aware of changes and brought them about here. Johannesburg was now linked to its urban satellites to the East and West and spread North and South over the justly famed ridges.

Expansion to the South was industrial, to the North residential, with the result that, for the most part, working class suburbs, townships and locations and slums were established to the South, while the broad suburban development took place to the North. On this basis, the growth of modem Johannesburg has taken place.

Hanson wrote about the heavily built-up city birthed in the original early mining town, where, *"A pattern carrying a load of building never envisaged; and, as far as the centre and the central periphery are concerned, creating corridor streets, themselves overloaded with mobile and immobile traffic. On the other hand, the metropolitan spread — industrial and residential — has dispersed the city over a very large area*" ('Man-Made Johannesburg', 1952, p. 4).

In a speech to the Associated Scientific and Technical Societies Club in 1925. retiring President of the Town Planning Association (Transvaal), Mr. B. W. Brayshaw, explained further, "*In Johannesburg, we have a town, which has its history reflected in its patchwork plan. A town built in haste, its individual parts bearing no relationship to the main body, ignoring all obstacles to reach an objective—profit—its development absolutely uncontrolled*" ('The Town Planning Association (Transvaal)', 1925, p. 70).

It was the right time for town planners and those in the building field to consider passing on their skills to the young men, who would learn at the University of Witwatersrand, and go on to build the foundations of Johannesburg that we know today. The education in the built environment was closely tied with the men instrumental to shaping South Africa, many of whom were pioneers making their mark.

EARLY YEARS

There was a fierce pride among those in the various facets of the building field in Johannesburg and across the country. From as early as the early 1900s, these leaders would meet as a community and recount the roots of the birth of the School of

Construction and Economics and Management. One of these legends was the President of the Chapter of South African Quantity Surveyors, Fred C. Harris, who addressed the QS Chapter in 1953 (Harris, 1953, pp. 40–42; 'The Registration Act: Cape Institute views', 1912c, p. 33) and spoke of the early years.

It was in 1892 that the young architect, Mr. Herbert Baker immigrated to Cape Town, and "*was ably assisted by Mr. Fricker, who did much of his quantity surveying work. Fricker had hoped to improve his health in our warmer climes, but he died in 1897"*. (Harris, 1953, p. 40)

First quantity surveyors in South Africa are Fricker, Babbs and Tommy Moore

Baker's quantity surveying work was then taken over in 1898 by Mr. A.T. Babbs, who was the first trained and experienced quantity surveyor in Cape Town. (Lewis, 1953, p. 7)

The first recorded quantity surveyor in Johannesburg was Mr. Tommy Moore. Much work was done by Babbs and Moore. Others joined and quickly settled down to hard work. When conditions normalised, after the disruption at the turn of the century, work returned to Johannesburg and their numbers increased.

These early innovators were praised by DF Hugo-Naude, the President of the Chapter of South African Quantity Surveyors, in their 1953 Annual General Meeting, "*Mention must be made of Tommy Moore, A. T. Babbs and F. D. Hickman, Quantity Surveyors. Some of these Elder Brethren of the Professions, because of previous experience of professional legislation, might almost be termed "pioneer pioneers."* (Lewis, 1953, p. 7)

The history of architectural education in South Africa, ('Architectural education in South Africa', 1924, p. 37) however, did not begin in Johannesburg. It started in Cape Town in 1902, at the School of Art, according to the 1953 South African Architectural Journal. This effort consisted of classes in building construction and drawing on the lines of technical education in England.

After the Boer War, a building boom attracted several fledgling architects from England and Australia. The Public Works Department and established architects' offices followed the guidelines of institutions offering technical education in England. Durban

and Johannesburg soon adopted the same, and a number of students decided to embark on the profession.

South African Institute of Quantity Surveyors created in 1903

The Natal Institute of Architects was incorporated by statute in 1902, and the South African Institute of Quantity Surveyors was created in 1903. This was when architectural training began in Johannesburg.

The roots of what would become the School of Construction and Economic Management were firmly entrenched in the streets of the Northern suburbs of Johannesburg, and soon budding quantity surveyors, builders and constructors learnt the trade.

Classes begin at Tin Temple at the Transvaal Technical College

The first classes were given in the old Tin Temple, under the then Transvaal Technical College, the forerunner of Witwatersrand University. *"I well remember those days, as I was one of the first architectural students*," ('The University of the Witwatersrand School of Architecture: twenty-first anniversary exhibition', 1942, p. 186) said Professor Pearse, Head of the School in 1942, during a speech for the 21st Anniversary Exhibition and Prize-Giving of the School of Architecture.

Lectures in design were given by scholar and artist, Mr. E. W. Sloper, a partner of Mr. (later Sir) Herbert Baker. His work had a great influence on later domestic architecture in Johannesburg.

In 1903, the Transvaal Technical Institute was established, and classes in architectural history and design and building construction began the following year, led by Mr. H. Seton Morris, supported by Johannesburg's practising architects.

Adequate facilities were lacking, and many of the students left for Europe to complete their studies. The classes, however, continued. ('The University of the Witwatersrand School of Architecture: twenty-first anniversary exhibition', 1942, p. 186)

Legislation passed to register architects and quantity surveyors

However, the first major attempt at obtaining statutory registration for Architects resulted in the passing of a Transvaal Act in 1909, when the Association of Transvaal Architects was brought into being. There were, in addition, privately organised bodies of Architects in the Cape, in Port Elizabeth and in the Orange Free State.

Their efforts at obtaining a South African Registration Act for Architects and Quantity Surveyors were hampered by the Members of the Union Parliament of 1927, "*insufficiently appreciative of the true function and value, in the national economy, of the Professions of Architecture and Quantity Surveying.*" (Lewis, 1953, p. 7)

In 1905, the Transvaal Public Works Department began a quantity surveying branch and the first association of quantity surveyors was known as the Transvaal Society of Quantity Surveyors. (Harris, 1953, p. 40).

According to Mr Harry Bell-John (later Head of School from 1929 – 1942) at the second annual banquet of the South African Institute of Quantity Surveyors in 1913, there were initially 14 members. "*There were croakers at that time, but the pessimism had proved to be unfounded*" ('Quantity Surveyors' section', 1913a) The Institute was incorporated under the Transvaal Ordinance No. 56 of 1904, under the presidency of Captain Pownall, R.E., with Mr. I. Quail, Secretary. ('Quantity Surveyors' section', 1913a, p. xi)

In 1906, the Transvaal Association of Quantity Surveyors, issued "*The Standard System of Measurement of Builders' Work and Billing of Quantities*." It was the first attempt to standardise the work done, and was deemed, "*an exceedingly elementary document."* (*African Architect*, 1914, p. 24)

In 1908, the original Transvaal Institute amalgamated with the other provincial bodies, and renamed the South African Institute of Quantity Surveyors.

At the Chapter of South African Quantity Surveyors gala address, Fred Harris quipped, "*Our profession is well-known for thinking today what the rest of the world thinks tomorrow, and it is, therefore, not surprising to find that we anticipated the Act of Union by forming the South African Institute of Quantity Surveyors."* (Harris, 1953, p. 40)

Architect courses at the School of Mines and Technology in 1909

When the Transvaal Architects' Act was passed in 1909, courses began under the aegis of the Association of Transvaal Architects at the then School of Mines and Technology. These were conducted by several lecturers who furthered architectural education, as the Society of Architects, London (South Africa Branch) generously supplied books and equipment. (Lewis, 1953, p. 7)

In 1910, the registered body, the Association of Transvaal Architects, arranged with the South African School of Mines and Technology (successors to the Technical Institute) to establish a course in architecture, for students to qualify to register as architects in Transvaal. This was implemented by Messrs. Howden, Waugh, Dowsett, and later by Messrs. Marshall, Leith, and Heir. The course embraced architectural history and design, building construction, sanitation, professional practice, etc. (‘Architectural education in South Africa’, 1924, p. 39)

Role and rights of quantity surveyors debated in 1911

HS Adams, Chief Quantity Surveyor, Public Works Department of the Union and President of the Society of Quantity Surveyors broached about the public’s view of a quantity surveyor in 1911.

“*The importance of this branch of the building profession is so little known amongst the general public of South Africa that a resume of the work, duties, and advantages should not be amiss.*

To the average man, his only experience or knowledge of quantity surveying occurs when he is directly or indirectly connected with some building operation, the introduction to which is, generally, not a happy one.

Quantity surveying, in its general sense, consists of supplying a detailed schedule of materials and labour required in the performance of a proposed work or building. It is supplied to contractors tendering for some, to enable them to price out each and every item, the total of which will represent the amount for which they are prepared to execute the work.

The profession of a person who is competent to properly prepare such a schedule covers a much wider scope, which, properly employed, is of great necessity in any building or engineering operation." (Adams, 1911, p. 65)

At the annual banquet of the South African Institute of Quantity Surveyors, which was held in July 1911, quantity surveyor Francis Black raised the point of the need for the quantity surveyor to be treated as equals and not controlled.

"*With regard to the Architects Registration Act. As surveyors we have not the slightest objection, but we, as surveyors, most strongly object should, either in the Bill or in the by-laws, there be the slightest reference to our profession which might be construed as giving the architect the right to control us.*

Alternatively, we would welcome a Bill dealing jointly with our interests—we maintain that a quantity surveyor is a separate entity to the architect." (African Architect, 1912, p. 11)

The symbiotic but often acrimonious relationship between architects, quantity surveyors and builders, was described by Mattheus Carel August Meischke, the President of the Transvaal Master Builders Association and builder of the Johannesburg City Hall, to members of the Association of Transvaal Architects during a visit to Pretoria at the invitation of the Union Department of Public Works:

"*A close relationship existed between the architect and the builder always, but the relationship between the architects and the quantity surveyors was not so well established. He knew there were many architects amongst them who took out quantities, and all of them would like to take them out.* (Laughter.)

"*He thought, however, that they should specialise, the architect to do the designing and the quantity surveyor to do the business part. It was better that the architects should be designers only and that they should have nothing to do with money.* (Laughter.) *That should be left to the contractors*. (Loud laughter.)

He pointed out that in such a building as they had inspected, it would be impossible for the architect to be architect and quantity surveyor, at the same time. This should also be the case in smaller buildings. As he was neither an architect nor a quantity surveyor, he would not deal further with the subject, but would express the hope that

in the future the relationship of architect and quantity surveyor would be better established. (Applause.)" (African Architect, 1912, pp. 8–10)

White: 'Architect and quantity surveyor are like surgeon and physician'

In 1914, at the third annual banquet of the South African Institute of Quantity Surveyors was held at the New Club, Everard White, outgoing Chair told the crowd,

"*The professions of architect and quantity surveyor are so closely connected, even more than a surgeon and a physician, that no real progress can be made without cooperation between the Institutes representing the two professions, and I am making this appeal with that end, and when we have grievances, don't let it be accentuated by that lying jade 'Rumour,' but let us formulate our grievances and discuss them openly, and merely arrive at a dissolution. My policy, and the policy of my successor to the chair, is that of co-operation. Conciliate, or whatever you term it, I feel this policy must, and will, ensure the advancement of the profession*."

Mr. H. Bell-John added that he believed in concentration of effort. "*There were many fields for enterprise, the more easily to be conquered - if the attacking forces were united. There was first the promotion of an Arbitration Board. The matter had already been given publicity, but nothing tangible appeared to have been done*".

He agreed that it was well worth the effort to establish such a Board and the establishment of a Town Planning Board for all their larger municipalities, on which the architects would be largely' and the quantity surveyors reasonably represented. He thought the "*officials of the various Councils were broad-minded enough not to despise the advice of such a Board, and the various Town Councils would find the help of a number of level-headed professional men a great asset*".

He concluded, "*In the architects of South Africa they had a body of men who should be able, if they began at once, to leave their mark, not only in individual buildings, but in the streets, parks and general lay-out of their towns and cities, not only in those already large, but in those small townships which were constantly being laid out at the present time."* (African Architect (Reinforced concrete), 1914b, p. 27)

Johannesburg City Building Surveyor Cecil Alder lectures at Wits

Mr C. Alder was one of the first Building Surveyor Lecturers at the Transvaal University College. His day job was Assistant Building Surveyor to the Johannesburg Municipal Council, and he was described as one of the Council's busiest officials. Born and educated in England, he left Dover during the early stages of the Boer war with the first contingent of Yeomanry, and was subsequently attached to the 77th Battery of Field Artillery.

During his two and a half years at the front, he saw active service, and was awarded King and Queen's medals with seven bars. After the war, he returned was with Messrs. Stucke and Bannister, of Johannesburg, after which he entered the Town Engineer's Department, where he served for many years.

Known to the architectural and building community with his chief, Mr. Waugh, he framed the existing local by-laws to control cinemas. Alder was also the honorary secretary of the Transvaal Institute of Architects and registrar of the Association of Architect. He conducted evening sanitation classes at the Transvaal University College, and was credited with a 75 per cent success rate with his students. (Alder, no date)

Cyril Walter Reid is First Diploma Graduate in 1915

The first student to earn his architect Diploma was Cyril Walter Reid in 1915. After leaving school in 1910, he joined his father's business and started taking classes in Architecture and was the first South African trained student to take his Diploma (in 1915). Among the buildings, which were among his work were the Polana Hotel and the University of the Witwatersrand Medical School. Apart from his reputation as an Architect, Cyril Reid was well-known as a sportsman, Rotarian and stamp collector. (SAAR, 1927, p. 82)

War I (1914-1918)

During the First World War (1914-1918), there were few students and very little development took place. In 1920, the courses were reorganised and several architects

assisted with evening classes. In that year, requests were made to the University College by the Association of Transvaal Architects and the Society of Architects, to create a chair of architecture. In 1919, Ellis and Spicer, continued with lessons (‘Architectural education in South Africa’, 1924, p. 39).

Duncan Burton helps establish School of Architecture in the Tin Temple

The School of Architecture began its humble beginnings in 1921. This was in a tiny, cramped and barely furnished room in the Tin Temple, *“with one student taking the Degree Course, and a small group of part-time students who were working for what was known as the Architects' Registration Course,*” (‘The University of the Witwatersrand School of Architecture: twenty-first anniversary exhibition’, 1942, p. 186).

Duncan M. Burton assisted financially in its foundation. There was little or no equipment and no library. Lady Florence Phillips, who was an art patron with a keen eye, came to the school’s rescue and donated a number of casts and made a contribution towards the purchase of the library of the late architect, Joseph Michael Solomon. (‘The University of the Witwatersrand School of Architecture: twenty-first anniversary exhibition’, 1942, p. 186)

The Witwatersrand Council of Education and Burton also added to the collection formed the nucleus of the library. Messrs. Gordon Leith, Freddy Williamson, Harold Wolseley Spicer and M.J. Heir, offered their services as lecturers, in a part-time capacity.

The degree course began in 1922 with three students, increasing to seven in 1923, and eight in 1924. The course arranged for pupils in architects’ offices was continued and amplified with a view to providing a diploma in architecture. (‘The University of the Witwatersrand School of Architecture: twenty-first anniversary exhibition’, 1942, p. 187)

From 1921 to 1925, Williamson assisted as a part-time lecturer in architectural design in the Department of Architecture, and several years later, he became a senior examiner. Williamson was chiefly responsible for the introduction of cast concrete facing blocks, which were used for the first time in Johannesburg in the University buildings (‘University of the Witwatersrand School of Architecture: annual exhibition

and prize giving', 1928, p. 64). Burton also pressed for the establishment of the first chair of architecture.

Geoffrey Pearse is first Chair of Architecture

In 1921, the University College, with the assistance of the Association of Transvaal Architects, established a Chair of Architecture and instituted a course for a degree of Bachelor of Architecture. Mr. G. E. Pearse, A.R.I.B.A., was appointed the first Professor. ('Architectural education in South Africa', 1924, p. 39)

Born in South Africa, Professor Geoffrey Pearse trained as an architect in Johannesburg and London. Elected an Associate of the Royal Institute of British Architects in 1912, he worked with Sir Herbert Baker in Johannesburg.

During WWI, he served with the Royal Engineers in Mesopotamia, and on his return to South Africa, he resumed practice in Johannesburg. In 1921, he was appointed to the newly established Chair of Architecture at the University of the Witwatersrand.

Then student Rex Martienssen (later Head of Architecture) wrote about Professor Pearse in 1942, "*The energy and high ideal that he has given to his academic work have been well rewarded, and the results of his steadfastness are known in a wide field today— one which spreads far beyond the confines of this country.*" ('The new president of the Associated Scientific and Technical Societies of South Africa', 1942, p. 100)

Prof Pearse served on the Transvaal Provincial Committee for many years, on the Central Council of the Institute of South African Architects. He supported all reforms leading to better and more adequate codes for town planning on a national scale, and worked hard for the recognition of the younger architects by responsible bodies— government and private.

Wits Football Club is First Football Club in South Africa

Many do not know that Wits Football Club was formed by the University's SRC in 1921, and was the oldest club in South African football. The 'Clever Boys' were there long before the Zulu Royals (AmaZulu), Moroka Swallows and Orlando Pirates. (Mokoena, 2020) The football club lasted for many years, evolving into Bidvest Wits F.C until it was sold at the end of the 2019-2020 Premier Soccer League season.

Architects and quantity surveyors work together to pass communal bill

Talk began in earnest about registration in 1922 or 1923. The architects and the quantity surveyors joined forces and together, drafted a bill to cover all eventualities. This was withdrawn and redrafted in short form, leaving the details to be covered later by regulations. In 1927, the Architects' and Quantity Surveyors' (Private) Act No. 18 of 1927 was passed. (‘Architects and Quantity Surveyors Act’, 1927a, p. 27)

The Chapter of South African Quantity Surveyors accepted the passing of the Act meant that it was one of the five Constituent Bodies of the Institute, but not equal to one of the four Provincial Institutes. With the Act, the Chapter could act as its own Registering Authority; negotiate directly with the Minister of Education as the Examining Authority to be appointed by the Minister; issue its own Certificates of Membership; and advise the Minister to what should constitute a "*qualifying examination*." (‘Architects and Quantity Surveyors Act’, 1927a, p. 27)

South Africa is the first country to establish professional QS courses

However, the Chapter had to accept through its membership of the Central Council and of the Central Council's Board of Education, that the Central Council was the governing body of the Institute-and-Chapter.

What few know is that the Chapter of South African Quantity Surveyors was the first body of Quantity Surveyors in the world to establish professional courses of training leading to University Degrees and Diplomas. (Lewis, 1953, p. 13)

In those days, Johannesburg was seen as the centre of the Architectural and Quantity Surveying sector, by those in the industry from Cape Town, Port Elizabeth, Durban, Bloemfontein, Pretoria and Johannesburg. Plea after plea was made (especially by Freddie Williamson) to take a wider, a South African view of things.

During the Third Council Meeting of The South African Institute of Quantity Surveyors in 1923, the minutes read that members of the Council suggested the possibility of affiliation to the Surveyors’ Institution, Great Britain, the enrolment of students and the forming of an Associate Class, and the holding of surveying classes at Witwatersrand University. (‘The South African Institute of Quantity Surveyors’, 1924a, p. 12)

In 1924, the Council also gave considerable time to the advisability of starting classes in Quantity Surveying at the Witwatersrand University. In view, however, of the fact that the session of 1924 had already started, it was decided to leave the matter. ('The South African Institute of Quantity Surveyors', 1924b, p. 57)

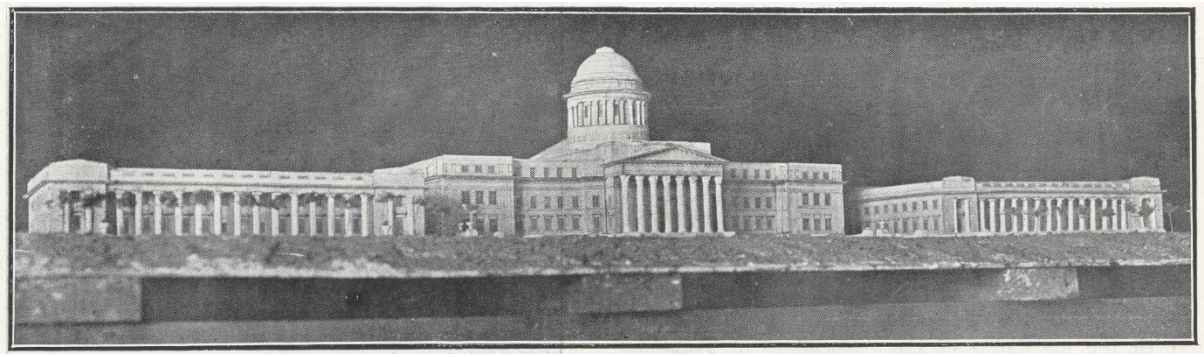
At the beginning of 1924, the University of the Witwatersrand, instituted a diploma course for part-time students who were pupils or assistants in architects' offices. The course was accepted by the Association of Transvaal Architects for registration.

The courses were under the Department of Architecture at the University, and Professor Pearse, assisted in the degree course, by Gordon Leith in history and design and in the diploma course by Messrs. Williamson, Heir and Harold Spicer, who was awarded a Silver Medal in Construction and Design, with Harold Tomkyns as the Junior Assistant in Construction. ('Architectural education in South Africa', 1924, p. 39)

The more technical side of the course was conducted by the Departments of Mathematics and Civil Engineering in the University. Both the degree and diploma courses extended over five years, based on the courses laid down by the Royal Institute of British Architects and its recognised schools of architecture.

The number of students attending the architectural classes at the beginning of 1924 was a mere 29.

The architectural classes at the University of the Witwatersrand were held in temporary buildings adjoining the School of Mines and Technology, and later transferred to the eastern block of the three main university buildings at Milner Park.



University of the Witwatersrand (1924), North Front to Campus © (SAAR, 1924, p. 37)

The Chapter of South African Quantity Surveyors was brought into being by Act No. 18 of 1927, and the title "*Quantity Surveyor*" was now statutorily protected in South

Africa. The Chapter had permanent representation on the Central Council of the Institute and on the Institute's Board of Education, and was responsible for the provision of degree and diploma courses in Quantity Surveying at the Universities of the Witwatersrand, Cape Town, Pretoria and Natal.

As a national body, the Chapter was governed by a Board, elected annually by its members throughout South Africa. In 1928, the Chapter had 140 members. ('Man-Made Johannesburg', 1952, p. 25)

In December 1924, the South African Architectural Journal described the two courses of study in architecture, one was a full-time day course leading to the Degree of Bachelor of Architecture. The other was specifically for part-time students, leading to a Diploma in Architecture. The aim of these courses was to give the student a sound training for the profession of architecture, so as "*to make him fit to enter an architect's office as a fully qualified assistant, and, at the same time, to lay the foundation for the ultimate undertaking of practice on his own account*". ('The School of Architecture - University of the Witwatersrand', 1924, p. 94)

The basis of monumental planning and the theory and development of architecture was taught with a "*very thorough training on the technical side*". Preliminary mathematical and scientific studies were emphasised and the problems of construction and materials thoroughly dealt with.

Methods and processes are investigated in the laboratory with visits to workshops, factories and buildings. This practice continued into the 80's and many graduates have stated how it equipped them for the practical side of the business.

The Degree course extended over five academic years, portions of the fourth and fifth years being spent in an architect's office. The subjects were: —

- **First year:** Mathematics, Applied Mathematics, Physics, Chemistry (short course), Graphics, History of Architecture, Elementary Architectural Design and Construction.
- **Second year:** Pure Mathematics (short course), Applied Mathematics, Graphics, Geology (short course), Materials of Construction, History of Architecture, Architectural Design and Construction.

- **Third year:** Strength of Materials, Geology of Building Stones, Sanitation and Hygiene, Theory of Architectural Design and Planning, History of Architecture, Architectural Design and Construction.
- **Fourth year:** Theory of Structures, Interior Decoration, Colour and Furniture or the History of the Fine Arts, Architectural Design and Construction.
- **Fifth year:** Structural Design, Professional Practice, including Specifications, Contracts, Estimates and Quantities, Architectural Design, Civic Art, Lectures on special subjects, such as Acoustics, Mechanical Plant of Buildings, etc.

The Diploma course was somewhat similar, but not as extensive. The number of day students was seven, and evening students was 25. The Professor of Architecture was assisted by the then part-time Lecturer in Design and History for the Degree Course, Gordon Leith. Lecturers in Design for the Diploma Course were Spicer and Williamson, The Lecturer in Building Construction for the Diploma Course, was Heir. The lectures in Mathematics, Sanitation, Theory of Structures and Strength of Materials were provided by the other departments. A full-time senior lecturer in Architecture was appointed at the beginning of 1925. (‘The School of Architecture - University of the Witwatersrand’, 1924, p. 94)

RIBA recognises Degree and Diploma courses

In 1927, The Union Architects' Act was passed, which gave an additional impetus to the school. The Royal Institute of British Architects (RIBA) gave full recognition to the Degree Course and partial recognition to the Diploma Course as exempted from the examinations for their Associateship. Degree students could automatically obtain the Associateship of the R.I.B.A. and diploma students, on submission of a thesis, could do the same.(‘The University of the Witwatersrand School of Architecture: twenty-first anniversary exhibition’, 1942, p. 187)

Inaugural Elected Central Council Congress Held at Wits

First Congress of the Institute and Chapter held at the University



© (*SAAR,* 'The University of the Witwatersrand School of Architecture: twenty-first anniversary exhibition', 1942)

The first meeting of the Elected Central Council with South Africa's pioneer architects and quantity surveyors took place at the University in 1928.

It decided to recognise the (Royal Institute of British Architects) R.I.B.A., and the Surveyors' Institution, as equivalent Societies. This "*produced a sarcastic editorial comment in a Johannesburg Sunday newspaper, which, typical of several ill-informed Press criticisms, failed to appreciate the legal necessity of the "recognition" thus afforded.* (Lewis, 1953, p. 8)

The Elected Central Council spent much time on the question of Architectural Education and this involved a visit to the Architectural School of the University of the

Witwatersrand. Several months later, a special meeting of all interested in Architectural and Quantity Surveying Education was arranged with the Secretary for Education, Dr. Stefanus Francois Gie. (Lewis, 1953, p. 9)

The first Union Congress of Architects and Quantity Surveyors was held in Johannesburg from the 3rd to the 8th of December 1928, and was well-attended by delegates from the four Provinces of the Union. Robert Howden, Freddie Williamson, Edward Henry Waugh and Professor Pearse put forward arguments to win the day and firmly establish the professional status of Architecture and Quantity Surveying at the University. As a result, the University of the Witwatersrand and the University of Cape Town were gazetted by the Minister of Education as "*Examining Authorities*" under the Act. (Lewis, 1953, p. 22)

Professor Pearse urges cooperation in the industry

Professor Pearse spoke at the first Congress, urging students in Architecture and Quantity Surveying to meet and work together.

"*I would urge that the success of our profession depends on the education of our profession. If we are to take up the attitude that our future architects are to be trained only in the rudiments of Architectural design and construction - without a sound knowledge of their principles, whether in the Fine Arts or in Science, we shall merely turn out men, who are no more competent to produce good architecture and protect the public - than the modern speculator in property and the speculative builder.*" (SAAR, 1928, p. 160)

Colonel Puntis encourages introduction of QS Education

However, delegates wondered about the future of quantity surveying education. Colonel Walter Ernest Puntis, an acclaimed military man and prominent architect spoke up, and was quoted verbatim by the 1928 December issue of the South African Architectural Record.

"*I have listened with very great interest to the paper by Professor Pearse dealing principally with the education of Architects. But there was very little dealing with Quantity Surveying education, and that is a matter in which I am personally interested*.

As you know, in this country today there is a dearth of qualified Quantity Surveyors, and the Government some years ago considered the advisability and the necessity of training students in quantity surveying, in order to build up a staff sufficient to meet the requirements of the day. I would like it brought to the notice of members of both professions that the difficulty today is the proper training and education of Quantity Surveyors in South Africa. Now, except in a few instances, the students under my control are forced to go overseas for their education.

Most of them take the International Correspondence School's course, for which they have to pay heavy fees. That I think is wrong in principle, and the sooner we in South Africa arrange for the education and training of Quantity Surveyors, the better for the country.

*As you know, there is not only a dearth in this country of Quantity Surveyors, but there is a dearth overseas. I may state we have had to import Quantity Surveyors quite recently from Londo*n."

Someone called out from the floor: "*Shame*!"

Col. Puntis: "*I quite agree it is a shame..."* He continued*, "We cannot get the men. Furthermore, I might add we cannot get them in England. I might also add that I am being inundated month after month by parents of boys leaving school, just matriculated, asking if they can be advised as to how they can become Quantity Surveyors.*" (SAAR, 1928, p. 165)

He made a plea for the University to consider what lines they propose to work on for the education for the young South African in quantity surveying.

Cape Town's quantity surveyor and architect, Norris Cowin agreed with Puntis**,** **"***I think the students in quantity surveying should be recommended to take the first three years' architectural course, and then the training they will undoubtedly get in practical work, in the architectural department of the Public Works, will be all that is necessary to turn them out as finished Quantity Surveyor*s". (SAAR, 1928, p. 165)

Pearse explained that many of the part-time students, between 20 and 25, at least 60 per cent, could afford their education financed by their parents for the full-time course, or at least a year or two of it. Many had to give up their employment to study.

"*If only the Architects would "play the game"— I know of half a dozen or a dozen offices in Johannesburg where a student can get a very sound training, and be given every encouragement to attend classes, and time off to take the examinations*".

He agreed to meet with the Quantity Surveyors. "*We could give them what they want, even land surveying, which our students can take here. Quantity Surveying students have come up here on Wednesday afternoons, and we have arranged with our Professor of Surveying to give them what they require*." (SAAR, 1928, p. 175)

Freddie Williamson Proposes Training for Quantity Surveyors at Wits

Freddie Williamson, then a lecturer at Wits, proposed to the Central Council a curriculum be drawn up defining the educational facilities available for the training of Quantity Surveyors in South Africa, and that, if such facilities were unsatisfactory, immediate steps be taken for the establishment of an adequate course for the training of Quantity Surveyors. Port Elizabeth's William John McWilliams seconded his motion. (SAAR, 1928, p. 13)

Tommy Moore recorded the development of standard systems of measurement in South Africa between 1905 and 1928 in his book "*A brief History of Quantity Surveying Institutions in South Africa,"* which was published in 1929.

Friction between Architects and Quantity Surveyors

Despite the urging by Professor Pearse, disharmony sometimes prevailed between the architect and quantity surveyor. In 1930, when Tommy Moore was proposed for the President-in-Chiefship of the Institute of South African Architects, the delegates asserted that a quantity surveyor should not be President-in-Chief of an Institute of Architects; that quantity surveyors should have their own Council, and not be members of an Architects' Council. (Lewis, 1953, p. 13)

Despite the hullabaloo, Moore was elected President-in-Chief, and well-respected by those under his care and he steered the Institute of Architects well, according to his peers. The legislation had been passed, the industry structures established and the path was being paved for education of future South African quantity surveyors.

THE 1930's SEE WITS FOCUS ON QUANTITY SURVEYING

Diploma and Degree in Quantity Surveying

In 1930, courses for a Diploma in Quantity Surveying were instituted and the possibility to qualify for a degree followed, two years later. Prior to this, courses in Architecture were conducted in Pretoria, but in 1932, the University of Pretoria established its own courses in Architecture and Quantity Surveying. (*SAAR*, 1940, 169)

The Government was urged by architects and quantity surveyors to pass legislation to prevent the sprawl and haphazard development taking place, a development that was destroying the historic cities and preventing the establishment of new towns.

The Minister of Public Health, who had the power to deal with town planning under the Public Health Act, invited a committee of architects, land surveyors, town engineers and medical officers of health, to draft town planning regulations for his department. A draft was submitted to the Secretary for Public Health. When nothing happened, the Administrator of the Transvaal, Jan Hendrik Hofmeyr, was approached to urge the introduction of Provincial legislation. This resulted in the Transvaal Town Planning and Townships Ordinance of 1931 being passed. ('The Town Planning Association (Transvaal): Council's annual report', 1931, p. 125; 'Town Planning Association (Transvaal): annual report 1944-1945', 1945, p. 255)

Carnegie Grant for Professor Pearse

Professor Pearse was awarded an esteemed Carnegie grant in 1931, from the Carnegie Corporation in New York, to visit America and Canada to study architectural education. He left at the end of the year and visited the primary universities, where architecture was being taught.

He visited England, Holland, Sweden and Germany, after leaving America, intending to study other systems of architectural education, and modern architectural planning and design. In England, he arranged for the publication of a comprehensive work on the Architecture at the Cape in the 18th Century. (*SAAR,* 1931*,* p. 72)

During the absence of Pearse overseas, Stanley Furner was appointed acting head of the Department of Architecture. Rex Martienssen was appointed lecturer in architecture for the same period.('South African Architectural Record (1931 December)', 1931)

QS Diploma and Degree Courses increase in duration

At the Annual Exhibition and Prize-Giving of the School of Architecture in 1931, Professor Pearse told guests that a four-year Diploma Quantity Surveying course would be offered, increasing from a three and a five-year Degree course. That year,

there were 20 quantity surveying students. (SAAR, 'South African Architectural Record (1931 September)', 1931, p. 83)

Aiding Professor Pearse and Mr. Lloyd as lecturers were Professors Bell-John and Armstrong, and Messrs. Gardiner, Lawrie, McIntosh, Eddy and Miss Anderson.

In 1932, the five-year Degree Course in Quantity Surveying was made available at the University of the Witwatersrand and at the University of Pretoria. The three-year Diploma Course in Quantity Surveying was replaced and included the final examination of the Chartered Surveyors' Institution. At the end of 1931, the number of Quantity Surveying Students was 45. (*SAAR*, 1932, p. 72)

The Chapter of Quantity Surveyors presented prizes at the Graduation Ceremony in March to William Gordon. McIntosh, EF Allen and JS Hodge.

The Chapter of South African Quantity Surveyors annually offered three prizes - a book prize (valued one guinea) to the most successful First Year Student; a book prize, (valued two guineas) to the most successful Second-Year Student; and a gold medal to the most successful Third-Year Student. (*SAAR*, 1932, p. 72)

The University of the Witwatersrand, the University of Pretoria, and the Standing Committee on Education and Examinations of the Institute discussed the establishment of a Chair of Quantity Surveying. The Minister of Education then approved the Final Examination of the Chartered Surveyors' Institution as a qualifying examination.(*SAAR*, 1932, p. 72)

Ironically, despite the efforts to establish measures to educate young students in the quantity surveying profession, the Central Council issued an official statement in 1932 to all concerned that the professions of Architecture and Quantity Surveying in South Africa was becoming overcrowded! (*SAAR*, 1932, p. 134)

Student life includes annual Dance and Prize-Giving

The 7th annual dance of the architectural students of the Witwatersrand University was held in the Wanderers Hall in 1932, and considered "most successful", by the students who authored the South African Architectural Record('South African Architectural Record (1932 May)', 1932). Willem de Sanderes Hendrikz, John Fassler, Gordon Tudhope Chalmers, Bernard Cooke, G. Glanville Allen, Monty Bryer and William McIntosh were

in charge as the evening's master of ceremonies, in charge of the arrangements. "*There was a good attendance and the ballroom looked most attractive with multi-coloured lights playing on the dancers.*" (*SAAR*, 1932, p. 137)

Professor H. Bell-John was elected President of the Chapter of South African Quantity Surveyors for the period of 1932-33. (*SAAR*, 1932, p. 106)

The 8th Annual Exhibition of students' work and prize-giving was held at the University in August of 1932. Professor Pearse thanked Mr. Furner for his role as Head of the School. Mr. Gardiner also assisted with evening work and lectures during the day. Professor Bell-John "*carried on with his arduous work in connection with the Quantity Surveying classes and the advanced professional subjects in Architecture.*" (*SAAR*, 1932, p. 237)

Professor Armstrong assisted with Fine Arts, along with Mr. Sayce and Mr. Martienssen, who was credited as bringing into the school, "*a new atmosphere of enthusiasm, which is reflected in the work of the students. He has put new life into the almost moribund Architectural Students' Society.*" (*SAAR*, 1932, p. 237)

The number of students increased considerably, and an agreement was made between the Universities of the Witwatersrand and Pretoria, where the University of Pretoria should control Quantity Surveying education and that Wits University should look after Architecture.

Professor Bell-John was then appointed by the University of Pretoria to take charge of their courses, after assisting Witwatersrand University in the Quantity Surveying classes in a part-time capacity for ten years. (*SAAR*, 1932, p. 72)

Tobie Louw in first group of quantity surveyor graduates

The first group of graduates who received their Diploma in Quantity Surveying included Tobie Louw (later of acclaimed quantity surveying firm, Borkenhagen & Louw), E.F. Allen, E.V. Kohler, R. Law, F. Sturdy, E.T. Dobson, R.J.L. Pattison and J.B. Williams.

The Quantity Surveying Prizes presented by the Chapter were awarded to 1st Year, J. Law (who also received a Gold Medal) and the 2nd Year Prize went to A.R.D. McIntosh.

De la Cour was also praised by Professor Bell-John, who said, "*For the first time in my experience,* a student has obtained one hundred per cent in an examination paper. (*SAAR*, 1932, p. 240)"

Friendship of Brownlee and Williamson tested in building collapse case

The firm friendship between Freddie Williamson (Transvaal Provincial Institute) and John Brownlee (Cape Provincial Institute), was taxed when they were called in to testify at a building collapse case, which hurt a member of the Cape Provincial Institute. They were two of the several professional witnesses officially appointed to give expert evidence at the trial of this member on a charge of culpable homicide.

The case led Brownlee to understand the pointlessness of continuing any acrimony between the two provinces – the Cape and the Transvaal; and the need for the architectural profession, now statutorily organised, to be able to speak with one voice. (Lewis, 1953, p. 9)

THE 1940's: QUANTITY SURVEYING EDUCATION CONSOLIDATES

Burton retires

Past graduate and then President-in-Chief of Institute of South African Architects, David Strachan Haddon, paid tribute to Mr Burton on his retirement to the Western Cape in 1940.

Haddon called Burton, "*the father"* of the School, as it was due to his enthusiasm and energy that the School came into being." (*SAAR*, 1940, p. 171)

As WW II began in 1939, it would see students leave their studies to join the war effort and a new dawning of the South African construction industry.

WWII and its impact on South African Building Education

More than 90 students serve in war effort

At the 16th Annual Exhibition and Prize-Giving in 1940, Professor Pearse told the guests that the war had a "*serious effect upon the building industry of South Africa, and incidentally on the profession, and several of our past and present students have joined the forces. One can only express the hope that this will not be a long drawn out conflict, but that common sense will prevail in the end.*" (*SAAR*, 1940, p. 170)

Two years later, Professor Pearse paid tribute to those students who joined the forces. "*Over 90 are serving, and several of them hold senior ranks. Lt. R. E. Cole-Bowen, one of our first students, was recently awarded the Military Cross. Four have, unfortunately, made the supreme sacrifice: George Abbott, who was on the threshold of a brilliant professional career, E. A. Ralph, Wilton Miller and E. J. Knight.*" (*SAAR*, 1942, p. 188)

Graduates travel to excel at US universities

The first degree of Master of Architecture was conferred on Rex Martienssen in 1940. Monte Bryer was the first architect Rhodes Scholar, who, after distinguishing himself at Oxford, was awarded a Commonwealth Fellowship, which took him to Columbia University, New York. In America, he travelled and studied housing conditions and methods of practice.

Roy Kantorowich was awarded a University post-graduate scholarship, and went to work in America under Professor Burchard at the Massachusetts Institute of Technology as research assistant on a regional survey of the City of Cambridge. (*SAAR*, 1940, p. 170)

In 1941, a Doctorate in Architecture was instituted, and the Registration Council of Great Britain, under the recent Architects' Act, gave full recognition to the Degree, Diploma and Certificate courses. (*SAAR*, 1942, p. 187)

Quantity Surveying education takes form

The number of students taking Architecture in 1942 were 106, with 24 Quantity Surveying students. Married couple, Dr. and Heather Martienssen (later the first female professor at the university) were awarded research grants by the Union Government to study Bantu dwellings and pottery. (*SAAR*, 1942, p. 188)

Shining star Kurt Jonas slain in the war

Three postgraduate scholarships were awarded - Roy Kantorowich, who continued his studies in America, R.E Hope, who joined the forces and took up the scholarship after the war, and Kurt Jonas, whose untimely death in the war, interrupted a brilliant career. (*SAAR*, 1942, p. 188)

At the time of his death, Jonas was in Palestine on a Union Government postgraduate scholarship for the purpose of investigating the development of domestic architecture in the Near East.

Jonas came to the University of the Witwatersrand in 1934, and graduated with a Bachelor of Architecture in 1939. He was a strong advocate of group work, and an enthusiastic co-worker in research and design projects.

In remembering him, Rex Martienssen wrote that together with four colleagues, he presented a thesis for the Bachelor's degree on Native Housing, which was published by the University and widely reviewed.

"Perhaps we are not accustomed to the architect playing the role of researcher into the wider problems impinging on our work. Jonas worked constantly to inspire a greater 'awareness' of all the implications of architectural work, and though his views on architectural responsibility and scope (always trenchant) were sometimes too harsh for many 'traditionalists', time has shown, and the cumulative pressure of current events is further rendering brutally clear, the indisputable necessity of vision and a capacity to collaborate in the architect, who is to shoulder the burdens of protection and reconstruction". (*SAAR*, 1942, p. 111)

Professor Geoffrey Pearse was elected to be the President of the Associated Scientific (AS) and Technical Societies (TS) of South Africa in 1942.

The students at the South African Architectural Record described the Degree and Diploma in Quantity Surveying courses in their July issues. Potential applicants were assured that the qualifications were recognised by the Surveyors' Institution. In describing the courses, aspiring applicants were advised that an extensive course in general planning principles was given, and the detailed requirements of current building types analysed and embodied in suitable design subjects.

Research into the various problems encountered in practice were undertaken by the students, and the various branches of architectural design and construction were closely correlated. Thus lecture work and studio work were closely linked, and the student encouraged to evolve rational solutions to the problems set.

Visits to brick, cement and other building material factories were a regular part of the course on materials, and buildings in course of construction are studied at various stages under the guidance of a lecturer. Short courses in the theory and application of acoustical principles in building, and a course in electrical illumination were also given.

For the degree in Quantity Surveying (B.Sc. (Q.S.), full-time attendance was required for the first two years. For the remaining three years, students were expected to be employed in the office of a Quantity Surveyor. The Diploma in Quantity Surveying was also offered for part-time students, and the course extended over four years. Tuition in Quantities, Specifications and Building Construction Drawings was given, and in the final year, courses were given in Professional Practice and Analysis of Prices. In addition to these, the student completed courses in Surveying and Levelling, Geology, Theory of Structures and Architectural Drawing. (*SAAR*, 1942, p. 191)

First female QS is Mrs Borckenhagen in 1942

The 1941-1942 period saw the qualification of new Quantity Surveyors, including the first female QS, Mrs. S.M. Borkenhagen, of whom there is unfortunately very little information. Among her cohort were Messrs N.R. Law, Alexander Robert Willcox, D.W Hall, W.T. Welsford, William Gordon McIntosh, A.T. Jones, O.L. Ward, and G.E. Beckwith.

The 21st School of Architecture Exhibition opening was attended by about 500 people, and was graced by the Chancellor of the University, the Hon. Jan Hendrik Hofmeyr. Now a leader in the industry, Carl Borkenhagen, was the Vice-President of the South African Institute of Architects, and donated the prizes. (*SAAR*, 1942, p. 186)

Drop in students in 1943

In 1943, there was a noticeable decrease in the number of South African students entering for the Professional Examinations of the Chartered Surveyors' Institution. Of the Quantity Surveying students – there were three doing their Degree, and 12 working

for their Diploma. JP Lowe qualified with his Diploma in Quantity Surveying. *(SAAR*, 1944, p. 109)

Pearse: 'Need for Town Planning in our Profession'

Professor Pearse wrote in the South African Architectural Record in January 1944 that the need for "*proper town planning control has long been felt by members of our profession, in fact, they are largely responsible for the present town planning ordinances, and the Institute is taking steps to form a South African Town Planning Institute*". (*SAAR*, 1944, p. 3)

The Universities were approached with a view to establishing courses in the subject. The University of the Witwatersrand then instituted a postgraduate diploma in town planning, along with the University of Cape Town.

According to Prof Pearse, many of the South African university graduates are well-equipped as town planners, *"but debarred from obtaining official or private appointments because they do not possess an overseas diploma, issued for work and experience totally different from that prevailing in the Union of South Africa*." (*SAAR*, 1944, p. 3)

QS student Lieutenant Reginald Roebuck Linsley shot down in Sarajevo

Quantity surveying student, Lieutenant Reginald Roebuck Linsley (22) died in an air battle over Sarajevo, Yugoslavia on November 6th, 1944, when his aircraft was shot down by anti-aircraft fire. (*SAAR*, 1946, p. 53)

After matriculating with distinction from Jeppe High School, Linsley was a pupil in the Johannesburg City Engineer's Quantity Surveying Department in 1940, and began his studies for the B.Sc. in Quantity Surveying at Wits.

In June of 1942, he interrupted his studies to join the South African Air Force as a pupil pilot. He received his wings in October, 1943, and in February, 1944, was posted to his squadron, where he saw service in North Africa and Italy, before his untimely death. (*SAAR*, 1946, p. 53)

Architects and quantity surveyors form committee to address Provincial work

In 1945, it was resolved that a Joint Committee of two architects and two quantity surveyors be appointed and assigned to attend a meeting with the Provincial Administration to address the thorny topic of provincial work. At a special meeting of

the Transvaal Provincial Institute, Douglas Maurice Cowin and William Gordon McIntosh were elected as the Institute's representatives on the Liaison Committee. McIntosh was nominated to act for two years and Cowin for one year. (*SAAR*, 1945, p. 75)

Clever Boys win Southern Transvaal First Division in 1943



Clever Boys in action
© Bidvest Wits FC website

After an enthusiastic start, the club played its first match on grass in the early 1930's. They persevered playing against other soccer teams and their hard work paid off in 1943, as the Wits University soccer stars, the Clever Boys, won the Southern Transvaal first division title. (Mokoena, 2020)

Pearse: 'Township layouts are caricatures of town planning'

At the first annual Transvaal Town Planning Association meeting in 1945, the President of the Association, Professor G.E. Pearse gave a speech, predicting South Africa's spatial land issues.

"*I have recently seen some plans of township layout which have been approved by the Townships Board, and which are contrary to all the best town planning principles, which are in fact, mere caricatures of town planning. The sooner this sort of thing is stopped, the better. The passing of the Slums Act and the Ribbon Development Act and the setting up of Peri-Urban Areas Boards and a National Roads*

Board are mere palliatives, not cures. It is a case of Nero fiddling, while Rome burns. (*SAAR*, 1945, p. 258)

It should be noted that since the Union, more damage has been done by Government Departments to our towns in South Africa, than at any time in this country's history — damage that will cost the taxpayers many millions to remedy". (*SAAR*, 1945, p. 259)

Dr Sonnabend: 'Invest in Bantu housing'

The university, together with the South African Association for the Advancement of Science, the Institute of South African Architects, and the Association of Scientific Workers of Southern Africa, organised the Physical Planning and Housing Congress in July 1946.

Among the speakers was Dr H. Sonnabend who tackled the ethical issues of African urbanisation in the cities, in his address, entitled '*Sociological Approach to Housing and Town Planning'*.

"*What we are witnessing in the case of the non-European in South Africa is something surpassing in speed and intensity the English industrial revolution of more than 100 years ago. In fact, one could say that the speed of Bantu urbanisation is paralleled in history only by the drift to towns and the industrialisation of Soviet Russia, particularly in its Asiatic territories. During a period of rapid urbanisation, a very large proportion of the national income must be invested in housing - if a country wants to avoid complete disorganisation of the family structure*". (*SAAR*, 1947, p. 26)

First BSc QS graduate is JJ Pansegrouw in 1946

The first Bachelor of Science in Quantity Surveying at Wits was JJ Pansegrouw, who received the degree in 1946. (Bryer, 1977)

At the Annual Meeting of the Central Council of the Institute of South African Architects, held in April that year, it was announced that 18 of the 22 new Quantity Surveyors joined as salaried members, and four as practising members, Of the 18, three transferred to practising membership. One received the Degree in Quantity Surveying; 14 qualified with the Diploma; three passed Special Final Examinations, and four passed the Final Examination of the Chartered Surveyors' Institution. (*SAAR*, 1946, p. 147)

At the 22nd Annual Exhibition and Prize-Giving at the School of Architecture in 1946, Prof Pearse confirmed the full-time appointment of senior lecturer, Mr. J. Castleton, "*who is well-known to most of you, and we are grateful to him for undertaking this arduous work. We wish to record our appreciation of the splendid work done, during the war years by Mr. W.A. McKechnie, in spite of ill-health, as a part-time lecturer in Quantity Surveying*". (*SAAR*, 1946, p. 116)

Student numbers increase as servicemen return

The number of students has increased considerably, due to the return of ex-service men and women. "*To all of them - we should like to express our gratitude for the loyal service they have rendered to South Africa during the war, and to congratulate them on their safe return*," (*SAAR*, 1946, p. 117) Prof Pearse said, during the prize-giving.

To recognise the extent of students involved in the war, Table 1 illustrates the demographics of veterans and non-serving students in 1945.

Table 1 – School of Architecture Veterans and Non-Serving Students (1945)

Quantity Surveying			
Year	**Ex-Veteran**	**Non-Serving**	**Total**
1st Year	25	17	42
2nd Year	23	4	27
3rd Year	10	4	14
4th Year	4	-	4
5th Year	-	1	1
Total			88

Source: South African Architectural Record, May 1946, P. 117

Durban Congress in 1947 addresses education

Male and female architects and quantity surveyors were invited to jointly address several topics at the 4th Congress of the Institute of South African Architects and Chapter of South African Quantity Surveyors, held at the Marine Hotel in Durban in May, 1947. (*SAAR*, 1947)

Expert speakers held the floor and the content was debated afterwards. Held from the 12th to the 17th of May, Sonny Tomkin, the President of the Transvaal Provincial

Institute, discussed the role of the architect in relation to the community. He touched on architectural education, and how the student needed to keep up with changes in society and work well with fellow experts in the building field.

Architect, Douglas M. Cowin, spoke about the development of new building materials (including plastics, aluminium, and vermiculite) and their effect on building costs and maintenance.

Chairman of the Board of Education, David Strachan Haddon delivered a paper on the inspections on the schools of architecture and quantity surveying in South Africa. The inspections were mainly to assess if the schools fulfilled the statutory requirements, and if Pretoria and Cape Town would be granted Royal Institute of British Architects (RIBA) accreditation.



Delegates at the 1947 Durban Congress

© South African Architectural Record, 1947 (June)

QS educator Tom Moore Dies

The South African Architectural Record commended quantity surveying educator Tom Moore, who died in 1947. The obituary stated that Sir Aston Webb offered him the post of Chief Quantity Surveyor in the Transvaal Colony in 1902. The offer was accepted, and he assumed duty that year. His first task was to introduce a system for the preparation of Bills of Quantities that was adopted in its essentials, practically throughout the continent of Africa. (*SAAR*, 1947, p. 186)

He was registered as an Architect in each of the four Provinces of the Union and enrolled as a member of the Chapter in 1928. From its inception in 1928 until he retired in 1944 from active participation in Chapter affairs, he was a member. Once he was elected President of the Board of the Chapter of South African Quantity Surveyors, he represented it on the Central Council of the Institute of South African Architects, of which he was President-in-Chief in 1931.

In the obituary, the South African Architectural Record noted that, "*Mr. Moore interested himself wholeheartedly in the educational aspect of Quantity Surveying and was a never-failing source of assistance to the many students by whom he so frequently was approached for advice. He was, incidentally, personally responsible for the training of several of the best known Quantity Surveyors in South Africa at the present time.*" *(SAAR,* 1947, p. 186)

Quantity surveying students increase to 107 in 1947

At the 23rd Annual Exhibition, it was announced that the senior lecturer in Quantity Surveying, Mr. Castleton, had resigned to take up a partnership in England. He, however did not turn his back on Wits, agreeing to continue in a part-time capacity on his return. Mr. McKechnie and Mr. H.R. Law covered for him while he was away. (*SAAR*, 1947, p. 221)

In 1947, there were a total of 101 Quantity Surveying - 16 1st year students, 44 2nd years, 27 3rd years, 13 4th years, and one 5th year. The Farrow, Laing and McKechnie Prize in Quantity Surveying was won by H.A. Livingstone. (*SAAR*, 1947, p. 222)

The Chapter of South African Quantity Surveyors Book Prizes were awarded to L.J. MacDonald as the top 1st Year, R.O. Veale as the best 2nd Year student, the 3rd Year top scholar was R.F. Sage, and S.E. Hall was awarded top honours in his 4th Year. The Bell John Prize was given to D.A. Anagnostu, S.E. Hall won the Farrow Laing &

Mckechnie Prize and the W.H. Gresty Prize in Quantity Surveying was awarded to D.H. Harris.

Austin: 'Many overseas inquiries about the training of our quantity surveyors'

Leo Austin awarded P.G.B. Borchards and B.E. Basson, the South African Quantity Surveying Chapter prizes, as the first and second years who earned the highest marks in Quantities.

He pointed out that the Board of the Chapter:

"*has had many inquiries from overseas— Great Britain, Australia and New Zealand— for full information on the educational aspect of Quantity Surveying in this country. It seems that our methods are highly regarded elsewhere, and rightly so, for there can be little doubt that the training of quantity surveyors in South Africa is equal to, if not better than, that obtainable anywhere else in the world*,." (*SAAR*, 1947, p. 226)

Death of Wits building designer, Freddie Williamson

The sudden death of Freddie Williamson in 1945 came as a great shock to the profession. Born in England, he served throughout WWI in the Royal Navy and had some hairbreadth escapes on minesweepers in the North Sea.

He came to South Africa in 1920 to join Frank Emley, who had won the competition for the main buildings of the University of the Witwatersrand. Williamson took over Emsley's practice, and designed many of the main University buildings. (*SAAR*, 1946, p. 28)

Student's Architectural Society's Sheridan: 'Student society has three objectives'

Mrs. M. Sheridan (the Chairman, Students' Architectural Society), explained the society's three primary objectives at the 4th Congress held in May, 1947. She pointed that the first is to supplement the education of the student with a regular series of papers and discussions dealing directly or indirectly with the courses they are required to study at the University.

The second objective is the fun side of student life, *"but it carries with it a very serious purpose. We attempt to establish and encourage by means of social functions of*

varied nature, a group spirit and a feeling of unity among architectural students, in the sincere hope that such a spirit will continue to exist among them when they have entered the body of the profession. I feel that such a spirit might be the first step in achieving the same strength through unity". The final objective was to improve the public relations image of the university. (*SAAR*, 1947, p. 200)

Royal Institution of Chartered Surveyors exempt QS students

The South African Architectural Record received a letter exempting quantity surveying students from the Royal Institution, from the Secretary, Royal Institution of Chartered Surveyors, which read as follows:

"*With reference to the letter, dated 5th February, 1945, received from Mr. J. S. Lewis, the then Secretary to the Chapter of South African Quantity Surveyors, conveying to the Royal Institution a representation from the Board of the Chapter that the Degree and Diploma in Quantity Surveying of the University of Witwatersrand should be recognised as equivalent to, and exempting from, the examinations of the Institution, I am now able to inform you that the matter has received the careful consideration of the Quantity Surveyors' Committee and the Council of the Royal Institution.*

*I am directed to inform you that the Council, on a report from the Quantity Surveyors' Committee, have agreed to recognise the Degree and Diploma as exempting from the examinations of the Institution in Quantity Surveying, and as entitling holders of the Degree or Diploma, to election as Professional Associates, on satisfying the Institution that they have received the requisite amount of practical training in the quantity surveying professio*n." (*SAAR*, 1947, p. 327)

Tribute to Pearse by his successor John Fassler

New Dean, Professor John Fassler paid tribute at the 24th Annual Exhibition and Prize-Giving of the School of Architecture to his predecessor, Professor Pearse who retired after 27 years. Prof Fassler said of Prof Pearse:

"*From the beginning in the Old Tin Temple in 1921, he founded architectural education here. In those distant days he literally lectured in every subject, in every year of the course, himself*".

The teaching style proved to be effective, and the early graduates "*were so full of vitality, and had such sound ideas of what architecture was all about, that they formed*

the pivotal point in the swing away from the Baker tradition, which was predominant up to 1930".

When the school embraced contemporary architecture in Europe and the United States, Prof Pearse did not *"lose enthusiasm for our own fine South African heritage of building and planning. This deep appreciation of things South African springs from the architectural heritage of the Cape, from our eventful historical background, from Sir Herbert Baker and the school of thought he founded, and last but not least, from Professor Pearse himself who introduced this heritage to all who came into contact with him,*" Prof Fassler concluded. (*SAAR*, 1948, p. 234)

Master Builders and Chapter of Quantity Surveyors turn to sport for camaraderie

The President of the South African Chapter of Quantity Surveyors, Leo C. Austin wrote in the SAAR, June 1948 about the interpersonal relationships in the building sector.

"*Probably our most important association is that with the Architects. A vital development in this direction occurred during the year— viz., the proposal made at the time of the Durban Congress for limitation of membership of the Central Council to Architects only*".

"*This proposal, and the events connected with it, will no doubt have led many Members into believing that our relation with the Architectural Profession has deteriorated. I have no hesitation in saying that the cooperation between the two professions is as strong as ever it was. Here I cannot refrain from mentioning the President-in-Chief of the Institute, Mr. Norman Hanson, who, throughout his term, and before, has assiduously guarded the interests of Quantity Surveyors— and for whose effective consideration, I express sincere appreciation. Our next close relationship is with the Builders.*

This continues to be sound, as far as work is concerned. In regard to play, it seems that things are not all as they should be, judging from the results of a recent struggle between the Institute and the Master Builders' Association— when we suffered a severe defeat at golf, but won a modest victory at bowls and tennis— no doubt because the tape measure used at bowls was frequently in the hands of a Quantity Surveyor!" (*SAAR*, 1948, p. 180)

1948 Student Congress resolve to offer insights into architectural studies

The Student Congress at the Congress of Student Architectural Societies held in July, 1948, brought up the sore point that no provision was being made in the schools to give Quantity Surveying students a look into the policy and outlook of Architects, and vice-versa.

"*Students from both Architecture and Quantity Surveying do admittedly attend lectures on common subjects: but Quantity Surveying students are often unaware of the objects of Architecture: and Architectural Students are often ill-informed on the professional role of Quantity Surveyors*." (*SAAR*, 1948, p. 296)

The Congress agreed that if the Profession and Chapter were to extend their scope and influence, they would gain a mutual understanding and respect for each other's problems.

Resolutions were passed and these included that:

a) Each society try to ensure that both Architectural Students and Quantity Surveying Students are active members of the Society.
b) Each delegation approach its University staff to ask to include lectures in the senior student curriculum, designed to give both groups of students an insight into each other's problems. (*SAAR*, 1948, p. 196)

Lecturer Rex Milford starts Venn + Milford

Castleton was assisted in a part-time capacity in the Department of Quantity Surveying by Rex Milford. In 1947, Milford founded Venn + Milford with fellow quantity surveyor Oliver Venn ('About Us', no date) and went on to make an important and historical contribution to the development of several early metropolitan landmarks, such as the Standard Bank building (1960's) and the Carlton Centre (1970's) in the Johannesburg central business district. (*SAAR*,1948, p. 235)

G.R.F Campbell wins three awards in 1948

In 1948, there were 104 students studying for the Degree and Diploma in Quantity Surveying. Leo Austin, President of the Chapter of South African Quantity Surveyors, presented the prizes in Quantity Surveying.

Chapter Prizes were awarded to H.F. Ross in the 1st Year, G.B. Harvey in the 2nd Year, I.N. Leshnick in the 3rd Year, and G.R.F. Campbell in the 4th Year: The Farrow Laing and McKechnie Prize for the student judged the best in the subject of Quantities in the

Final Year went to Campbell, who also won the Bell-John Prize for the best Quantity Surveying student in any year of study.(*SAAR*, 1948, p. 243)

As the decade concluded, Wits students began to make their mark in a country soon to be divided into racial sub-districts, cleaving the country into a territory rife for builders.

THE 50's - STUDENTS SHOW THEIR METTLE

The 50's began with a drop in student numbers. At the 26th Annual School of Architecture Presentation and Prize-giving, the Dean of the Faculty of Architecture, Professor Fassler shared with the audience that 24 students were studying for the Degree of B.Sc. in Quantity Surveying, a total of 38 were studying for the Diploma in Quantity Surveying, and only four were enrolled for the Certificate in Quantity Surveying. This made a total of 66, and 17 less students than the total in 1949. (*SAAR*, 1950, p. 200)

Students test their skills to build Wits Tennis Shelter

Knowing that practical experience was key to a graduate of note, the academics tried out an experiment. The School included an exercise in practical building in the second year of study. The task set was the design and construction of a tennis shelter in the grounds of the University.

It took two weeks for the students to build the Tennis Shelter, and provided the second years with experience in the preliminary site work.

The hands-on task included setting out, digging foundation trenches, preparing foundation reinforcement, mixing and placing concrete, setting out and building brick work for foundation walls and the superstructure, designing and erecting shuttering for the reinforced concrete slab. This slab formed the roof, and involved laying paving slabs, simple joinery and some painting.

A proud Professor Fassler enthused at the graduation, "*This comprises, I think, a very complete experience in building methods and site work for any young student!*" (*SAAR*, 1950, p. 203)

Faculty withdraws QS Certificate Course

At the beginning of 1951, the Board of the Faculty decided to withdraw the Certificate courses in Architecture and Quantity Surveying. These courses had been offered to students mostly living in country towns, away from university centres.

Tobie Louw distributed the Chapter of South African Quantity Surveyor prizes to R.H.C. Small in his 1st Year, N. Murray in his 2nd Year, and to B.H. Zipp in his 3rd Year. Zipp also won the Bell-John Prize for Best all-round student in Quantity Surveying. The top Final Year student was G.R. Senior, who also was nominated for the Chapter's Gold Medal Award. (*SAAR*, 1950, p. 206)

SAAR reports on life in Orlando East and Sophiatown

The South African Architectural Report asked social worker, A. Mokhetle to compare the lives in 1950, of municipal tenants in Orlando versus that of private tenants in Sophiatown. (*SAAR,* 1950, p. 231)

She explained that Orlando tenants had bigger houses and additional space for gardening; and paid less rent. Mokhetle also said that the majority of Sophiatown families occupied one room each, and this has to be used for all members of the family.

"Orlando residents complain of the lack of proper flooring, the lack of a ceiling, the fact that one water tap has to be shared by twenty houses, and that no compensation for improvements (e.g. partitions, enclosed verandas) is given when they move from the houses.

Some women do washing, while others work in factories and such-like places, so as to earn enough money to support their families. They rush for trains for which they pay 11/2 for a monthly ticket." (*SAAR*, 1950, p. 231)

She explained that several factors influenced life in the townships then, these included:

- The lack of income and "*ever-rising cost of living in towns".*

- The difficulty of raising children, "*according to socially desirable standards".*
- Friction within some families, as parents had to find jobs to earn a living.

She added, "*They are always conscious of the inferiority of their position and the insecurity of their jobs. In cases where both the man and the woman work daily, there is nobody to take care of the running of the home".*

Illustrating the hard lives of Africans in the 1950's, Mokhetle said, that men would leave *"very early for work and have no tea. These men on their way to work buy a 3d. mug of tea and Id. slice of bread from the coffee carts. When evening comes, the workers rush back home. A fire is made, rooms are swept and supper prepared. This meal generally consists of mealie-meal porridge and steak.*"(*SAAR*, 1950, p. 232)

Around 125 000 state houses built since 1920

The Institute of South African Architects and Chapter of South African Quantity Surveyors held a public session in 1951 on National Housing. Architect, Norman Leonard Hanson revealed that local authorities had built about 25,000 dwellings as state-financed economic housing since 1920. Half of these were for Europeans and half for "*non-Europeans. This figure refers only to economic housing schemes, but does not refer to houses built for individuals through the agency of the Local Authorities or through the State"*.

About 56,000 houses had been constructed as assisted housing, since 1930,

"*of which one-eighth has been for Europeans and seven-eighths for non-Europeans. Altogether, there is a total of about 80,000 dwellings, which have been erected directly through the initiative of Local Authorities; although I think the total would more closely approximate the 100,000 mark."* (*SAAR,* 1951, p. 183)

In March 1951, the number of registered quantity surveyors at the Chapter of South African Quantity Surveyors had grown to 296. ('Man-Made Johannesburg', 1952, p.25)

Students attend NUSAS Congress in 1951

Four students from the Council of Architectural Students were invited to attend the Annual National Union of South African Students (NUSAS) Congress held in Grahamstown. The Council of Architectural Students annual report reported,

"*The contact with other students and the exchange of ideas that such a conference gives is very stimulating, and it is there that one realises how much we lose through having so little contact with students from other Universities*" (*SAAR*, 1951, p. 43).

Students and staff challenge each other in rugby and tennis

The students enjoyed playing team sports and played soccer, rugby and tennis. However, to improve relations between teacher and student, the staff decided to play against the students. With tongue firmly in cheek, the students who penned the 1951 February issue of the SAAR reported:

"*The second-year students challenged the staff to a tennis tournament and were well-beaten; the staff then challenged the third-years and were in turn beaten, but it must be admitted by a very narrow margin. These matches were very popular, and improved student-staff relationships considerably. The examinations prevented any further challenges being issued*".(*SAAR*, 1951, p. 43)

The Annual Architectural Ball was highly successful and attended by a record number of people.

At the 27th Annual Exhibition and Prize-Giving in 1951, the Dean of the Faculty of Architecture, Professor Fassler said that 13 students were studying for the Degree in Quantity Surveying, 40 for the Diploma in Quantity Surveying, and one person studying for the Certificate in Quantity Surveying.

At the March ceremony, eight graduated with the Degree of Bachelor of Science in Quantity Surveying and 12 with the Diploma in Quantity Surveying. 12 students in the Faculty earned the distinction of qualifying as Scholars of the University. Due to the

reduction in the number of students as the post-war influx of ex-servicemen had almost passed through, the staff complement was reduced. (*SAAR, 1951, p. 203)*

The President of the Chapter, Mr. A. Bjorkman, presented the Chapter of South African Quantity Surveyor prizes to F.G. Mayston in the 1st Year, F. Meyer in his 2nd Year, and D.J. Will in his 3rd Year. The 4th Year prize went to B.H. Zipp, who also won the Bell-John Prize, and the Farrow, Laing and McKechnie Prize. (*SAAR*, 1951, p. 208)

Not enough space for new students

In 1952, at the 28th Annual Exhibition and Prize Giving, Professor Fassler admitted that there were not enough places for students wanting to study quantity surveying and architecture. He explained:

"*As we are the centre of the largest urban population in the Union, the pressure on this University is greatest. For 1952, there were 84 applicants for 35 available places in architecture, and 27 for 15 in Quantity Surveying. The Selection Committee had a difficult task to perform*." (*SAAR*, 1952, p. 140)

In that year, there were nine students studying for the Degree in Quantity Surveying, and 41 students for the Diploma Quantity Surveying. The total number of Quantity Surveying students was 50. At the March ceremony, two graduated with a Degree in Quantity Surveying, and three with a Diploma in Quantity Surveying. The Chapter of South African Quantity Surveyor Book Prizes were awarded to L.J. MacDonald in his 1st Year, R.O. Veale in their 2nd Year and R.F. Sage in their 3rd Year. S.E. Hall won the 4th Year prize and also received the Farrow Laing & Mckechnie Prize. The Bell-John Prize went to D.A. Anagnostu, and the W.H. Gresty Prize in Quantity Surveying was awarded to D.H. Harris. (*SAAR*, 1952, p. 148)

Professor Fassler predicts that the profession will double

Seeing growth ahead and based on the number of students admitted to courses in 1952, Professor Fassler warned during the annual Prize-Giving that:

"*the size of the architectural profession will more than double itself over the next twenty years".* He said that the Architectural Board felt that the number of qualified graduates from universities were not enough, in view of South Africa's rapid

expansion. The Board proposed to review the South African architectural and quantity surveying education after an inspection of the Universities providing training facilities in June of 1952. (*SAAR,* 1952, p. 142)

Courses extended as students struggle with the thesis

The Degree in Architecture was extended to five and a half years, and the Diploma to six. The additional half year was added because not many students were able to complete the course in the allocated time. According to the SAAR June 1952 issue, a major stumbling block for the students was the completion of the thesis for the Degree.

The Board of Education of the Institute of South African Architects requested that the preparation of a thesis was included in the requirements for the Diploma. This made it possible for Diploma graduates to apply for membership of the Royal Institute of British Architects, without needing to prepare a design thesis subsequent to qualifying, which meant at least an additional year.

The Diploma Course was also extended to five years. An additional year of Quantities was introduced, plus several ancillary subjects. These were made in accordance with requests from the Board of the Chapter, after the university inspection of facilities offering courses in Quantity Surveying. (*SAAR*, 1952, p. 144)

Part-time lecturers were thanked - Rex Milford for quantity surveying, N.P Smit for his courses in sanitation and hygiene and electrical illumination, and M. Marcus for his continued assistance in theory of structures.

Postgraduate summer school for building techniques

The Institute's Architectural Science Committee proposed the establishment of a Postgraduate Summer School, in September 1952.

A series of afternoon and evening lectures for Architects and Quantity Surveyors were projected, with the purpose of letting them get their hands dirty with many aspects of building technique, and practice, which they may not have had time to follow up on, since graduating. This took place with much success. (*SAAR*, 1953, p. 146)

2nd Years build a Wits cricket score board

In 1952, the full-time second year students designed and built a cricket score board, adjacent to the University cricket field. This was the third building that the students had designed and built for the University. *"All have been very competently carried out and are a credit to the Department,"* said Professor Fassler during his address to students at the 29th Annual Prize-Giving. (*SAAR*, 1953, p. 31)

Castleton praises the QS students

J.W.S. Castleton, the Senior Vice-President of the Chapter of S.A. Quantity Surveyors described the quantity surveying students in the 1950's, at the Annual Exhibition and Prize Giving, Faculty of Architecture in April, 1952.

He said they are almost all part-time students, and their tutorials and studies had to take place on evenings and week-ends. He praised their dedication, according to the SAAR June edition, saying "*It is often said that winning prizes in your student days is no indication of possible success in the outside world later. But I think it does indicate one thing, and that is ambition.*"(*SAAR*, 1952, p. 150)

Castleton spoke of his practice, where office assistants were taking things easy, however, those in building and construction were very busy. "*The majority of quantity surveying students are part-time students, which means that their professional courses represent the theory of the work. Their practical experience must be obtained in their offices. And that is the part which is up to them. To fill in the gaps and elaborate on their knowledge so that they know more than the basic minimum.*" (*SAAR*, 1952, p. 150)

Inspection Committee condones poor quality of student accommodation

When an inspection committee of the South African Institute of Architects and Chapter of Quantity Surveyors visited to inspect the Faculty in 1952, they were happy with the work done, but unhappy with the unsatisfactory accommodation provided.

"*Half the Department is housed in temporary hutments on the University campus, and the other half is in the main block. Such fragmentation makes control*

difficult, quite apart from the fact that the separation of junior and senior students in different parts of the University grounds is also a bad thing".

"One half of Fine Arts is on the ground floor of this building, and the other is in various parts of the second floor; that the Architectural and Fine Arts Library is housed in the main University Library. *This arrangement is inconvenient and means that the very good collection of books, which we have acquired over the years cannot play its part fully in the life of the Faculty,*" Professor Fassler said in 1953. (*SAAR*, 1953, p. 32)

Master of Architecture for Doug Calderwood

Doug Calderwood (later to become quite integral to the academic structure of the School) was conferred his Master of Architecture degree in 1952. He was among a group of two quantity surveying degree graduates, and seven QS diploma graduates. In that year, 23 students were studying for the degree course in quantity surveying, and 40 were completing the diploma. (*SAAR*, 1954, p. 44)

Calderwood examines non-European housing in NBRI publications

In 1953, the National Building Research Institute (NBRI) issued several Building Science publications and Doug Calderwood had two reports published on non-European housing. The respective abstracts are presented below:

a. Site Selection in Non-European Housing Estate Layouts

The importance of site selection for low-cost housing estates was discussed, with reference to cost reduction and to the creation of an environment. Important aspects dealt with are: zoning, taking legislation into account; health considerations; site location in relation to transportation and services; topography and soil conditions; social surveys, revealing the number of people likely to be housed, rent-paying capacity and other factors; and, finally, the area and shape of site.

b. The Planning of Non-European Residential Areas in South Africa

The provision of amenities in residential areas is most important - if the area is to function properly. The economies of a layout are very dependent upon the density achieved in the plan, but, in arriving at higher densities, amenities must not be

reduced. A good plan is the balance of economies and the creation of a good environment. (*SAAR*, 1953, p. 31)

Pearse and Calderwood receive Doctorates

In 1954, Doug Calderwood received his Doctor of Architecture degree and Head of School, Professor Pearse was awarded an Honorary Doctorate in Architecture. (*SAAR* , 1954, p. 44)

Female QS, Judith Frankel Lipkin went places



Judith Eda Frankel Lipkin (BSc QS, 1958) was one of the first women to qualify as a quantity surveyor in South Africa. Born in 1936, she made the unusual choice of quantity surveying as a profession.

Her son, Jonathan recalls her talking about arduous exams at Wits, requiring candidates to perform hundreds of technical calculations using nothing more than a slide rule, pencil and paper.

Judith Frankel Lipkin on graduation day © John Frankel

When she graduated, quantity surveying was still a profession dominated by men and she was often asked to work on domestic buildings rather than "*grand projects"*. However, much of her work in South Africa required travelling to remote locations.

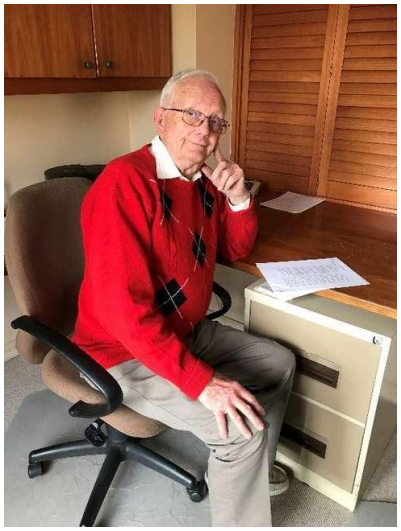
Paying tribute, the Wits Review April issue of 2018, wrote that she was admitted to the Royal Institute of Chartered Surveyors, and her status as a professional pioneer was acknowledged when she was twice invited to London for a "*Woman of the Year*" event in the 1960's. (*Wits Review,* 2018, p. 93)

Castleton retires and Milford takes over

Director of Education and Training in the sub-department of Quantity Surveying in the Faculty of Architecture, JWS Castleton retired at the end of 1958. He was succeeded by R B Milford in 1960. The vacant post of part-time Lecturer in Quantity Surveying

was filled in 1958 by Clyde Walker, who was to become the first Professor of Quantity surveying at Wits, 12 years later. (Bryer, 1977, p. 19)

Fred Bihl (BSc QS, 1959) looks back at his time at Wits



Fred Bihl © Supplied

Fred Bihl was born in 1937, and chose Quantity Surveying as a career path, as he had always been interested in building design and construction. He studied building construction at school in Bulawayo for three years.

Bihl was also inspired by a quantity surveyor friend of his parents, who gave the youngster the Sir Bannister Fletcher book, "*A History of Architecture*" in 1952, which impressed him considerably.

The book dealt with historical architectural design throughout the world and highlighted many historical buildings, the construction of which, at the time, must have posed many challenges. Bihl was also introduced to Professor Tobie Louw, who now headed the QS department at Pretoria University, while still working as co-senior partner of his practice, Borckenhagen and Louw.

Louw outlined the opportunities for a QS in the building industry, and in his firm, in particular. The quantity surveyor explained the various courses of study leading to the degree of BSc. QS, and that *"there were openings for entering into articles of pupilage in his Johannesburg office during the part-time period of study at University. I wished to study at Wits, due to its impressive worldwide reputation, and highly-thought-of Department of Quantity Surveying,"* Bihl said.

He enrolled at Wits in 1955 to study Quantity Surveying, and joined the Johannesburg office of Borckenhagen and Louw.

His subjects included land surveying and analysis of prices

The course covering the degree of Quantity Surveying at the time, involved full-time study for the first two years, and three years of part-time study thereafter. Bihl explained that the subjects taught in the course included, inter alia,

- Building Construction 1, 2 and 3,
- Mathematics 1,
- Physics 1,
- Quantities 1 to 5,
- Land surveying,
- Theory of Structures 1 and 2,
- Economics 1,
- Building Materials,
- Analysis of Prices,
- Building Financial Valuations and Estimates,
- Professional Practice and Specifications.

His favourite lecturer was Mr BA Eagle in his first year, who lectured Physics. *"He was inspirational and was able to explain complicated issues simply and clearly".*

Initiation and Phineas Wits Mascot for the 1st years

The students during the 50's were required to wear long trousers, collar, tie and jacket to class and were required to "*swot each year from when the blossoms appeared at the start of Spring"*. Bihl passed each year, obtaining 10 A's out of the 24 subjects written.

His five years at Men's Res was where he made lifelong friends, served on several committees, including the House Committee, and ending up as chairman in his final year, 1959.

In his first year, the freshmen at Res had to wear red buttons in their lapels "*to identify ourselves as such, and were subjected to initiation by the senior students".* This included having to take part in the fresher's concert produced by the seniors.

A particularly spooky initiation practice was that the students had to be introduced to the Phineas Wits' mascot decorated with human skulls with candles inside (supplied by second-year medical students), housed in the cavernous storm water drain running next to Empire road!

> *"We had to learn the personal details of every senior student in Res from 3rd year upwards, and had to repeat them whenever confronted by a senior! We also had to learn the rude poem about Zorro the Cat, to whom a statue had*

been erected outside the then front entrance to College house. Initiation was banned from 1956".

Rugby included the capture of Tukkies

Student activities included raids against Pretoria University students. This took place before the rugby intervarsity each year on campus rugby fields*, "where we had to try to remove the trousers of our opponents,"*.

Bihl was captured during one of the raids in Pretoria and taken to one of the residences where all the captives were stripped, made to jump into baths filled with cold water and ice, and "*then to run the gauntlet on our hands and knees through the legs of about 10 students, who slapped us hard on our backsides. We were given a wet towel to 'dry' ourselves, got dressed and slept on the floors in the corridors of the residence. This was in the middle of winter! We hitched back to Res the next day".*

The Capture of the Tukkies (the nickname of Pretoria University) took place in 1958, and captured cheerleader Neels Neuhoff. It was the brainchild of a team of brilliant strategists, led by good friend from Res and contemporary Ray Greenland, who later obtained his PhD. in nuclear engineering overseas. *"Neels had to run onto the Loftus rugby field in Pretoria, dressed in a nappy, before the start of the main match, to signify that he had been captured by Witsies".*

The annual practice of building floats each year and dressing up to participate in the annual rag processions to sell fundraising tickets, was among his fondest memories as a student. "*I, together with many other freshers, obtained the necessary credits to qualify to proudly buy and wear a Wits blazer at the end of our first year".*

He joined the Choral Society in his final year, and sang as the male chorus lead in '*The Gondoliers'* opposite the female chorus lead, Clarissa Bozzoli (one of Professor Bozz's three daughters), whom he married in 1962. "*Another top memory is my graduation in the Great Hall at the end of 1959 with my fellow QS graduands*".

Fred's life path continues in *In Their Own Words* chapter. (Bihl, 2023)

THE 60's AND 70's – RESISTANCE AND GROWTH

Apartheid restricts building work and education for 'non-whites'

The system of Apartheid was implemented by the ruling National Party, who won the election in 1948, under the slogan of Apartheid (Afrikaans for '*separateness*'). This divided South Africa on racial lines. The country entered the period of '*separate development*', divided on racially segregated lines, following the Land Act of 1913, which restricted the black ownership of land to the '*reserves*', later the homelands, the Native (Urban) Areas Act of 1923 and the Native Law Amendments Act of 1937, which enforced residential segregation. (*Introduction: Early Apartheid: 1948-1970* | *Facing History & Ourselves*, 2018)

Entrenched racism was legislated and enforced with the Population Registration Act of 1950 (classifying citizens, according to the colour of their skin), the Group Areas Act of 1953 (designated areas for specific racial groups, and set the spatial landscape we experience today) and the Reservation of Separate Amenities Act of 1953, dictated how the country was run.

Closer to home, the Native Builders Amendment Act of 1955, made it illegal to hire a '*native*' (read, non-white person) on a skilled building site in an urban area, without special permission, proving that there was no white person available to do the job. The Bantu Education Act of 1953, limited blacks for studying for jobs reserved for whites and the Extension of University Education Act of 1959, had a whites-only policy for admission for universities and schools of architecture or construction. Ministerial permission was required to admit students who were deemed non-white. (Peters, 2004, p. 545)

In 1967, the total enrolment of students in the Faculty of Architecture was 255. While an increase from previous years, it was predominately male-orientated with 239 males and 16 females. The racial demographic noted then was 235 Europeans, 18 Asians, 2 Coloureds, and no Black students. (Bryer, 1977, p. 21)

Departments of Building and Quantity Surveying separate

Change was in the air at the University of Witwatersrand, as Rex Milford retired at the end of 1965, and was succeeded by Clyde Walker. The Departments of Building and

Quantity Surveying were established as separate entities offering undergraduate courses, and the Department of Building was established in 1969. (Bryer, 1977, p. 23)

Accolades for Hanson, Tomkin, Bryer and Calderwood

Professor Norman Leonard Hanson was honoured by the Building Industries Federation (South Africa), the South African Council for Scientific and Industrial Research, the Institute of South African Architects and the Association of South African Quantity Surveyors in 1964, with a major bursary in his name. This was to commemorate his services to the building and allied industries in South Africa and his contribution to the national housing requirements. (Bryer, 1977, p. 84)

Wits graduate and partner of QS firm, Hanson, Tomkin & Finkelstein, Sonny Tomkin received civic honours in 1966, from the City of Durban for his contribution to its town and regional planning developments for nearly 40 consecutive years. In 1970, he was elected Honorary Fellow of the University of Natal in recognition of his outstanding services to education and training in the fields of architecture, quantity surveying, building science and town and regional planning.

In 1972, Professor Calderwood became a Fellow of the Royal Society of Arts in the United Kingdom, in recognition of his contribution to the advance of knowledge in the fields of architecture, building and building science.

In the same year, acclaimed architect and Witsie Monte Bryer who later wrote a book on the history of the School, was elected Special Member of the South African Institute of Building for services to the building industry in South Africa. (Bryer, 1977)

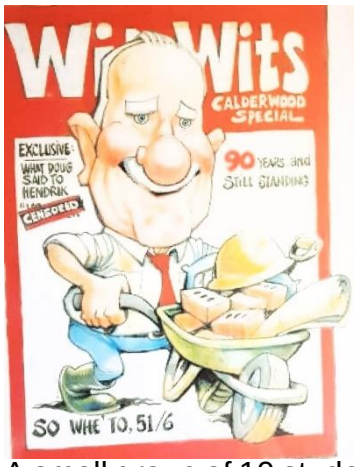
Doctor of Science in Quantity Surveying in 1964

In 1964, the Doctor of Science in Quantity Surveying was introduced. According to Bryer's book (1976), the maximum possible intake of students per annum at the time, for quantity surveying education was a mere 35, and "*not likely to change appreciably due to the current depression in the building and construction industries*."(Bryer, 1977)

Chair of Building Science in 1966

According to the University of Witwatersrand Gazette of 1966, Prof Calderwood was appointed to the role of Chair of Building Science in October of the same year. This followed a request by the National Federation of Building Trade Employers, which was providing the funding for the post via its National Development Fund.

Bachelor of Science in Building with Calderwood and TJ Olivier



The Building Industries Federation South Africa (BIFSA) and a generous subsidy from the Federation's National Development Fund for the Building Industry in South Africa, enabled the introduction of a four-year degree course in 1965, leading to the degree of Bachelor of Science in Building. This educated and trained candidates for technical, executive and managerial roles in the building and allied industries.

A small group of 10 students enrolled for this degree course when it began, with a staff of one full-time and one part-time teacher. Professor Calderwood was working at the National Building Research Institute, when he was invited to manage the new building science course.

Frank Wright (BSc 1968) paid tribute to the course led by Calderwood, saying the curriculum was overhauled and made relevant.

"*It was Prof's subject, industrial organisation and management that was the golden thread of the whole building degree. Rooted in Calderwood's father's mine management techniques, the course stressed the importance of human relations in the building industry. Welfare, incentives, conflict management, even body language, were taught to emphasise that people mattered first*". ('Orbituary - Calderwood, Douglas (1919-2010)', no date a)

Graduates trundled in a wheelbarrow

He continued that Calderwood genuinely cared about each of his students. Alumni recall how, "*he delighted in trundling them in a wheelbarrow from the Great Hall after*

graduation with cardboard signs around their necks, the post-graduation dinners he hosted, that pipe! and the way he said words like 'mimi' skirts and 'mininim' and 'wits' not 'vits". ('Orbituary - Calderwood, Douglas (1919-2010)', no date)

The iconic former Chair of Building Science at Wits, Prof. Douglas McGavin Calderwood (BArch 1943, MArch 1952, DArch 1954), died of pneumonia on 25 June 2009, aged 90. He was born on 29 March 1919, the son of a Scottish mining engineer. Calderwood was working at the National Building Research Institute when Wits invited him to manage the new building science course in 1967. Frank Wright (BSc 1968) recalls the professor's mandate to make something of a motley bunch of students who were neither architecture fish nor quantity surveying fowl. Calderwood overhauled the curriculum and improved its relevance. It was Prof's subject, industrial organisation and management that was the golden thread of the whole building degree. Rooted in Calderwood's father's mine management techniques, the course stressed the importance of human relations in the building industry. Welfare, incentives, conflict management, even body language, were taught [to emphasise] that people mattered first,? says Wright. Calderwood sincerely cared about each of his students. Alumni recall how he delighted in trundling them in a wheelbarrow from the Great Hall after graduation with cardboard signs around their necks; the post-graduation dinners he hosted; that pipe! and the way he said words like \"mimi\" skirts and \"mininim\" and wits not vits. In May 2009, alumni hosted a party for Calderwood at Hofmeyr House, likened to a gathering of the chieftains [returning] to pay their respects. He died the following month." ('Orbituary - Calderwood, Douglas (1919-2010)', no date a)

Five years later, when the division of Building Science became an autonomous department of the Faculty of Architecture, there were 106 students in the course, with a staff of five full-time and three part-time teachers. (ArteFacts, no date c)

TJ Olivier joined the Department of Building Science as a part-time lecturer in 1967 and assisted Professor Calderwood to develop the degree of Bachelor of Science in Building course. He was appointed as Chair and in 1976, Professor Olivier became Head of the Department. (Bryer, 1977, p. 26)

Professor Pearse dies in 1968

In 1968, Professor Geoffrey Eastcott Pearse died. Editor of the South African Architectural Report, Duncan Howie detailed Professor Pearse's life up to then in a 1954 SAAR issue.

Pearse was born in February near Verulam, Natal, in 1885. He came to Johannesburg and was educated at Marist Brothers School and the Weenen County College, Natal. His training as an architect began in 1903, when he was articled to Messrs. Brown &. Cottrill. In 1907, he travelled to London and qualified as an Associate of the Royal Institute of British Architects.

Returning to Johannesburg, he joined Sir Herbert Baker's staff, and worked on the Union Buildings, Pretoria. He won three competitions and began to practise in Johannesburg in 1913. When WWI began, he returned to England and enlisted in the Middlesex Regiment. After being transferred to the Royal Engineers, he had active service in Mesopotamia until the end of the war. Remaining in India, he took part in the Afghan Campaign.

He returned to South Africa in 1920, resumed practice in Johannesburg, and began to lecture in Architecture at the University College."('South African Architectural Record (1954 May)', 1954) An important career milestone which he initiated in his later years was the establishment of a Post Graduate Diploma in Town Planning.

Professor Pearse was a past President of the Association of Transvaal Architects, the Transvaal Provincial Institute of South African Architects, the Transvaal Town Planning Association, and the Associated Scientific and Technical Societies of South Africa. On his retirement, he was appointed the University's Architect. (*SAAR*, 1954, p. 44)

He was responsible, with his colleagues for the layout of the grounds of the University, the design of the swimming bath, library, the Great Hall and extensions to the Central Block, the Bernard Price Institute of Geophysical Research, the Hillman Block, Douglas Smit House, the first and second Dental Hospitals, extensions to the Medical School and the Women's Residence. His other buildings included Escom House, a Diamond Research Laboratory, the Polio Research Laboratory, St. John Ophthalmic Hospital, and the O.F.S. University Library. (*SAAR,* 1954, p. 44)

According to Howie, "*He was responsible for sound pioneering work in architectural education, Fine Arts and Town Planning, played an important role in the development of this University, instilled the highest ideals in his students, and never failed to stimulate enthusiasm in those about him for the charm and character of our historic South African tradition*". (*SAAR*, 1954, p. 44)

Pearse's protégé, Professor W D Howie, was appointed Head of the Department of Architecture, Quantity Surveying, Building Science and Town and Regional Planning in 1969.

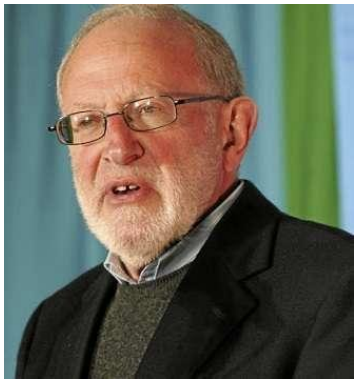
According to Bryer, the Faculty of Architecture was granted to building science under Professor DM Calderwood and in 1970, that status was granted also to Quantity Surveying under GW John. The Wits diplomat in quantity surveying was appointed Associate Professor in the Department of Quantity Surveying.

When GW John became the Head of the Department in 1971, there were 65 quantity surveying students and a staff of two full-time and four part-time teachers in the Department of Quantity Surveying. (Bryer, 1977, p. 23)

Swedish King asks Calderwood for low-cost housing advice

Wits SCEM alumnus, Mark Osborne (QS 1971) was impressed by Professor Calderwood and said in an interview for this book, "*Prof was a wonderful character, during my second year he was asked to go to Sweden for a low-cost housing conference. He was asked to do the final summing up of the week-long conference, by the King of Sweden, Gustav V Adolf, as he had so impressed the conference with his ideas. If the government had implemented his low-cost housing ideas, it would have alleviated the housing problem at the time."*

Ronnie Schloss (BSc QS, 1968) remembers life as a student



Diminutive Professor Ronnie Schloss shared his start into the profession, and said when he decided to go into construction, his family didn't even know what it was!

He was a student in the 60's and did the five-year qualification (two years full-time and three part-time). During his student years, he had to work in the December vacation.

Ronnie Schloss in the 80's © Bidvest Wits

He was in Durban, working on the Alice Street Bridge and tells further, "*I was the bright spark in charge of the pouring of the concrete and messed up the signalling for the Johannesburg/Durban train. I shorted the signals, and all the trains stopped*!"

Schloss plays soccer as right-wing full-back

As part of his social activities, he started his 'other' career in football, and was a right-wing full-back at Wits. *"I also played for Ramblers and for the U-19 Wits team until I got injured,"* he shared in one of the several interviews for the book.

Working as a quantity surveyor at Eric Gaisford, Schloss left when he asked to choose between football or a career as a QS. This followed a *"request by me to leave early on Tuesdays and Thursdays to attend training as Wits. I chose football*". Stan Armstrong, a civil engineer who was a director of Durban City Football Club, and who shared offices with Strickland Chomley and Morgan Quantity Surveyors, heard about the incident and organised him a job with Strickland.

Career included incident cutting cable to Baragwanath Hospital

Schloss is a people person and enjoyed being on-site, planning and programming for the construction, and meeting with many people. One of his first projects was building a factory for Cardies at Aeroton, on the way to Baragwanath. *"I was in charge of that site and cut through the cable that went to Baragwanath Hospital,"* he laughed.

When Professor Calderwood started the building course, Schloss was part of the Master Builders Association, where he was lecturing on contract law. Calderwood then offered Schloss a post at Wits. Calderwood originally came from CSIR, and was instrumental in housing.

Initially, Schloss found lecturing intimidating for the first few years, as the students *"were much older than me and had much more professional experience than I did.*" (Luckily, there were no disputes with him – the older ones would chide the younger ones, if they wanted to cause trouble) The older students would say, '*We want to finish the course, we're on bursaries and we've got families*." He added, "*We had no nonsense in class. Eventually, I built up a good rapport with them*."

Abyssinian lecture work

He got very involved in the construction industry and was on various committees and assisted with disputes.

Back at Wits, the classes were small. "*In the first year, we had eight to 10 in building sciences and 20 QS students. By the second year, the number had halved."* The subjects the students had to pass were Physics, Chemistry, Commercial Law, Maths, Applied Maths and Geometrical Drawing and Quantities.

When Calderwood had to go on leave for between six to eight weeks, he needed someone to cover his Building Science 1 classes and asked Schloss to step in. He had prepared the notes in advance.

> *"I'll never forget, the notes included phrases like, 'When I was in Abyssinia'. He had perfect handwriting, and would mark his work as Lecture I and Lecture II..."* When Calderwood returned, Schloss gladly returned the portfolio, *"I wasn't interested!"*

Ronnie Schloss progressed to Senior Lecturer in 1974. He then did various six-month courses overseas, including Construction Failures in Wharton, Pennsylvania and one in Herriot Watt, England. He was then appointed Associate Professor of Building.

Clever Boys are first white team to play against Chiefs and Swallows

Soccer still had a big place in his heart, particularly the Wits team who were breaking laws, as an all-white team to play in a black township. According to Schloss, Wits was the first white team to join the NPSL (National Professional Soccer League), and left the all-white white league.

> "*We were the first white team to play in Soweto! If we'd play against (Kaizer) Chiefs and beat them, the supporters would stone the bus. The players would take the covers off the seats and cover themselves. We had quite a lot of black*

support in Soweto. We didn't just play against Chiefs, but also against Morocco Swallows."

Apartheid police arrest him but Jack Sello gets him out

He was arrested with his sons going to Orlando Stadium, and Jack Sello, the Chairman of Moroko Swallows, who was also a policeman, got them out. *"At that time, quite a few guys who ran football were in the police force,"* he explained.

In 1976, in the aftermath of the Soweto Riots, they were told to go and play, and never had an incident. Being a sportsman and an academic who lived a non-racial lifestyle, which went against the Apartheid government, Schloss was not spared the wrath of the law.

"*Was I threatened? The answer is 'Yes'. We were going to play a black player, who worked on the Wits grounds, and this was leaked. I was called to Hillbrow Police Station and called a kb (kaffirboetie derogatory Afrikaans term meaning someone who loves black people), and told that I 'was trying to be clever."* Following that, the intimidation increased and he would receive phone calls at 1 or 2 am, calling him names.

Manchester United's Crerand joins team and is arrested in Orlando

Among his top memories are when Wits beat Rangers for the Cup at Wits. "We didn't have a grandstand that could accommodate the spectators, so we all stood around on field!"

Wits brought out Paddy Crerand (of Manchester United) to strengthen the Wits team side for six weeks. Among the matches included playing against an Argentinian university team at Rand Stadium. They then played another match in Orlando, *"and were driving out, when the army stopped us. Paddy was taking pictures. They arrested the whole bunch and took his camera, he didn't get the pictures."*

The team used to travel by bus but apartheid regulations affected the hotels and where we ate. Once the team went to a KFC where they would serve the whites inside but the blacks had to go around back so Schloss *"told them to stick their food. We went out as a team, we travelled as a team."* They travelled by bus to Bloemfontein and Durban and flew to Windhoek. Wits won the first major trophy in the Mainstay Cup, after the team beat Kaizer Chiefs.

Among his achievements was getting the Wits soccer team promoted from the 2nd division to the 1st division. When he got the team into the Professional League, Wits Vice-Chancellor Bezolli then asked him, how was he was going to finance it? Schloss knew he could finance it – "*it was actually quite easy. Our first sponsor was Encyclopaedia Britannica, then African Life Insurance and the Holiday Inns - all from personal contacts."* (Schloss, 2023)

Aziz Tayob makes history as first Wits architect of colour



After matriculating in 1960, Aziz Tayob went abroad to study medicine and returned to continue his university studies - his path was not an easy one. The apartheid system required applying for ministerial consent to study at a white university. Wits University accepted him for Architecture, although he had not yet received the ministerial consent.

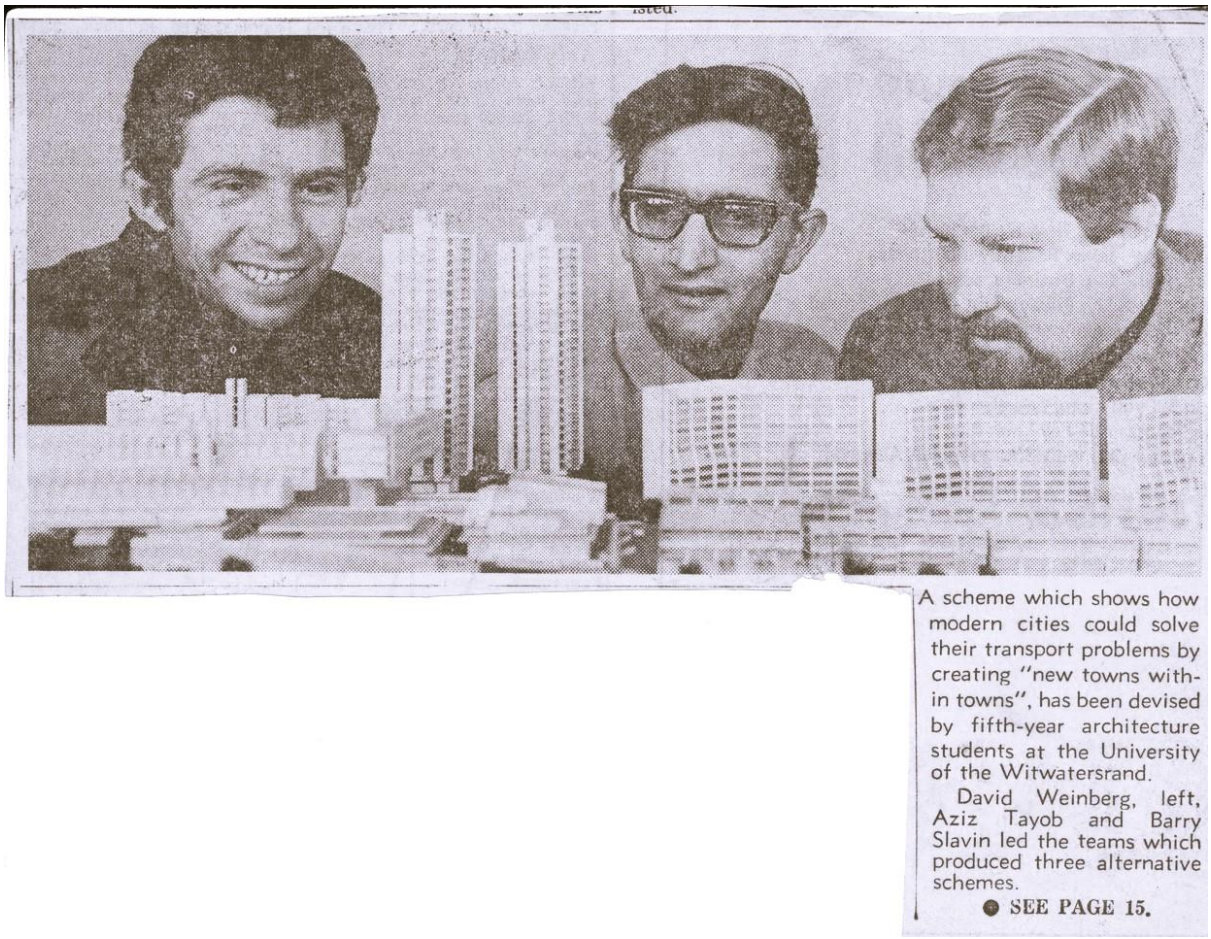
Aziz Tayob, first architect of colour at Wits © Supplied

The initial plan was to get into the university and then change course to medicine, if possible. "*The apartheid system planned, I planned, but the Almighty had other plans, and I graduated as South Africa's first architect of colour in 1969,"* Tayob said in a written interview for this publication.

Lecturers understood and nurtured his talent

Asked about his favourite lecturers, he said, in the early years, it was Don Lennard (for his 2nd and 3rd year). Other memorable favourites included Professor Fassler (who was head of the department), Ivan Slapobersky and Prof W.D. Howie (his thesis master). *"I had come from a culture that did not have the luxury of even appreciating architecture let alone employing them. Rather than being dismissive, these lecturers understood and nurtured my talent*". (Tayob, 2023)

David Weinberg and Barry Slavin join Tayob for 5th year project



A scheme which shows how modern cities could solve their transport problems by creating "new towns within towns", has been devised by fifth-year architecture students at the University of the Witwatersrand.

David Weinberg, left, Aziz Tayob and Barry Slavin led the teams which produced three alternative schemes.

● SEE PAGE 15.

Aziz Tayob, David Weinberg and Barry Slavin

© Rand Daily Mail

For their 5th Year project, Tayob joined up with fellow students, David Weinberg and Barry Slavin to show how modern cities could solve their transport problems by creating "*new towns within towns*." The team produced three alternative schemes, which was featured by the daily newspaper, Rand Daily Mail.

Jeppestown Urban Renewal Project with Ivan Slapobersky

Toyob particularly enjoyed his 5th year with Ivan Slapobersky when they did the Jeppestown Urban Renewal project. The project received a lot of attention in the media and within the profession. "*The student site visits we made to production plants, such as glass and brick manufacturers stand out as being very influential in my understanding of how buildings work".* He also remembered student activism and Robert Kennedy's visit in 1966, as important milestones.

Class of 1969 graduation



Class of 1969 - Aziz Tayob (fifth from the right) with his fellow graduates
© Supplied

Prof Mallows helps but society wasn't ready for Tayob

After graduating, Tayob wanted to advance his career and experience equal treatment.

> *"Regrettably, society wasn't quite ready for this change. Upon graduating, my achievement created a commotion within the profession. Some wondered if I would need to establish a solo professional institute. While I had no trouble finding architect-in-training opportunities, thanks to lasting connections with individuals like Glen Gallagher and Prof Mallows, certain issues, such as discussions about workplaces lacking facilities for non-white individuals, persisted".*

He felt when you stand out, people often become less forgiving of any mistakes you might make, while working.

> *"Human nature, exacerbated by the apartheid system, sometimes inclines people to hope for your failure. This is why I had to put in extra effort and employ a more intelligent approach to my work".*

He started his own practice instead and went on to work on a variety of award-winning projects, forging lasting relationships with clients and community organisations. His story continues in '*Their Own Words*'. (Tayob, 2023)

Cartoonist Franco Frescura riles authorities



Franco Frescura matriculated in 1964 and after a stint in an architectural office, joined Wits University in 1966. He remembers those days:

"For the first two years of my studies at Wits, I accepted without much question all that was fed to us by the staff, by the end of that year I had discovered Social Theory, had begun reading about Postmodernism, and had started to question the basic premises of the Modern Movement in Architecture".

Franco Frescura as a student activist © Supplied

He came to the conclusion that the architectural profession was an unlikely place where the social, economic and political problems of this unhappy country were likely to be resolved. "*Many of us had come to the conclusion that Architecture was not so much as a "Freedom to Build" as a "bondage in a self-perpetuating system,"* Frescura said in a written interview with this publication.

For the next 11 years, he read towards his first degree in architecture, a long period broken by a four-year spell of practical experience. In 1969 and 1971, Franco was elected onto the Wits Students Representative Council. He married Lesley-Anne Morton in 1970, who he met during the parliamentary elections of Class of 1969, and their daughter Gabriella was born.

Dr Steyn gets pelted with avocado and students attack security police

He remembers fondly, the time when Dr Marais Steyn, a National Party cabinet minister, *"came to address the student body and ended up with ripe avocado dripping from his glasses".*

And then there was the time when "*the Security Police tried to raid the SRC offices and found their way barred by angry students who, literally, threw them down the stairs of the Student Union … sigh! Oh happy days!"* (Frescura, 2007)

Police arrest Frescura for his political satire with the John Burger Saga



In 1972, he began drawing a weekly satirical cartoon page called the '*John Burger Saga'*, which was published in the '*Wits Student'* newspaper.

He was arrested and charged with drawing a series of cartoons, which accused Prime Minister, John Vorster, of making love to his wife with a police baton; the leader of the (all too) loyal opposition, Sir de Villiers Graaff, of having a broad yellow streak as part of his political make-up; and of describing Parliament as "*a pack of Neo-Nazis".*

Sharpeville Butcher Fogstar © Supplied

After a well-publicised trial, he was found guilty and sentenced to a hefty fine and a suspended prison sentence.

In 1973, the University charged Franco with bringing it into contempt, probably because the public furore over his satire caused a potential donor to withdraw his substantial support. As a result, Franco was rusticated for the remainder of the year, and upon readmission, was effectively banned from publishing either word or drawings on the university's campus, for as long as he was registered as a student.

It rankled and Frescura wrote in his written interview that:

> *"A person with my kind of political background was never going to be awarded the kind of work that keeps an architectural practice solvent. Other than designing hospitals and schools, you had little choice, as to your potential clients. There are the usual religious affiliations, but as I was never going to join the Knight of da Gama, my options here were quite meagre".*

For a while, he opened an office in Braamfontein and designed houses for friends and political cognoscenti, like the premises for Open School, family homes for Ramarumo Monama, Colin Smuts and Percy Qobosa, but he decided, *"I had reached the nadir of*

my professional life, when Geoff Budlender's divorced wife asked me to design a garden wall for her house."

Bill Spooner and Pancho Guedes were his favourite lecturers

Bill Spooner was a lecturer he was fond of because "he realised that I liked to take the route less known, and let me do so, and still gave me pass marks for my projects". Pancho Guedes, who Frescura nicknamed '*the Prince of Manipulators'*, and regarded as the best architect this country has produced, was his second favourite academic.

> *"He took the piss out of everyone on Senate and never let on, and when I was awarded my PhD, we danced together on the stage of the Great Hall at my graduation. The Deans were not amused".*

Activist becomes Wits lecturer

In 1977, he was awarded his BArch and was invited by Prof Pancho Guedes, Head of the School of Architecture at Wits, to read towards a MArch, and a few months later, to join his teaching staff.

He completed a MArch (cum laude) in nine months, and a PhD (1986) in regulation time. His Master's research programme evolved out of an interest, developed as an undergraduate, in the field of popular housing, and focused on the processes of self-built architecture in rural South Africa.

In time, however, this project developed a life of its own, and eventually Franco became more engrossed with the archaeological, historical and anthropological aspects of this work which took him beyond the narrow bounds of conventional architecture (Franco's story continues in *In Their Own Words*). (Frescura, 2023)

Building Science begins in 1968

Building science teaching began in 1968, with an emphasis on the scientific method, to answer why certain conditions took place. The lectures dealt with climate, moisture, frost, heat losses and gains etc.

According to Calderwood's 1978 book, the class was between 80 to 90 students, but as it soon addressed the psychological and social aspects of man, the class grew to over 200, with only 120 students registered. After a few weeks, it was learnt that the

architects found the technical lectures too full of formulae, but the human aspects were interesting.

The design process was assisted by complaints from the quantity surveying and building students, who felt that they required more stress on the "*hows"* after isolating the "*whys*" i.e. the practical application of the sciences to actual construction. The B.Sc. (Building) students had to learn about materials, and chemical reactions between materials, and to understand the importance of supporting pre-cast or in situ casting of concrete. They also had to become adept in the methods to overcome moisture penetration, condensation, heat gains and losses.

Soon, a structure of the course was developed that was accepted by the teachers in the architectural department, and the Board of Education of the Institute of S.A. Architects. (Calderwood, 1978)

Bsc, MSC and PhD in Building Conferred

In 1968, the University conferred the first five BSc in Building degrees. The first MSc in Building was awarded to R Levy, who received the degree in 1969, and the first PhD in Building was given to Julian Karel Evenwel of the National Building Research Institute, in 1969.

Mark Osborne remembers carefree days at Wits



Mark Osborne © Supplied

Fellow alum, Mark Osborne spoke to the authors in several face-to-face interviews.

He remembered the 70's at Wits as wonderful, happy, carefree years, with no real stress or pressure. He felt the one thing about university is that *"all our nearest and dearest friends are still from our University era - almost without exception!"*

He said that they used to have regular reunions (luncheons) with a lot of the old students, but Covid put an end to that. *"We do still have small get-togethers, but not to the extent that we used to."*

Devonshire Hotel was the students' hangout

Social life was an integral part of his student life, "*I remember well our Friday nights, going to the Devonshire Hotel, after our interfaculty rugby match,"* Osborne told one of the authors in a face-to-face interview for this publication.

Mark Osborne © Supplied

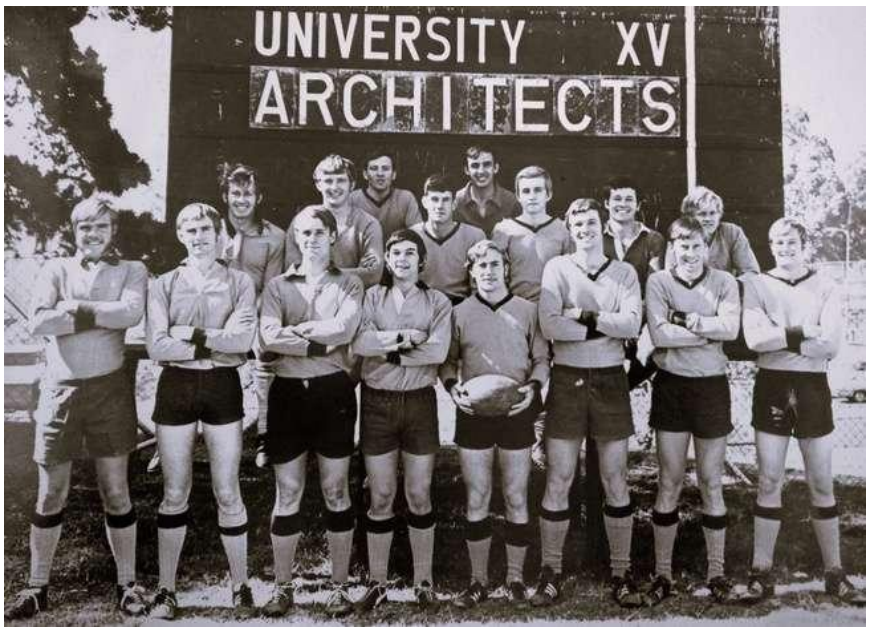
He would have one rand to spend every week. In those days, a packet of cigarettes cost a mere 19 cents, a box of matches cost one cent and the beers were 20 cents each. *"Back then, a hamburger and chips in Hillbrow was 75 cents".*

He met his wife at Rag, which raised funds for the students. He described Rag as a lot of fun, but short-lived.

> *"It consisted of one week of float-building, leading up to Rag and then Rag Saturday itself. Campus life was about going to the canteen, playing bridge, and sometimes water polo. There were no bars on campus in our day".*

His passion for rugby led him to looking after Architects Rugby

While not studying, he made happy memories playing bridge in the Architects Drawings room, and on the sports fields. He loved the rugby and looked after the Architects Rugby, and landed the role of looking after the Faculty rugby team at Wits.



Architects Team © Supplied

(L to R) Back row: Brian Jarvis, Ralph Farinha.

Middle Row: Pat Canepa, John Hawkings, Andy Dane, Craig Paton-Ash, Monkey Malan, John Craig

Front Row: John Davies, Richard Rice, Richard Turner, Louis Hack, Mark Osborne, Haupt van der Zee, Norman Esterhuizen, Neville Clarence

"The sport was where I made lifelong friends and connections, which served me well for the rest of my life," Osborne concluded.

His story continues in '*In Their Own Words'.* (Osborne, 2023)

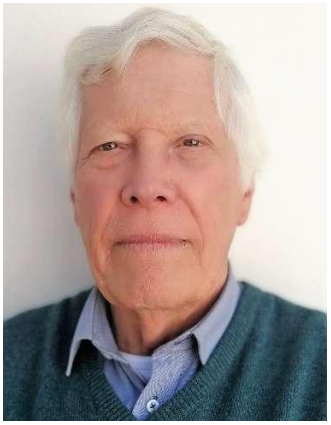
First Professor of Quantity Surveying is Clyde Walker

Professor Clyde Walker was appointed Professor of Quantity Surveying and Head of the Department in 1973. He then attended the International Symposia of the American Association of Cost Engineers in the USA where he read two papers, and also visited and held discussions on quantity surveying education, with the Royal Institute of Chartered Surveyors, the University of Reading, the Institute of Advanced Architectural Studies at York and the Building Research Establishment in the United Kingdom.(Bryer, 1977) Professor Walker delivered his Inaugural Lecture on 5 May 1975 on the topic: "A philosophy of quantity surveying" (Wits Central archives). This was the first recorded professorial inaugural lecture in the history of the School and the quantity surveying profession in South Africa.

Students travel overseas to learn

Professor Calderwood visited the United Kingdom in 1970. Two years later, a group of 11 final-year students under the leadership of Professor TJ Olivier went overseas to study and report back on new building systems in Europe. In 1974 and 1975, groups of students led by Building Science lecturers, HG lrwig and Ronnie Schloss visited the United Kingdom and the Netherlands to study and report back on modern methods of building. In 1976, Professor TJ Olivier visited the USA, Canada and the United Kingdom and in 1977, HG lrwig was a visiting lecturer at the Massachusetts Institute of Technology. (Bryer, 1977, p. 74)

Ronald Smith (BSc QS, 1972) remembers Prof Calderwood



When Ronald Smith started at Wits, he originally fancied being an architect, but soon chose the more exciting BSc Building course under the new, highly qualified professor Calderwood.

Ronald Smith © Supplied

"Building seemed to be doing what the architects were trying to do, only better. Wits was perceived (by us) as the centre of technical excellence, not only in South Africa, but in the world. Prof Doug Calderwood was undoubtedly the inspirational leader and best lecturer. Although he smoked unfiltered cigarettes, he lived to more than 90!"

When Professor Calderwood took leadership of the Wits Building course in 1966, one of his first moves was to add surveying as a course requirement.

Learning subjects in other faculties prove invaluable

The students who joined were already doing mathematics, law, building construction, physics, accounting and management. Smith said that subjects, such as mathematics, commerce, physics, and land surveying were done in other faculties and,

> *"It let the Building students move around the campus and meet - not only the instructors in the different disciplines, but also their own students. Such meetings would prove invaluable to our later careers as academically-qualified Builders, where professional contact was all-important."*

Doug Smollan, Brian Joffe, Steven Koseff, Willie Brouze and Wits Rag

His top Wits memories also centred around the now defunct Wits Rag. He described, the Wits Rag organisation as "*a breeding ground for business competence".* Among the organisers were Doug Smollan, Brian Joffe, Steven Koseff, Willie Brouze (later himself a BSc Building graduate), who later all became world-acclaimed business leaders. Rag raised huge amounts for charity.

> *"My own contribution was to apply some of Doug Calderwood's management principles ('FPO and 3 C's) to the Wits Rag magazine distribution. That year we sold out the entire printing, outselling all of the newspapers on that day."*

Building students included traffic cops

Smith wrote to the publication to share a humorous anecdote of when his accounting class was being chided by the lecturer.

> *“We were being lectured to, by a very stern professional, Tommy Cairns, who looked like the law professor in 'The Paper Chase'. Cairns was waving his finger at our group, saying that unless we paid attention and were punctual, we would end up as traffic cops.*
>
> *Just then Colin Eisenstein walked in, saying 'Sorry, I'm late'. Colin had been working as a part-time traffic cop, and was carrying his cap and dust coat. Mr Cairns was aghast!”*

Eisenstein, however, successfully completed the Building course and later trained as a medical doctor. Smith’s story continues *In Their Own Words*. (Smith, 2023)

Professor John appointed to QS Senate in 1973

According to the University of Witwatersrand Gazette in December 1973, Professor WG John and Ian Cochran as his alternate, were appointed to the Senate, as part of the South African Council of Quantity Surveyors and Education Advisory Committee.

Prof John joined in 1967 as a senior lecturer and was Head of Department in 1970 (University of Witwatersrand Gazette, July 1974). He resigned in April, 1974.

Prof Walker was voted in for his second term as Head of the QS Department, and Mr C Israelite was hired as a junior lecturer for the Dept. of Building Science. In 1974, Prof Calderwood takes over as Head of Architecture, while attempts were made to find a replacement. (Bryer, 1977, p. 25)

Bachelor of Science in QS shortened to 4 Years in 1974

In 1974, the course for the degree of Bachelor of Science in Quantity Surveying, which comprised two years of full-time study and three years of part-time study, was changed to extend over not less than four academic years of full-time study.

In 1974, the teaching staff in the Department of Building Science contributed to the proceedings of the Building Research Congress, organised by the National Building Research Institute, which was held in Durban. (Bryer, 1977, p. 31)

Profs Patricios and Schlapobersky 1975 multiracial Summer School course

In 1975, the University's Institute for Adult Education and External Studies hosted their one-week annual Summer School course, entitled, "*Planning Places for Living."* Organised by Professors Patricios and Schlapobersky, the wide-ranging course included contributions from psychologists, sociologists, economists, builders, "*black and brown community representatives, local authority politicians and officials, property developers and managers, engineers, architects and town planners.*" (Bryer, 1977, p. 58)

Energy crisis requires 'the creativity of the scientist'

As the new decade dawned, Professor Calderwood mused prophetically, in his thesis on the Department of Building Science,

> *"As we face the energy crisis, and see our non-replaceable resources being consumed at a rate, which can be measured in terms of one, two, three, or at the most, four decades - some of the basic architectural science principles become top priorities.*
>
> *"Here orientation of the building, solar energy, water conservation, use of salt water for irrigation, are but a few that will be the basis of legislation in the year 2000, regardless of the creativity of architects. It is, in fact, the creativity of the scientist, which is required."* (Calderwood, 1978)

THE 80's AND MID-90's – PRE-DEMOCRACY

Development Planning Master's Programme

In the 1980s, a development planning master's programme was introduced to complement the bachelor degree, in response to international trends and local social issues. It has formed a major focus of the planning programme since.

Karl Trusler (BSc QS Honours, 1980) appreciates the practical training



When asked for his story for this book, Executive Director, Association of South African Quantity Surveyors (ASQS), Karl Trusler had to battle a heavy workload and international travel but made the time to share some of his memories of his time at Wits.

Trusler chose to study quantity surveying after spending time in an office and on-site with a practising quantity surveyor.

Karl Trusler © Supplied

While studying, his favourite lecturer at the time was Mr Hamilton Woole, *"as he was a humble man with a great sense of humour."*

Happy times at BAQT and the Dev

Asked about the social side of being a student and Builders, Architects, Quantity Surveyors and Town Planners (BAQT), the well-known students' pub, which raised funds for students to go on international trips and see practical examples of how building can be done, during a Zoom interview for the publication, Trusler exclaimed:

> *"I do remember BAQT! I also remember the 'Dev', the Devonshire Hotel, as a regular meeting place for Wits students. Wits was an all-round beautiful campus and the Architectural Faculty was well-placed in this setting. We'd go to the Dev once in a while, and the Bread & Butter for a sandwich and a beer - those were very happy times."*

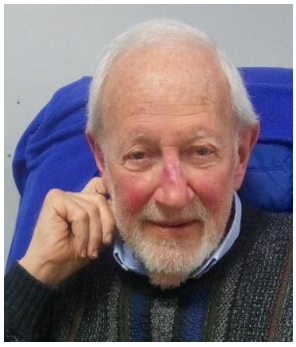
Weathered tradesmen as teachers

He reflects, that today, the focus is more on management and the employment of graduates, and some of the traditional roles are under threat – such as the site foreman, who grew up through the trade. This would be a shame, as he recounts:

> *"I still have fond memories of learning some very practical lessons from these weathered and experienced tradesmen".*

His story continues in "*In Their Own Words*." (Trusler, 2023)

Schloss is the Head of Building Science and Quantity Surveying (1983)



After time in the field and learning from those in the industry, Ronnie Schloss had worked his way up the ladder to be appointed the Head of the Building Science and Quantity Surveying.

Ronnie Schloss © Author

It was a post he would hold for almost two decades and saw much change in the country and the school. In one of three interviews, he elaborated on this time.

Slow change from Building Science to Construction

He began almost at the start of the Buildings Science course. The first thing he did was to change the name from Building Science,

> *"because everybody thought we were scientists! We had to do it slowly, as people were averse to change, and then I managed to change it to Construction".*

For Schloss, the name reflects what the course is about. He always believed it should have been in the Engineering faculty, and pushed for that,

> *"but the powers that be said, 'No, you can't just take one department out of the architectural faculty and move it to engineering.' So, they took the whole architectural faculty and put it under Engineering. Now it's Engineering and the Built Environment."*

Students learnt the trades in holidays

The faculty insisted that the first-year students in their long holidays (who would visit Cape Town or Durban), instead go to one of the colleges for practical training. One of these colleges was Springs College where the artisans were trained. The 1st years were taken through the eight weeks, which included two weeks of bricklaying, one week of plastering, and so on – just to get a feel for it.

> *"I am a firm believer that we need to understand the problems of an artisan – so they had exposure to all of the various trades – plumbing, electrical and the wet trades, which included plastering, the pouring of concrete, etc. We did this for all the first-year students, and it worked fantastically! But those colleges have been closed down".*

For Schloss, the most important factor was that the students stayed in res there. They learnt to mix with the artisans, so one couldn't say they were aloof university graduates, they were on site and enjoyed recreational activities together. They were exposed to people from different backgrounds, and got them to mix with people who they might have thought earlier are below them.

> *"So, they could say, 'I've worked with a plumber, I've worked with an electrician, and I've learnt to understand their problems, and now I know it is not that easy'.*

Construction with Eddie Roeburt

For Schloss, the focus was much more on construction and not just on measuring.

> *"My definition of construction is civil - roads, bridges, it could be anything! I believe that graduates should be trained to project manage civil construction – whether it be roads, a bridge or a high-rise building – so with that in mind, the course was redeveloped on the basis of bringing in more subjects related to civil construction".*

The School brought in the late Eddie Roeburt, who was a retired director of a construction company, and the students were then exposed to plant production and plant management.

Barlows and Caterpillar hosted students

To entrench the experience, students would visit the earthmoving equipment company, Barlows and have lectures with construction and mining equipment firm,

Caterpillar, to understand how the various items of equipment work, what problems could be experienced, and how to maintain and fix them - if needed.

The students would travel to major Caterpillar projects, if it was in the 50 or 60 km radius of the university, to observe how the equipment worked and be exposed to it. Talking to one of the authors of the book, Schloss explained:

> *"We would then bring in their technical team to show the servicing of the equipment – and that was most important, because you needed to establish the downtime of those machines to be a proper project manager, and to do the planning".*
>
> *"You are talking about heavy earthmoving equipment, which costs millions, so you needed to have a proper understanding of when it has to be serviced, the oil etc.".*

The Faculty moved in that direction, which was totally different to quantity surveying. The builders knew how to do quantities, but they did slightly different quantities, but they needed to work with the quantity surveyor.

> *"They were not there to take over the quantity surveyor's job. But they needed to be able to produce documentation to put in claims - if they wanted to be paid, and to be able to work with the quantity surveyor to substantiate their claim".*

His story continues in '*In Their Own Words*.' (Schloss, 2023)

Student tours to Japan, America and South America

In 1983, Future Build wrote about the 3rd year student tour to Japan, which showed the students that the Japanese have invested money in education and training, and that:

> *"They are now leaders in many technical fields. Education and training are the absolute kernel of our survival.[1]"*

In December 1984, the 3rd year students undertook an exploratory study tour to America. One of the participants wrote in Future Build that:

[1] '*Student Tours'*, Future Build 1983, University of the Witwatersrand

> *“Promotions for a local tile manufacturer took us to nine shopping centres on the Reef, with early Saturday morning shoppers seeing a white Gillis Mason panel van driving backwards and forwards, looking for a particular shopping centre that had disappeared overnight. This was followed by a promotion of plant hire at the Interbou exhibition”.*

Specialised Exhibitions and the South African Hire Association contributed towards the tour. The tour party consisted of lecturer, Henk Mantel and Robert Lockett, Ian Lowe, Andrew Schedler, Colin Duberry and Ian McDougal.

In 1985, the 3rd Years went to South America. (*Future Build*, 1984, p. 39)

Pre-construction planning a priority for research papers

The topic of pre-construction planning was of particular importance during the ‘80s, as Building and Quantity Surveying Lecturer Craig Stavely found, when he assessed the research papers.

He said that the past papers submitted for Future Build publication, stressed the importance of pre-construction planning, with particular emphasis on the employment of subcontractors.

> *“This remains one of the key issues when the manager seeks to identify his/her risk, a task, which a pre-emptive risk seeker can only accomplish - if the scope and the key activity relationships (also termed "logic") are clearly identified. The manager, however, requires a detailed statement of methodology prior to being able to identify those risks”.* (*Future Build*, 1993, pp. 34–35)

Clever Boys signs up top black stars

In the 1980’s, the Clever Boys was the first white club to sign black players, *“forming an uncomfortable multiracial environment at the headquarters in Milpark,”* according to online soccer outlet, Tagged. The club signed superstars such as Mike ‘Nanana’ Ntombela, Mike ‘Sporo’ Mangena and Leonard ‘Wagga Wagga’ Likoebe and made a nice peppered mix with their established stars, such as Rodney Bush, Frank McGrellis, former Tottenham Hotspur and Glasgow Rangers captain Richard Gough and Davy Jacobs, to mention but a few. (Mokoena, 2020)

David Gurney teaches History of Construction



History of Construction lecturer, David Gurney, began his education at the school and graduated in 1978 with a BSc Building from Wits. He then worked at a number of companies over 13 years, including LTA, Stocks Construction, George Wimpey, Bolstone, Wynford Management Centre, and Withers and Gerke Architects, before starting his own firm, Gurney Planning & Design.

David Gurney © LinkedIn

He worked in the role for two years and continued his involvement with the university as an external examiner for the Department of Building and Quantity Surveying, for a further 12 years. (Gurney, David, 2017)

Linda Raymond Ndlovu joins as Concrete Lab Assistant in 1985

Armed with his matric qualification, Linda Raymond Ndlovu came to apply for a job under Professor Schloss, who immediately took Linda to BIFSA in Springs, so he could learn the ropes in the construction industry.



After earning a certificate, Ndlovu went to the School of Concrete in Midrand to do courses on concrete. As the School specialises mostly in concrete in the laboratory, that is how he got the post of Laboratory Assistant.

Linda Ndlovu in the 1980's © Supplied

Police always on Campus

Asked about life working at the School then, Ndlovu replied via WhatsApp voice notes that the police were always on campus.

> *"They were looking for students who they thought were unruly. This was before the unbanning of the ANC and all the other political organisations. Back then, the campus was only one colour - it was white".*

“Unlike today, where it is about 80% black people and 20% white people”.

Schloss like a father

Professor Ronnie Schloss was like a father to the staff and Ndlovu in particular, as he got to know his family, and his children, when they were still young.

“We were just like family, they would call, and I would go to his house. Even today, I still meet with him. He knows my family; he knows my children.”

The end-of-year parties hosted by Prof Schloss were fondly remembered as students and staff gathered at his home to celebrate the end of the academic year and the year-end holidays.

Pirates’ CEO Derek Blanckensee was once Building Science lecturer

Among his other personal memories, Ndlovu also remembers Building Science lecturer, now CEO of soccer team, Orlando Pirates, Mr. Derek Blanckensee very fondly.

“He was a building science lecturer and when he left the school, he worked as an administrator for the university football club. He then moved to the Premier Soccer League and is currently with the soccer team, Orlando Pirates FC under Doctor Irvin Khoza, where he is working”.

Alumni come to visit

Being personable and likeable means that Ndlovu often makes friends with the students who sometimes come to visit when they return to the School.

“There is an architect by the name of Hank Montero who was in our school and I always see him when he comes to the School of Architecture. Some come by and can't believe that the school has grown so much!”

There are also many students that were there during Schloss’s time, and some want to donate and give money back to the community.

Concrete lab is a must for students

The concrete lab is where the students get the chance to test for consistency or slum of concrete, for compression, to cure the concrete in water for between for 7 to 28

days at a certain temperature between 22 to 26-degree temperature, and then they crush to get compression.

Ndlovu shared that in 1985, he would have a total of 24 students in the lab, and today,

> *"We have more than 220 students in the lab! We have to do it in groups. You cannot take all the students in one go".*

Each workstation nowadays sometimes has six or seven people, until everyone has his or her chance to mix concrete. This can take up to two or three weeks, on Tuesdays and Thursdays, until everyone gets a chance. This important research factor must be done in a closed environment. Asked about an anecdote, Ndlovu shares about a visit from the Royal Institute of Chartered Surveyors, who were amazed during a walkabout in the laboratory:

> *"They found our students mixing concrete and were so impressed! In the UK, if the lab is full, then the students go, they don't wait for their chance, but here in South Africa, everyone is prepared to mix concrete!"* (Ndlovu, 2023)

Ndlovu's story continues in '*In Their Own Words*'.

Elizabeth Pienaar is part-time QS Lecturer

Having graduated from the University of Pretoria as a quantity surveyor, Elizabeth Pienaar continued to study and earned an MBA and a PhD in Business Administration. Dr Pienaar was running her own quantity surveying business, when she was asked by Wits to lecture once or twice a week, in the evening on the topic of quantity surveying.

1986 Architectural Students Congress asks for multiracial education

At the Architectural Students Congress held in April 1986, the students made several progressive motions on Day 5 to affect the racial makeup of the student classes and the direction of the education, in keeping with progressive ideals. This was quite radical in those days and could have landed the students in prison.

Editor Clifford Elk wrote in the student publication, '*Metropolis'*.:

> *"We are of Africa, and have been misguided and misled into thinking that our cultural and architectural aspirations should coincide with other Western Nations*

of the world, best demonstrated by not only the content of our education but also by the state of the architectural profession".

This is the stand that the congress took, and was highly critical of the imported imagery and ideas imported, while trying to redress the question of relevancy, symbolism and meaning of architecture in South Africa, the role that the architect played in the '80's and how our education fashioned their perception.(*Metropolis: Architectural Students Congress, University of the Witwatersrand, April 1986*, no date) Among the noteworthy motions passed by the students included:

Motion 1: Architectural Education

It noted that:

1. The composition of Architectural Schools was *"overwhelmingly that of white students*"
2. As students who have grown up and been educated under the apartheid system, "*we are divorced from the full realities of this country"*
3. The Congress has isolated areas of architecture which, if they are to be addressed, require change in our educational system, and

Believing that:

1. Architectural training should be made "*as accessible as possible to all the people of South Africa"*
2. The present role played by architects in this country is "*one of mainly serving individual and not community needs"*
3. Our current architectural education "*inadequately prepares us*" for our potential role as architects in this country
4. Students need time, information and resources to identify the roles that they are to play, especially for dealing with our context
5. We further believe that this will help in developing a regional architecture and thereby will "*involve us in the process that will lead to solutions*" to this country

They resolved that:

1. While recognising in the long term "*apartheid and its educational structures are the root cause of the unequal access to architectural education*", in the short term, we resolve that NASU must investigate the possibilities of:

a. Instituting architect-in-education' schemes
b. Making available bursaries and fundings
c. And any other steps deemed necessary

2. In dealing with our context as architects in South Africa, NASU needs to establish workgroups to address:

a) The building of relationships with community groups
b) The evaluation of current courses being given in our schools; to begin investigating alternative courses or the streamlining of redundant offices; and to improve contact with departments of sociology and town and regional planning departments etc.
c) The extension of vocational education, e.g.: the inclusion of building clinics into our curricula
d) The establishment of courses to investigate the use of alternative and appropriate technologies
e) That student representatives on committees be given the right to invite, appoint and evaluate lecturers whom they deem necessary
f) That students invite the staff at the universities to support these student initiatives.

Motion 2: Restructuring of the ISAA

Noted that:

The proposal for the restructuring of the ISAA publicised in 1985, and

Believing that:

- As students of architecture, we have an interest in and a concern for the future of the profession,

We resolve that:

- The NASU executive should, at the earliest opportunity, meet with the ISAA executive to discuss effective student representation on the ISAA at a regional and national level.

Motion 3: Alternative to SADF conscription

Noted that:

“All white South African males are conscripted into the South African Defence Force for a total period of four years’ active service”, and

Believing that:

- Service of the people of South Africa,

We resolve that:

- NASU should request the University Administrations to support our call and begin to investigate how architectural students can best use this time to serve the people of our country in “*an alternative form of community service*”.

Motion 4: Public Buildings

Noted that:

1. Buildings in our cities, although commissioned by the private sector, ultimately serve a public function, in as much as they form an integral part of our lives
2. These public buildings are generally “*awarded to single architectural firms who, on their past record, have not addressed people in the street*”

Believed that:

- Competitions open to all architects and students alike will realise buildings· that will better serve the public and realise a better architecture.

We resolved that:

- NASU should actively campaign for the establishment of open competition for all public buildings.

Motion 5: National Education Crisis Congress

Noted that:

- Our Architectural Congress took place at the same time as did the NECC in Durban, and recognising the current crisis, both in the general education of all South Africans and, more specifically, in our own architectural education,

We resolve that:

- Architectural students apply themselves to working towards a truly democratic, non-racial South Africa, and that NASU sends a letter of support to the NECC.

Motion 6: Johannesburg Centenary

Noted that:

1. It is 100 years since the founding of the Johannesburg Metropolis where our Congress took place
2. Johannesburg has "*a history of forced removals and urbanisation, impoverishment, exploitation and division"*
3. The architectural heritage of Johannesburg is under threat from "a lack of legislation, a lack of principles of conservation and from the destruction of buildings and monuments"
4. Much money has been spent on Centenary celebrations
5. There exists "*much resistance and opposition to the centenary celebrations from political, community and cultural groups",* and

Believing that:

- There is "*little to celebrate in the history of Johannesburg*"

We resolved that:

1. As architectural students, "*we should reject the centenary celebrations*"
2. We should appeal to the architectural profession to protect the heritage of Johannesburg and to act for legislation to this end
3. We should call on the Centenary Committee to display its goodwill to the people of Johannesburg by recommending to "*do away with the Group Areas Act, influx control and the separate education system; and to undertake projects to upgrade services and conditions in Johannesburg's townships".*

Motion 7: Architectural Awareness

Noted that:

- The perceptions that the public in general have of architects and architecture
- The conception of architecture held by developers and bureaucratic officials,

Believing that:

- This conception is adversely affecting our built environment

We resolve to:

- Set up a group to bring to the notice of developers, public officials and the public in general, issues deemed important to enhance the awareness of architecture and the built environment of these people.

Masters Student Anton Gonnissen reminded the participants,

"I would like to remind every member of the architectural profession, especially the students, that the muscle of reform lies in their pencils and not in their tongues."

Motion 8: Support for the schools' magazines

Noting that:

- The value of effective communication in informing and stimulating debate and advancing ideas,

Believing that:

- Magazines are particularly useful tools of communication,

We resolve that:

- A NASU publication committee be formed to promote the publication and distribution of all school magazines and newsletters by encouraging cooperation, pooling of knowledge and sharing resources.

These motions were passed unanimously.

Motion 9: RIBA Derecognition of Courses

Noted:

- RIBA's decision to withdraw recognition of our architectural educational institutions,

Believing that:

RIBA's decision was "*motivated by its concern with the apartheid system and the inadequate representation of black students"* in our schools,

We resolved that:

- NASU will apply for re-recognition to RIBA only when architectural training is equally accessible to all South African people and when we are satisfied that the general architectural profession is actively addressing the needs of all South Africans.
- As students, we "*accept RIBA's decision as a challenge to deal with the root cause of conflict in our country, and to make our universities, profession and society representative and reflective of all South Africans".*

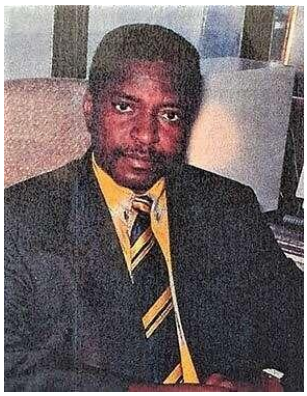
After discussion, the motion was carried with 12 abstentions.

‘Stance taken to change attitudes of the past’

Student, Mark Palmos made a closing statement about how the stances taken were to address the injustices of society then. According to the Metropolis, he spoke to the students, saying:

> *“Did you notice how everyone hissed and corrected the one speaker who addressed the woman chairperson as 'Chairman'? This, although seeming petty, is a stance taken because of the desire to change attitudes of the past. The word ‘manhole’ or ‘humanity’ will be used with ease one day, but only AFTER a period of time, when this seemingly petty stance has been taken. In the same way, an idyllic stance about the position of architects building police stations and state buildings is also necessary to help force change."* (*Metropolis: Architectural Students Congress, University of the Witwatersrand,* 1986)

Thabo Senyolo is the first black African Quantity Surveyor at Wits



In 1986, Thabo Senyolo made history at the University of the Witwatersrand, as he graduated as the first black African Quantity Surveyor. Tracking down Mr Senyolo was not easy, as his story had not been included in the university’s history. However, sleuth work and the Internet tracked him down and he agreed to share his story for this publication.

Thabo Senyolo © Supplied

His journey was not an easy one, as he faced Apartheid legislation and an antagonistic academic staff. Armed with very good Joint Matriculation Board Examinations results and scholarships from Anglo American Corporation among others, he applied first to do architecture, but soon changed to quantity surveying at Wits.

Landless conquered people excluded from Built Professions by regime

After agreeing to share his story in writing, Thabo Senyolo stated the situation at this time,

> *“The regime’s de-facto exclusion of the Africans from the built infrastructure-related professions exemplified the landless status of a conquered people who could not be permitted to acquire the skills necessary to develop the country”.*

Failed by a Prof trying to 'build character'

Senyolo had overcome massive hurdles to get into Wits and now he had to face blatant bias from most of the all-white lecturers, and had to endure comments such as,

"It is difficult to resist the temptation to mark as incorrect an examination paper of an African student, irrespective of the correctness of the answer. Why, when we white folks know that Africans cannot even perceive the world in three dimensions - how then is it expected for them to interpret three-dimensional drawings?"

This particular situation culminated in his final year when a professor shamelessly failed him in quantity surveying, a subject which he mastered.

> *"My fellow students were shocked, because after I had lectured some of them on the same subject, they had obtained excellent marks. This travesty spurred me to decide to apply to Wits Medical School"*

It was only when the professor in question was quizzed by Wits Medical School about the anomaly of his intention to switch horses in midstream, a mere six months before writing the degree's final year's examinations that the Prof persuaded Senyolo to continue and write the final examinations. The man was so embarrassed that saving face was necessary, Senyolo says.

> *"Years later, I met the professor at a conference. I reminded him of the obnoxious incident and he said, "I did what I did to build your character. Look how merrily you have progressed." We both knew it was a bluff".*

Ian Cochran was like a father and exemplary

However, Thabo Senyolo hastened to add that not all the lecturers were villains. The most exemplary was Mr Ian Cochran.

Cochran had a knack for insulating himself from the Apartheid-induced prejudices (often driven by a combination of fear and hatred) of the majority of his colleagues and going beyond the call of duty.

> *"He became a protector and a friend who was always ready to assist in wiping out moments of cruelty. The mellow tone of his voice always hypnotised me. This down-to-earth manner almost made him a darling of every student."*

Cochran extended the same unfettered kindness to Senyolo's daughter with a big dream (Mosha) when she followed in his footsteps to become a Quantity Surveyor.

> *"She was so endeared to his lectures that she won the Association of South African Quantity Surveyors Best Student Prize. In addition, when Mosha worked under me in my office, Ian Cochran offered to supervise her on my premises to ensure that she met the requirements to become a registered Quantity Surveyor".*

This was as the conflict of interest registration requirements forbade Senyolo to supervise his kin.

Cochran was like a father to Senyolo, and they remained friends who periodically met for lunch until his untimely death.

> *"I hope my inadequate words may be an everlasting eulogy to the lecturer who demonstrated leadership".*

Senyolo went on to become a co-founder of the South African Black Technical and Allied Consultants' Organisation (SABTACO), and a member of the South African affiliated built-environment committee, which oversees the Professional Consultants' Services Agreement (PROCSA). He is also on the panel of assessors for professional quantity surveying registrations.

Senyolo registers first African QS firm

Thabo Senyolo and Partners (TSP) was the first registered African initiated quantity surveying company in South Africa, and faced formidable obstacles in Apartheid South Africa during its formative stages in 1986. It started by being part of Multidimensional Associates, a pioneering Black Multi-disciplinary practice and included an architect, an engineer and an actuarial scientist.

> *"At the time, we felt it would be more feasible to link up to form a firm of associated built environment professionals with the dictum, 'Unity is strength.' Not unexpectedly, the racist underpinnings of the minority regime stifled our progress".*

However, with the assistance of 'Bantustan leaders like Enos Mabuza, they were able to weather the political storm. Notably, in 1987, Multidimensional Associates were the

appointed consultants for the well-known iconic Mandela House in Orlando West, Soweto." (Graphix, 1989)

In 1989, TSP became a wholly independent quantity surveying company. The practice, which had offices in Johannesburg, Mpumalanga, Mafikeng and Port Elizabeth, has rendered services in a wide variety of projects, some of which were enormous joint-ventured undertakings. (Graphix, 1989); . His story continues further *'In Their Own Words'*. (T. Senyolo, 2023)

Quantity Surveying and Building Science under Architecture Faculty

In 1990, two of the four departments under the Faculty of Architecture, included Building Science and Quantity Surveying. This is useful information but what point are we trying to make here with this? We should add something to make a point.

Boycotts and internal pressure force ruling party to disband Apartheid

After insurmountable resistance to Apartheid, the National Party conceded in 1990 and unbanned the black political parties, and released political prisoners, including Nelson Mandela from his 27-year stint in prison.

The Separate Amenities Act was repealed and a new Constitution implemented and in 1994, saw the first democratic election where all citizens in South Africa were allowed to vote.

New municipal planning legislation passed

In lieu of the New Dispensation, Apartheid legislation was being shelved and replaced with:

- Township Establishment Act of 1991
- Constitution of RSA No 108 of 1996
- Development Facilitation Act No 67 of 1995 (DFA)
- Less Formal Township Establishment Act No 113 of 1991
- Municipal Systems Act No 32 of 2000 (MSA)

- National Building Regulations and Building Standards Act, 1977 (Act 103 of 1977)

Student Tour to the Far East in 1992

In 1992, the 3rd year students in the Department of Building and Quantity Surveying set off to discover new and innovative construction methods in the Far East.

In Singapore, they were hosted by the Singapore Contractors Association, who showed a number of different site visits, ranging from private and government flat developments to a 12-storey office and department store. According to Future Build, the students visited the Kent Ridge Campus University, to make a comparison between their degrees and the ones offered by Wits.

In Malaysia, the students got to visit two construction sites, including the Sogo development, among the tallest buildings in Asia at 90 storeys.

> *"In Taiwan, the students were met by Mr Wang, a past Wits MSc graduate, who combined with the South African Embassy, played a role in organising the site visits during their six-day long stay in Taipei".*

The site visits ranged from visits to the new Mass Rapid Transit System, to see the dragon boat station with its 200m long suspended roof, to the construction of a new freeway and also an expansion of the additional freeway. From Hong Kong, they took a boat ride,

> *"into Communist China, on a one-day site visit to a Power Station in the Gwang Don Province. They observed over 1000 workers digging the pile foundations between 35 and 40 metres deep with the use of their traditional hoes, and on the odd occasion with the help of a jackhammer."* (*Future Build*, 1993, p. 69)

Editor, Rowan Williams wrote in the 1993 Future Build edition, that over 500 companies were approached to contribute to Future Build, this involved many hours of telephoning and meetings.

> *"An array of management and marketing skills were needed to be developed in order for each student to secure his or her funding for the Tour. These skills are essential to graduates exposed to the outside world".*

In the end, the hard work was rewarded with an overseas tour. (*Future Build,* 1993, p. 62)

Student Tour to America in 1993

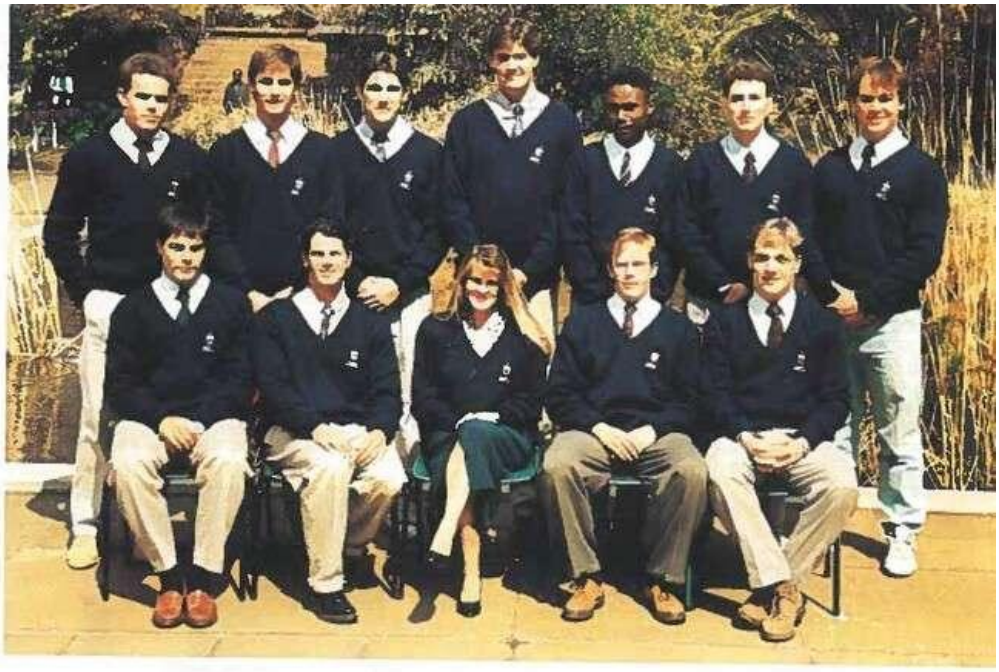
In 1993, the students visited America. The trip began in November, as 12 students and a lecturer boarded the plane for JFK airport, New York. Future Build wrote:

> *"They were well-prepared to brave the sub-zero temperatures. However, nothing prepared them for the site of Manhattan. The scale of the world-famous buildings only read about or seen on screen, impressed the group who went up the Empire State Building, rode the subway, and visited Central Park and Times Square".* (*Future Build*, 1994, pp. 101–102)

In Boston, the group visited the Massachusetts Institute of Technology's Construction Engineering Department in Cambridge. A day was spent learning about the research being undertaken and the various courses given.

The group sat on a presentation by final year students of the Department on traditional housing in Pakistan. Students felt they were able to measure up with the Building Science degree offered at Wits:

> *"I am proud that the course given at Wits compares very favourably to the construction course given at MIT, a world-renowned educational institution".* (*Future Build,* 1994, p. 101)



From top left: Brian Lynch, Jerome Nixon, James Southern, Andrew McClaggan, Cromwell Qina, David Hanson, Travis Murphy.
From bottom left: Michael Luyckx, Rowan Williams, Natalie Harrison, Collen Gibbs, Graeme Jones.

3rd Year Student Tour to USA, (Williams, 1993, p. 62)

Fatima Wadiwalla researches low-cost housing funding in 1993

In 1993, final year students tackled difficult topics, Fatima Wadiwalla conducted a study to evaluate the effectiveness of methods used to finance low-cost housing. In Future Build, she wrote:

> *"The provision of black housing has traditionally been the responsibility of the government in South Africa. The housing backlog has, however, reached alarming proportions. Without access to credit or subsidies most South Africans are too poor to afford even the lowest priced housing options. Many financial systems exist today, which try to increase affordability".*

Her research evaluated systems for their effectiveness and made recommendations on how South African systems can be more effective. (*Future Build*, 1994, p. 104)

On the technical side, Darrel D Bergesen evaluated the fineness on the reactivity of pozzolanic fly ash, and Barry Roy Lewis set out to establish the strength and thermal conductivity of 200, 400 and 600 densities cellular light weight concrete.

Geoffrey George William Moore examined market segmentation cluster housing buyers in the Randburg/Sandton area. He determined to ascertain the needs and wants of the occupants living in a cluster village and advantages and disadvantages. By segmenting the market, a closer analysis of individuals could be identified. This research was to determine the reasons for them electing to occupy this type of house and the boom in cluster housing demand.

Postgraduate Programme in Construction introduced

In 1993, the Postgraduate Programme in Construction was introduced by Prof Schloss. The course was advertised as: "*Leading towards a Master of Science in one of the following specialities"*: The course consisted of:

1. Building Management
2. Construction Management
3. Project Management in Construction

Postgraduate courses designed to provide advanced instruction in management principles and applications within the construction process, could be undertaken full time (one-year) or part-time.

Applicants had to have a first degree in an appropriate discipline with industrial or professional experience. (*Future Build*, 1993, p. 58)

The following major courses among others were offered:

- Commercial and Legal Procedures in the Construction Industry
- Cost Engineering
- Cost and Financial Management in Construction
- Plant Management in Construction
- The Construction Environment
- Operations Management for Construction
- Industrial Statistics
- Human and Organisational Behaviour
- Introduction to Construction Law
- Project Management in Construction
- Human and Organisational Behaviour

- Environmental Control of Buildings
- Property Management and Development
- Project Management in Developing Areas
- Project Management Principles
- Industrial Marketing
- Quality Management

Student research included conflict resolution and solar radiation

The 4th year students in 1993, investigated the following topics, which included conflict resolution on the building site, training of low-level management in the building industry, the financial implications of inconsistent application of the fire regulations on the cost of similar buildings, the influence of room design on the acoustics of lecture theatres, the relationship between solar radiation and the degradation of certain polymers, and the designing of a computer model for the prediction of solar angles for application to the creation of energy efficient buildings.

Ongoing research was primarily focussed on the efficiency of the building process and the development of appropriate management techniques in light of the disparities in educational and social levels on the building site. According to Future Build, there were a number of studies on materials, their chemical and physical properties, and their applicability to "*appropriate*" construction technologies. It was noted,

> *"It is significant that the growth of research activity among the staff has attracted an increasing number of post-graduate students, who are responding to many of the intellectual challenges they face".* (*Future Build*, 1993, pp. 59–60)

Students Urged to Retain Element of Fun

A guest speaker at the 1993 graduation made a plea for students "*to retain the element of fun in their research*". Williams agreed and said that the Faculty endeavoured to do exactly that.

> *"The skills honed in the laboratory or during field studies, as well as the camaraderie that develops among those wrestling with research problems alongside their colleagues, will be invaluable in the business environment. This*

will be the case - even if the individual is never again faced with a formal research task."('Future build', 1983)

However, Williams reminded the teaching staff to bring more enthusiasm to the lecture theatre and convey their belief that what they are trying to impart to the students is interesting and alive.

"Thus, they will be better able to respond to the dictum that 'the mind of a student is not a pail to be filled but a fire to be kindled'. (*Future Build*, 1993, p. 60)

A new South Africa was dawning – the Rainbow Nation which, while it represented hope, tested the boundaries and saw much activity in the construction field.

NEW DISPENSATION – 1994 UNTIL 2011

1994 was the year that South Africa entered a new dispensation and institutionalised racism was systematically dismantled. All citizens cast their vote for the very first time in 1995, and the country led by President Mandela was optimistic of a new future, with equal opportunities for all.

Students Tour to Far East in 1994

In 1994, the students travelled to the Far East, and visited Singapore, Hong Kong and Malaysia. Part of the tour focused on the construction of mass housing schemes that were underway, and council visits to large commercial construction projects and academic institutions, also took place.('Future build', 1994)

Clever Boys produces Bafana players

In the 1990's and 2000's, the Bidvest Wits Clever Boys produced big-name players, such as Bafana player Zane Moosa, Bradley Carnell, Manqoba 'Shakes' Ngwenya, Eric Tinkler who was instrumental in the national team's 1996 Afcon triumph as a no-nonsense central midfielder, along with Ashley Makhanya and Lovers Mohlala.

Raymond Nkado discusses models to predict construction time



Building and Quantity Surveying Lecturer, Raymond Nkado, wrote about models used to predict construction time in Future Build's 1994 issue.

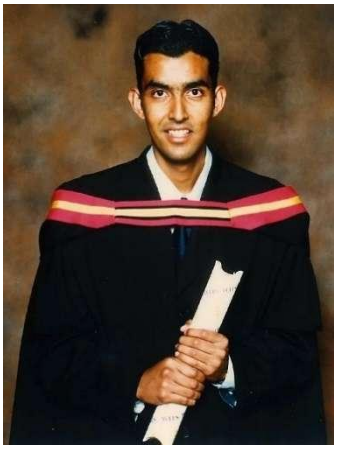
Raymond Nkado (c) LinkedIn

Knowing that time elapses between the decision to install a building, and its construction and occupation, he determined that if the likely durations of the various phases of the building process could be reliably and objectively assessed ahead of the events, it would reduce uncertainty to the immense benefit of the client and the management of the process. The article focused on the construction stage, which follows or may be concurrent with the design of a project.

> *"A number of models have been proposed for predicting or evaluating construction time. These models may be considered as Blackbox models, statistical or regression models, realistic models, simulation models and expert systems".*

He then discussed a construction time information system. ('Future build', 1994)

Muslim QS Shoayb Loonat shares his story



Shoayb Loonat shared his story in a face-to-face interview and with additional written statements with the authors of the publication. His journey began years ago, as he worked alongside his father, who owned a hardware store, and this introduced him to construction materials and costs, igniting his curiosity for quantity surveying.

Shoayb Loonat at his graduation © Supplied

As Wits University has a legacy for providing high-quality education across a wide range of disciplines with its history of academic excellence and notable alumni in the construction and economics sectors, this made it an attractive choice.

> *“The profession offered the ideal bridge between mathematical analysis and real-world construction allowing me to be at the forefront of project economics and collaborate closely with architects and engineers.”* Loonat explained.

Situated in Johannesburg, the city of gold, and just hours from his home, it offered the ideal setting.

> *“Additionally, my eldest brother's successful experience at Wits with a Bachelor of Commerce further solidified my decision.”*

When he first began his journey at Wits in 1996, witnessing other students arriving for their graduation ceremonies “*felt like glimpsing a distant horizon. The thought of reaching that point myself seemed like a goal far off in the future.”*

Friendships forged transcended time

Life as a student at Wits, encompassed more than academics. Beyond the lecture halls and textbooks, he felt, were the social interactions and fun moments with friends. He enjoyed gathering with friends on the iconic East Campus stairs, engaging in spirited card games, and sharing laughter illuminated the vibrant tapestry of university life.

> *“The friendships forged during those moments have transcended time, enhancing both personal and professional dimensions of life. The historic architecture, picturesque greens, and the hum of intellectual engagement created an environment conducive to both learning and forging lasting connections”.*

Lecturer Justin Cohen brought economics to life

His favourite lecturer was the economics lecturer, Justin Cohen. Asked what made Cohen such a great lecturer, Loonat explained that his enthusiastic and youthful approach to sharing his knowledge left a lasting impression.

> *“Instead of merely presenting theories and concepts, he brought economics to life with real-world examples, case studies, and relatable scenarios”.*

His teaching extended far beyond the classroom and his dedication to sharing knowledge has continued to influence Loonat’s current goals of imparting skills to new quantity surveying graduates.

Government initiatives helps field to evolve

When he first entered the field, it was predominantly characterised by a lack of diversity, with a strong presence of the Afrikaner community.

> *“However, over the years, we've seen a substantial evolution in response to various government initiatives, such as preferential procurement and B-BBEE (Broad-Based Black Economic Empowerment). These measures have played a pivotal role in reshaping the industry landscape, promoting inclusivity, and breaking down barriers”.*

While the private sector was once dominated by long-established firms, the changing demographics have brought about a more diverse and dynamic industry. Though many of the key players remain the same, the faces and backgrounds within the sector have evolved, reflecting the broader shifts in South African society.

"In essence, the industry has made significant progress in becoming more representative and inclusive, and it continues to adapt to the changing times."

His story continues in "*In Their Own Words*' (Loonat, 2023a, 2023b)


The first two black women to enrol for the quantity surveying course at the University of the Witwatersrand are Miss Maphefo Mogodi, 21, left, and Miss Puseletso Mfelang, 21.
Picture: DOUG PITHEY

Mogodi and Mfelang are first two black female Quantity Surveyors

The Sunday Times ran a picture and a caption heralding a first as the first duo of black women to enrol for the quantity surveying course at the University of the Witwatersrand, Miss Maphefo Mogodi (21) (now Keafisha Maphefo Ernestina Mogodi-Malete) and Miss Puseleto Mfelang (21) graduated.

Maphefo Mogodi and Puseletso Mfelang © Sunday Times

Little is known of these two trailblazers, but they paved the way for other women of colour to show their grit and talent in the profession.

School of Construction Economics and Management born in 2000

In 2000, the name of the Department of Building and Quantity Surveying was changed to more accurately reflect the objectives of the Department, and became known as the School of Construction Economics and Management.

Over the years, this School has produced the substantial number of the Builders and Quantity Surveyors that have graduated from the Schools within its discipline in South

Africa. Numerous government programmes underline the importance of the built environment professions to meet the socio-economic objectives of the country.

Creation of the Faculty of Engineering and the Built Environment in 2001

In 2001, the University restructured, and the Faculty of the Built Environment joined with the Engineering Faculty, to become the Faculty of Engineering and the Built Environment.

BSc Property Studies degree launched in 2002

Prof Ronnie Schloss, head of the School of Construction Economics & Management told News24 in 2001, that the property field needed more experts and that is why Wits University was to offer a new course in property studies from 2002." (*Wits introduces property degree* | *Business*, 2001)

This four-year full-time course was intended to prepare students to actively participate in the property industry. Talking to the press, Prof Schloss said:

> *"Studying for an undergraduate degree in property studies at Wits University will expose students to the most up-to-date thinking in the field of property investment and development while acquiring skills required by property practitioners,"*

adding that the lecturers were considered leading property practitioners in the country.

Property economist, Francois Viruly, was hired to lecture in property finance and property economics. Viruly was then also a property advisor to government and the private sector.

> *"Property is one of the most important pillars of any portfolio investment. The property environment needs a new level of expertise - if it is to be taken to the same level as equity and bond investments."*

The course focused on the commercial property sector, for example, the investment and management of shopping centres, industrial buildings and offices. It was important for the Faculty to recognise that as an emerging country, South Africa offered

opportunities in the built environment not available in more industrial countries, and that there are growing opportunities for women to enter this sector.

Subjects included finance, law, town planning, construction technology, risk management, economics and valuations. Schloss who was elected by government to sit on the Council for Project and Construction Management, concluded:

> *"A degree in property studies opens career opportunities in finance, property asset management, letting and leasing property, banking, property development, valuations as well as opportunities at all levels in the public and private sector."* (*Wits introduces property degree* | *Business*, 2001)

Professor Pienaar is Head of School from 2003 to 2008



Professor Elizabeth Pienaar spoke to the authors in a face-to-face interview and shared her story.

Professor Elizabeth Pienaar © Author

She was asked to join the School's academic Faculty and as Prof Schloss was her immediate predecessor, she asked him to help her out with lectures on what he was lecturing – as she had no notes on that, and he gracefully did, as they've been friends for years. After six months of no Head of School, Professor Ramon, then Head of the School of Architecture who was also acting as Head of School for SCEM, announced that Prof Pienaar was to take on the role.

Coming from having run her own firm which worked on 35 hospital projects – including Sandton Clinic, Fourways Hospital, and Waterfall City, in a quantity surveying capacity, she was keen to convey what she had learnt.

> *"A computer can count bricks – quantity surveying is really about management and managing the money on the project".*

‘Academia improved but discipline disappeared’

As a professional, still running her own firm, Prof Pienaar did not enjoy the politics among colleagues. “*People were backstabbing one another and I’m not used to working in an environment like that”.*

Asked how she dealt with it, she laughed, *“I’d stab them back! No, I always made sure that I’m covered, and I know what I’m doing”.*

While the academic record at the School improved greatly, Prof Pienaar felt discipline took a knock: “*The discipline in the education system is gone.”*

She recounted how she was berated by a lecturer, as a student for eating a fruit in class, and how as the Head of School, she had to experience a student who left the lecture hall without asking, to return with a full meal, which he proceeded to eat in front of her in the front row.

“That was the day (in 2006) that I handed in my resignation at Wits”.

She continued,

> *“He started eating with his hands, in my class. I just decided, “This place is not for me anymore”, because the problem is, you couldn’t discipline the students. I could do nothing to him”.*

For more of Professor Pienaar’s story, turn to *‘In Their Own Words’.* (Pienaar, 2024)

Mabuse Moja graduates in the property field



Mabuse Moja (Graduate of 2006 and 2019) was among the alumni who answered five questions about his time as a student. He was a young Grade 11 learner, when people from Wits visited his school and introduced the university to them, and spoke about the degrees offered at the university.

Mabuse Moja © Supplied

“Property as a qualification caught my interest and Wits was one of two institutions offering it as a BSc qualification and hence my selection to attend the university.

Prof Samuel Azasu presented real estate in a new way

Moja had two stints at Wits, first as an undergrad student (to graduate in 2006) and then as a postgrad graduate (to graduate in 2019). His favourite lecturer was Prof Azasu.

> *"He was able to still bring real estate to me, as someone who had worked in the industry for some time, as a totally new concept and also impart fresh knowledge".*

Among his favourite memories of Wits are arriving on campus on his first day of lectures,

> "*with a nervous anticipation and excitement. The next most memorable moment would be graduating twice at the university."* His story continues in *'In Their Own Words'.* (Moja, 2023)

Francois Viruly appointed as Acting Head of School amidst difficult years

In 2009, a series of interventions were needed to stimulate a revival of the School, this included a recommendation from the School's QQR to appoint a full-time academic Head of School. Associate Professor Francois Viruly was appointed in the meantime as the Acting Head of the School of Construction Economics and Management. (Western Cape Property Development Forum, 2019) Professor Mitchell Gohnert who was then Head of the School of Civil and Environmental Engineering, also served briefly in the role of Acting Head of School until Professor David Root from UCT was appointed as Head of School in 2011. He joined after difficult and uncertain years for the School. As a reset and new leadership was required to turn the School around, he was the man to take it further.

QS Mosha Senyolo takes her own path



The daughter of Thabo Senyolo, the first African QS at Wits, Mosha Senyolo faced an impressive legacy, but she has made her own path in the world of quantity surveying to become a woman of colour in construction, leading from in front. In a Zoom online interview and in writing, she shared her story.

Mosha Senyolo © Supplied

As a child born and raised in Alexandra Township, a career in the built environment was extremely appealing, as it gave her a vision and the possibilities around the type of impact she could make in her community.

> *"My dad was my initial inspiration as I saw how meaningful his work was, it not only made a positive impact in the home, but to the community at large".*

The choice of Wits University was simple, as it still is renowned for being one of the most prestigious and best universities in Africa, which has produced some of the most successful graduates in the world.

Cochran and Azasu led the way

Asked who influenced her academic life as a student, Senyolo said it was her 1st year construction lecturer, Ian Cochran during her time as an undergraduate, who had taught her father too. She described Cochran as:

> *"A seasoned and highly respected QS, who was extremely patient, he had a genuine interest in helping us understand the construction process in detail, and wanted to see each and every student do well. He played a big role in my career development and I would really not be where I am today - if not for him".*

For her time as a postgrad student (achieved in 2018), she was inspired by Prof. Sam Azasu, who brought with him international experience, and transformed the Wits property studies "with revolutionary concepts". She described him as:

> *"A lecturer that believes in paying it forward, a lot of my voluntary work with the School is attributed to the attitude he also imparted to his students".*

Best QS student accolade and Fridays at BAQT were among top memories

Asked which are her favourite memories of studying at Wits, she listed receiving an accolade as the best QS student in her first year of studies, scoring the highest marks in the 2nd year Economics supplementary exam, Fridays at BAQT (the CEM pub) with friends and classmates, and walking the Great Hall stage for the first time, during the graduation ceremony. Her story continues in '*In Their Own Words'.* (M. Senyolo, 2023)

Viruly develops Property Management Programme with SAPOA

In 2009, Professor Francois Viruly and the South African Property Owners Association (SAPOA) Property management committee, developed the Property Management Programme (PMP). As applications for 2010 had nearly doubled, it proved the need for the course. (*Property management course proves popular*, 2010)

Bizcommunity reported in 2010 that the PMP programme started in February 2010 and had over 30 potential students with Jay Junkoon as the course director.

PMP was an eight-month professional course aimed at property managers and included modules on property law, economics and finance, marketing, technology and facilities and property management. The course comprised weekly lectures, delivered by academics and property professionals, as well as continual assessment.

The course was part of the detailed SAPOA Education Strategy, which aimed to standardise industry education and ensure it is aligned with industry needs. It worked closely with the Services SETA and Estate Agents Affairs Board to ensure effective learning pathways in the commercial property industry. It was also an active participant in the Service SETA Employer Association, Commercial Property Chamber Board, Organising Framework for Occupations, and Committee of Expert Practitioners. (*Property management course proves popular*, 2010)

The next decade saw SCEM turn to academic research with a view to empowering women and the young talented fledgling students.

2011 UNTIL 2020 - FOCUS TURNS TO ACADEMICS

This decade saw a new Head of the School of Construction Economics and Management with Professor David Root, who had been working at the University of Cape Town. This period marked the recruitment of several international academics in a bid to help revive the School. It also saw a significant growth in enrolment numbers and the development of South African academics who were given opportunities to study for their PhD and join the School's permanent academic staff. The School had 20 full-time academic staff by the beginning of 2021.

Prof Root is Head of School (2011 – 2020)



Professor Root agreed to a face-to-face interview, in between his lectures and assisting of students, to share his path as SCEM School Head.

David Root © LinkedIn

He moved to Gauteng and to Johannesburg in 2011, as the new Head of School. He adds:

> *"To a very different school to what we have here. I had seven full-time staff and only one other besides me, who had a PhD".*

As a seasoned academic, Prof Root immediately set to changing the status quo as he had a vision of something else for SCEM.

> *"The growth and development of the academic staff is probably one of the greatest successes in my time, plus the growth in our postgraduate numbers and the consequent reflection of what Wits stands for, in the marketplace".*

Wits is the lottery of life

Prof Root is matter-of-fact and down to Earth, he immediately speaks of the unemployment rate of school leavers of about 60 or 70%.

> *"What's the unemployment rate for graduates, as a whole? It's about 7%. So, if you look at the figures of graduates - people with higher education backgrounds, it drops dramatically, it's a massive shift. Let's face it - if you get into Wits, you're unlikely to fall out of Wits, so you will end up in a decent well-paying job, and you will end up with a middle-class income".*

The fact that these school leavers manage to get into Wits, and graduate with a higher education, dramatically reduces the possibility of unemployment.

> *"Add to that that you're doing a technical qualification, which is considered to be a scarce skill and at a university like Wits, it adds a certain cache – you're pretty much sorted".*

He feels that if someone gets into Wits,

"it's not just you, but your parents, who have won the lottery of life, because you're secure, and your brothers, mother, sisters also have also won the lottery of life - you're succeeding".

Increase in female Undergraduate graduates

Asked about his biggest highlight working at SCEM, he immediately cites the change in the number of undergraduate females. It has increased to 40%, *"which is pretty good for a male-centred industry".*

Secondly, he is also proud of the growth of the academic staff.

"We had four PhDs last year (2022), all through our working academia, all four who are back here at Wits as lecturers – and three of them are black African females. You compare that to the history of who was recruited, and who you had to recruit - that's quite something!"

SCEM is biggest player in South Africa

He feels that SCEM is the biggest player in the South African market, "*by some way".*

"That gives us a certain energy and a voice, which we didn't previously have, it gives us a position to actually respond to pressure and that's probably a big thing".

His story continues in '*In Their Own Words*'. (Root, 2023)

Thapelo Tlhapane, (BSc QS 2011) sold sweets in a mining town



Thapelo Tlhapane was an alumnus who kindly responded to the questionnaire sent to the alumni, asking for their memories of their time at Wits.

Thapelo Tlhapane with teachers © Supplied

Tlhapane is from a small mining town, so grew up being exposed to various engineers.

"I also had a passion for numbers and calculations which I learned from a sweet business I used to run".

Quantity Surveying was a perfect match for him, as it answered both his technical and commercial desires. For him, Wits has always been the first preference for top achievers in his high school.

> *"So, I guess I was following those that I idolised and looked up to. One of the best decisions of my life."*

Pipe-smoking Prof Viruly inspired confidence

Prof Francois Viruly, who was head of school at the time, was his favourite. He explained why:

> *"I really liked how he carried himself and gave the school so much confidence and energy. He is a true academic. Till today, I still remember that tobacco pipe of his."*

During orientation week, he met *"a group of guys who are still my friends to this day, some of whom are even working together".* Then during his last year in 2011, I was selected to be part of the BAQT committee, amongst four others to run the pub for the year.

> *"The rest of the memories I will reserve them for my grandchildren, during story-telling around the bonfire!"* Tlhapane's story continues in *'In Their Own Words'.* (Tlhapane, 2023)

Graeme Michael Jay investigates Property Studies at SCEM

In 2011, Graeme Michael Jay conducted a research thesis on '*The Views of the Property Industry On the Curriculum of the Undergraduate Property Studies Degree in The School of Construction Economics and Management at The University of the Witwatersrand*.' Graeme Jay is now a respected property academic lecturer.

In his research thesis, Jay determined that employers are an important group of stakeholders in the education that is provided to the graduates that they will eventually employ. As a result, any revision of the curriculum of the undergraduate property studies degree offered by CEM at Wits should take the views of the property industry into account. This is why he undertook the research and the results were noted and suggestions implemented.(Jay, 2011)

The research undertaken for the research study was completed in two parts. An initial study of senior management of large property companies operating in the property

industry in South Africa was undertaken. The second part of the research surveyed past students who had completed their studies in the School of Construction Economics and Management and who graduated from the School.

This research study investigated what knowledge and skills are required by the property industry in South Africa of graduates, who have completed their degree in property studies.

The results of the research study indicated that there are certain areas that graduates required more knowledge of, and that graduates lacked practical skills when entering the work environment. The responses received from respondents in both sample groups indicated that there was too much focus on construction subjects in the 2011 curriculum.

He suggested that an increased focus in the areas of property finance, property investment and asset management was required. Jay felt that graduates required the degree programme to be suitable for the purposes of the academic requirements to become a registered valuer. Respondents in both samples were of the view that the property industry should introduce an internship programme to integrate knowledge learned at university with the practical skills required in the work environment.

It was suggested that the property studies curriculum should focus more on finance, valuations and economics and less on the quantity surveying and construction type courses, which the then curriculum contained. Faculty recognised the results and discussed his suggestions. (Jay, 2011)

Angelo Fick introduces Critical Thinking and Language Development Course

Angelo Fick, a senior lecturer in the Faculty of Engineering and the Built Environment (FEBE) academic unit was interviewed by student online publication, Wits Vuvuzela in 2012. He was asked about the Critical Thinking and Language Development course introduced as both a compulsory subject and a standalone credit to first year students.

The introduction of the subject has resulted in a restructuring of the old FEBE degree and was an attempt to develop existing literacy levels.

The reasoning behind it was that employers want employees that can conduct themselves in a professional manner with the ability to write and think critically, Professor Root said at the time.

Fick added that the course aimed to intensify first year FEBE students' critical thinking abilities, focusing on skills of analysis, argumentation, presentation, and some creative thinking.

This was however, not accepted by all FEBE.

> *"The course helps me to understand how the world works, but I get higher marks for Physics than I do for critical thinking,"* said Kiren Hurun, 1st year BSc Construction Studies to Wits Vuvuzela.

Fellow student, Regothabetse Mashishi added he struggled with the critical thinking course, as English was not his first language. Critical thinking was taught at a 1st year level to several schools in the Faculty of Engineering. The critical thinking course ran for the first semester of the Wits academic year, and included both written and oral exams. (Meda, 2012a)

Communication Skills Class to combat sexual harassment

1st Year Construction Studies students attended a communication skills class with Maria Wanyane, the Wits sexual harassment officer in 2012, with senior lecturer Angelo Fick. The aim was to educate the student about behaviour which could be construed as sexual harassment.

The students at Wits Vuvuzela reported that the students were startled that explicit, derogatory words could constitute harassing behaviour. Several students gasped in disbelief when Wanyane told them that excessive persistence in asking for dates was a form of harassment. 1st Year, Nkateko Ncube said that she got to know that there is a difference between flirting and sexual harassment.

Wanyane explained to the students they had a responsibility to ensure that they and their peers create a positive learning environment for everyone by avoiding harassing language and behaviour. The audience was attentive and some took notes during the talk, which took place during Fick's communication skills class.

"This is the space in which we can guide people's understanding about appropriate and inappropriate behaviour, before they have to learn it the hard way," Fick told Wits Vuvuzela, pleased with his students' engagement with the topic during the tutorial which followed Wanyane's lecture.

The discussions which followed centred power relations between lecturers and students, and between students and their classmates who expect reciprocity for favours, such as help with assignments.

> Fick added, "*If university education becomes simply about exams, then it's a failure and a tragedy. It's a holistic education, about becoming a well-rounded human being*."

The talk followed two weeks after the SRC launched a new poster campaign urging students to speak out about the issue. (Meda, 2012a)

SCEM moves into a new Building in 2012

In 2012, the School of Construction Economics and Management moved into its new home, the School of Construction Economics and Management Building. The new building helped to create a new image and environment which contributed positively to the growth of the School. In 2024, a new Link building developed to link the School of Architecture and Planning (SoAP) which is housed in the John Moffat building, and the School of Construction Economics and Management building was completed. The Link building provides a bridge between the two Schools and is expected to foster closer collaboration between SoAP and CEM.

Construction lecturer Gerald Chungu organises Egg Box Challenge

Wits Construction lecturer Gerald Chungu and Denver Hendricks of UJ organised a joint project for 1st year students in the Wits School of Architecture and Planning to design a cardboard box without using staples or glue. This project took place in March 2012, and was against their UJ counterparts.

The box would contain an egg inside the box, which would then be dropped from the top of a building. A well-designed box would protect the egg from breaking.(Meda, 2012b)

The project was reported on by Wits Vuvuzela and the twist in the challenge was that the respective teams would swap designs and then build one another's boxes.

> "*We try to simulate what you do in construction: somebody designs and somebody else builds. Then we meet to see how successful the built object is,"* Chungu said.

The feedback from students showed the reasoning behind the project. 1st Year, Aeron Stipanov said that it was a learning curve.

> *"It showed us how the real world is; if your designs aren't accurate, then your building will potentially kill people!"* (Meda, 2012b)

Nyiko Chris Mathebula (BSc QS 2011) acts on his passion for construction



Nyiko Mathebula, a qualified black African quantity surveyor, responded to the Alumni questionnaire and shared his story of his time at Wits.

Nyiko Chris Mathebula © Supplied

He also recognises Wits as a competitive university in South Africa, *"one of the best, if not the best in Africa".*

The option that was available to study Quantity Surveying, University of the Witwatersrand was the best option for him. He always had an inclination of understanding numbers in his secondary school year, and had a passion for construction projects.

> *"Quantity Surveying provided an opportunity to be able to exercise my strong point, while following my passion".*

Obinna Ozumba embodied order and hard work

His favourite lecturer was Mr Ozumba,

> *"Oh, Dr Ozumba now, probably Professor already! He was the embodiment of order and hard work. He gave credit where it is due, and taught us how to follow simple instructions".*

Mathebula's story continues in *'In Their Own Words'.* (Mathebula, 2023)

Construction student Modiegi Mokoka leads the Wits ladies' basketball team

3rd year BSc Construction Studies and Wits Lady Bucks, the women's basketball team captain, Modiegi Mokoka, helped her team outshine the competition on the basketball court in 2014.

The Wits' women basketball players outshone their male counterparts in the 2014 season, and took gold in the national league and tried for first place in the provincial league, according to Wits Vuvuzela. (Omarjee, 2014) The team won the University Sports South Africa (USSA) basketball national championships in July of that year.

It also competed in the Gauteng Women's Basketball League and the Gauteng University Basketball League (GBUL), in which they tied with the Vaal University of Technology for first place. It was reported that the men's team, however, came third in their division in the USSA national championships.

'Win at all costs'

The women's team adopted a "*win at all costs"* system, as opposed to the "*everyone must play"* approach of previous years, Mokoka said. Their successful performance was attributed to team work.

> *"We listened, we had confidence, we executed but, most of all, we played for each other. We went from 4th place to number one in the country. There's no better progress than that,"* she told the student publication.

After years of competing in the USSA championships, this was the first time the team took the top title, having progressed from sixth place in 2011 to first in 2014. (Senne, 2019a)

Quinquennial Review in 2015

In 2015, the Quinquennial Review showed that the School of Construction and Economic Management was on a path of recovery and regaining its strength and reputation from the leadership of Professor David Root. This period saw the recruitment of a good number of international academic staff, curriculum enhancement, and significant growth in enrolment numbers, which contributed positively to enhancement of the School's position and reputation.

#FeesMustFall movement as students seek affordable education

Student protests in 2015 began against the fees charged to students seeking a university education that was free. The protests have continued over the years.

Associate Professor Ehsan Saghatforoush (2017 until now)



Associate Professor Ehsan Saghatforoush (Project Management), MSc (Project Management), BSc (Civil Engineering), shared why he joined SCEM and what his experience has been like.

Ehsan Saghatforoush © Supplied

"Being a teacher has always been my dream, since I was at my primary school. And what can be better than being a lecturer in a top university, such as Wits".

Wits is among the best in the African continent. It is well-known around the world. It also provides a proper foundation for academics to grow their global contacts."

He appreciates the moments when he sees the evaluations his students provide about his courses at the end of every semester.

"Nothing is more enjoyable than seeing people satisfied with your efforts after a full semester. It gives you the chance to sleep with peace and joy, when you go to bed at night. Nothing compares to these nice feelings". (Saghatforoush, 2023)

Men's Res is 95 in 2017

Wits University's oldest residence, Men's Hall of Residence, celebrated their 95th birthday in September 2017.

BSc Construction student and Men's Res House committee chairman Sizwe Bhengu jokingly told Wits Vuvuzela at the time,

"I cannot deny nor confirm that we will be slaughtering a cow but there will be a braai".

The celebration included a formal dinner, and various sports played at the Diggz field between alumni, seniors and freshmen, followed by a braai, back at the residence.

The residence has housed many celebrated figures of society during their time as students. The list includes Advocate Dali Mpofu, former Wits SRC president and Thusanani Foundation founder Morris Masutha, EFF National spokesperson, Dr Mbuyiseni Ndlozi, as well as former chair of ABSA and CEO of Murray and Roberts, David Brink. (Peter, 2017)

Over the years, Men's Res traditions have changed, but the residence has remained a vibrant community of students, past and present. It is known for its spirited, prank-playing, hard playing games and most often involved in activities condoned by the University, according to Wits Vuvuzela. (Peter, 2017)

Brotherhood, unity and social responsibility

Bhengu spoke about the brotherhood, unity and social responsibility and shared culture among the residents is what makes it great. The Res has not always had the greatest reputation when it comes to issues of patriarchy, but Bhengu and his students decided to take a progressive stance with initiatives such as *#NotInMyName*.

"During this initiative, the Raiders, as they're known, were walking female students who stay off campus to their residences, during the heightened time of abductions and crime in Braamfontein".

The traditions and crests date back to the 1950s, which include being introduced to Phineas, a ceremony carried out with great solemnity in a partially darkened room. Other traditions include early morning activities, where freshmen trot around campus wearing white lab coats and little else, from time to time serenading the Dean and Assistant Deans.

"It has become tradition to sing at the graduations of fellow Raiders, as well as female residences during O-Week and also throughout the year", Bhengu said to Wits Vuvuzela for their report. (Peter, 2017)

Res Raiders herald BSc Construction Graduate, Sizwe Bhengu



The next year, Bhengu received his BSc in construction studies along with 5 000 fellow Witsies. Wits Vuvuzela reported how the Men's Res Raiders did indeed flood the Great Hall steps and piazza in red, singing and dancing as the graduates exited from the one-and-a-half-hour long ceremony in 2018.

Sizwe Bhengu is celebrated by Raiders © Wits Vuvuzela

> *"It was pretty overwhelming; it was pretty amazing to be honest,"* he said. *"Because it's something we've always been doing over the past couple of years and then suddenly it's your turn. It really makes graduation that much more amazing."* (Mokgabudi, 2018)

BSc QS Student Mookameli Moeketsi is ARC Chairperson

In 2018, BSc honours in quantity surveying student Mookameli 'Mk' Moeketsi was elected Wits All Residence Council (ARC) chairperson.

The ARC has 17 student representatives from each of the Wits residences, and one seat is occupied by the Student Representative Council (SRC). The ARC represents students in residences and presents their needs to Wits management.

SRC president, Orediretse Masebe said Moeketsi had served on the Wits Junction House Committee and this meant he had the experience to fulfil his duties, according to a report by student publication Wits Vuvuzela.

Mental health tackled

Moeketsi stated that the ARC wanted to tackle student issues around mental health.

> "*In this university, people are subjected to inhumane living conditions, such as sleeping in the library and just because we are lucky enough, it does not mean we shouldn't have discourses and try to find solutions,"* he said. (Dlamini, 2018)

Into his term, the Wits Student Representative Council (SRC) and All Residence Council (ARC) called for an academic shutdown to protest a 10% increment in residence fees for 2019. (Dlamini, 2018)

The protest was a joint action between Wits student political formations such as SASCO, PYA, EFF and PASMA, and students from the University of Johannesburg and the Central Johannesburg College, who all marched under the banner #*AccommodationIsLand*. (Mashishi, 2018)

Their demands included, the scrapping of council rates for universities and TVET colleges; council rates for private student accommodation providers, such as South Point to be capped in order to stabilise prices; some of the 71 hijacked buildings identified by the City of Johannesburg (CoJ) for expropriation to be handed to universities along with money for institutions to develop them into student accommodation; and for a satellite clinic and police station to be opened in Braamfontein.

Protesters gathered at the Wits Theatre and marched through campus, disrupting lectures by pulling the fire alarms in buildings and singing in lecture halls until students evacuated. (Mashishi, 2018)

Dr Thabelo Ramantswana is first black female Real Estate Doctor



After taking time off with her family in the United States in 2005, Thabelo Ramantswana returned to South Africa and applied for her doctorate. The mother of three had to balance the multiple roles of mother, wife, student and teacher.

She shared her story with Wits Vuvuzela in 2019, as she graduated as the first PhD real estate graduate from SCEM.

Dr Thabelo Ramantswana at her graduation © Wits Vuvuzela

The Wits alumnus began her academic career with a degree in town and regional planning and later returned for her masters, focusing on housing and later going into the workforce. She was unable to complete the master degree because of the added pressures of class, exams, and later teaching at Wits.

Mother of three was a lecturer, while studying two qualifications

Professor Root said that she was committed to the students and a role model.

> *"To do a PhD, while also being a mother to young children, shows what is possible to achieve. The school has a growing number of female academics and she is the first to come through the Construction Education and Training Authority development programme,"* he said to Wits Vuvuzela. (Rapoo, 2019)

In 2013, Ramantswana contacted Prof Sam Azasu to return to Wits. Her concessions to come to Wits included taking on master's courses alongside her PhD, to bridge the gap between her qualifications from the school of architecture and planning, and her now PhD in the school of construction, economics and management.

She completed her doctoral real estate academic plan, a programme in real estate, after its introduction in 2014

> *"My determination is strong enough. When I want to get something done, I fight until I get it done… it was not easy, but I had to fight,"* she said at the time.

Upon her graduation, Dr Ramantswana said,

> *"We need to target and groom future academics. I am not comfortable being the only one. I am not comfortable to be among a few; I want more,".* (Rapoo, 2019)

Lecturer Dr. Josephine Llale advises universities to prepare for 4IR



Seeing the 4th Industrial Revolution (4IR) slowly making its way to Africa, SCEM lecturer, Dr. Josephine Llale spoke to the student publication in 2019, to reassure students that jobs will not necessarily be lost due to 4IR, but they will take a different form.

Josephine Llale © LinkedIn

> "*Work that can be done more efficiently by machinery will be taken over but new jobs such as urban ecologist, living systems designer, medical equipment designer, online doctor, medical robot operator and more,"* she said.

The jobs that would most likely be replaced in future are commercial pilots by 55%, healthcare practitioners by 40% and accountants and auditors by 92%, among others.

Accountants and retail people are more at risk, because work that requires adding up numbers in columns is usually easily automated. This is why she saw banking jobs, cashiers, and quantity surveyors most at risk.

> "*Because the nature of work is changing, the teaching curriculum needs to change too. Universities are preparing students for a future that does not yet exist or put in other words, for jobs that do not currently exist. It is imperative that universities start embracing the 4IR*," she concluded. (Madubela, 2019)

BSc QS Mookameli Moeketsi discusses Black Tax

In 2019, Mookameli Moeketsi, Wits BSc in construction studies alumnus who graduated with an honours in quantity surveying, raised the issue of black tax. Many students who were the first in their family to go to university, have been expected by their families to pay whatever they earn, and this is commonly known as '*black tax.'*

> *"A lot of our parents or guardians have raised us and gotten into a lot of debt … some of our parents have had to sell houses and cars to go to university, so it's only fair that when we start working and start making some money that we do take care of the people who always took care of us".* (Senne, 2019b)

He started working and paying black tax at the beginning of 2019, but soon acknowledged that the burden of care can be overwhelming.

The 23-year-old started working and both of the houses at home were in severe debt, and on the brink of repossession by the bank. Moeketsi had to get a personal loan of

> *"R120 000 just to try and clear those problems, and R120 000 of debt in your first year of working is not easy,"* he admitted to the Wits Vuvuzela, as a word of advice to fellow students. (Senne, 2019b)

MSc Construction Student Tlangelani Baloyi captains Lady Bucks

In 2019, Master's Student in Construction and Project Management, Tlangelani Baloyi was the Lady Bucks captain, and hoped success of the Lady Bucks basketball team

would prove inspirational and change perceptions. Women of colour were taking the lead in the academic field and on the sport grounds. However, Baloyi said:

> *"It would be great for people to have a different perspective of basketball and not just view it as a man's sport."* (Senne, 2019a)

Dev Hotel takes on new role as student accommodation in 2020

The previous Devonshire hotel in Jorissen Street, once the beloved drinking venue and student hangout for students, was turned into a new private student accommodation in January 2020.

In a masterful decision, Zenprop, in partnership with Consolidated Urban Corporation (Conurban)'s Campus Africa division, decided to upgrade the facility to house over 600 students for affordable housing. (Mokoka, 2019)

BSc Construction Student Nicholas Meinel Coaches SA Mountain Climbing Team

Following the lead of his fellow multitalented student colleagues, 2nd Year BSc construction student, Nicholas Meinel was appointed in 2019, to be the coach of the South African mountain climbing team at the Youth World Climbing Championships in Arco, Italy.

Meinel prepared 22 athletes, aged between 14 to 19, to compete against other athletes from over 50 countries during the competition. The 20-year-old was interviewed by the sports journalist at Wits Vuvuzela and said:

> *"I competed in the last four competitions [championships] before this. It was a different experience being on the coaching side. The main challenge was trying to keep them all focused on the competition."*

Most of his work involved strength-based training and teaching his team how to read climbs. His academic education obviously paid off as he said:

> *"Reading climbs involves understanding how to actually do the climb. At the competition, my main job was just trying to get them mentally prepared."* (Gatticchi, 2019)

Clever Boys sold in 2020 ending 99 years as a club

Bidvest Wits FC and its 99 years of existence ended when the club was sold in 2020. When its PSL status was sold to Limpopo first division club Tshakhuma Tsha Madzivhandila, the Clever Boys were no more.

Raymond Hack, former SAFA CEO and Wits chairman for over 27 years (1977-2004) said to the media about the importance of the club and its sale:

> *"It was the beginning of a new era that would see soccer opening doors for a multiracial society. Wits played a massive role and it is very upsetting to see such an institution disappearing into oblivion."* (Mokoena, 2020)



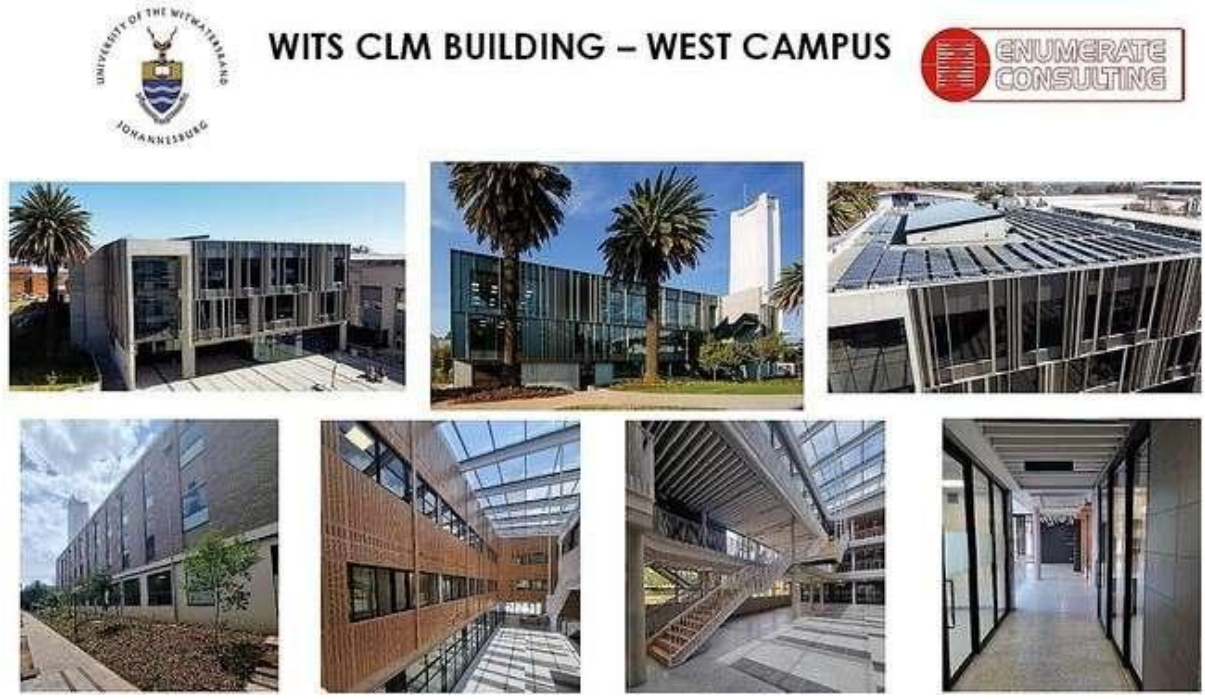
Clever Boys circa late 80's and 90's © Bidvest Wits FC

Above is a rare club picture that represented Wits University in the late 1980's and the 1990's. Among those in the picture are Roger de Sa, Neil Winstanley, Raymond Hack (CEO), Derek Blackensee and Prof Schloss (both as officials), Stanton Fredericks and Bradley Carnel,

The soccer fraternity respected the club for its top-notch youth development structures, starting at Under-9s. Their facilities at the university were state-of-the-art, facilitating juniors across the various divisions until the First Team. Hack divulged to sport publication, Tagged! that Mzansi soccer bosses Kaizer Motaung and Jomo Sono sent their sons (Bamuza Sono and Kaizer Motaung Jr) to the club's academy, where

they were groomed to become top PSL players. The demise of the club has left a huge hole in the soccer community. (Mokoena, 2020)

Alumnus Loonat involved in new CLM Building



Wits CLM Building – West Campus © Supplied

The student had now become the master and paid back to his alma mater, as Shaoyb Loonat tendered and were selected as one of eight companies on the panel of quantity surveyors, for a period of three years. In a face-to-face interview for the publication, he said:

> *"Once you are on the panel, it means you have the capabilities, you have the capacity, the skill and the resources to work there at campus. From there, you get allocated work and the CLM Building on West Campus, next to the Tower of Light, was one of the projects, which in some ways, saved my business through Covid".*

Planning started in March 2020, with construction at the end of 2020 and Wits moved in, in 2021. The R60-mil project is for the offices for the Commerce, Law and Management Faculty, so he had counterparts from other companies doing work on the CLM Campus". (Loonat, 2023b)

As the world struggled through the Covid-19 pandemic, change was in the air for the School of Construction and Economic Management.



THE SCHOOL TODAY – 2021 UNTIL NOW

Professor Sam Laryea appointed Head of SCEM

After joining the School from the University of Reading, UK as Senior Lecturer in 2012, Professor Samuel Laryea was appointed the Head of the School of Construction Economics and Management in 2021.

Prof.Sam Laryea (Supplied)

This period marked the introduction of formal structures to enhance governance, leadership and management of the School; establishment of an Industry Advisory Board and forging of closer links with industry; successful renewal of accreditation of the School's programmes including RICS for the Property Studies for the first time; rise of the CEM Student Council; and growth in the School's research activities.

School Leadership Team established in May 2021

This included the establishment of a School Leadership Team (SLT) in May 2021 to serve as an Executive Committee for the School. The primary responsibility of the School Leadership Team (SLT) is to collectively provide the leadership required to achieve the School's vision and strategic priorities. The School leadership team was structured into the following roles:

- Head of School
- School Coordinator for Executive Education, Short Courses and Fundraising
- School Coordinator for External Engagement
- School Coordinator for Postgraduate Affairs
- School Coordinator for Teaching, Learning and Quality Assurance
- School Coordinator for Research and Innovation
- School Coordinator for Undergraduate Affairs

As leader of the School Leadership Team, the Head of School's primary roles are to: provide the academic vision and leadership required to enable the school to establish and maintain a position of excellence within the University and in the wider educational context; lead and manage the school in meeting its and the Faculty's strategic goals; and participate in University-wide decision-making processes towards achieving the University's strategic goals.

The duties of the Head of School cover four broad areas namely: Academic and research leadership, Student Affairs, Human Resource Management, and Administration of the School. The members of the SLT are responsible for specific portfolios where they support the Head of School in the day-to-day management of the School and represent the School in various Faculty structures.

20-member Industry Advisory Board inaugurated in 2021

A 20-member Industry Advisory Board (IAB) was inaugurated in July 2021 by the Executive Dean of the Faculty of Engineering and the Built Environment, Professor Ian Jandrell, to support the vision and growth of the School. The founding members of the Inaugural IAB were:

- Prof Raymond Nkado, Managing Director, QualConsul Chartered Quantity Surveyors (Chairperson)
- Ms Lebogang Shole, Executive Head: National Facilities & Property, VODACOM South Africa
- Mr Saul Gumede, Chief Executive Officer, DIJALO Property Group
- Mpho Papo, Managing Director, DUVHA Quantity Surveyors & Project Managers
- Zama Ngcobo, Managing Partner, WMN Attorneys Incorporated
- Ms Maphefo Mogodi, Deputy Chair, Council for the Built Environment
- Mr Andy Dunn, Director, Professional Cost Consultants
- Mr Andrew Murray, Chairman, Murray and Dickson Ltd
- Mr Priyesh Daya, Partner, Webber Wentzel
- Mr Rob Morson, Partner, Pinsent Masons
- Mr Rowan Crowie, CEO, ENZA CONSTRUCTION LTD
- Rukesh Raghubir, CEO, M&D Construction
- Thobani Mnyandu, Director, MNS Attorneys
- Dr Ron Watermeyer, Director, Infrastructure Options
- Ms Amelia Beattie, CEO, Liberty 2 Degrees
- Mr Malusi Mthuli, Head of Valuations, FNB
- Mr Estienne De Klerk, CEO, Growthpoint Properties
- Mr Kerry Millar, CEO, REAL FMG
- Ms. Nonkululeko Sindane, CEO, Mariswe (Pty) Ltd
- Prof Thokozani Majozi, Executive Dean, Faculty of Engineering and the Built Environment

The Terms of Reference of the IAB are:

- To provide strategic input from Industry into the academic, research, community engagement activities of the School of Construction Economics and Management, University of the Witwatersrand so that they reflect the vision of the University and address national imperatives.
- To provide a forum for robust engagement between the School and Industry on a wide variety of issues related to the construction and property sectors and professions

- To serve as a platform for networking between the School's academics and professionals in Industry
- To support the School in its fundraising activities

The Board meets once a year, and serve as the "voice of industry" in the development and implementation of the School's academic vision and strategic plans. In addition to the IAB role, the School has embarked on a range of activities to forge closer links with industry. This includes visits to the School by CEOs and leaders of several companies to interact with staff and students on current industry developments.

50% growth in academic staff

Another key development is the significant growth in number of academic staff posts in the School by nearly 50% to align with the growth in student enrolment numbers. The increase in the number of academic staff has been particularly significant due to the number of South African academics who were appointed as permanent full-time lecturers. South African academics have increasingly filled academic roles and many of the lecturers are mostly black females, which has helped to transform the academic staff profile and improve the School's equity profile.

This period has also seen a significant growth in the School's research profile and activities, which includes the appointment of a growing number of postdoctoral research fellows (6 in 2024), some of whom are funded from the School's own CEM postdoctoral fellowship scheme initiative. The Quinquennial Review in 2021 showed the School on a growth trajectory, and in a strong position with a positive reputation.

The School today (2024) consists of 25 full-time academic staff members, 50+ sessional lecturers and a vibrant community of about 1400 students who are enrolled across the school's undergraduate, honours and postgraduate programmes. The School's CEM Student Council is a vibrant community of students with a track record of positive accomplishments in recent years. In 2022, the CEM Student Council, led by Shaun Malema Morepiwa, won the Award for the Best Student Council in the University. In 2023, the CEM Council Chairperson, Tyler Anthony, won the award for the Most outstanding leader of a Student Council in the University.

Accreditation with five professional bodies

Between 2021 and 2023, the School successfully renewed its accreditation with various professional bodies namely:

- SACPVP (2021) – BSc Property Studies, PG Diploma Property Development and Management, MSc Building (Property Development and Management), October 2021
- SACQSP (2022) - BSc Construction Studies, BSc Honours Quantity Surveying, August 2022
- CIOB (2022) – BSc Construction Studies, BSc Honours Construction, Management, MSc Building (Project Management in Construction), November 2022
- SACPCMP (2023) – BSc Construction Studies, BSc Honours Construction Management, MSc Building (Project Management in Construction), March 2023
- RICS (2023) – BSc Construction Studies, BSc Honours Quantity Surveying, November 2023

The Property Studies programme received RICS Accreditation for the first time in 2023/2024 and graduates of the programme are now eligible for RICS membership. With accreditation successfully secured for all its programmes, the School is in a strong and healthy overall position and currently aspiring to grow into the future stronger as a leading School.

Shared Vision and Strategy for the Future

Without a Vision, it can be difficult to lead organisations and people. This is particularly important in the academia environment where a collegial culture is preferred. This implies that not only is it important to have a vision, but it is also important for that vision to be co-created with the staff to promote greater ownership of the vision and accountability.

The School's staff went away for two days in February 2023 for a Strategy Workshop which provided an opportunity to reflect on the present state of the School and the future direction and plans. The session was productive and helped to generate the current vision of the School which is to become a collaborative, healthy and self-

sustainable team that works effectively to achieve high research output and impactful education internationally.

Four strategic priority areas

In line with this vision for the next five years, four strategic priority areas were identified as the focus areas that will be pursued to assist the School in achieving the vision:

- Research
- Curriculum review
- Work environment
- Admin processes

This development took place in the context of the wider vision and strategic framework of the university (Wits 2033) and the Faculty of Engineering and the Built Environment (FEBE). The synergies and alignment with these broader frameworks provides the anchors for the School to pursue and achieve its goals.

Royal Institute of Chartered Surveyors (RICS) visit the School

RICS Education and Accreditation Manager, Mike Cox visited SCEM in November 2023 to do a site visit, talk to students and academic staff and make a ruling if the following courses were liable for reaccreditation/accreditation:

- **Project Management Pathway**
  BSc Hons - Construction Management
- **Quantity Surveying and Construction Pathway**
  BSc Hons - Quantity Surveying
- **Valuation Pathway**
  BSc Hons – Property Studies

The BSc Hons programmes are delivered following a three-year undergraduate degree. Students have the option to leave with an UG degree or to stay on programme to take the Hons degree. RICS only accredit the Honours degree award.

Enrolment of 1422 students in 2023

According to the RICS Accreditation Report of 2023, they found that:

> *"The university shows growing numbers of students in both undergraduate and postgraduate programmes in construction and property disciplines with current enrolment of 1422 students. Its programmes are accredited locally and internationally by agencies including SACQSP, SACPVP, SACPCMP, CIOB and IREM."*

When Cox approached a sample of 14 students, many stated that they were not planning to work outside of the country and less interested in becoming members. Some, however, did change their mind, once they heard of the benefits.

Students positive and want more time with lecturers

He wrote that the feedback about the academic staff was positive,

> *"The students were very positive about their experience at the university giving significant praise on the scope of experience and overall quality of their lecturers. They would appreciate the opportunity to benefit from more one to one contact time with the academic staff."*

The class representatives also said they felt heard and appreciate the assistance given by tutors.

RICS lauds 'Highly qualified staff at SCEM'

The RICS report noted that the School had 25 academic staff with recruitment ongoing for additional permanent academic staff. 85% of the school's staff had PhDs and the remaining had at least Masters qualifications. 4 of the staff were MRICS, 2 were FRICS and 1 is AssocRICS, with others being members of other professional bodies and councils like CIOB, IREM, etc. The highly qualified staff at SCEM was commended.

Employers feel SCEM graduates are independent thinkers

After interacting extensively with high level representatives of six major firms who consistently employ the School's graduates, the consensus stated in the RICS report was that SCEM graduates are,

> *"well-prepared for employment with strong independent thinking skills, which is noticeably more than graduates from other universities".*

RICS found the computer labs up-to-date

The RICS noted in their report that the School has invested heavily in new computer laboratories, with the latest software available,

> *"For example, REVIT, COSTX and NAVISWORKS. The lecture theatres are modern and can live stream and/or record lectures".*

He described the library as modern with "*almost all books available online but the ability to receive comprehensive in-person support has been retained".* The students have good areas for collaborative working as well as social spaces. Most of the students stay on campus.

After their visit, the RICS panel recommended to the Qualification and Assessment Committee that the programmes be reaccredited for a further five years for the student intake commencing 2024 until 2029. ('RICS accreditation report: University of the Witwatersrand', 2023)

GROWTH ON THE HORIZON IN THE FUTURE

The School's progress in recent years provides a stable foundation upon, which it can build a superstructure to move the School forward to the next phase of growth beyond the COVID-19 global crisis.

The vision, mission and strategic priorities outlined are designed to enable the School to move forward into its next phase of growth by elevating its position, performance, and impact nationally and internationally. This requires healthy, productive and impactful functioning of the School.

The School's strategic vision and staff must drive sustainable excellence in all aspects of the School's work. To this end, the School has established a Leadership Team to provide the leadership to take the School forward within the framework of our vision and governance structures.

From the birth of Johannesburg as a dusty mining town, through the 30's and 40's as war impacted on our shores, to the 50s and 60's as young quantity surveyors made their mark, into the 80's and 90's as rumbles of political discontent reflected in society, onto the new Democratic South Africa.

From 1994 to 2024, it has been 30 years of rapid growth and the School of Construction and Economic Management has led from in front, adapting and evolving, teaching those who are moulding the country into the leading powerhouse it is today in Africa.

To many more years of making a mark!

HEADS OF SCHOOL

(1929 – 1942) Professor Harry Bell-John, MC FSI LRIBA

MC FSI LRIBA Professor of Quantity Surveying (Pret) Part-time Lecturer in Quantity Surveying, Dept. of Architecture and Quantity Surveying	1929 - 42

Born in Wales in 1874, Harry Bell-John trained as an engineer. He was articled in Cardiff, Wales to a firm of architects and quantity surveyors and qualified as a professional associate of the Surveyors' Institute.

He came to South Africa on the recommendation of Sir Aston Webb to a post as quantity surveyor in the Public Works Department in 1902. Bell-John was on active service during the First World War and was awarded the Military Cross in 1917; he served mainly in East Africa. In 1917, he was recalled to South Africa and appointed District Engineer, Johannesburg. He was elected a Licentiate member of the RIBA in 1925, and promoted to Chief Engineer in the Public Works Department in 1927.

In 1929, he retired from the public service. In the same year, a Department of Architecture and Quantity Surveying was established within the Faculty of Science at the Transvaal University College in Pretoria, in response to a request to the Rector of the College by the Central Council of the Institute of South African Architects and the South African Chapter of Quantity Surveyors.

Bell-John was appointed part-time Professor of Architecture and Quantity Surveying in this Department. The chair of architecture was established at the University of Pretoria only in 1943, the year following Bell-John's death. (*ArteFacts*, no date a)

(1921 – 1947) Professor Geoffrey Eastcott Pearse: Chair of Architecture

ARIBA Hon D Arch (Wits) Professor and Head of Dept. of Architecture	1921 – 47

Professor Pearse was born in South Africa and trained as an architect in Johannesburg and London.

He was elected an Associate of the Royal Institute of British Architects in 1912, and after working with Sir Herbert Baker, started his own practice in Johannesburg. During the war of 1914-1918, he served with the Royal Engineers in Mesopotamia, and resumed practice on his return.

In 1921, he was appointed to the newly established Chair of Architecture at the University of the Witwatersrand.

He served on the Transvaal Provincial Committee for many years, and for many periods, on the Central Council of the Institute of South African Architects. He supported all reforms leading to better and more adequate codes for town planning on a national scale, and worked hard for the recognition of the younger architects by responsible bodies— Government and private.

As an architectural historian, Professor Pearse played a leading part in instilling a full, and even meticulous, regard for the elements of the great historical epochs of architecture in his students.

His best-known work in the historical field is fittingly devoted to a South African subject. In his monumental work on Eighteenth Century Architecture at the Cape, published in 1934, he provided a definitive work on this fascinating branch of our own architectural heritage, and set at the same time a standard of scholarly accuracy, which must always remain a guide to those who would follow with similar works. (*SAAR*, 1942, p. 100)

(1931-1932) Stanley Furner, Acting Head of Dept. of Architecture

ARIBA, Senior lecturer, Dept. of Architecture	1925 - 28
Acting Head of Dept. of Architecture	1931 - 32

Stanley Furner was appointed as full-time senior lecturer in 1925. This was a good choice – due to his talents as a teacher and as a man of wide culture, and coincided with the School's move from the Tin Temple to the Wits campus at Milner Park.

Part of the new Central Block had been completed that year and opened by the Prince of Wales and where the School was accommodated in the Science Block, a building with a Tuscan colonnade across its north facade and situated immediately to the north-east of the Central Block. Furner, who had done so much to raise the School's standards and tone, resigned in 1928 to go into private practice in Johannesburg.

When in 1931, Professor Pearse was awarded a Carnegie Grant, Furner was appointed acting Head of the Department of Architecture for the period of Pearse's absence. (Bryer, 1977, pp. 7, 12)

(1948 – 1967) John Fassler, Professor of Architecture and Head of Dept. of Architecture

B Arch (Wits) ARIBA AMTPI MSITP	
Lecturer, Dept. of Architecture	1933 - 43
Senior Lecturer, Dept. of Architecture	1944 - 47
Professor of Architecture and Head of Dept. of Architecture	1948 - 67

In 1933, John Fassler joined the staff of the School as an assistant lecturer. In 1947, when Professor Pearse retired from the Chair of Architecture, he was succeeded in 1948, as Head of the School of Architecture and Quantity Surveying by his protégé Professor Fassler. (Bryer, 1977, pp. 12, 17)

In 1959, the Faculty of Architecture and the Department of Fine Arts moved to a home on the campus, a new building designed by Professor Fassler in association with WD

Howie, Gilbert Herbert, Morgenstern, Shunn and Ugo Tomaselli, all of whom were members of the staff of the Department of Architecture. This was the first of the buildings to be completed in the University's post-war building programme. Known as the John Moffat Building, it was a tribute to Mr John Abram Moffat, a Johannesburg architect who died in 1941, who bequeathed £100,000 to be paid to the University 15 years after his death, on condition that the money be used for a purpose, such as a building. (Bryer, 1977, p. 19)

In 1960, the Royal Institute of British Architects' Award for Distinction in Town Planning was made to the Head of the School of Architecture, Professor Fassler, for his services to town planning education and training in South Africa.

In 1978, Professor Fassler resigned to devote himself to the design and erection of the new Senate House in his capacity as the University's architect for this major building project. His death in 1971 was a severe blow to the University, only mitigated by the fact that he had already completed his design of the Senate House. (Bryer, 1977, p. 19)

(1966-1974, 1979-1982) Prof Doug Calderwood, Head of Dept. of Building Science

B Arch M Arch D Arch Dipl TP (Wits)	
ARIBA MSAITRP MSAIB FRSA	
Part-time Lecturer, Dept. of Town and Regional Planning	1964 - 66
Professor of Building Science, Dept. of Building Science	1966 - 82
Head of Dept. of Building Science	1966 - 74

Born in 1919 in Johannesburg, Douglas Calderwood was the son of mine manager, DY Calderwood. He studied architecture at Wits and attended Massachusetts Institute of Technology (MIT) on a foreign student’s scholarship.

On his return, he was appointed Chief Research Officer, National Building Research Institute (NBRI) of SA Council of Scientific and Industrial Research (CSIR) and later

promoted to be the Head of the Architectural Division. Calderwood's thesis was published in 1953 with funding from the CSRI, focussed on how to implement the (1948) Nationalist government's post-Second World War township building programme and minimise costs.

In the service of the CSIR, as a state-funded instrument for researching the so-called '*Native Housing problem'*, Calderwood was charged with drawing up national standards for state-funded housing, while minimising cost. These were taken up by government and housing authorities to be reproduced in the thousands across South African for three decades from the 1950s.

Calderwood served as President of the Transvaal Provincial Institute of Architects and at the National Building Research Institute, when he was invited to manage the new Building Science course in 1967. He introduced industrial organisation and management, rooted in his father's mine management techniques. He died in 2009. (*ArteFacts*, no date b)

(1974-1976) Dr TJ Olivier

Acting Head of Dept. of Building Science (1974-1975)

Head of Dept. of Building Science (1976-1983)

B Arch M Arch (Wits) MSAIB MISAA	
Part-time Lecturer, Dept. of Architecture	1967
Lecturer, Dept. of Architecture	1968 - 69
Senior Lecturer, Dept. of Building Science	1970 - 72
J C Bitcon Professor of Building, Dept. of Building Science	1973
Acting Head of Dept. of Building Science	1974 - 75
Head of Dept. of Building Science	1976 - 1983

TJ Olivier and Professors DM Calderwood, according to Bryer (1977, p. 26) are credited as driving forces in the Department of Building, from the very beginning. As

building is essentially a multidisciplinary activity, they gathered and built up a multi-disciplinary staff, its members being graduates in architecture, quantity surveying, physics, civil and structural engineering and business administration. They also encouraged students and staff alike, along with the members of the building industry, to be actively concerned with the development of higher education in the field of building.

Head of the Department, Professor Olivier, implemented '*housemanship*', whereby the education of its students will be supplemented by practical training because "*the nature of building dictates that education, if it is to be meaningful, should have a practical component so that theory may be tested and its limitations understood in a live situation.*" (Bryer, 1977, p. 32)

(1983-2002) Prof Ronnie Schloss, Head of Build Science and Quantity Surveying

BSc QS (Wits) MCQS ARICS RQS MSAIB	
Lecturer, Dept. of Building Science	1971 - 73
Senior Lecturer, Dept. of Building Science	1974 – 82
Head of Building Science and Quantity Surveying	1983- 2002

After graduating with a Bachelor of Science in Quantity Surveying from Wits, Ronnie Schloss was a lecturer at the Department of Building Science in the early 70's.

In 1974 and in 1975, groups of students under the leadership of lecturers in Building Science, HG lrwig and Schloss respectively, visited the United Kingdom and Holland to study and report back on modern methods of building.(Bryer, 1977)

In 1974, he was promoted to senior lecturer. During this time, he began to build a successful career in soccer, later to see him take on the role of Chief Organisational Officer at the Professional Soccer League.

In 1983-2002 Professor Schloss was the Head of Building Science and Quantity Surveying, and introduced a property course and a part-time postgraduate course in construction. (Schloss, 2023)

(2003-2008) Prof Elizabeth Pienaar (Head of CEM)

Elizabeth Pienaar graduated in 1979 from Tuks (University of Pretoria) as a quantity surveyor. After quantity surveying, she did an MBA and then a DBA (a PhD in Business Administration) – Dr. Pienaar's focus was on construction and business. At 28, she was a director at Basil Reed, a listed construction company. She was one of the first female directors.

In the 80's, she was asked to lecture part-time at Wits in the evening and continued her practice. In 2002, she was conferred a professorship and asked to take on the role as Head of School. Professor Pienaar held this role until 2008. (Pienaar, 2024)

(2008-2009) Prof Francois Viruly (Acting Head of CEM)

Property economist François Viruly had over 25 years' experience in the analysis of the South African property market, before he joined Wits as Head of CEM.

Viruly was Chief Economist at the Chamber of Mines. He also worked as Head of Research at JHI Professional Services (valuations, research and legal services) and Acting Head of School of the School of Construction, Economics and Management at Wits University. He lectures in Urban Economics, Property Development and Portfolio Management at the University of Cape Town in the School of Construction Economics and Management.

He is the director of Viruly Consulting Pty Ltd, and a fellow of RICS (Royal Institution of Chartered Surveyors) and sat on the RICS marketing advisory panel for Sub-Saharan Africa. He is immediate past President and Executive Director of the African Real Estate Society and Chairs the UCT Senate Ethics in Research committee. He heads the UCT-Nedbank Urban Real Estate Research Unit. He is also a member of the Institute of Directors Southern Africa.

Prof Viruly has undertaken extensive research into the South African property cycle, the drivers of the South African property market and the relationship between urban economics and property markets in Sub-Saharan Africa. He is a non-executive director of the Accelerate Property Fund. (Western Cape Property Development Forum, 2019)

(2009) Prof Beatrys Lacquet (Acting Head of School for 3 months)

Beatrys Lacquet was appointed in November 2013, as the Wits University Deputy Vice-Chancellor responsible for managing infrastructure, services, maintenance, information technology, security and Wits libraries.

Lacquet served as the dean of the Faculty of Engineering and the Built Environment at Wits for six years. She is the first female to have served as a Dean of Engineering Faculty at a South African university.

In 2003, she was the De Beers Chair of Electronics in the School of Electrical and Information Engineering. (Zidepa, 2015)

(2009-2010) Prof Mitchell Gohnert (Acting Head of School)

Mitchell Gohnert studied at Brigham Young University, Utah, America and qualified with a BSc Civil Engineering in 1985. He then studied for his Master's degree in Engineering Management, which he received in 1987.

Gohnert later qualified for his PhD in Structural Engineering at Wits in 1995. He took on the role as acting head of school, while working as Head of School of the School of Civil and Environmental Engineering. The Professor Structural Engineering has written extensively for academic report, most recently on shell structures in engineering. (Gohnert, 2010)

(2011 – 2020) Prof David Root (Head of School)

Professor David Root is a Professor of Construction Management, who served as Head of School of Construction Economics and Management from 2011-2020. He remains as a Professor in the School, where he teaches, supervises and conducts research.

Until 2011, he was Associate Professor and previously Senior Lecturer in the Department of Construction Economics and Management at the University of Cape Town, which he joined in 2003. He originally trained as a Building Surveyor working in both private practice and a variety of public and private sector client organisations in the UK before entering academia.

Root holds an Honours degree in Building Surveying from the University of Salford, and an MSc and PhD degrees in Construction Management from the University of Bath. He undertook postdoctoral research at the University of Loughborough's Department of Civil and Building Engineering in the area of design management and supply chain management working with companies, such as AMEC and their supply chain partners. He is a Chartered Builder and a Chartered Surveyor and is registered with the SACPCMP as a Construction Project Manager in South Africa. (Root, 2023)

(2021 until now) Prof Samuel Laryea (Head of School)

Professor Samuel Laryea is a full Professor and Head of the School of Construction Economics and Management. He has been part of the School since 2012.

He holds a PhD in Construction Management, and a Postgraduate Certificate in Academic Practice, both from the University of Reading, in the United Kingdom. He was appointed Head of School in 2021. From 2017 to 2021, he was the Postgraduate Coordinator for the MSc (Building) Project Management in Construction Programme. He was Postgraduate Coordinator for Research Degrees (PhD and Masters by Research) from 2013 to 2017.

Professor Laryea joined Wits University as a Senior Lecturer in 2012, from the University of Reading, where he was a Lecturer in Construction Procurement. He began his teaching career at Reading as an Academic Fellow in Construction Management. He was promoted to Associate Professor at the School of Construction Economics and Management at Wits in 2013, and promoted again to full Professor in 2021, through the ad hominem promotion process.

By his promotion to full Professor, and his appointment as Head of School, he became the first Black African to become a full Professor in the School's history, and also the first Black African Head of the School.

He is a co-founder and Chair of the West Africa Built Environment Research (WABER) Conference, Rated Researcher by the National Research Foundation (NRF), Fellow of the Higher Education Academy, Chartered Builder, Chartered Surveyor, and registered Construction Project Manager with the South African Council for Project and Construction Management Professions (SACPCMP). (Laryea, 2023)

LECTURER LIST

Below is an alphabetical list of all those who have served as teachers in the School and in the Faculty, since the establishment of the then School of Architecture and Quantity Surveying and the now School of Construction and Economic Management. We would like to express our sincere thanks to these academics for all taking their time to teach and mould the graduates who serve our country today - thank you!

Name	Qualification and Role	Years
Adewunmi YA	BSc (Est Man) MSc (Est Man) Obafemi Awolowo. PhD Lagos Associate Professor	2014 -
Akinsomi, O	Dip (Arch. Techn) Federal Polytechnic BSc Hons (Real Est. Man.) Oxford Brookes Cert. Mktng CIOM MSc (Real Est.) PhD (Real Est) NUS PMI Associate Professor	2014 -
Allan J T	BSc Eng. (Glasg) MSc Eng. (Wits) A MIEE Honorary Lecturer in Electrical Illumination, Dept. of Architecture	1940 – 41
Anderson P R	BSc (Wits) AMICE MSAITRP MTPI Part-time lecturer, Dept. of Town and Regional Planning	1964 – 73
Armstrong F W	ARCA, Professor of Fine Arts Part-time Lecturer, Dept. of Architecture	1930 – 32
Azasu S	BSc Hons (Econ. with Stats) Ghana MSc (Env. Eng. & Sust. Infra.) MSc (Real Estate & Con. Man.) PhD (Real Estate Management) Royal Institute of Technology KTH Associate Professor	2012 – 22
Babatunde O	BSc Hons & MSc (Architecture) OAU, Nigeria; MSc & PhD (Project Management) NUS; PGDip Ed. (Higher Education) with Distinction WITS; CPM	2013 – 2022

	(SPM Singapore), CIPM & FAAPM (AAPM, USA) Senior Lecturer	
Beinart J	B Arch (CT) M Arch (MIT) MCP (Yale) ARIBA Senior Lecturer, Dept. of Architecture	1959 – 64
Bell G F	BA (Wits) TTHED Part-time Lecturer, Dept. of Architecture	1972 – 75
Bell-John H	MC FSI LRIBA Professor of Quantity Surveying (Pret) Part-time Lecturer in Quantity Surveying, Dept. of Architecture and Quantity Surveying	1929 – 42
Benedikt M L	BArch (Wits) Part-time Lecturer, Dept. of Architecture	1972 – 74
Bihl J F	BSc QS (Wit,) ARICS MAQS Part-time Lecturer, Depts. of Architecture and Quantity Surveying	1967 – 72
Birkhead E G	BSc QS (Wits) MAQS Part-time Lecturer, Dept. of. Quantity Surveying	1973 -
Booden B G	BSc QS (Wits) MBA Land Econ (Br Col) RQS ARICS MAQS Part-time Lecturer, Dept. of Quantity Surveying Senior Lecturer, Dept. of Quantity Surveying	1972 - 74 1975 -
Boden R T	BArch Dipl TP (Wits) MISAA Part-time Lecturer, Dept. of Town and Regional Planning Lecturer, Dept. of Town and Regional Planning	1974 1975 -
Brink A B A	BSc (Pret) Honorary Lecturer, Dept. of Town and Regional Planning	1967 – 70
Britsius O	BA Hons (Wits) FCIS FR Econ S Part-time Lecturer, Dept. of Town and Regional Planning	1960 – 62
Britz BJ	BArch (Pret) Part-time Lecturer, Dept. of Architecture	1974-75
Bruce RA	Dipl Arch (Wits) MISAA Part-time Lecturer, Dept. of Architecture	1929-30
Buffler SJ	BArch (Wits) MISAA Part-time Lecturer, Dept. of Architecture	1976 -
Bullard RK	ARICS MRIS FRGS Part-time Lecturer, Dept. of Quantity Surveying	1970
Burde CD	BArch (Wits) M Arch MCP (Penn) ARIBA AA Cert P & UD (Lond) MSAITRP AIP(Associate) Senior Lecturer, Dept. of Town and Regional Planning	1975 -

Calderwood DM	BArch M Arch D Arch Dipl TP (Wits) ARIBA MSAITRP MSAIB FRSA Part-time Lecturer, Dept. of Town and Regional Planning Professor of Building Science, Dept. of Building Science Head of Dept. of Building Science	 1964 - 66 1966 - 1966 – 74
Canes RM	BArch (Wits) Part-time Lecturer, Dept. of Architecture	 1974 – 75
Castleton JWS	FSI MCQS Senior Lecturer, Dept. of Architecture and Quantity Surveying	 1946 – 58
Clarke AD	BSc Hons, (Lond) AMICE AMI Mech E Honorary Lecturer in Theory of Structures and Sanitation and Hygiene, Dept. of Architecture and Quantity Surveying	 1932 – 44
Cochran JM	BSc QS (Wits) ARICS RQS MAQS Part-time Lecturer, Dept. of Architecture and Quantity Surveying Lecturer, Dept. of Architecture and Quantity Surveying	 1968 1969 -
Cockhead PJ	BS Econ (Lond) Lecturer, Dept. of Town and Regional Planning	 1970 – 1971
Cohen LJ	BSc Eng. (Wits) MSAIB Honorary Professor of Building	 1976 -
Cohen M	BSc Hons Honorary Lecturer, Dept. of Town and Regional Planning	 1967 – 70
Cooke CJ	BArch Dipl TP (Wits) Lecturer, Dept. of Architecture	 1974 – 75
Coulson MH	BA BCom Part-time Lecturer, Dept. of Town and Regional Planning	 1967 – 70
Cowen JP	BArch (Wits) ARIBA MISAA Part-time Lecturer, Dept. of Architecture	 1961
Czitanich M	BSc Eng. MBA (Wits) Part-time Lecturer, Dept. of Building Science	 1973 – 74
Dalgleis Judith	BSc Part-time Lecturer, Dept. of Town and Regional Planning	 1967 – 69
Davey AJ	BSc Bldg. (Wits) Part-time Lecturer, Dept. of Building Science	 1974 – 76
Davis PT	BSc (S Illinois) MSc (Illinois) Part-time Lecturer, Dept. of Town and Regional Planning	 1967 – 70
de Gruchy GF	Dipl Arch (Wits) Lecturer, Department of Architecture	 1958 – 60
De Swardt WPD	BSc LS Dipl TP Part-time Lecturer, Dept. of Town and Regional Planning	 1969 – 72
De Vries Robbé C	BSc Eng. Dipl Arch (Wits) ARIBA MISAA	

	Part-time Lecturer, Dept. of Architecture	1969 – 70
Dlamini S	ND (Arch. Tech.) Technikon Northern Transvaal PGD (Int. Con. Man.) MSc (Int. Con. Man.) Bath, PhD (Con. Man.) Reading Senior Lecturer	2016 -
Doherty AC	BArch (Wits) MISAA Part-time Lecturer, Dept. of Architecture	1972 – 74
Draper BG	BSc Hons (Natal) AIA Lecturer, Dept. of Quantity Surveying	1974 – 75
du Plessis LP	BA Fine Arts (Wits) Part-time Lecturer, Dept. of Architecture	1973 – 75
Ehlers Diana M	BA (Wits) MURP (CT) MSAITRP Lecturer, Dept. of Town and Regional Planning	1974 -
Faccio RL	BSc TRP (Wits) MRTPI MITRP Lecturer, Dept. of Town and Regional Planning	1973 – 74
Fair TJD	MA (SA) Ph D (Natal) FSAGS Professor, Dept. of Geography and Environmental Studies Director of Urban and Regional Research Unit Honorary Lecturer, Dept. of Town and Regional Planning	1960 - 66 1975 -
Farrer RG	BSc Hons MSc (Natal) PhD (Wits) MSAIP AM Illum ES FILESA Lecturer, Dept. of Building Science	1972 -
Fassler J	BArch (Wits) ARIBA AMTPI MSITP Lecturer, Dept. of Architecture Senior Lecturer, Dept. of Architecture Professor of Architecture and Head of Dept. of Architecture	1933 - 43 1944 - 47 1948 – 67
Frieslich JG	BSc Eng. (Wits) Honorary Lecturer in Surveying, Dept. of Architecture and Quantity Surveying	1944 – 47
Furner AS	ARIBA, Senior lecturer, Dept. of Architecture Acting Head of Dept. of Architecture	1925 - 28 1931 – 32
Gardiner KEF	ARIBA Part-time Lecturer, Dept. of Architecture	1930 – 32
Golden JM	MASHRAE A (SA) I MECH E Part-time Lecturer, Dept. of Architecture	1970 – 74
Goldsmith A	BA (CGH) BSc Eng. (Wits) Honorary Lecturer in Electrical Illumination, Dept. of Architecture	1941 – 45
Guedes A d' A M	BArch (Wits) MISAA Professor of Architecture and Head of Dept. of Architecture	1975 -
Hales S	Dipl QS (Wits) MAQS Part-time Lecturer, Dept. of Architecture and Quantity Surveying	1969 -
Heher J	BA LI B (Natal)	1970 – 73

	Part-time Lecturer, Dept. of Town and Regional Planning	
Henderson RD	BArch (Wits) ARIBA Part-time Lecturer, Dept. of Architecture	 1973 – 74
Hendrikz W de S	Lecturer in Fine Arts, Dept. of Architecture	1936 – 45
Herbert G	BArch M Arch Dipl TP (Wits) D Litt et Phil (Pret) FRIBA FRAIA MRAPI Lecturer, Dept. of Architecture	 1947 – 1960
Hoole HJ	BSc QS (Wits) RQS MAQS Lecturer, Dept. of Quantity Surveying	 1971 -
Howie WD	BArch Dipl TP (Wits) ARIBA Lecturer, Dept. of Architecture Senior Lecturer, Dept. of Architecture Professor of Architecture and Head of Dept. of Architecture	 1936 - 48 1949 - 68 1969 – 73
Ijasan K	BSc Hons (Est. Man) FUTA MSc (Real Est and Dev) Greenwich PhD Salford Associate Professor	2014 -
Irwig HG	BArch (Wits) Lecturer, Dept. of Building Science	 1970 -
Israelite C	BSc Bldg. (Wits) MSAIB Junior Lecturer, Dept. of Building Science Part-time Lecturer, Dept. of Building Science	 1973 - 74 1975 -
Jackson RI	BSc Eng. MSc (Wits) AMIWPC AMSAICE Part-time Lecturer, Dept. of Town and Regional Planning	 1967 – 73
Jackson SP	MA DIC PhD (Lond) Hon LI D (Wits) Honorary Lecturer, Dept. of Town and Regional Planning	 1960 – 67
Jay G	BCom Witwatersrand BCom (Hons) UNISA LLB UNISA PGDip (Prop. Dev & Management) MSc (Building) Witwatersrand Lecturer (60% appointment)	1995 -
Jennings JEB	BSc Eng. (Wits) SM Civil Eng. (MIT) MICE MASCE MSAICE Honorary Lecturer, Dept. of Town and Regional Planning	 1967 – 70
John GW	Dipl QS (Wits) MAQS Senior Lecturer, Dept. of Architecture and Quantity Surveying Associate Professor and Head of Dept. of Quantity Surveying Associate Professor, Dept. of Quantity Surveying	 1967 - 69 1970 - 73 1974
Jordan R J P	BA LI B (Dublin) Part-time Lecturer, Dept. of Town and Regional Planning Honorary Lecturer, Dept. of Town and Regional Planning	 1960 - 63 1964 – 70
Kabolin J	B Arch Dipl TP (Wits) MSAITRP DM Cost MCRP (CT) Part-time Lecturer, Dept. of Town and Regional Planning	1975 -

Khatleli N	BSc (Hons) (Quantity Surveying) Salford, MSc (Property Studies) PhD (Con Man) UCT Associate Professor	2014 -
Laryea S	BSc (Hons) PGCAP (Reading) PhD (Con. Man) Reading MRICS MCIOB MASAQS MSCLA Pr.CPM FHEA Professor and Head of School	2012 -
Lauf GB	BSc Eng. DSc Eng. (Wits) FRICA L (SA) Honorary Lecturer in Surveying, Dept. of Architecture and Quantity Surveying	1942 – 43
Lazenby M	BArch (Wits) MISAA Junior Lecturer, Dept. of Architecture	1974 -
Lea JP	MA (Cantab) Dipl TP (Poly) PhD (Wits) MRTPI MSAITRP Lecturer, Dept. of Town and Regional Planning Senior Lecturer, Dept. of Town and Regional Planning	1969 1970 – 76
Lennard MD	B Arch (Wits) ARIBA MSIAA Lecturer, Dept. of Architecture Part-time Lecturer, Dept. of Architecture	1961 - 65 1970
Leonard Joyce	ARCA (Lond) Lecturer in Fine Arts, Dept. of Architecture	1941 – 44
Liber CMA	Dipl Arch ARIBA Part-time Lecturer, Dept. of Architecture	1972 – 73
Lloyd DAB	Cert QS (Natal) ARICS MIQRS Part-time Lecturer, Dept. of Quantity Surveying	1970 – 72
Lloyd JT	ARIBA Senior Lecturer, Dept. of Architecture	1929 – 31
Lofts NR	BSc Elec Eng. (Alta) MSc (Lond) DIC Lecturer, Dept. of Quantity Surveying	1972 – 73
Long Marjorie K	BA Fine Arts (SA) Lecturer in Fine Arts, Dept. of Architecture Honorary Lecturer in Fine Arts, Dept. of Architecture	1947 - 50 1951 – 63
Mallows E W N	MA (Cantab) AA Dipl SP Dipl (Lond) MSAITRP MTPI FRIBA Senior Lecturer, Dept. of Architecture Professor and Head of Dept. of Town and Regional Planning Part-time Lecturer, Dept. of Town and Regional Planning	1957 - 64 1965 - 69 1970 – 72
Marcus M	AMICE Honorary Lecturer in Theory of Structures, Dept. of Architecture	1949 – 50
Margoles S	Dipl Arch (Wits) MISAA Part-time Lecturer, Dept. of Architecture	1959 – 60
Marsh HM	BSc Surveying (CT) L (SA) AMTPI Part-time Lecturer, Dept. of Town and Regional Planning	1960 - 62 1964 – 70
Martienssen HM	BArch BA Hons MArch (Wits) PhD (Lond) Professor of Fine Arts	1941 - 43

	Temporary Junior Lecturer, Dept. of Architecture Honorary Lecturer, Dept. of Architecture	1944 – 67
Martienssen RD	BArch M Arch DLit (Wits) Lecturer, Dept. of Architecture	1931 – 42
Maseko L	BSc (QS) Witwatersrand MSc (Proj Man) Greenwich PrQS Lecturer	2016 -
Mason W	BA Hons (Strath) MSc (Edin) C Eng. Lecturer, Dept. of Town & Regional Planning	1976 -
Matshidze L	BSc (QS) NMMU MSc (Con Man) Northumbria PrQS Lecturer (60% appointment)	2016 -
McCormick H C	BA Fine Arts (Wits) Part-time Lecturer in Fine Arts, Dept. of Architecture	1973 – 74
McKechnie W A	Dipl QS FSI Part-time Lecturer, Dept. of Architecture and Quantity Surveying	1939 – 46
Meyer OH	Dipl Ing (Berlin) Part-time Lecturer, Dept. of Town and Regional Planning	1961 - 64
Midgley DC	BSc Eng. PhD (Natal) MICE MASCE MSAICE Professor of Engineering Honorary Lecturer, Dept. of Town and Regional Planning	1967 – 70
Milford RB	BScQS (Wits) MAQS Part-time Lecturer, Dept. of Architecture and Quantity Surveying	1948 – 65
Moir A	Pr ng Ml Mech E MSAI Mech E MIHVE Part-time Lecturer, Dept. of Building Science	1974 – 75
Mompati L	BSc (Con Man), MSc (PD & M) Wits Lecturer	2017 -
Morgenstern J	BArch Dipl TP (Wits) ARIBA AMTPI MSAITRP Lecturer, Dept. of Architecture	1950 – 56
Mpofu B	BSc (Hons) (Rural and Urban Planning) Zimbabwe MSc (International Finance) Westminster PhD (Man Studies) St Andrews Senior Lecturer	2015 – 2022
Muller JG	BArch Dipl TP (Wits) MA (Princeton) ARIBA Lecturer, Dept. of Town & Regional Planning Senior Lecturer, Dept. of Town and Regional Planning	1967 - 69 1970 – 72
Natas D	BArch (Wits) Part-time Lecturer, Dept. of Architecture	1970 – 71
Naude SV	BArch (CT) ARIBA Lecturer, Dept. of Architecture	1967 – 70

Moloi N	ND (Real Estate) CPUT, BEd. (Econ and Man Sci) Wits PGD (PD & M), MSc (PD & M) Wits Lecturer	2017 -
Ndlovu P	ND (Building) Johannesburg BTech (QS) TUT BSc Hons (Technology Management) Pretoria MSc (Building) Witwatersrand Lecturer	2017 -
Nelson JP	Part-time Lecturer, Dept. of Architecture	1927
Norton MCE	BArch MSc (Penn) ARIBA AMTPI Part-time Lecturer, Dept. of Town and Regional Planning	1969 – 71
Oakenfull LJ	BSc Part-time Lecturer, Dept. of Town and Regional Planning	1970 – 71
O'Brien TM	RTC Part-time Lecturer, Depts. of Building Science and Quantity Surveying	1969 – 74
Olivier TJ	BArch M Arch (Wits) MSAIB MISAA Part-time Lecturer, Dept. of Architecture Lecturer, Dept. of Architecture Senior Lecturer, Dept. of Building Science JC Bitcon Professor of Building, Dept. of Building Science Acting Head of Dept. of Building Science Head of Dept. of Building Science	 1967 1968 - 69 1970 - 72 1973 1974 - 75 1976 -
Ozumba AOU	BSc (Hons) (Architecture) Nigeria MSc (Architecture) Nigeria PG Cert in (Practical Project Mgt) PhD (Con.Man.) NMMU Cert (Bldg. Performance Analysis) BPAC AutoDesk, ICIOB, Pr.CM., Sfp Associate Professor	2009 - 2022
Parsons RWK	BCom BA Hons (CT) Part-time Lecturer, Dept. of Town and Regional Planning	1962 – 67
Patricios N	BArch (Wits) Dipl T and CP (Manc) PhD (Lond) FRTPI MSAITRP Lecturer, Dept. of Town and Regional Planning Senior Lecturer, Dept. of Town and Regional Planning Professor and Head of Dept. of Town and Regional Planning	 1970 1971 - 73 1974 -
Patterson R	MIA Part-time Lecturer, Dept. of Architecture	1973 – 74
Pearse GE	ARIBA Hon D Arch (Wits) Professor and Head of Dept. of Architecture	1921 – 47
Pelunsky A	BSc Eng. (Wits) PrEng. MSAIEE Part-time Lecturer, Dept. of Building Science	1974 – 75
Piazza PJ	Spec Qual Exam (Wits) Lecturer, Dept. of Architecture	1969 – 75
Pike ARM	BA Ll B (CT)	1976 -

	Part-time Lecturer, Dept. of Town and Regional Planning	
Pilcher D	MArch (Wits) ARIBA Temporary Lecturer, Dept. of Architecture	 1947 – 49
Pincus EM	Dipl Arch (Wits) MISAA Lecturer, Dept. of Architecture	 1961 -
Pinfold HC	Cert Arch (CT) MIA Temporary Lecturer, Dept. of Architecture Lecturer, Dept. of Architecture	 1948 - 54 1955 – 58
Prentice JRTC	BSc QS (Pret) RQS MAQS ARICS MRSH AI Arb Part-time Lecturer, Dept. of Architecture	 1973 – 75
Price-Hughes G	BArch (Pret) ARIBA Part-time Lecturer, Dept. of Architecture	 1967 – 70
Prins HMJ	BArch (Wits) ARIBA MISAA Part-time Lecturer, Dept. of Architecture Senior Lecturer, Dept. of Architecture	 1967 1969 1970 -
Quail GP	Dipl QS (Wits) FRICS FI Arb RQS MAQS Part-time Lecturer, Dept. of Architecture Part-time Lecturer, Dept. of Quantity Surveying Honorary Professor of Quantity Surveying	 1973 - 74 1975 - 76 1977 -
Rathouse SA	B Arch (Wits) ARIBA Part-time Lecturer, Dept. of Architecture	 1970 – 71
Ramantswana T	BSc MSc (Town and Regional Planning) Witwatersrand, PhD (Real Estate) Witwatersrand Senior Lecturer	2014 -
Rowiel RF	MSc Eng Dipl Ing (Berlin) Part-time Lecturer, Dept. of Quantity Surveying	 1970 – 71
Rich BRP	BArch (Wits) MISAA Part-time Lecturer, Dept. of Architecture Lecturer, Dept. of Architecture	 1975 1976 -
Rippon RV	Dipl Arch (CT) ARIBA Part-time Lecturer, Dept. of Architecture	 1967 - 70 1972 1974 1976
Robertson SC	BSc Eng. (Wits) MSAICE Part-time Lecturer, Dept. of Town and Regional Planning	 1960 – 70
Roome KPS	BA LI B Dipl PA Part-time Lecturer, Dept. of Town and Regional Planning	 1967 – 68
Root DS	BSc (Hons) (Building Surveying) Salford MSc (Con.Man.) PhD (Con. Man) Bath MRICS FCIOB Pr.CPM Faculty Member	2011 -
Rosmarin JR	BSc TRP (Wits) MITRP Part-time Lecturer, Dept. of Town and Regional Planning	 1974 -

Rudzinske P	BSc (Building) Witwatersrand MSc (Eng.) Witwatersrand	1995 -
Saghatforoush E	BSc (Civil Eng.) Tehran MSc (Con Proj Man) University Putra Malaysia PhD (Con Proj Man) QUT Associate Professor	2016 -
Saitowitz S	Junior Lecturer, Dept. of Architecture	1974 – 75
Sandrock K	BSc (SA) BSc Hons (RAU) Part-time Lecturer, Dept. of Town and Regional Planning	 1976 -
Schirmacher H J	Spec Qual Exam (Wits) BArch (Pratt Inst NY) Part-time Lecturer, Dept. of Architecture	 1971 – 72
Schlopobersky I	BArch (Wits) M Arch MCP (Penn) ARIBA MSAITRP Part-time Lecturer, Dept. of Architecture Honorary Professor, Dept. of Architecture	 1968 1969 – 75
Schloss RI	BSc QS (Wits) MCQS ARICS RQS MSAIB Lecturer, Dept. of Building Science Senior Lecturer, Dept. of Building Science Associate Professor and Head of School	 1971 - 73 1974 –1981 1982 – 2002
Scholes MK	BArch (Wits) Lecturer, Dept. of Architecture	 1971 – 72
Schroen D	BSc Mech Eng. (Natal) MBA (CT) Part-time Lecturer, Dept. of Building Science	 1974 -
Schwartz HI	BSc Eng. PhD DIC AMICE AMSAICE Part-time Lecturer, Dept. of Town and Regional Planning	 1968
Sebehela T	BCom and MSc (Building) WITS MSc (Finance) Frankfurt PhD (Finance) Reading PgDipE Wits Senior Lecturer	2015 – present
Seagull J	BSc Eng. MBA (Wits) Lecturer, Dept. of Building Science	 1976 -
Seid C	BSc Bldg. (Wits) Part-time Lecturer, Dept. of Building Science	 1974 – 75
Shunn J	BArch Dipl TP (Wits) RIBA MISAA Lecturer, Dept. of Architecture Senior Lecturer, Dept. of Architecture Associate Professor, Dept. of Architecture	 1946 - 65 1966 - 70 1971 -
Silberman L	BSc Econ (Lond) FRSS Nat Eng. Dipl Honorary Lecturer in Architectural Sociology, Dept. of Architecture	 1943 – 46
Simbanegavi P	BSc (Hons) (Economics) Zimbabwe BCom (Hons) (Financial Analysis & Portfolio Management) Cape Town MSc (Real Estate Management) KTH Senior Lecturer	2014 – present
Sinclair CM	BArch (Wits) ARIBA MIA Part-time Lecturer in Professional Practice, Dept. of Architecture	 1967 – 73
Skudder RTC	BSc QS (Wits) ARICS	

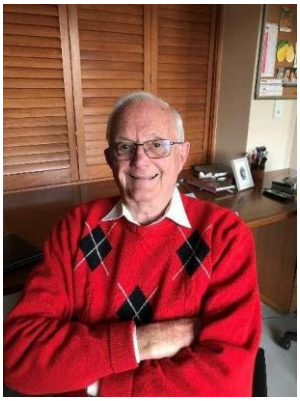
	Part-time Lecturer, Dept. of Architecture and Quantity Surveying	1968 – 70
Smit NP	BSc Eng. (CT) AMIEE AM (SA) Part-time Lecturer, Dept. of Architecture	1952 – 70
Snell JH	BSc Eng. (Wits) AMICE AMI Munic Eng. Part-time Lecturer, Dept. of Town and Regional Planning	1960 – 72
Spence E ('Betty') M	BArch (Wits) Lecturer, Dept. of Architecture	1945 – 58
Spies SW	BArch (Wits) Part-time Lecturer, Dept. of Architecture	1974 -
Spooner TW	A Dipl (Lond) ARIBA Lecturer, Dept. of Architecture	1971 -
Squire R	MA (Cantab) Part-time Lecturer, Dept. of Town and Regional Planning	1967 – 72
Stewart AG	BArch (Wits) ARIBA MIA Temporary Lecturer, Dept. Of Architecture	1946 – 48
Strickland-Cholmley G J	Dipl QS (Wits) MAQS Part-time Lecturer, Dept. of Quantity Surveying	1974 -
Suchard HT	BA (Wits) BA Hons (SA) Part-time Lecturer, Dept. of Town and Regional Planning	1976 -
Summerley HG	BArch Dipl TP (Wits) ARIBA MISAA AMPTI MSAITRP Part-time Lecturer, Depts. of Architecture and Building Science	1974 – 75
Swardt WRP	BSc LS Dipl TP MITRP Part-time Lecturer, Dept. of Town and Regional Planning	1971 – 72
Taylor RB	BSc Eng. (Natal) Dipl TP (Wits) Pr Eng. MSAITRP MRTPI Part-time Lecturer, Dept. of Town and Regional Planning	1975 -
Terblanche R	BSc (QS) BSc (Hons) (QS) MSc (QS) UFS PhD (Wits) PrQS Lecturer	2017 – 2023
Tindale DF	BArch (CT) MISAA Lecturer, Dept. of Architecture	1971 -
Tomaselli U	BArch (Wits) ARIBA MISAA Temporary Lecturer, Dept. of Architecture Lecturer, Dept. of Architecture	1946 - 49 1950 -
Unterhalter Beryl	BASoc Work MA PhD (Wits) Dipl Comm Org RSW Honorary Lecturer, Dept. of Town and Regional Planning	1960 – 67
van Eyssen W	BSc QS (Pret) ARICS MAQS Part-time Lecturer, Dept. of Architecture and Quantity Surveying	1964 – 69
van Heerden W	Dipl Arch (CT) MSAIPE Part-time Lecturer, Dept. of Building Science	1972 - 73 1974 -

	Honorary Lecturer, Dept. of Building Science	
Veale HT	Dipl in Law (cum laude) Part-time Lecturer, Dept. of Town and Regional Planning	 1968 – 69
Venn OC	FRICS MAQS Part-time Lecturer, Dept. of Architecture and Quantity Surveying	 1958 – 66
Verster Joan	BA Dipl TP (Wits) Lecturer, Dept. of Town and Regional Planning	 1971 -
Viljoen CJ	Dipl TP AMTPI Part-time Lecturer, Dept. of Town and Regional Planning	 1969 – 70
Vloothuis B	Cert Arch (Wits) Part-time Lecturer, Dept. of Architecture	 1970 – 73
von Broembsen ML	BArch MSc Arch (Illinois Inst Tech) Lecturer, Dept. of Architecture Part-time Lecturer, Dept. of Building Science	 1967 1971 – 73
Walker C	BSc QS (Wits) Dipl QS (Pret) FRICS MAQS RQS Part-time Lecturer, Dept. of Architecture and Quantity Surveying Honorary Professor, Dept. of Quantity Surveying Professor and Head of Dept. of Quantity Surveying	 1958 - 65 1970 - 73 1974 -
Walker D	Dipl QS (Wits) ARICA MAQS RQS Part-time Lecturer, Dept. of Quantity Surveying	 1973 – 75
Wallace WC	BSc Eng (Wits) AM (SA) IEE Part-time Lecturer, Dept. of Architecture	 1970 – 72
Warren RHW	BSc TRP MSAITRP Part-time Lecturer, Dept. of Town and Regional Planning	 1975 – 76
Watt IB	BSc Eng. L(SA) BSc Phot Eng. (ITC) Honorary Lecturer, Dept. of Town and Regional Planning	 1967 – 70
Webb M	BCom MBA (CT) Part-time Lecturer, Dept. of Building Science	 1971 – 73
Williams HS	BSc Eng. MSc (ITC) FRICS (SA) Honorary Lecturer, Dept. of Town and Regional Planning Senior Lecturer, Dept. of Town and Regional Planning	 1967 - 69 1970 – 71
Woolley JC	BArch (Natal) MArch (Wits) MISAA Lecturer, Dept. of Building Science Senior Lecturer, Dept. of Building Science	 1971 - 73 1974 -
Wozniak K	Dipl Cart Eng. (Berlin) Part-time Lecturer, Dept. of Town and Regional Planning	 1974 – 75
Zungu Z	BSc (QSS) BSc Honours (QS), MSc (PMC) Wits	2018 -

	Lecturer	
Zwane S	BSc (Physiology & Biochem), BSc (CS), BSc Hons (QS), MSc (PD & M) Wits Lecturer	2018 -

Source: Wits Archives and current staff records. (Bryer, 1977, pp. 39–51)

IN THEIR OWN WORDS



(1959) Friedrich (Fred) Bihl

"I was employed by Borckenhagen and Louw as a student during my part-time years of study, and for a further two years as a professional assistant after qualifying.

The Sharpeville massacre occurred in 1960, and the building industry, in particular, suffered a major downturn. In 1961, I was offered and accepted a QS position in Aden, a British Protectorate in the Middle East, by a multi-disciplinary practice (Architects, Engineers and Quantity Surveyors) who had been appointed by the British Air Ministry to design military bases in Aden, Bahrain and Sharjah. 40 000 troops were stationed in Aden alone!

The appointment was for a period of two years and commenced at the beginning of 1962. This was cut short by six months as Britain, under pressure from the Yemen, decided to grant Aden its independence and return it to the Yemenis, closing its military bases in Aden as well as in Bahrain and Sharjah.

In any event, Britain had decided, a short time before independence, to purchase Polaris Missiles from the USA - fired from submarines, so the air force in Aden closed down, rendering the magnificent Vulcan bombers, Valiants, Victors and Hawker Hunter fighter planes obsolete in the Middle East.

My wife and I returned to South Africa in July 1963, and I rejoined Borckenhagen and Louw as a professional assistant for two years, and then entered into private practice from 1965 to 1987 finally becoming joint senior partner in 1971 in the practice of Southby, Bihl, Detert and Slade (SBDS).

During my time in practice, I specialised in complex structures, commercial and corporate projects, amongst which were the Hillbrow and Pretoria microwave towers, new milling complexes for Tiger Oats throughout the country, including the head office for Premier Milling in Killarney, 11 Diagonal Street, and the new JCI head office in Johannesburg.

SBDS handled the QS services for clients - such as Anglo American Property Services, (Ampros), The Schlesinger Organisation (Townsview Estates), Anglo Alpha Limited, Buchner Holdings, the Dept. of Community Development and the Union Lime Company Limited. SBDS expanded to five branch offices with their head office in Johannesburg.

In 1987, I was invited to join Anglo American Property Services (Ampros) as an executive director on the Ampros Board with specific responsibility for the Design and Development division, which was responsible for the development and project management of commercial and corporate buildings for Amaprop, and other group companies. I was also appointed Deputy Managing Director to Gerald Leissner the MD of Ampros in 1993.

I retired from Ampros in 2002, when I turned 65 years of age. After retirement, I started a small consulting practice - Fred Bihl Property Services - finally retiring in 2017, aged 80. I consulted to ApexHi Properties, Redefine and Broll on property management issues specialising in building valuations and the insurance thereof.

I also assisted in opening a property management office in Ghana for Broll, and lectured part-time for Pretoria University in property management subjects under the auspices of The Broll Academy.

The biggest change in the world of construction in my lifetime is the impact of continuing advances in technology, in particular the development and use of PCs and computers in general.

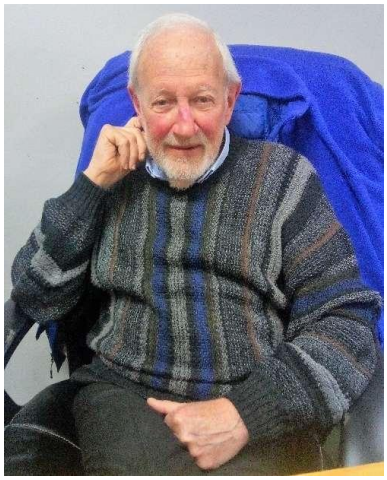
Insofar as the future of the construction industry is concerned, I believe that Al will develop into a major source of inputs in design, property economics and management, and in construction.

Based on my own experience (I am now 86 years old with 62 years of active involvement in the property industry), I would recommend a career in Quantity Surveying, as it offers opportunities in becoming a registered practising professional (PrQS), or becoming part of a construction company as a QS, specialising in tendering (contract conditions, pricing, preparation and negotiation of contract claims, contract administration and preparation of progress payment claims).

One can specialise in construction management, and Project Management, Property Development, Property Management. A career could result in one specialising in consulting work such as property valuations (replacement cost, for building insurance purposes and market valuations), and in arbitrations/mediations in the settlement of contractual claims, and joining the academic world and lecturing at Technikons or Universities".

(1968) Professor Ronnie Schloss

(Phone rings, during an interview at the Professional Soccer League (PSL) where Professor Schloss is the Chief Operations Officer) *Hello? Hello, Prof? Is this for Bloemfontein? It's Mandla! It's the FIFA Checklist, I'll send this afternoon. Thank you so much, Prof!*



How does a typical day in Schloss's life begin?

I get up normally at 6, I have three dogs, I used to jog when I was younger. Then I come into the office, but it depends – quite often I go to the airport or catch the Gautrain to the airport.

Has the architecture of Johannesburg changed a lot in your lifetime?

Massively! It's a big city and has about five or six million people. The North has developed the most. Midrand is part of Joburg, so it's stretched from the railway line, which divides the city. The South went backwards in a lot of

ways, except the far South. The sad thing, in my opinion, is to see how parts of the city have deteriorated - it's a great shame.

Do you believe we can rejuvenate the old buildings, or do you think they should be razed to the ground so we build new ones?

No, I think it is a waste of money, unless the building is in a really poor condition. I think we could keep what we got, you also need to look at your heritage – there's some lovely buildings in Joburg and they've each got a story to tell. My favourite is the Post Office in town.

(Phone rings)

(Hello? *Hi Prof? It's Andre from Athlone Stadium, we just want to have a chat? I hear you are enquiring about a letter from us for a permit…* (Schloss) From a safety point of view, there's a number of items that are very limited. If the council doesn't want games, they must say so... Two stadiums being used as stadiums, one as a rugby stadium and the other…. Suites are not compliant... How do we resolve the situation between now and Sunday? We're carrying a public liability for R1.5 billion, I have to sign it off and the City has to sign it off. If we don't have the certificate, we have a problem… We have to have full capacity… *Okay, I'll address it to the ED*)"

How do you think we can teach youth who have no university education?

"I think (former Education Minister) Kader Asmal in some ways destroyed our education system, because the technical colleges are now gone.

Who trained the foreman on site? A foreman doesn't have to go to university but he needs certain exposure to certain courses, he would have exposure to a bit of quantities, he would have exposure to a bit of plant. What training is there today just to train a simple bricklayer?

I think we got carried away with graduates - if we look at European models, specifically Germany, you have five technicians for one university graduate. A lot of youngsters don't want to go into construction, they don't want to get their hands dirty.

I think it's essential that we need to start training people in the trades, and then you become an apprentice electrician, and you work to get hands-on experience on the

site, and go in the afternoons or evenings (which used to happen), for courses, and the next stage would be to go to, what in those days used to be, technical colleges.

The man in the street doesn't realise what the risks are - if you take someone who isn't trained, for instance, in gas installation".

How do you see the way forward for construction in South Africa?

"I think we're a developing country. The future is great. We've got so much to do, such as upgrading our infrastructure, maintenance of the infrastructure, and providing for people who never had anything. We have a very high birth-rate, but we've got to provide facilities – whether it's hospitals or prisons, or whatever it is.

We've got problems – water – power stations – more sewage plants to prevent sewage into rivers and there's the additional costs that we incur.

I was in Soweto today – there's so much to do, we don't have a train service. Now that there are no trains running, the costs to come to work have rocketed. We have to look at doing maintenance on infrastructure – we're allowing infrastructure to deteriorate and the cost consequences are huge. The big word here is maintenance, maintenance".

On meeting Nelson Mandela: "*First time I was invited to dinner at his official residence in Pretoria with a few of the soccer people. He had done his homework. He knew I was working at Wits and said, "I never played at Wits!"*

In 2006, Schloss took time from the university to train with FIFA in Germany for the World Cup© to be held in South Africa in 2010, *"I worked on the stadiums for the World Cup, as project manager in Germany. My favourite is FNB Stadium - by that time, I had left the university."*

Why apply at SCEM for a career?

"It's exciting, you see a legacy unfold, it's a monument and doesn't matter if you just coloured-in the drawing..." "People in construction are much more relaxed, rough and ready."

(1969) Aziz Tayob

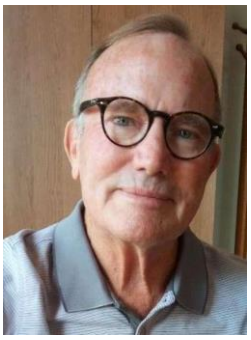


How do you see the world of construction, building and property in South Africa currently?

"Without meaning to sound too negative, professionals and especially the role of architects is not always fully appreciated. Building properly is critical for our country. To come up with a good building requires a full professional service that tries to understand the clients' needs and steer it to realisation.

Many architects, willingly or unwillingly, pass on their responsibility to developers or contractors. This sees corners being cut, that not only short changes the clients, but also has a negative impact on the built environment".

(1970+) Mark Osborne



Why did you choose this as a career?

"In my year at the navy, when considering suitable career choices, I was leaning towards quantity surveying, which I was familiar with through my father's involvement in the building industry.

I heard about a course that had just recently started at Wits University, and I lived in Johannesburg. I had a look at the syllabus, which interested me and I applied and was accepted. As I was on an LTA Bursary while studying, I had to work for LTA for 4 years, and I ended up working for them for nine".

What projects did you work on that you can say - I did that?

"Firstly, it is important to note that all jobs I was involved in, were always as a member of a team and not entirely my own. When new to the industry, I was very proud of working on the Ermelo Civic Centre with LTA, which at the time seemed like an enormous project.

Then in my painting and decorating days, with a company called Décor, and later my own decorating company called Dreamcoat, we did all these great buildings in the city centre in the 1980's, when the city centre was in its heyday of development. We also did all the Southern Sun and Sun International Hotels, and City Lodges.

Having sold Dreamcoat, I then went into the fixed seating industry and we were a major player in stadium seats in Africa. In addition, we put seats into most universities and various civic centres, large churches, cinemas and theatres.

Since then and currently I am involved in property development. It's industrial properties and I can't help but enjoy still being part of the building process and industry – my daughter is an architect, she designs them, and my son-in-law built a whole lot of them."

What did you learn in your building course that you have applied in your career, or that gave you the extra edge?

"Every single subject that was part of our curriculum became totally relevant in my working career. They taught you the intricacies of building – to the point that you even spent time at technical colleges and training schools for artisans, learning skills like plastering, bricklaying and carpentry.

The value of networking with fellow students, academically, socially and on the sports fields, cannot be underestimated either.

In my Dreamcoat days, I was very involved with the Master Builders Association (MBA) and I was very involved with BIFSA (Building Industries Federation of South Africa) and BIFSA had training schools all over the country, where they trained up artisans. Currently we don't have that, which is sadly very detrimental to the industry.

Franco Frescura was a good friend of ours studying architecture. He was responsible for cartoons in the Wits Student Newspaper, which was a University publication. The cartoons were always of a political nature. He produced one complete satirical issue of the newspaper on his own. The powers that be found this completely anti-government, and decided to arrest him and charge him under the Suppression of Communism Act. He was rusticated by the University due to pressure from the Government. He was also sentenced to nine months in jail, which was suspended for 3 years.

Another obviously significant Wits memory is that it was here that I met my wife-to-be. She came to Wits to complete her studies. I married Susan, a Wits BA graduate and we had 4 children, and later a guardian daughter joined our family. My daughter is an architect from Wits, and my 3 sons are all accountants. My guardian daughter is doing

her Masters' at Wits. My Architect daughter is 47, went to Wits in the 90s and runs her own architectural practice in Johannesburg.

"I said to all my kids, each and every one of them when trying to give them parental guidance and vocational advice, '*If you find your passion, follow it with your heart – that will lead to happiness and success and finances won't be relevant. So if you want to sell ice-creams on the street or be a lawyer, or be a game ranger or a teacher – if you have a passion for it, follow it because that will bring you peace of mind and contentment in your life'*. So that was my advice, but I qualified it by saying, "However*, if you do not have a passion, if you don't know what you want to do, every single business in this world needs an accountant!"* Born two years apart, all my three sons decided to become accountants, doing their articles for major auditing practices".

(1972) Ronald George Smith



BSc Building Witwatersrand, 1972 ('Scientiae Baccalaurei in Artem Aedificandi MCMVXXII'), MSc Wits 2019

"I'll start this view of the early days of the Building courses at Wits with something even earlier: the ancient Egyptians. Carved in stone on the walls of a temple (Kom Ombo, I think), are the requirements for the knowledge of an Egyptian builder. Mathematics, law, building construction, surveying, and, surprisingly, music. (It took me years to find out that '*music*' probably meant '*harmony*' in the sense of aesthetics).

Prof Calderwood was a very eminent Wits Alumnus; a full Doctor of Architecture in Architectural Engineering, who had headed up one of the country's leading research institutes. (He always called the university '*Wits*', as in '*brain*', not '*Vits*' as did the rest of us). The course Prof gave, called *'Production Planning & Design'*, was in fact a management course. The content was excellent (much later in my career, I had the opportunity to attend lectures for a few days at the Harvard Business School. The course content was the same as what Prof had given us). After listening to Prof Calderwood, we neophyte Builders felt we could take on anything!

Here I must interject something about the word '*Building'*. The name of the course has altered to and fro over the years: Building Science, Construction Management, and Construction Economics & Management, each tending to move away from the basic concept of the word '*Building'*.

But '*Building*' is a good word. You build up confidence, you build trust, you build on solid foundations. We, at that time, called ourselves just '*Builders*'. (Again, much later, when I was running my own company, I was asked by a senior accountant what my academic qualifications were. '*BSc Building*' I said. *'Isn't that overkill*?' he remarked).

One can tell more about the people involved in the early Wits Building course: Rod Wilkinson, who blew up the Koeberg nuclear power station for the ANC; Jim Henrey and Sean Flannigan who eventually ran major international construction companies. There were many more.

As Frank Wright, one of the earliest Wits Building graduates, said at Prof Calderwood's 90th birthday party given to him by people who had been involved with him in the Building course: "*It was as if all the tribal chieftains were returning to report on the success of their doings to their old king".* The king was, of course, Professor Doug Calderwood".

Life After Wits

"After graduating, I joined LTA, then one of the big construction companies, specialising in industrialised building using heavy precast concrete elements. My knowledge proved useful when I later joined a professional quantity surveying firm (on a trip to the US, I was welcomed to the New York World Trade Centre, then under construction. Even then, flaws in the design were apparent).

Later, for 34 years, I ran a wonderful company, Guncrete (now defunct) that did specialised mining geotechnical, civil engineering work, mostly involving sprayed concrete. Doug Calderwood had said of long experience: '*Was it 40 years of experience, or was it the same year repeated many times*?' Not so, in my case. Each year was a novel experience. My Building grounding was invaluable.

At the present, construction in South Africa is sadly gutted. Most of the specialists have taken their experience overseas. The big construction companies with whom I worked are shadows of their former selves. But that might be about to change. Racial discrimination is a crime against humanity. Once we get rid of that, the sky's the limit".

(1979) Franco Frescura



BArch, MArch cum laude (1981), PhD (1981)

"For as long as I can remember I have always wanted to draw, to design buildings, and to build things. At an early age I was given an Italian Lego set, which I could use to build all sorts of fanciful structures, mostly with arches and columns, and by shaking their base, I was able to duplicate earthquakes of biblical proportions.

This allowed me to reduce my models to handsome ruins which I could then "*excavate*". At the time we lived in Rome and were surrounded by all sorts of antique buildings and partial buildings, so it is no accident that the built environment played an important role upon my early education. I can remember vividly making the baths of Caracalla and the Roman Forum my personal playground, something I did regularly thanks to my mother who took us on field trips at every possible opportunity. Twenty-five years later I rediscovered my memories of the antique in the work of Piranese, reportedly "*the best architect in Rome who never built a single building*". Today I believe that had I remained in Italy I may still have ended up as an architect, but with a strong preference for the historical built environment.

Despite its liberal pretensions, the Faculty of Architecture did not encourage debate upon the role of a designer in a democratic society, and as I later found out, its Dean was an expert in the design of segregated urban landscapes, and his batman during the war was now his Faculty Secretary and ran a network of Security Police informers on Campus. When this was discovered, thanks to a penitent recidivist, the University would (or could) not fire the man, and instead put him in charge of *Room Bookings*. Later on his position was redefined as *The Man in charge of Campus Parking*.

After two years I had also realised that I was surrounded mainly by dreary people who would have been much happier in the faculty of accountancy, and I began to suspect that life as an architect might not be as interesting as I had hoped for. Sadly, I now know this to be true, but it took four years working in offices as a student assistant, and then another couple of years after my graduation to realise that my future life as a practising architect would generally consist of short spells of design-based excitement followed by long periods of mindless management boredom".

Why did I choose Wits?

“Well, it was on my doorstep, all my friends were also studying there, my parents were paying for my tuition fees, and the option of studying overseas never came up. There were also constant objections from my father as to my choice of a career path. He had wanted me to study civil engineering, which he considered to be “*manly*”, and openly disapproved of architecture which he thought to be effeminate! This was, no doubt, the outcome of his many pre-war years lived under Mussolini! Later on, after I inevitably began to be involved in opposition politics, he used this as an excuse to cut off my funding, and thereafter I had to fend for myself, which I did by working as a freelance commercial artist. But still I stuck with architecture in the fond belief that I could still become an architect, a different kind of architect, but an architect nonetheless. In those days we talked a lot about barefoot architects, about community agency, and about building an architecture that was responsive to the needs of a people. We read Paul Oliver, and Victor Papanek, and Amos Rapoport, visited the Byker Wall in Newcastle, and studiously ignored le Corbusier”.

After the trouble with the apartheid government, were you allowed to graduate?

“Yes, you have to understand that I soon learnt that politics the world over is a very strange animal, and that I had wondered unknowingly into a world which was totally alien to most sensible people. Professional politicians could cut each other’s throats in the debating Chamber, and still go for a good meal together afterwards. I can narrate many very strange anecdotes on this subject, and, as a result later on I found myself being accepted in the weirdest of places. Today, this is a world that still exists.

Do you know that I have recently been awarded the Simon van der Stel Gold Medal for Heritage Conservation? The first winner was Prime Minister Johannes Balthazar Vorster, a Nazi sympathiser during WWII, the second was Punt Jansen, Administrator of the Cape, and somewhere along the line it was also given to Philip Tobias, the doyenne of South African academia who chaired the University Committee that rusticated me from Wits, and who, towards the end of his days, used to pat my cheek and call me “*My dear boy!*” The Wits Review of October 2019 did a whole feature on my work as a student, which you might want to look at as it has a number of previously unpublished drawings”.

Memories of Wits?

“I do have one really bad memory of this one man who taught a course in management in the Department of Building Science. At the end of the year I was widely expected by my classmates to get a First, having had a year’s average of 90% but ended up with a 58%. He refused to discuss the matter or to show me my Examination paper. I do not recall his name, but I once did a drawing of his face. Please publish it?”

Kindly share a paragraph about your career path with some highlights?

“When I started my undergraduate career I was going to be a hot-shot design based architect. S’truth! Then, after second year, and a dismal record of not passing Physics, I decided I needed some practical experience, and having worked in about ten offices over a period of five years, I came to the conclusion that in this country I was never going to be the architect I had wanted to be.

There have been a few projects along the way, like a (pioneering) home for tetraplegics in Port Elizabeth, a couple of churches in the Transkei, and the campus for the Department of Trade & Industry in Pretoria, but the project I have the fondest memories of is the tarred road I directed from King Williams Town to Keiskammahoek, in the Eastern Cape”.

How do you see the world of construction, building and property in South Africa currently?

“This is a difficult question as, since the 1990’s, the academic teaching of architecture has been shuffled around, to such a degree that today the essence of what is required on an architectural syllabus has been tampered with, to such a degree by any number of different interest groups that it is now a difficult to determine what constitutes an architectural education.

For example, should an architect be a building scientist, or a technician, or an artistic, or a designer? Or perhaps an academically based conservationist concerned with the historical environment, or a social scientist concerned with issues of economic development and social housing? Or even a low-tech activist concerned with issues of environmental preservation and the size of carbon footprints in the construction process?

These are all areas of different specialisation which, in reality, already exist in the architectural profession and yet receive scant attention in the teaching process. It is

true that some universities, such as UCT, do offer a few post-graduate diploma courses, but these are few. In the meantime, other disciplines have slowly and quietly annexing territory which, historically, has been the preserve of individual architects. As a result, archaeologists are now doing historical conservation work, town planning is being done by unqualified bureaucrats, all structural concrete work is the preserve of engineers, and given the development of new building materials, few architects know or understand how to build using new technologies.

In academia, cross-disciplinary research is met with institutionalised suspicion and is thus avoided altogether, and attempts to introduce courses in postgraduate specialisation are usually blocked by obsolete university rules. In Architecture, postgraduates are not exposed to University standard courses in Theory or Research Methodology, the MArch degree is a dressed-up version of the old BArch degree, and post-graduates accepted for a Doctoral programme are lacking all the necessary background intellectual tools necessary for a PhD research programme. If anything, they are being set up for failure.

Finally, I believe that the profession of architecture has given way, finally, to the practical demands of the profession as well as its client base for a service-based industry, where artistic talent and social symbolism are usually optional (and expensive) extras.

The process began in the 1970s when Doug Calderwood, Dean of Architecture at Wits, and Dr Pluto Webb, of the NBRI in Pretoria, put forward the idea of a separate discipline they called Building Management, their intention being that a management and technologically-based project leadership would emerge, eventually supplanting the traditional roles of architects, quantity surveyors and planners. Although in the long run they failed in their efforts, the traditional roles of architects in the building process has suffered greatly, and may never recover, leaving behind a faculty in academia devoid of any great strength and with many, many weaknesses.

Part of the problem, which needs to be recognized and corrected, is the current theoretical base of architecture, Primary among its many problems is the support given, within Academia, to the Modern Movement, a school of thought devoid of basic principles of aesthetics, unwilling to accept the historical and cultural nature of the built environment, and dominated by pseudo-thinkers obsessed with their own mortality

and need for peer-group recognition. As a result, since the early years of the 20th Century the world has been conducting a war against its historical cities, and the genocide of countless built cultures in the Soviet Union, China and other totalitarian regimes must be laid at the door of Modernist Architecture.

Despite the pronouncements of a well-known collaborator with the Nazi regime of his time, less is not more, it is just bloody boring and lacking in talent, and in the blind belief that modern buildings can be anything other than cheap and nasty, modern designers have embraced a lack of character as being somehow a display of democracy.

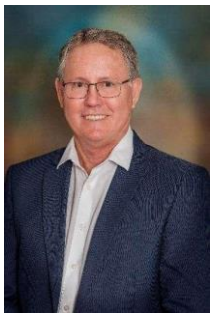
The fallacies of such an approach are self-evident to all but the most obtuse, and for this, also, the Schools of Architecture must accept their share of the blame".

#FeesMustFall

"The #Feesmustfall movement has allure support. Education is a matter of national patrimony and investment, and any funds spent on a student's education is rapidly recovered by the national fiscus, if not through the taxation system, then through education and development. BUT! Such a system needs to be met by a hardass attitude of attainment on the part of the students. Two strikes and you are out! Besides, there is already a partial system in place at most universities where getting a First gets you a rebate in your fees; top of the class ranking gets you onto the Dean's list and a full reduction of fees, etc. etc.

Finish your Masters or your PhD within the stipulated time and all your fees are written off (I did my MArch in 9 months and got a cum laude, whereas Peter Rich took 14 years to do it). Not difficult if you do not fart about.
When I was Dean of Research in the Arts, I once had 106 postdoc bursaries to award, and I could only fill about 64 of them, for which I was called into the VC's office to explain myself!"

(1980) Karl Trusler



BSc. QS (Honours)

“In my final year, I started working, it was an absolute treat. Halfway through the year, I joined a construction company. One of my largest projects was the Standard Bank Superblock in Simmonds Street, Johannesburg. I started there and stayed, it set me up to do large projects and gain experience in the development of supporting systems”.

“This was followed by a number of years in a professional practice until I took a career change and spent 23 years in the ministry, before arriving at the Association of South African Quantity Surveyors.

Now I combine my technical skills with my ministry skills – we serve our professional members, we serve the built environment, and society at large”.

How do you see the world of construction, building and property in South Africa currently?

“Construction in the built environment is undergoing change. Back then, we were familiar with the regular large construction firms, now many of these companies no longer exist. There is a whole new generation of contractors emerging. The impact of COVID, a struggling economy and political uncertainty have all contributed to a reduction in both private sector and public sector infrastructure spending. This, in turn, has accelerated the need for change and adaptability. Like Gordon Donald, the Founder of Liberty Life said, “*Watch for big problems, they disguise big opportunities.”*

Similarly, quantity surveying has also experienced change. The traditional role of a quantity surveyor is now enhanced by the inclusion of additional forms of construction contract and procurement strategies. Speed and efficiency supported by technology and sharp business skills are essential to ensuring the delivery of an excellent service, despite the competition for a reasonable portion of the professional fees basket. Smaller practices appear to by giving way to larger practices and multidisciplinary practices with a global footprint.

Quantity surveyors are capable of filling a diversity of roles in property investment, development, management, finance, insurance or valuations, etc., to name a few.

Quantity surveyors enjoy a wide range of career options because of their unique skill sets which are not limited to the built environment only".

If you were speaking to a youngster wanting to embark on this career – what would you say to recommend it?

"You're going to learn and be taught a skill set and be engaged with a discipline that is a platform for a wide variety of options. It does not even have to be in the building environment, it is a business career skill. My career takes me to different countries in the world where I engage with local quantity surveyors, cost engineers and construction economists. I am regularly told that South African quantity surveyors are held in high regard, because we are well-grounded in traditional QS skills, we are good at what we do, we are enterprising, and we are hard workers. South African quantity surveyors are in demand and can be found all over the world.

In conclusion, "*hats off*" to the South African academic institutions that continue to produce world class QS's. By sticking to the basics and teaching the traditional skills, graduates are equipped for a great future with plenty of opportunity to upskill and specialise later on in their careers through postgraduate programmes".

(1984) Linda Raymond Ndlovu



How did the school change during your time?

"The school has grown so much - it's unbelievable. Remember, back then we had four departments, which were Architecture, Town Planning, Department of Building and Department of Quantity Surveying. So, the two merged to form the Department of Building and Quantity Surveying. And the other two merged, which was now the Department of Architecture and Town Planning. And then as the years went by the names changed again. First, it was Departments and now, it changed to Schools, which became the School of Construction Economics and Management, and then the other one became Architecture and Building as it is today".

(1986) Thabo Senyolo



BSc QS

“I am not the type to play the victim, but as an African, applying for admission to the University of the Witwatersrand (Wits) in the middle to late 1970s was like trying to clear a minefield. Firstly, it was mandatory that my admission at the university be specially approved by the Minister of Bantu Education.

It is worth noting that switching my preferences from Bachelor of Architecture to Bachelor of Science in Quantity Surveying meant that I became the first African in South Africa to have been admitted in both departments at the University of the Witwatersrand.

“During this period and the one before it, Africans could only aspire to be lawyers, teachers, doctors, policemen, or any other profession that kept them out of the so-called “European-only creative occupations.”

I had been taught through the inferior Bantu Education system which was specifically conceived to spawn obsequious Africans. The case in point was when I was lectured on cross and longitudinal sections. All the while, I was erroneously thinking about the Apartheid legal terminology that pertained to the dreaded “Pass Laws”!

(2000) Shoayb Loonat



PrQS, MRICS, PMAQS, MBL, BSc (QS), BCom

Why did you choose this career path?

“From a very young age, I exhibited a natural affinity for mathematics and problem-solving. These skills not only fascinated me but also sparked a desire to apply them practically. This profession offered the ideal bridge between mathematical analysis and real-world construction allowing me to be at the forefront of project economics and collaborate closely with architects and engineers”.

Kindly share a paragraph about your career path with some highlights?

“In 2000, I commenced my career as a Junior Quantity Surveyor at AIM Quantity Surveyors, followed by a position as an Associate at Venn & Milford Project Services. I gained fundamental experience in cost estimation and cost control. I acquired practical skills through hands-on involvement in various projects, honing my ability to collaborate effectively with project teams.

In 2004, I registered as a Professional Quantity Surveyor and demonstrated a commitment to upholding the highest standards of the profession. By collaborating closely with clients, architects, and contractors, I gained a reputation for delivering excellence in service and exceeding project expectations. In 2007 I established and currently lead Enumerate Consulting Quantity Surveyors overseeing projects spanning multiple industries and fostering lasting relationships.

One of my most significant accomplishments was the opportunity to return to Wits University two decades after graduating, but this time as a seasoned business owner entrusted with a pivotal role.

I had the privilege of overseeing the cost management of the new CLM (Commerce Law and Management) Building on the west campus, adjacent to the iconic Tower of Light. This achievement was a testament to both personal and professional growth. It demonstrated that I had not only established myself within the industry but had also earned the trust to contribute to a project of such significance within my alma mater”.

What has been the biggest change in construction in your lifetime?

“The integration of technology and specialised software has been a transformative change in the field of quantity surveying. The introduction of on-screen take-off and specialised software for bill production stands as a defining moment in the profession. On-screen take-off has streamlined the process of quantity estimation with enhanced accuracy and a reduction in time.

The ability to digitally analyse and measure drawings has not only improved efficiency but also minimised errors, thus contributing to project success.

This shift towards technology has been transformative, allowing quantity surveyors to focus more on strategic decision-making, data analysis, and collaborative project management”.

How do you see the world of construction, building and property in South Africa currently?

“Despite its significant contribution to the GDP, the construction industry faces complexities that impact its outlook. The challenges we face aren't insurmountable; they are opportunities for innovation and change. From sustainable construction practices to inclusive infrastructure development, the industry has the potential to address unmet needs, foster social upliftment, and pave the way for a more equitable future.

I acknowledge the pivotal role our profession plays in ensuring transparency and accountability in public expenditure. As guardians of financial prudence, we have the power to root out corruption and inefficiencies. The construction industry, with its vast scope and potential, has the capacity to drive economic growth, job creation, and infrastructure development. It remains a cornerstone of progress, creating opportunities that ripple across various sectors.”

If you were speaking to a youngster wanting to embark on this career – what would you say to recommend it?

“I wholeheartedly recommend the career path to new students who possess a passion for construction and analytical thinking. The field offers a rewarding blend of strategic planning, financial acumen, and creative problem-solving.

Quantity surveyors have the power to shape the built environment for the better. This impact extends beyond construction; it reaches communities and individuals who lack infrastructure or homes, creating opportunities for upliftment and empowerment”.

Are you hopeful with new development with BRICS?

“Definitely, the talk of South Africa producing more completed, finished products within the country, will definitely be a benefit – we import a lot in the construction industry, and all of these nations being the developing nations, we can learn from each another. We will benefit, why must we reinvent certain research from other countries, when other countries have passed that research?”

Do you recommend distance learning for future education?

“Most South Africans do not have that benefit of coming to a place where accommodation is provided, where there’s structure, where there’s libraries, where there's internet – because they don’t have those facilities. I’m using the phrase distance learning but it’s more around part-time and after-hours learning. If you’re an employed individual, at that time, no family, with spare time in the evening then you can do some additional studies. The other thing of distance learning is that you can watch a video of a lecture, two times. And if you didn’t get it the first time, you can get it the second or third time”.

(2003 – 2006) Professor Elizabeth Pienaar



“When I get back to university, after being a director at Basil Reed – do you know what the guys said to me?

“*You sit on your fortune. Use that – you don’t have to be a quantity surveyor.”*

How do you see the world of construction, building and property at the moment?

“Terrible. If you look at how many of our major construction companies have gone into liquidation - a lot of it is caused by affirmative action. I’ve got nothing against affirmative action at all, but appointment should be based on merit.

Don’t tell me, “*Oh, you’re a woman and bla. Don’t treat me any different to a male colleague”*. I should receive the same as what a male would - the same remuneration, I don’t want to be treated differently

When I mark a paper, I don’t look at the name and go, *“Oh, the person is female or black”*. I mark the paper and at the end of the day, I have to fill out a sheet and put the name. Unfortunately, there’s a lot of pressure not to adhere to that”.

(2006) Mabuse Moja



“After graduating in 2006, my career path took me into property valuation within the banking environment. I pivoted completely and moved into a more financial role within the property space becoming an investment analyst into REITs with an asset management company.

This journey would take me to being a portfolio manager years later. Following my investment career, I would once again pivot into becoming a real estate investor raising capital to acquire a portfolio of assets to form a fund. I now work in the real estate sector, helping raise capital and structuring of transactions.”

How do you see the world of construction, building and property in South Africa currently?

“In South Africa, real estate still remains largely polarised, and there are parts of the country that compare with cities globally and others where underdevelopment remains poor. This creates a fracture in the economic system, as a country like ours, individual wealth creation is by and large underpinned by real estate. Be that as it may this presents an opportunity for development which supports further building and construction in our country. For the overall property universe, it means there is still scope for further investment which creates a product for capital looking for a home to invest. The sector is now producing the right quality of professionals to aid this future development - thus I remain largely positive on the sector's growth”.

(2009, 2018) Mosha Senyolo



The world of quantity surveying has traditionally been white males, what was your experience as a female person of colour quantity surveying student?

“I had the privilege of studying at the institution at a time when there was a fair amount of equality and integration between the genders and various races. It pleasantly surprised me to see so many females of colour taking up interest in the built environment studies, as this suggested a deliberate effort by

the education system as a whole to increase access and opportunities to the majority of the population.

Having a staff component that included experienced female lecturers and professors also indicated that the shift in embracing females of colour was slowly but surely materialising at all levels".

Kindly share a paragraph about your career path with some highlights?

"I started off my career in 2010 working for Thabo Senyolo and Partners, a QS practice founded by my dad in 1989. My experience gave me a great foundation of the practicalities of the QS profession and allowed me to apply all the fresh knowledge I had received from Wits.

It was exciting and challenging at the same time, as I had to make a quick shift from the student mentality to taking ownership and accountability on projects that I was assigned to. This helped develop my experience with diverse clients very quickly, and truly shaped my professional confidence and independent thinking.

After eight years working for my father, I then moved to Turner and Townsend while simultaneously completing my postgraduate studies. I got in depth exposure to the commercial world and how our profession has an impact on the day to day decisions that big companies make. My QS soft skills were also sharpened during this time, due to the fast-paced environment and various stakeholders that we had to engage on a day to day basis.

The biggest highlight of my career to date is my vice presidency with the ASAQS, which is a unique platform to bring more positive contributions in the built environment at a larger scale which goes beyond my day-to-day work."

How do you see the world of construction, building and property in South Africa currently?

"As a developing country, South Africa has a lot of untapped opportunities. We are in a privileged position where there are prospects to bridge the gaps between traditional ways of construction and digitalisation of the industry, for sustainable and cost effective development.

Through research and robust industry stakeholder collaborations (including our global counterparts), coupled with robust government intervention and partnerships, the South African space has an opportunity to reach the untapped markets that will solve a lot of socio-economic challenges not only of the country, but of the wider African context".

If you were speaking to a youngster wanting to embark on this career – what would you say to recommend it?

"Quantity Surveyors play a very important yet fulfilling role, not only in the built environment, but to the society at large. Our decisions have direct and indirect, long term impacts.

With the ever-evolving world, there is an increasing demand for innovation and collaborations across the globe on how to streamline the construction process and allocate budgets (government expenditure), reduce carbon emissions and improve the quality of life of the society. If they get into the space, understand what to do and how to do it right, it will help solve a majority of the problems that the world is currently facing, which is a legacy that will stand the test of time".

(2011 – 2020) Professor David Root



Tell us about SCEM as a school now, versus 60 years ago

"If you go back 60 years, you were graduating about 25 honours students a year, as opposed to turning out between 230 and 250. This massification is mirrored across the entire education sector, it applies everywhere. The intake numbers are sitting with a first-year class of 160 in construction alone, and probably another 60 or 70 in property, and if you go to any of the engineering schools, you'll see a similar size. I think the difference between us and them, is that they have physical limits – in terms of the labs, which they do with their physically-based learning, so you can only take in the number of people that the studio can accommodate".

Why did you choose this particular sector?

"I was quite interested when I was in school in becoming a surveyor or an engineer. I had no contact with the industry at all. It was just something I fell into. I didn't think my

maths was going to be strong enough to get into engineering, so I went down into building surveying, land surveying, estate management, which is like property studies for us here".

Tell us about your academic path?

"I ended up at Salford University in '85. They had a good selling point at the career expo in the buildings side, rather than engineering, so I actually stuck with building surveying, and did that. It was a good time to graduate, I graduated into a booming industry.

I worked in the industry for about 10 years. I did a masters at Bath and that was during a downturn in the industry, so I managed to negotiate a nice redundancy package, which covered my academic fees. The guys who taught me wanted me back and asked if I would be interested in doing a PhD. I said yes, but that was when entering an industry that was pretty dire in the 90s.

So about two or three years later, I travelled to Hong Kong, where my cousin was living and he was working on the airport there, I took a whole bunch of CVs and stuck them in people's letterbox and got told by one guy in the industry, '*You're doing the right thing, just go home – quit your job and come out here, and you'll get a job in no time'*.

At that point, I was a registered Member of the Royal Institution of Chartered Surveyors (MRICS) and I was professionally qualified and I had a masters, so I wouldn't have found it particularly difficult to get a job out there.

I came back and there was a letter waiting for me, saying '*We've got funding, would you be interested in applying for a job at Bath University and coming back and do your PhD?*' So I came back, did that for a few years, went back into industry afterwards, working while I was trying to finish off my PhD, which was actually quite difficult".

When did you come to South Africa?

"In 2003. I did my PhD and to finish it, I had to quit industry and move back into academia. I was working as a researcher at Loughborough University, which is a very research-active institute. The way it works at Loughborough is that they want you to stand on your own two feet - it shows you can find funding and it shows you can supervise students. I got a few offers from UK universities – but I thought maybe I

should go abroad, the one that advertised was UCT and I thought I would go here for a couple of years, and I just never left!"

What was it that you like about the industry?

"There's constant problem-solving. You see the physicality of your contribution. It's very visible, in a way that doesn't happen in other industries. And it's very varied".

Highlights?

"I still remember having discussions 15 years ago, with directors of construction who said, '*Why do people need any more than a BTech and a diploma, why would they even need an honours degree for what we need them to do*?' Some time ago, you did a PhD because you wanted to become an academic – now increasingly, people are recognizing that a PhD provides you with a certain skill set that is as applicable in industry, as it is in academia.

So in a country like Germany, the CEO of a manufacturing factory is a doctor and has a PhD – there's a change in the contribution that exists outside of academia – it's not just training for academics any longer. There is a change in understanding that is the global knowledge-based economy that is thriving – and that is reflected in the growth in our graduates, the growth in our PhD numbers, the numbers we are graduating now".

How has the student life changed?

"One of the key things is the cost of failure has risen hugely for students. If you come from a middle-class family and you go in and you bomb out, it's not that big a deal. If you're here on NSFAS and you fail, your funding falls away.

The thing you've got to bear in mind is the disposable income for a student, it costs R70 - or R80,000 to do a degree here, and then there's accommodation is probably another R70 - or R80,000 - and you could be having more disposable income in the years coming here, than your parents have had in their life, and you get some quite skewed behaviours as a result of that.

Some people go completely off the rails, and then you get kids who live on absolutely nothing, and give all their money back to their parents. You get a bursary and you're

fully funded here, and your quality of life dramatically improves, compared to where you might have come from.

The pressure from your family and black tax is probably the same as the transition in any society when you move from a very poor society to a middle class – I can see that in my own parents. From my father's side, we were the first generation to go to university, and that transition puts huge pressure on you, especially in the absence of good social welfare, which we don't have".

Where do graduates find employment?

"Graduates who tend not to have jobs are the ones who go home to rural areas, because there's no work there. Construction is an urban phenomenon.

So the bigger cities have big construction industries, Northwest is not going to have much of a construction industry, Mpumalanga is not going to have much of a construction industry, Bushbuck Ridge is not going to have much of a construction industry, and no demand for quantity surveyors or engineers. Those who go home are the ones that tend to struggle.

If they stay out here, they tend to get jobs. That's also where the networks exist. The pressure is high but the rewards are there!"

What is the future of education?

"There will be a lot more online. I think the established universities will increase their focus on postgraduate and less undergraduates - we're seeing that transit already here at Wits.

Certainly my attitude has always been, try and position yourselves as the finishing schools for the professions, and if you did your first degree at UFS or Free State or UJ or TUT, we don't mind – come here and we'll finish you off as a finishing school, and position ourselves as a finishing school.

I think the idea of universities all being research active, all producing the same quality of students, which seems to have been pushed by the government for the last 15 or 20 years, is not sustainable.

You need to recognize that you've got a few universities that are not going to be focused on research, but a few that are focused on undergraduate teaching and there will still be research taking place.

The fact is that you can't level up everyone to be on the same level, because the network effects of having high-functioning academics together in one place is actually what generates the research. Not trying to spread it over 25 institutions".

What is the purpose of research?

"One would say it is the creation of new knowledge – my attitude is completely different - my attitude is about building human capital. The important thing is the development of the individuals and what they then go on to do.

This is especially true in our industry, in construction, because you see where innovation takes place and it happens on projects, it doesn't happen in university.

If you can produce people who are very creative, innovative thinkers through research, the activity of research, which is why all undergraduates have to do research, they take that into industry and able to identify problems, they are able to conceptualise answers to these problems – they are the ones that make the difference in the industry. It is not us sitting here – we can capture it, we have a role in capturing and documenting it and disseminating those changes, but the idea that the actual knowledge is created in these walls that actually influences the industry, is utter nonsense.

It might be true for biomedical sciences and it might be true in a concrete lab for civil engineering, or it might be true in a physics lab when they're doing experiments, but for an applied discipline like us, or architecture, or accountancy, or law – the reality is that a lot of the stuff is developed out there, in the physical industry. We are able to document that, capture that, but our core role, as far as I'm concerned, is actually to provide the physical capital to the people out there.

We provide them the opportunity to reflect or come up with an idea to see how they could have done it a little better, but anything I published is not going to change the industry".

(2011) Thapelo Tlhapane



“Since I got the edge from Wits, my career has been a blessing. The universe has really been on my side. On my completion, I immediately joined a very vibrant company, where the foundation of TT Holdings was founded and nurtured. My biggest highlight is our 10-year milestone at TT Holdings, and the day my previous boss/mentor agreed to mentor me.

I believe one strong aspect of human beings is our ability to adapt to any situation faced with. We made friends where we felt comfortable and could easily relate and communicate, but difficulties of the courses made us unite and try share researches and notes, as much as possible. And through that lifetime friendships where created”.

How do you see the world of construction, building and property in South Africa currently?

“The economy in general, not just construction, is not in good shape at the moment, due to various reasons. However, we are of the view that it is picking up - and as it does, we should all be ready to play our part.

We have been blessed enough to provide services within various sectors in our 11 years’ existence from Mining, Commercial, Residential and Public Sectors, and have seen the importance of construction in working towards building the economy and reducing unemployment. To property funders, Developers, Budget allocators etc. - the future that we used to talk about growing up is now. Looking forward to seeing an increase in the visibility of cranes! Always remember, success meets preparation”.

(2014) Nyiko Mathebula



“I was an average student during my days at University of the Witwatersrand, as long as I passed with 60s, I was okay”.

Kindly share a paragraph about your career path with some highlights?

“Some of the perks that comes with being a Wits graduate is employability, I secured my first job after Graduation as

a Quantity Surveyor Trainee with Worley Parsons RSA, after 3 years there was unfortunate section 189 where the company was downscaling and I joined WBHO for additional 3 years where I got my Professional Registration with South African Council of Quantity Surveying Professions. For professional Growth, I joined Eskom as a senior advisor quantity surveyor".

How do you see the world of construction, building and property in South Africa currently?

"The environment is changing, and has changed for the better".

(2017) Associate Prof. Ehsan Saghatforoush



"I am an Associate Professor and Coordinator for Postgraduate Affairs at the School of Construction Economics and Management. I earned my PhD in Project Management from Queensland University of Technology, Brisbane, Australia in 2014, and my background Bachelors study is in Civil Engineering.

I have worked in South Africa since 2017, while I went through the journey of being promoted from Senior Lecturer to Associate Professor, in 2020. In parallel, I am a Construction Management Consultant actively involved in application of Building Information Modelling (BIM) in projects. I am also a senior adviser in the area of Project Integration, ranging from theories to practice. I have also collaborated actively in several industry/research projects adopting BIM, Integrated Project Delivery (IPD), Off-Site Manufacturing (OSM), Automation, and Constructability, Operability and Maintainability Reviews".

How do you see the world of construction, building and property in South Africa currently?

"South Africa is a fast-growing country with lots of opportunities both for academics and industry practitioners. There is still a high level of mass construction required to be implemented, so that people can have their own homes in future. I can see that the banks are helping with providing home loans, which I strongly believe is helping the construction industry grow quicker, compared to other industries".

(2022) Ndiphiwe Madikiza



Ndiphiwe Madikiza, a 2022 graduate wrote about her time at Wits, “I choose Quantity Surveying because of its diversity, I can offer these services in many different industries and most importantly I want to use this profession as a step into giving back to my community. My favourite lecturer was Prof Sam and my favourite memory was the day of my graduation.”

I am currently a Professional Quantity Surveyor at Haaks Quantity Surveyors and my greatest highlight is managing billion-rand coal mining contracts and iron ore mining contracts, which is a specialist service that I have grabbed with both hands”.

How do you see the world of construction, building and property in South Africa currently?

“I believe we are moving in a digital direction and this will change the traditional functions of the industry to a place where professionals will be doing more of contract administration, delay analysis and dispute resolutions”.

2023 ALUMNI KEYNOTE ADDRESS by Mark Osborne

Good afternoon to you all.

Firstly, I wish to thank Professor Laryea and Dr Dlamini for asking me to address such a respected audience at this reunion, it really is flattering.

When I was first approached to speak at a reunion, it reminded me of the story of a group of 40-year-olds who were discussing where to have their 10-year reunion. They decided on the Ocean View restaurant because of the pretty, young waitresses, with their low-cut tops and short skirts.

10 years later, they once again got together and decided on the Ocean View again, but only because the food was so good, and there was a great wine selection.

Another 10 years later when they were now 60, they needed to decide once again. Finally, they agreed on the Ocean View, because they could eat in peace and quiet, and because of the beautiful view.

At 70, they chose the Ocean View restaurant on the basis that it had an elevator and was wheelchair friendly. Also, the toilets were close to the tables.

10 years later at 80, they once again discussed where to go for dinner. Finally, they agreed to the Ocean View Restaurant, because none of them had ever been there before!

Fortunately, Professor Laryea and Dr Dlamini got hold of me before I reached that threshold, so I can happily share with you some anecdotes from my times at Wits and experiences in the Building Industry, and jog all of our memories about some of the interesting things about both this remarkable University and this interesting Faculty and Building Industry.

All of us already know Wits is this wonderful University which has incredible Alumni to show for it. The WITS Review Magazine comes out twice a year – see for yourselves.

Mandela, Thuli Mandosela, Mary Malahlela, who in 1948 became the first black woman to qualify from a University in South Africa. She was also South Africa's first African woman to graduate as a doctor. Other business leaders all to be found at Discovery, Liberty, Bidvest, Imperial, Anglo were all at Wits. As well as its impressive Alumni and stature as the largest university in South Africa, Wits was always the most liberal and progressive.

The Apartheid government hated Wits and all the students were labelled "*Pienk Liberale"*. The Government saw the communists as Red, so this was just one level below. Wits students regularly held protests with placards on Jan Smuts Avenue. They were always bombarded from the other side of the road with tomatoes and eggs from the conservative right wing government supporters whilst the police would only look on.

Occasionally the police would race across the road and beat any retreating students that they could catch. They would chase them right into the campus. Wits' swimming pool was open to all races, and this was completely against the apartheid government law. They tried to put a stop to this, but Professor Bozzoli opposed this on the grounds

that the University was private property and that we could do as we like. Under massive threat by the government, they had to retract their stance and comply with the government's demand.

Interesting characters in those early years were: Peter Hain, whose parents were jailed and banned for campaigning against the racist laws and eventually were forced into exile. In the UK he became a Member of Parliament and was to become a Baron and is now Lord Peter Hain.

On the other side of the coin, we had a guy called Craig Williamson in our era. Despite his privileged schooling at Johannesburg's finest private school he turned out to be an apartheid spy and subsequently an assassin. He infiltrated the SRC and kept his masters informed of all the anti-apartheid activities.

Another interesting character who was with us in the Architectural faculty was Franco Frescura, now a professor, a talented artist and a brilliant cartoonist. He didn't hold back with his anti-government cartoons, so the government took away his passport (for 10 years) and put pressure on the University to take measures. They rusticated him, which meant he was banned from continuing his studies for the rest of the year. He was arrested and sentenced to 9 months in jail, which was suspended for 3 years. Such was the power of the government.

Better memories are that in 1971 Wits had their very own Woodstock. It was called the Free People's Concert and was open to Blacks and Whites. It was one of the only places to have mixed bands and audiences. A place where townships and suburbs came together.

It was in these interesting times that I came to the university in 1968 after a year's compulsory military service in the Navy. I joined about 30 others to study Building Science which was a brand new course in the Architectural Faculty. We were the fourth intake ever for this course. The very first intakes were in their fourth and final year, the second only to Pretoria University who started the Building Science degree just prior to Wits. They called it Boubestuur.

Our course in Building Science had subjects where we had to attend lectures in other facilities. Law we did with legal students, Accounting with the accounting students, Theory of Structures with the Engineers. The law and accounting degrees were for

part time students in those faculties who worked during the day. So, these lectures were at night.

The Architecture faculty consisted of Town Planning, Architecture, Quantity Surveying and Building Science. We were all collectively known as the Architects on campus, as were all our sport teams.

We were housed in the John Moffat building, which was designed by a former graduate in Architecture, Professor John Fassler, and built in 1959. He also designed the Senate House (now Solomon Mahlangu), the Wits Dental Hospital, The Gate House and the Tennis Shelter. We had wonderful staff and they all enjoyed a fantastic relationship with the students.

The head of the faculty was Professor Doug Calderwood, who was ably assisted by Professor Ronnie Schloss. Professor Calderwood was asked to represent South Africa by the Institute of Architecture at an international convention in Sweden on Low-Cost Housing. At the end of the convention, his contribution was of such significance that he was asked to give the closing address at the end of the week by the King of Sweden. He came back to South Africa with some amazing ideas which he assured our government would alleviate the housing shortage for years to come. The Government, needless to say, ignored his findings.

Professor Ronnie Schloss, when not lecturing, was the saviour of our PSL. Dare I say, the management there was shambolic, until he took control and organised their finances so as to secure a solid future for soccer South Africa and solvency for the PSL. He also single-handedly put Wits soccer on the map. Unfortunately, the sponsors decided that they had gained sufficient exposure to the marketplace and eventually withdrew once their contract expired and that was the end of our very own PSL team. We had some players who were worth R30m at the time…

The Architecture faculty was well-respected in the late sixties and early seventies for their sporting prowess, as well as their academics. There was a lot of inter-faculty sport and the Architects (as we were collectively referred to) competed in them all. On the hockey field, we had a Town Planner by the name of Steve Jaspan. He later became the captain of the South African team. We also had a few water polo provincial players, one of whom is a QS, Neville Clarence who is still playing senior provincial water polo well into his late seventies.

Rugby was probably the sport that we were best known for. Interfaculty rugby was very popular at the campus. Matches were on Friday nights and there were always masses of spectators. After the game, everyone would jam-pack the Devonshire hotel in Braamfontein to quench their thirst. The Civil Engineers, Mining Engineers, Arts and Commerce Faculties all had very strong teams, which made for such an interesting and competitive competition. The Architects, who were the only faculty to field two teams and reserves, won the inter-faculty trophy three times in four years.

Another really happy side of university life was Ragtime. Float building went right through the night, and on the Rag day, Wits magazines were sold on the street by hundreds of students, and the procession of floats went from the campus, all the way to Rosebank, with the drum majorettes marching in the front. My future wife included.

Another highlight of the year was the annual intervarsity rugby match against Tukkies. This was a sell-out game, but Tukkies eventually decided they no longer wanted to play against the anti-government liberals.

You can never underestimate the value that university networking contributed to the various enterprises in our industry. Particularly any would-be entrepreneurs. I was never too familiar with the Town Planners and where they finished up after Varsity, but I did have contact all my working career with the Architects, QS's and Builders. Without exceptions and to the very best of my knowledge all the students went on to have successful careers (and in this industry no doubt also very interesting ones). Major QS firms were headed by past Witsies and so too many Architectural practices. Almost all of the major construction companies were led by Building Science graduates.

Although there are many of our contemporaries, who ended up heading the large construction companies, one of my personal favourite examples was the late Jimmy Henry a good friend and a Building Science graduate who became the youngest ever Managing Director (today known as CEO) of one of the largest construction companies in the country, M&R.

The courses we did covered every aspect of construction, and this put the graduates in great demand. Somehow, our Professors managed to prepare us for the technical and more soft-skilled side of what the dealings in our industry required, once we were in Business.

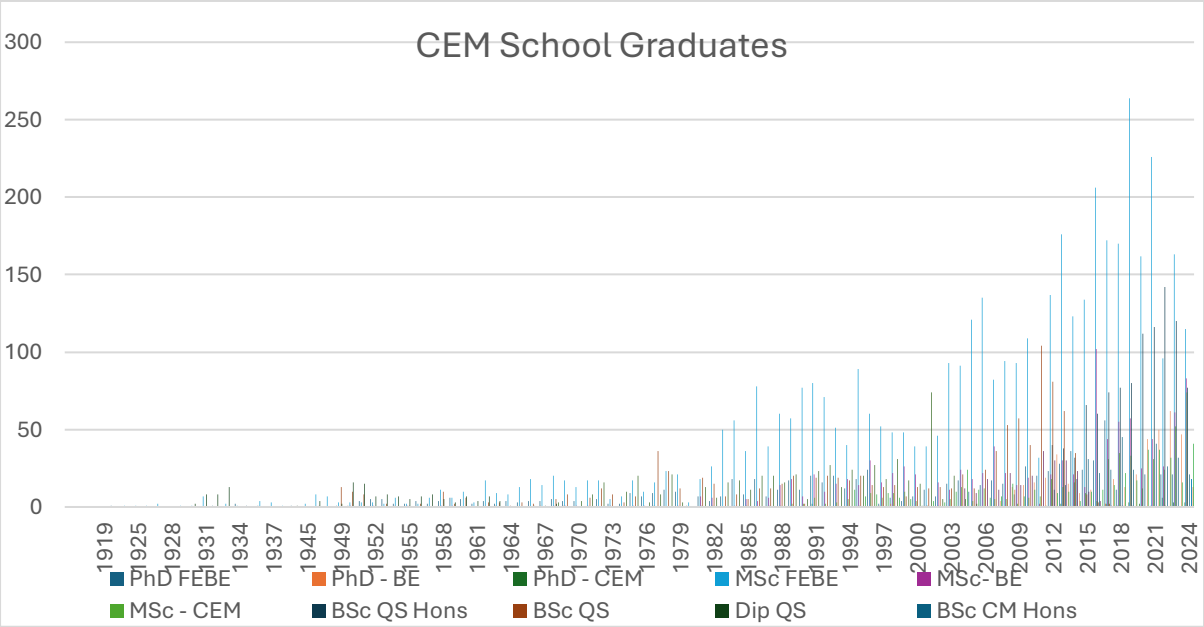
After working for a Main Contractor for 9 years, I chose a career that was in the subcontracting industry, in Painting and Decorating. This company was called Dreamcoat and employed over 600 painters and artisans. We coated buildings with trowelled or plasticised coatings, did large wallpaper contracts and worked on major buildings, hotels etc. with our paint crews.

One such job was Sun City, where we were engaged phase-by-phase as it was built. I got a call from Sol Kerzner's secretary, who asked me to meet her boss at 9:00 am on a Sunday morning in the Sun City car park. When I got there, he was waiting for me and looking at the monorail structure, which went from there all the way to the Superbowl. He told me he wanted this painted. I implored him not to paint it and said that it was the finest off-shutter concrete I had ever seen. I spoke at length about the value of leaving the concrete in its natural state. There was silence, then turning his back on me and walking away, he said: "Paint it white, please".

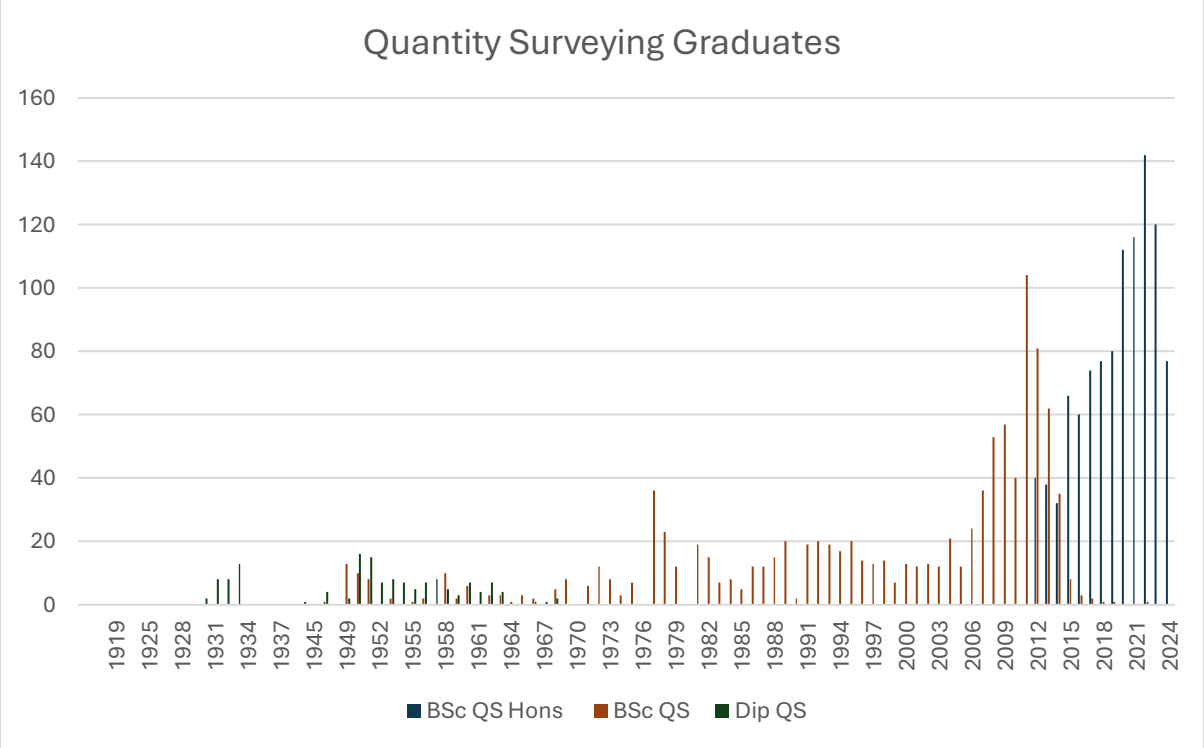
Thank you for your attention and for letting me share the memories with you".

STATISTICAL COLLATION OF SCEM GRADUATES FROM 1930-2024

(Wits Examinations and Graduation Office, 1919)



The statistical data provides a report the Wits School of CEM graduates. It ranges from the first qualification in 1927 with diplomas, to the multitude of Bachelor degrees in 2024.



The first two graduates in Quantity Surveying Diploma (QS Diploma) were in 1930 followed by eight graduates in 1932. There were thirteen QS Diploma graduates in 1933. In 1946, the School had a first graduate in Bachelors in QS (BSc(QS), 13 in 1949 and 10 in 1950.

There were two QS Diploma graduates in 1949, and 16 in 1950. The number of graduates across disciplines increased, due to the end of the war in 1945. From 1930-1950 there were 24 BSc(QS), and 54 QS Diploma.

The period from 1951-1970 saw much growth: the BSc in Building was introduced in 1965, and it had its first three graduates in 1968 and four in 1970. There were 70 graduates in BSc(QS), while the QS Diploma had 91 in 1968. There were no QS Diploma graduates from 1969-2011, since the course was discontinued in 1967 as it was replaced by the BSc(QS).

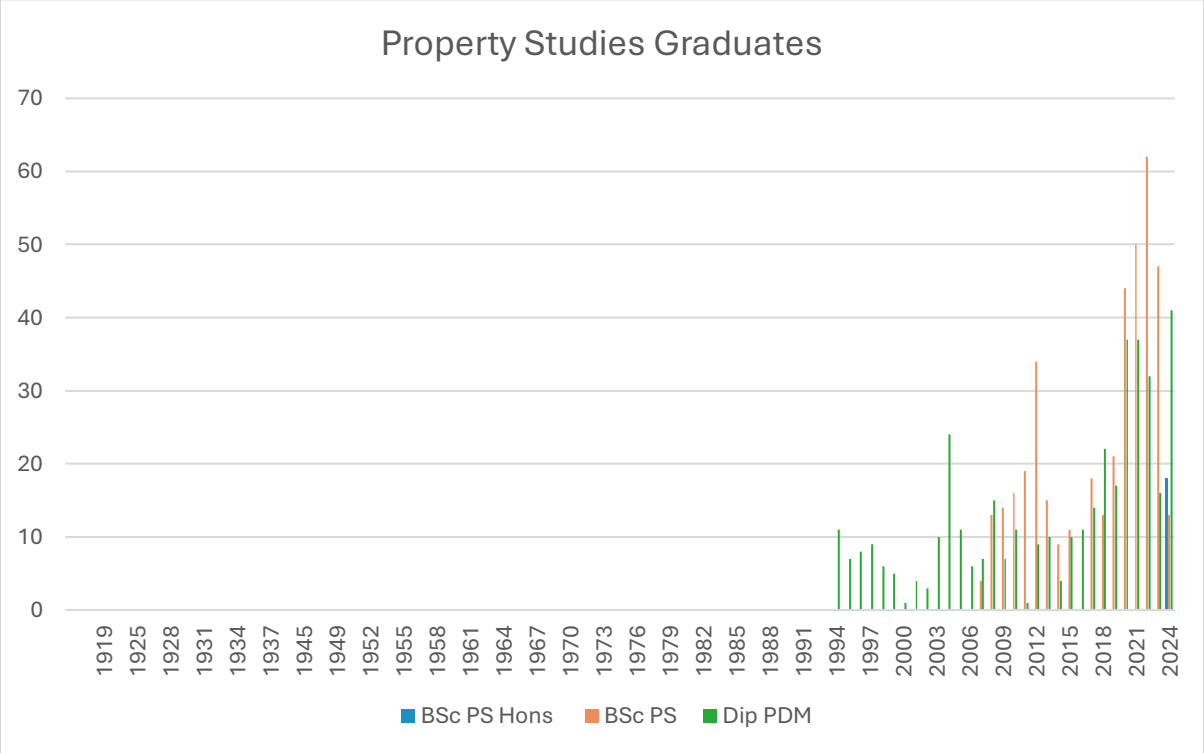
A total of 562 graduates graduated with a BSc in Building from its inception in 1965 to 2005, thereafter it continued as a Master of Science in Building. The Diploma in Quantity Surveying had its last graduates in 2012, with a total of 145 graduates from 1930 to 2012.

The South Africa's economy in the 1960's and 1970's saw rapid expansion, but the 1980's saw a slower growth. During this period of 1970-1990, the CEM School contributed in the economy of the country by producing 222 BSc(QS) and 238 BSc in Building graduates.

In 1990-2024, there were 734 BSc(QS) with a highest number of graduates in 2011 (104) and 2012 (81). From 2011, there were graduates in both BSc(QS) and BSc in

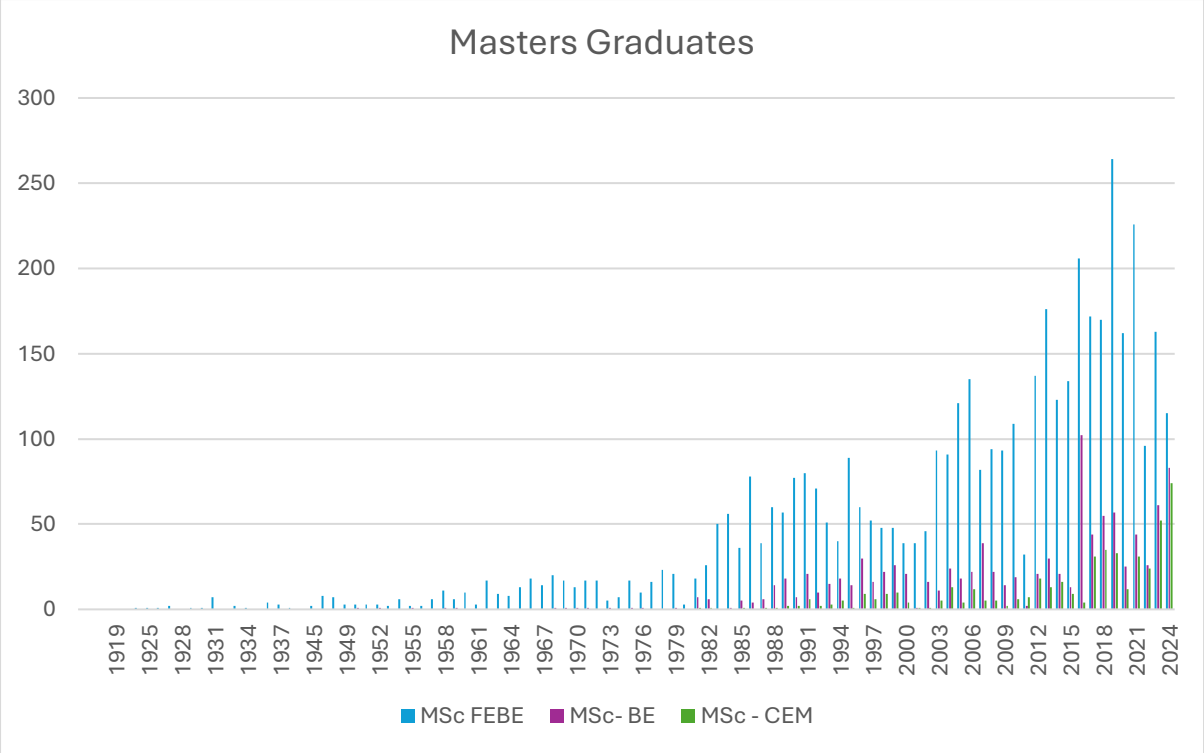
Quantity Surveying Studies. However, there was a drop on BSc(QS) due to the move to BSc Honours in 2011.

The number of graduates have been decreasing to 35 in 2014, 8 in 2015, 3 in 2016, 2 in 2017, 1 in 2018, 2019, and in 2022, BSc(QS) completely disappeared. The one 2019 QS graduate, was Pheello Nhlapo who collated the statistical data for the graphs. In the 2012-2024 period, there were 1034 Honours in QS graduates in 12 years, compared to 842 BSc(QS) in the 76 years prior.



A Postgraduate Diploma in Property Development and Management (PG Dip in PDM) had its first 11 graduates in 1994, and has had a total of 406 graduates, from 1994 to July 2024.

In 2007, the BSc in Property Studies had first four graduates, and a total of 403 graduates from 2007 to 2024 July. The new course, Honours in Property Studies has had the first 18 graduates in 2024.

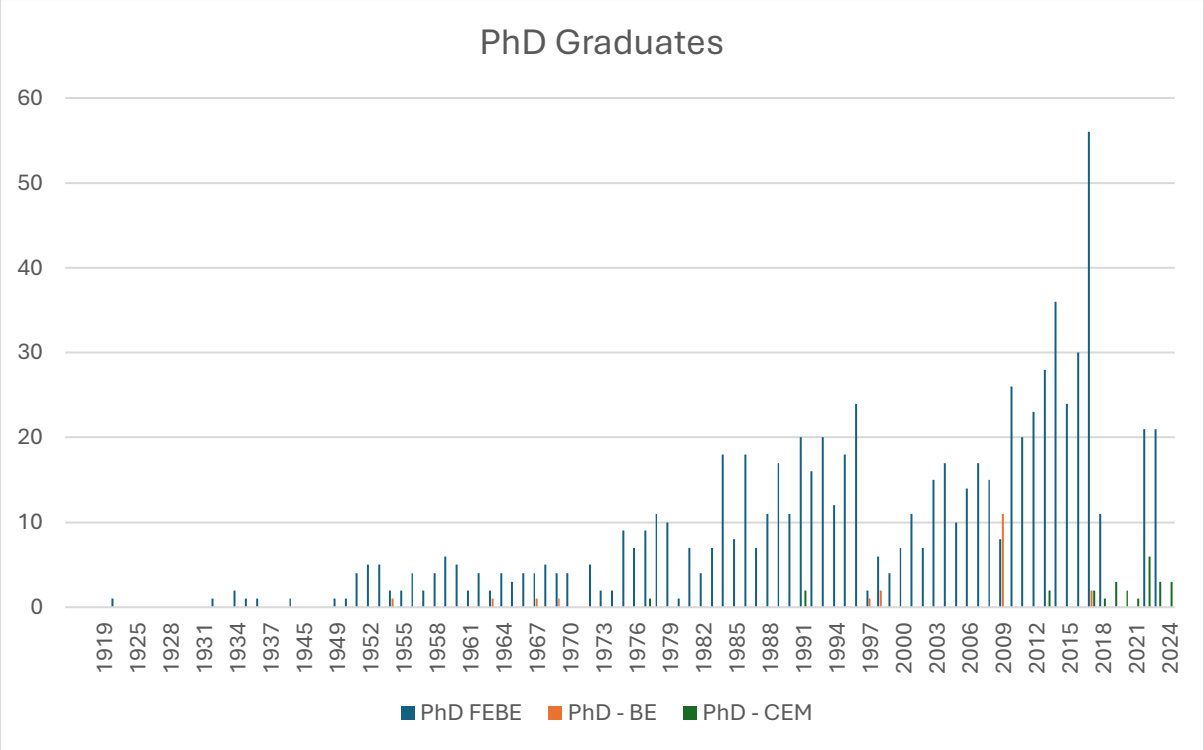


As of July 2024, SCEM has had graduates in various postgraduate qualifications, these include:

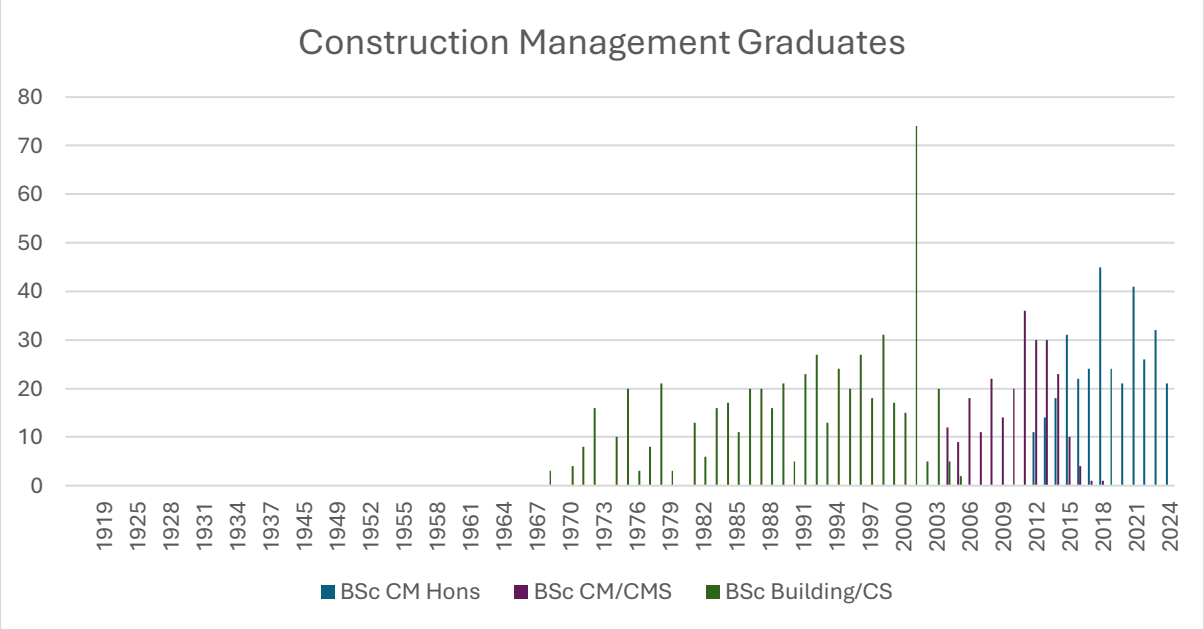
- 26 graduates with a PhD,
- 477 graduates with a MSc in Building,
- 4 graduates with a MSc in Quantity Surveying
- 1034 graduates with a BSc(QS) Honours
- 330 graduates with a BSc Construction Management Honours
- 18 graduates with a BSc Property Studies Honours
- 406 graduates with a Postgraduate Diploma in Property Development and Management

The graduates in undergraduates courses produced by the CEM School from 1927-2024 are as follows:

- 145 graduates with a Diploma in Quantity Surveying
- 562 graduates with a BSc in Building
- 1036 graduates with a BSc in Quantity Surveying
- 241 graduates with a BSc in Construction Management/Construction Management Studies
- 1266 graduates with a BSc in Construction Studies
- 403 graduates with a BSc in Property Studies



The school has produced 26 PhD graduates, up to now.



From early 2000, the School of CEM introduced BSc in Construction Management (BSc in CM), while it continued with BSc in Building and BSc in Quantity Surveying. In 2004, the first 12 graduates were produced in BSc CM, and this number has grown to 241, from 2004 to 2018.

In 2011, the School of CEM had graduates that had a degree title adjustment to BSc in Construction Management Studies. The degree title later changed to BSc in Construction Studies, and the first graduates with this degree title were in 2014. From 2019, the BSc in CM and BSc in CMS were replaced with a BSc in CS.

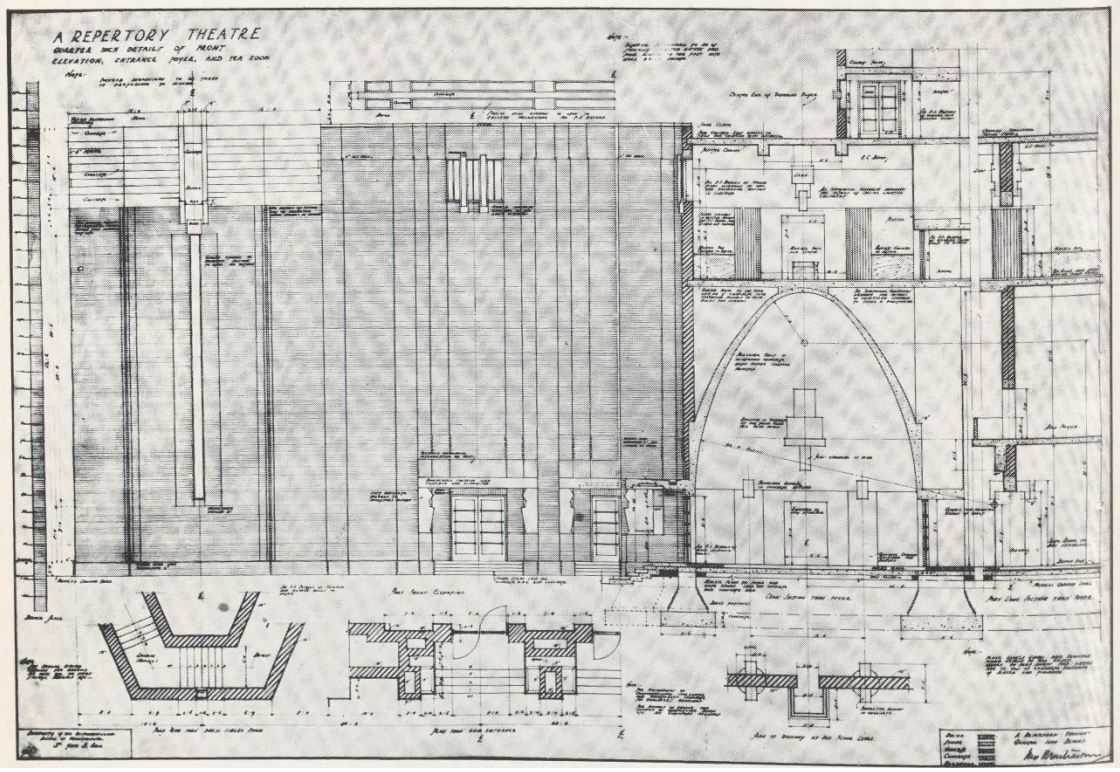
In 2012, the BSc Honors in Construction Management had its first 11 graduates, and the total number of graduates is now 330, from 2012 to 2024.

From 2011. the School of CEM had both degree titles of BSc in CM and BSc in Construction Management Studies (BSc in CMS) graduates. In 2014, there were graduates in BSc in Construction Studies (BSc in CS) along with BSc in CM and BSc in CMS, up to 2018.

SELECTED WORK BY STUDENTS AND LECTURERS

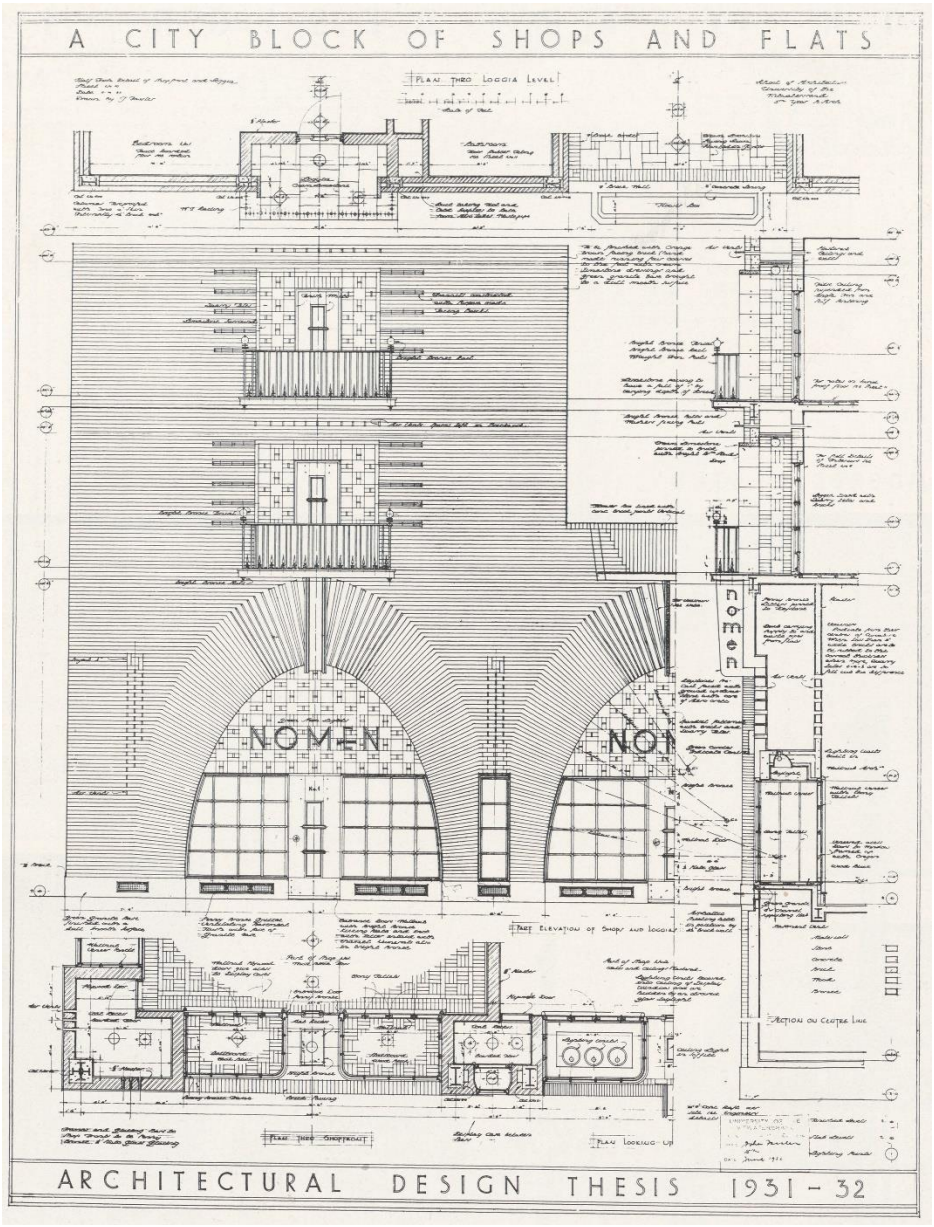
REX MARTIENSSEN, 1928, 5th Year Student

Figure 1: Rex Martienssen Quarter Inch Drawing (SAAR, 1942, p. 194)



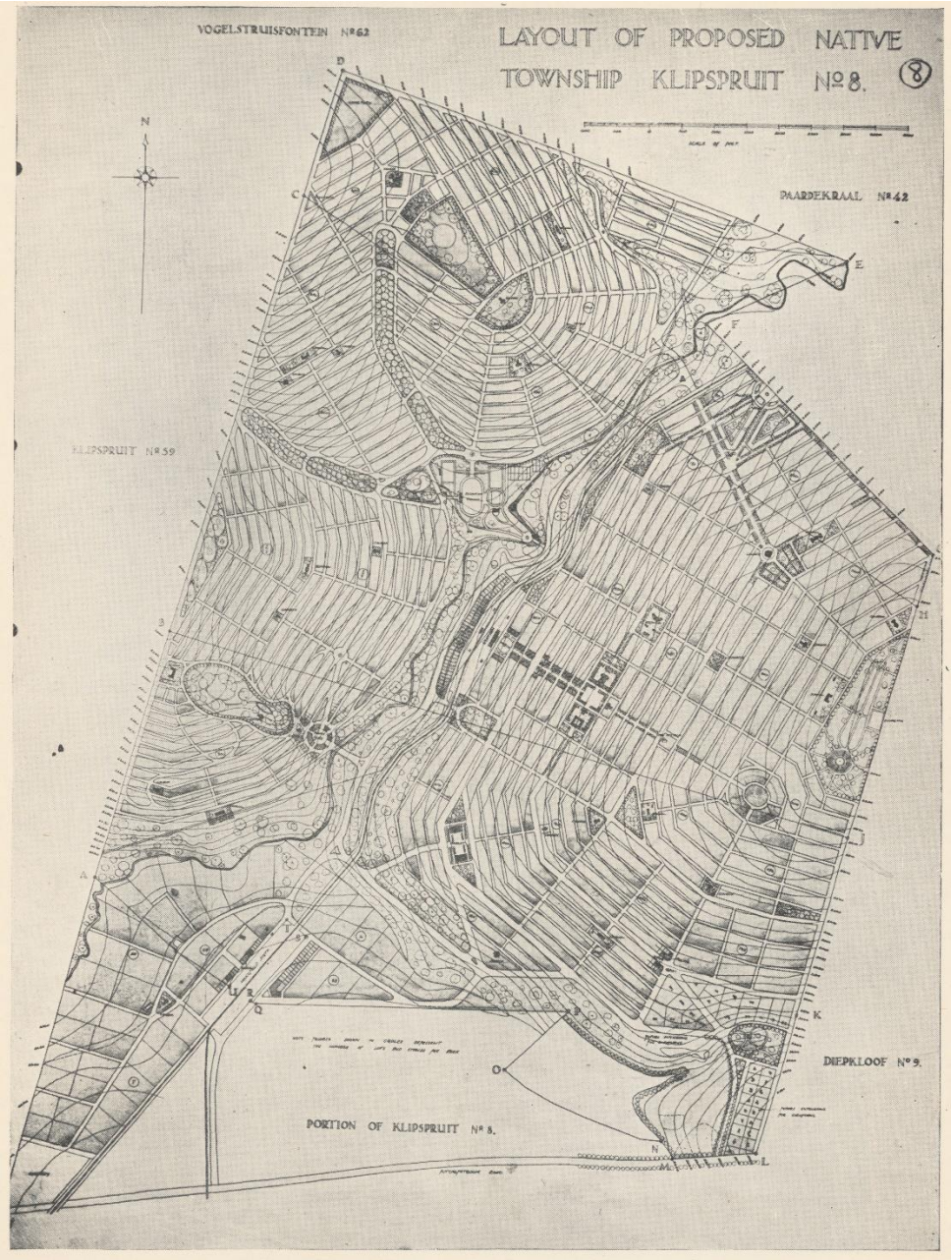
JOHN FASSLER, 1932, 3rd Year Student

Figure 2: J. Fassler - A City Block of Shops and Flats (*SAAR*, 1942, p. 196)



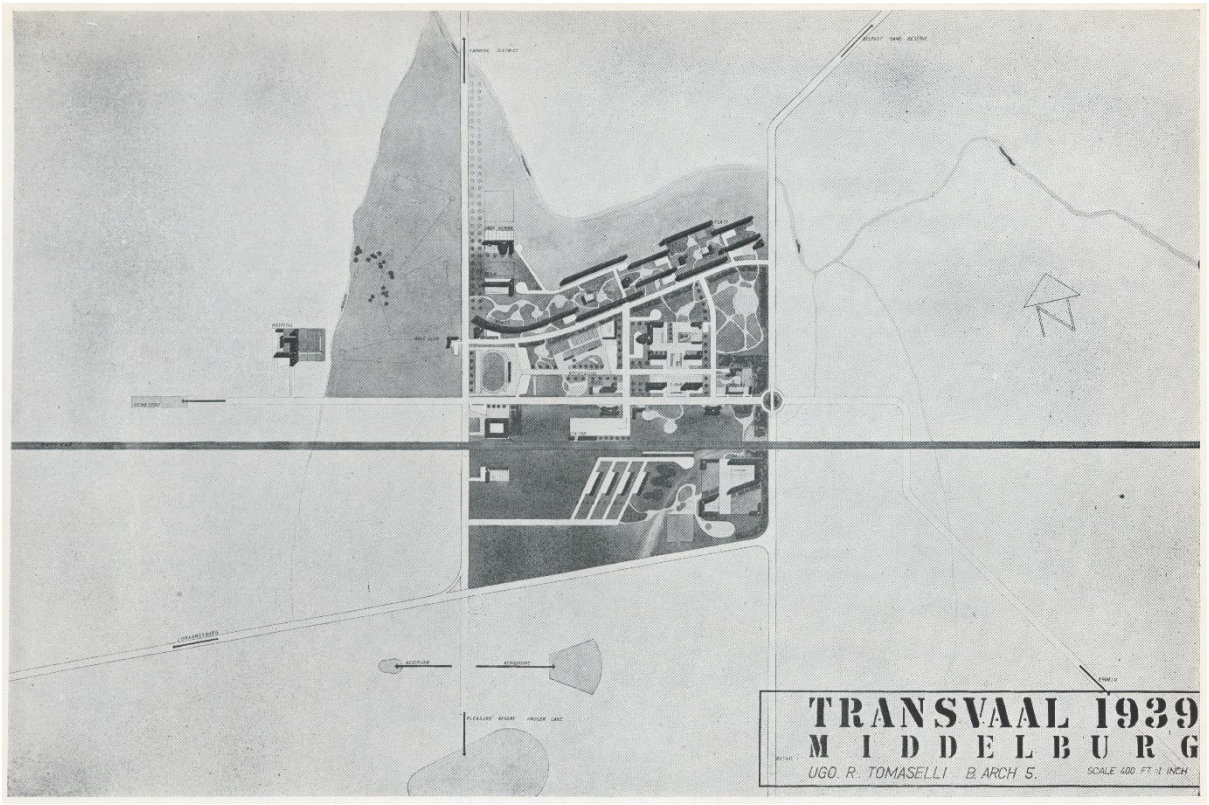
REX MARTIENSSEN, 1931, Design for Klipspruit Town Planning Competition

Figure 3: Rex Martienssen – Layout for Proposed Native Township: Second Premiated Design (*SAAR*, 1931, p. 89)



UGO TOMASELLI, 1939, 5th Year Student

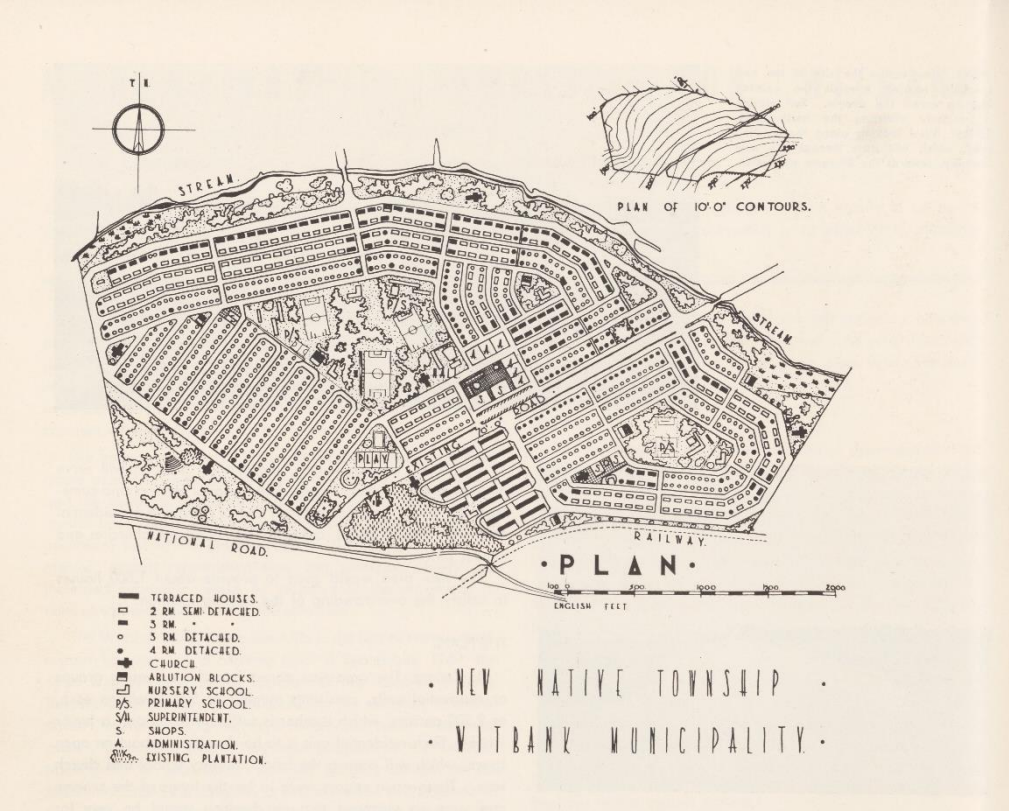
Figure 4: Ugo Tomaselli – Middelburg, Transvaal (*SAAR*, 1940, p. 180)



DOUG CALDERWOOD, 1951 – A New Native Township for Witbank

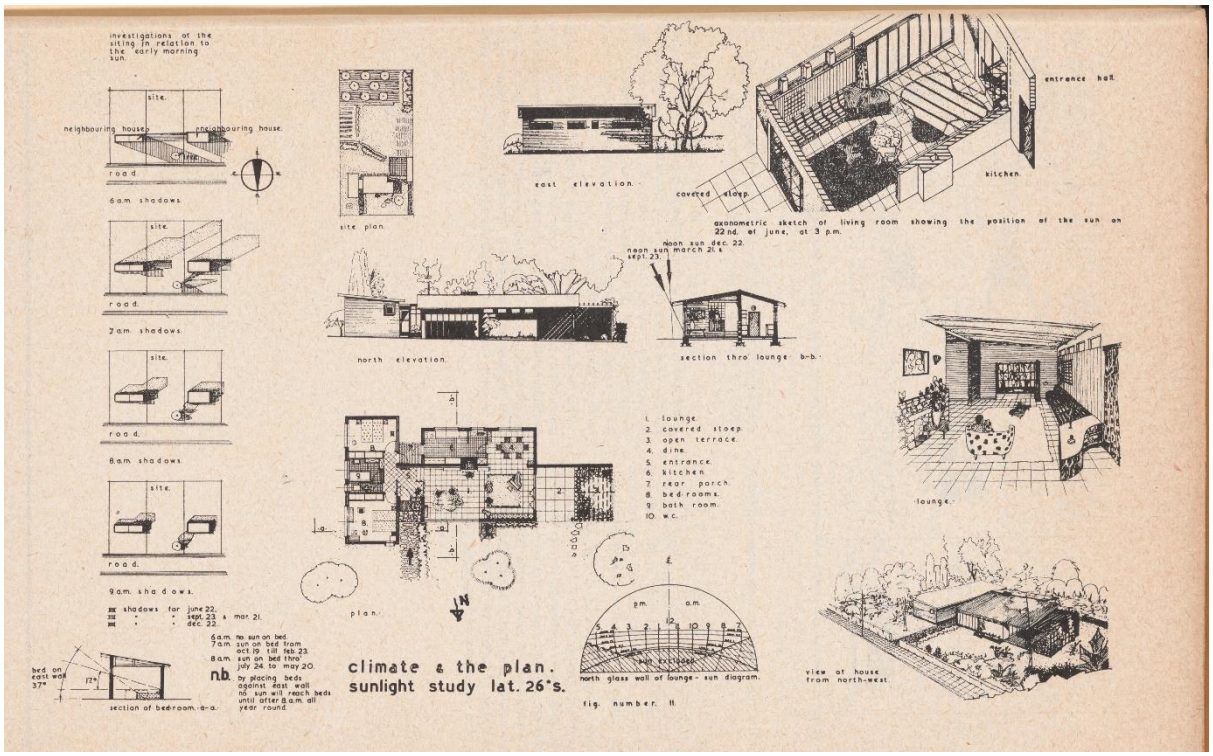
By AR Hector, Town Engineer and DM Calderwood, Senior Research Officer, National Building Research Institute

Figure 5: Calderwood - A new native township for Witbank (*SAAR*, 1951b, p. 124)– Witbank Township



DOUG CALDERWOOD, 1951 - Solar Charts

Figure 6: Calderwood – Solar Charts for the Design of Sunlight and Shade for Buildings in South Africa (*SAAR*, 1951c, p. 261)



FRANCO FRESCURA, 1973, John Burger Saga

Figure 7: Frescura – John Burger Saga (Frescura, no date)





REPUBLIC FESTIVAL IS A RAG STUNT!



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INAUGURAL ADDRESSES OF CLYDE WALKER AND SAMUEL LARYEA



Clyde Walker Inaugural Lecture.pdf



Prof Sam Laryea Inaugural lecture.pdf

GRADUATION AND STAFF PICTURES (1976 – 2018)



SCEM Graduation Staff Photos.pdf

UNIVERSITY OF THE WITWATERSRAND
Final Year Building Science 1976



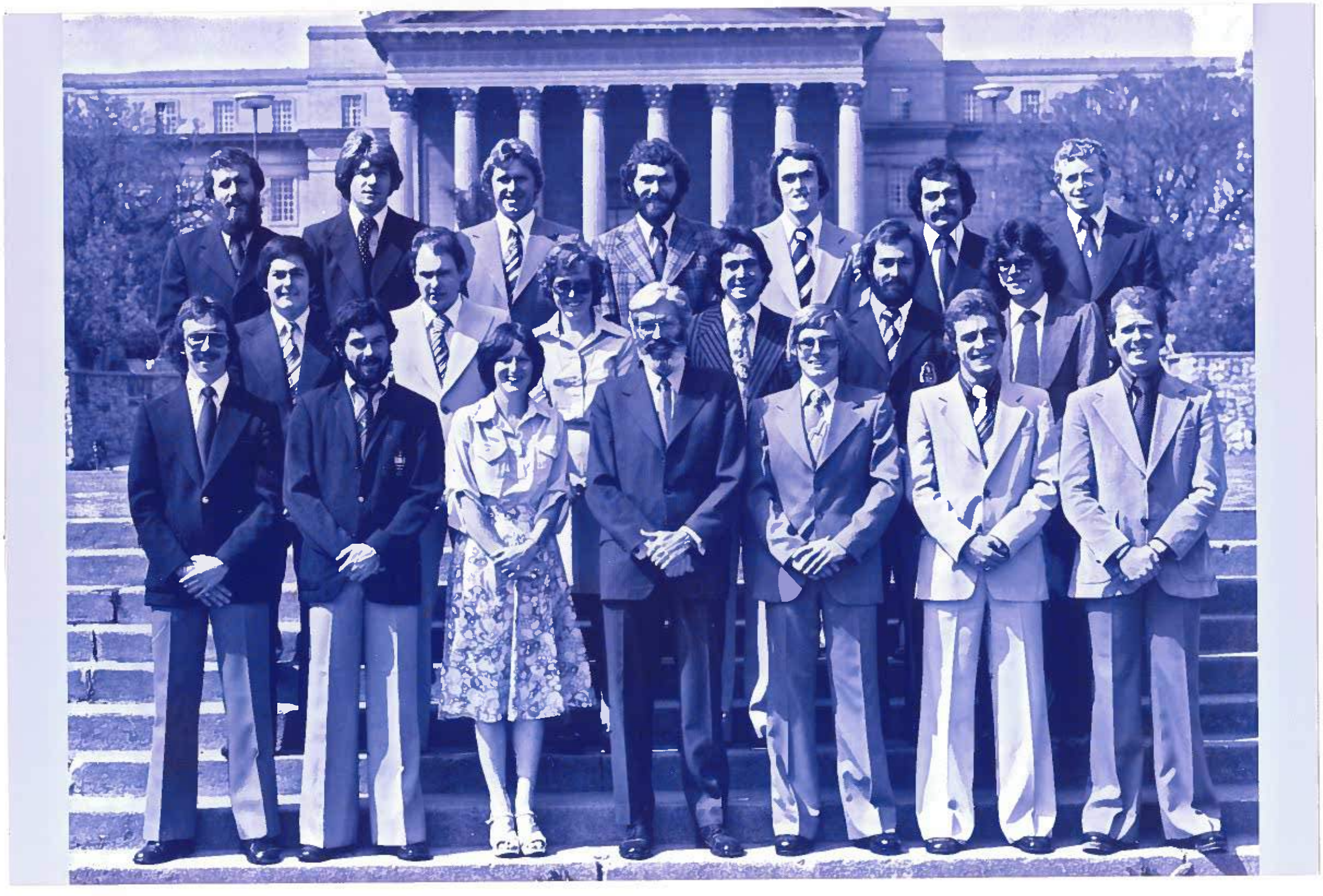
BACK ROW: (Left to Right) John Laws, David Gurney, Paul Bowker, Brendan Baiocchi, Peter Sanders, David Gibbs.
THIRD ROW: (Left to Right) John Steyn, John Gibbs, Rodney van der Walt, Lars Fischer, Antonty Kabalin.
SECOND ROW: (Left to Right) Simon Waner, Rene Matteis, Douglas Fortuin, David Brown, Clive Roberts.
FRONT ROW: (Left to Right) Douglas Immelman, Mr R I Schloss, Prof. Trent Olivier, Geen Mackie, Louis Stapelberg.
ABSENT: George Blum

UNIVERSITY OF THE WITWATERSRAND
Fourth Year Building Science 1977



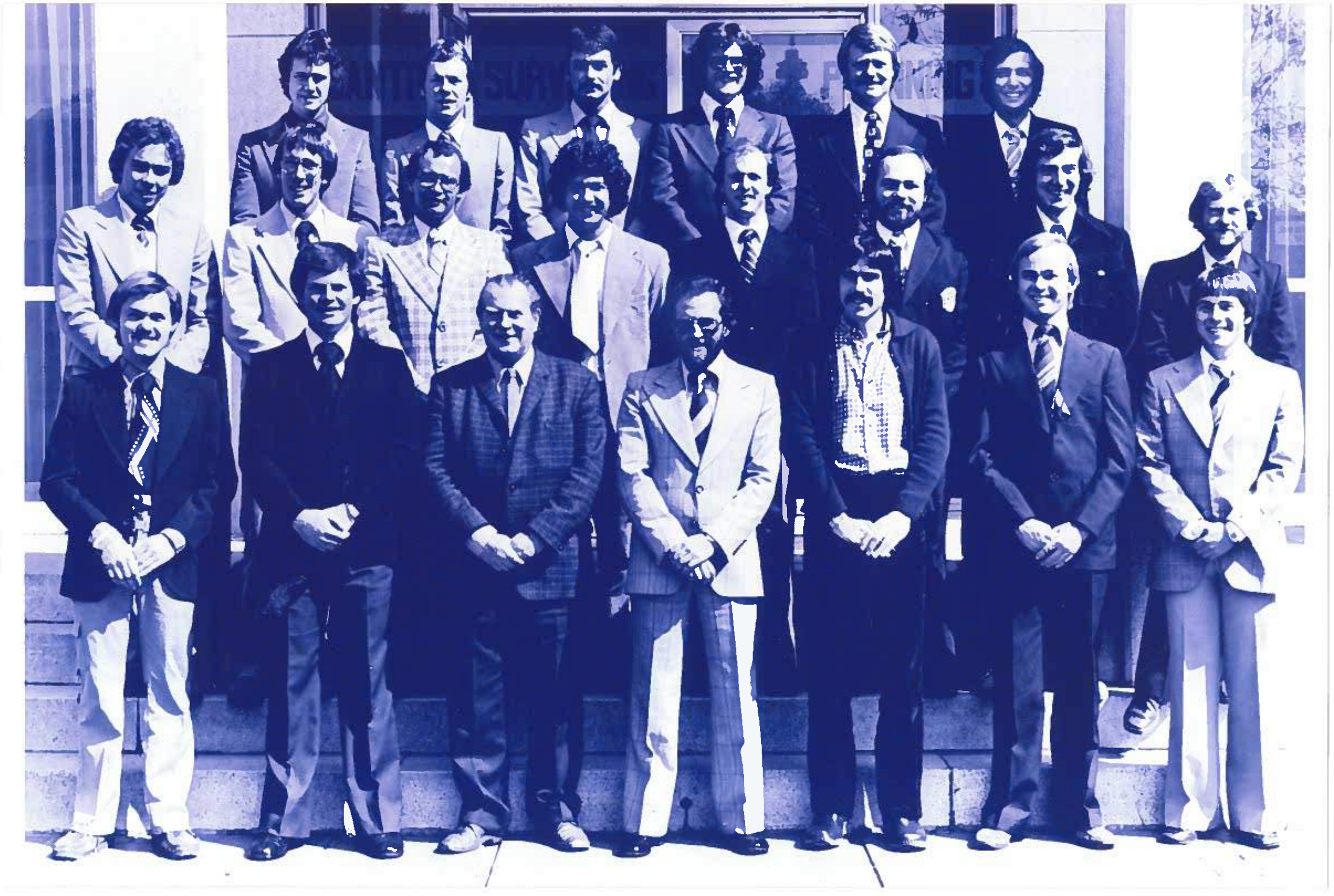
BACK ROW: (Left to Right) Clive Roberts, Mr Jules Segal, David Gurney, Andre Hofman, Andre Louw, Gerald Nelson.
THIRD ROW: (Left to Right) Selwyn Greenhill, John Steyn, Laurence Esterhuizen, George Popovic, Henry Marks, John Taljaard.
SECOND ROW: (Left to Right) Barry Snow, Wilhelm Prigge, John Schaerer, Ian Lawrie, Murray Boustred, Rob Meuwissen.
FRONT ROW: (Left to Right) Luigi Marrai, John Deeb, David McKie, Prof. Trent Olivier, Guy Pauling, Basil Shall, Allan Abrahamson.

UNIVERSITY OF THE WITWATERSRAND
Final Year Quantity Surveying 1978



BACK ROW: (Left to Right) A Walker, N Jankelowitz, R Upneck, T Fletcher, J Coetzee, G Kalivitis, P Hunter.
MIDDLE ROW: (Left to Right) J Kahan, A Rosen, Leslie Moffitt, G Nohr, R Brune, E Swart.
FRONT ROW: (Left to Right) R Pearse, V OMahony, Heather Brockman, Prof. C Walker, R Zeh, P Nash, M Mitchell.

UNIVERSITY OF THE WITWATERSRAND
Final Year B.Sc. Building 1979



BACK ROW: (Left to Right) W Ainge, G McLuckie, M Vinjevold, P Jones, A Cuthbertson, T Paget.
SECOND ROW: (Left to Right) P Brandsma, P Le Cordeur, J Greve, R Wagener, S Myerson, F Enslin, F Grange, V Goodbrand.
FRONT ROW: (Left to Right) R Bernstein, R Adams, Prof D Calderwood, Mr R Schloss, Mr J Segal, J Urquhart, C van Huyssteen.

UNIVERSITY OF THE WITWATERSRAND
Final Year B.Sc. Building 1980



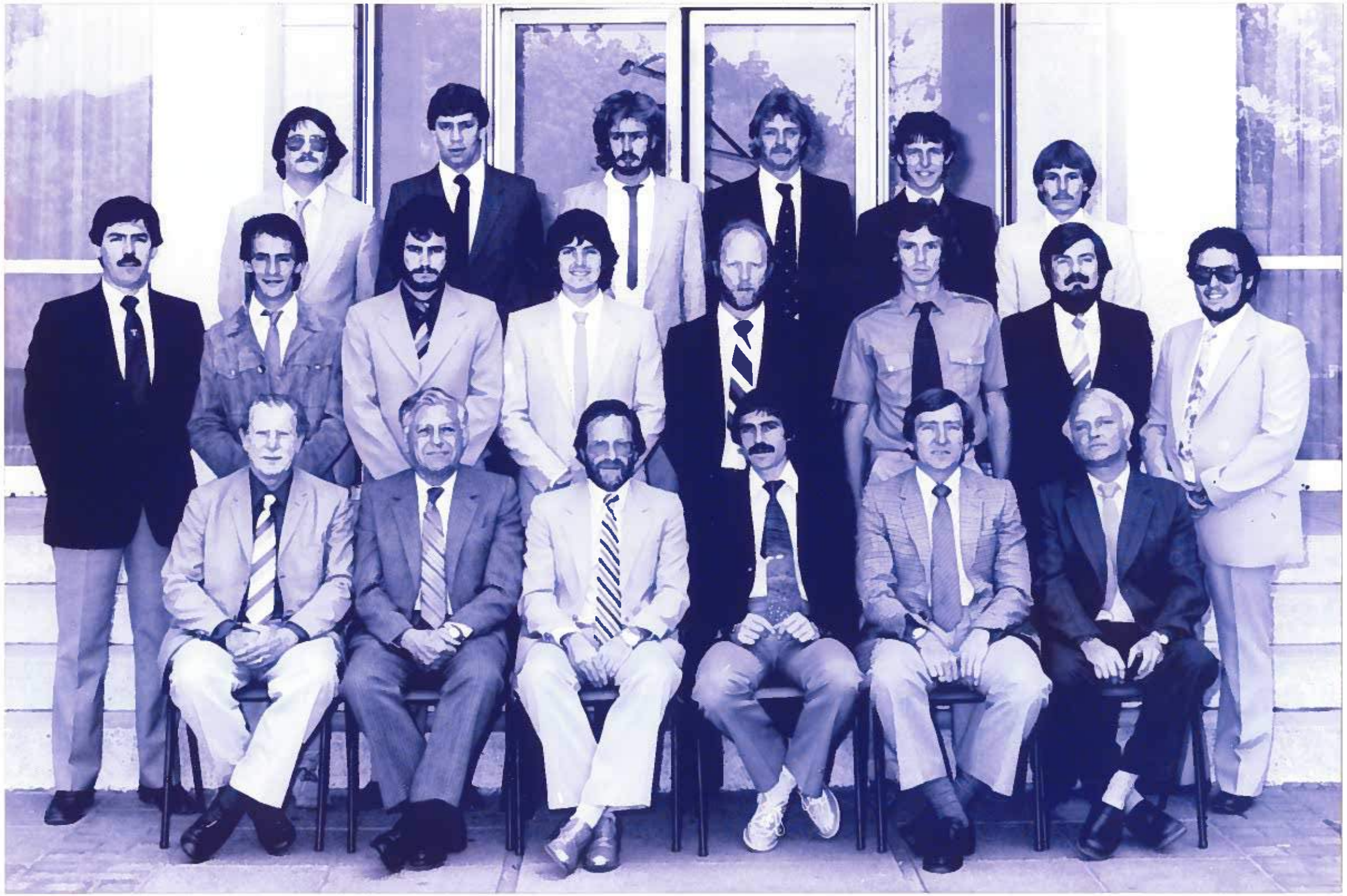
BACK ROW: (Left to Right) L Tearle, I Aberman, D Goss, P Kotze, M Green, B Duncan.
SECOND ROW: (Left to Right) A Milstein, P Maddison, E McLean, R King, G Salamon, J Spyropoulos, G Di Marco.
FRONT ROW: (Left to Right) B Viljoen, J Segal, R I Schloss, L S Stapelberg, E Roebert.

UNIVERSITY OF THE WITWATERSRAND
Final Year Quantity Surveying 1981



BACK ROW: (Left to Right) S Meyer, C Roberts, L Giuricich, E Sykes, N Wright, E Rosenberg.
MIDDLE ROW: (Left to Right) B Heineberg, A Barnes, B Stricker, I Tayob, M Battezzati, B Hassim, M Senyolo, M Hamilton, M Woodley, J Mees, C Da Silva.
FRONT ROW: (Left to Right) I Cochran, F Pretorius, Prof C Walker, N Law, J Heymann, R Taylor (Lecturers).
ABSENT: M van Heerden, M Docrat, G Nottingham

UNIVERSITY OF THE WITWATERSRAND
Final Year B.Sc. Building 1982



FRONT ROW: (Left to Right) Prof D M Calderwood, Prof L Cohen, Mr R I Schloss (Head), Mr J Segal, Mr R E Roebert, Mr B Vloothuis.
MIDDLE ROW: (Left to Right) J Giuricich, K J Farrell, G R Moore, N Swart, A P Leresche, Mr H Mantel, Mr S Taylor, S Lyons.
BACK ROW: (Left to Right) P C Staveley, M L Alberts, P A Roussos, M J MacDonald, M E Rule, V Schormann

UNIVERSITY OF THE WITWATERSRAND
Final Year Building Science 1983



FRONT ROW: (Left to Right) E Roebert, J Segal, M Carel, R Schloss, D Blanckensee, B Vloothuis, H Mantel, Prof L Cohen.
SECOND ROW: (Left to Right) L Pryke, M Jacques, S Hoffenberg, S Zikala, J Ramos, O Rood.
THIRD ROW: (Left to Right) M Foster, V Austin, G Sayce, B Carter, A Winter, S Flanagan.
BACK ROW: (Left to Right) G Gallagher, C Leitch, M Pijper, G Thomson, A Wentzel.

UNIVERSITY OF THE WITWATERSRAND

Final Year Quantity Surveying 1984



BACK ROW: (Left to Right) G Goode, G Bulmer, L Kirk, A Renny, R Phillips, N Buck, P Kridiotis.
FRONT ROW: (Left to Right) D Wall, A Rudolf, J Heyman, Mrs S Robinson, N Bertram-Smith, D Cattell.

UNIVERSITY OF THE WITWATERSRAND
Final Year Building Students 1984



BACK ROW: (Left to Right) A J Vieira, B Gordon P Wagener, M H Babamia.
MIDDLE ROW: (Left to Right) Mr R E Roebert, J J Tobias, W M Snyman, M C Simmonds, M D F Soares, Mr D Blanckensee.
FRONT ROW: (Left to Right) Mr B Vloothuis, Mr H L Mantel, Mr R I Schloss, Mr M Carel, Prof L J Cohen, Mr J Segal.

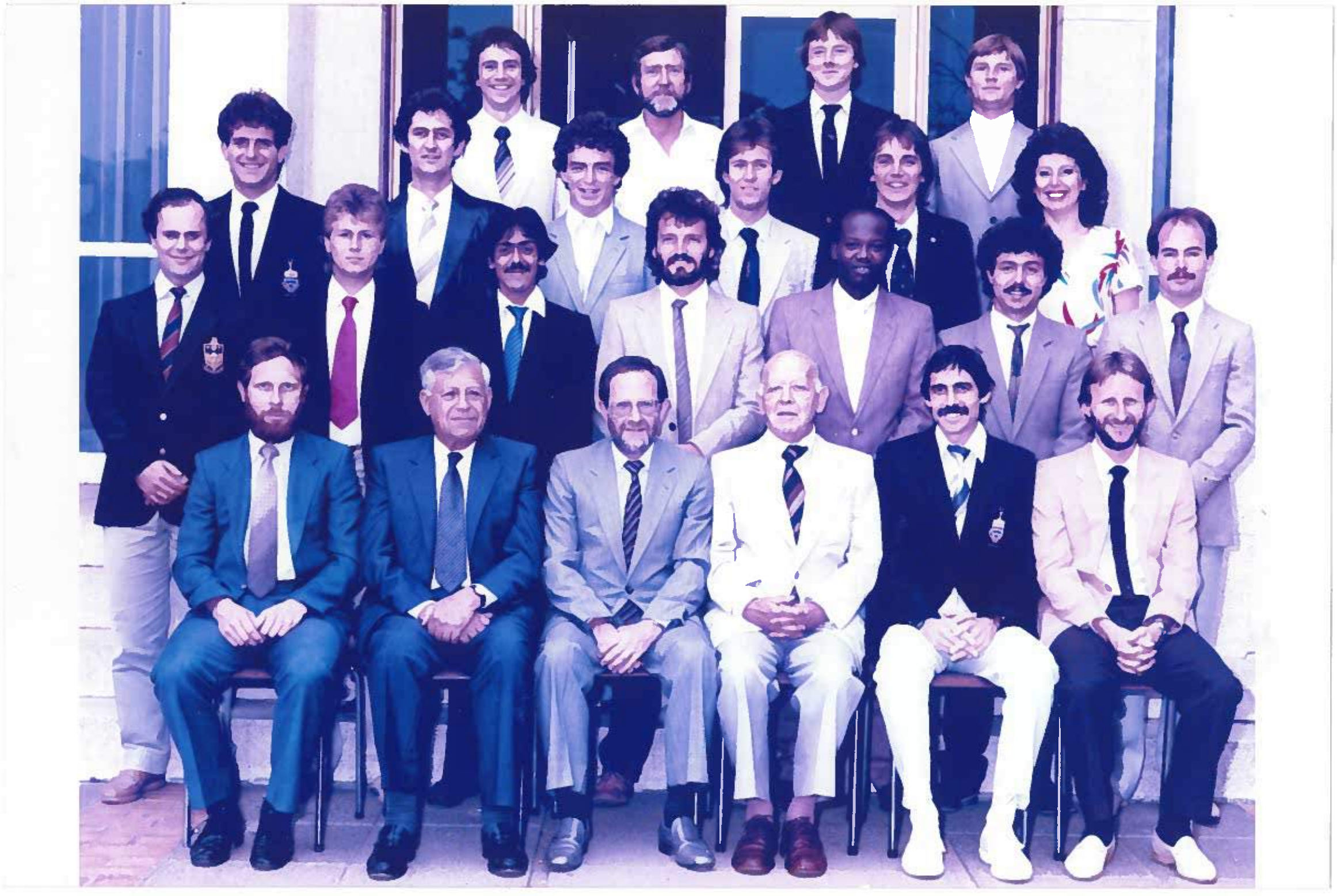
UNIVERSITY OF THE WITWATERSRAND

Final Year Quantity Surveying Students 1985



BACK ROW: (From Left to Right) Mr D Wall, C Hinton, F Germani, C Bayley.
FRONT ROW: (From Left to Right) Mr F Pretorius, J Dickinson, M Capatos, J Lupini, G Angel.

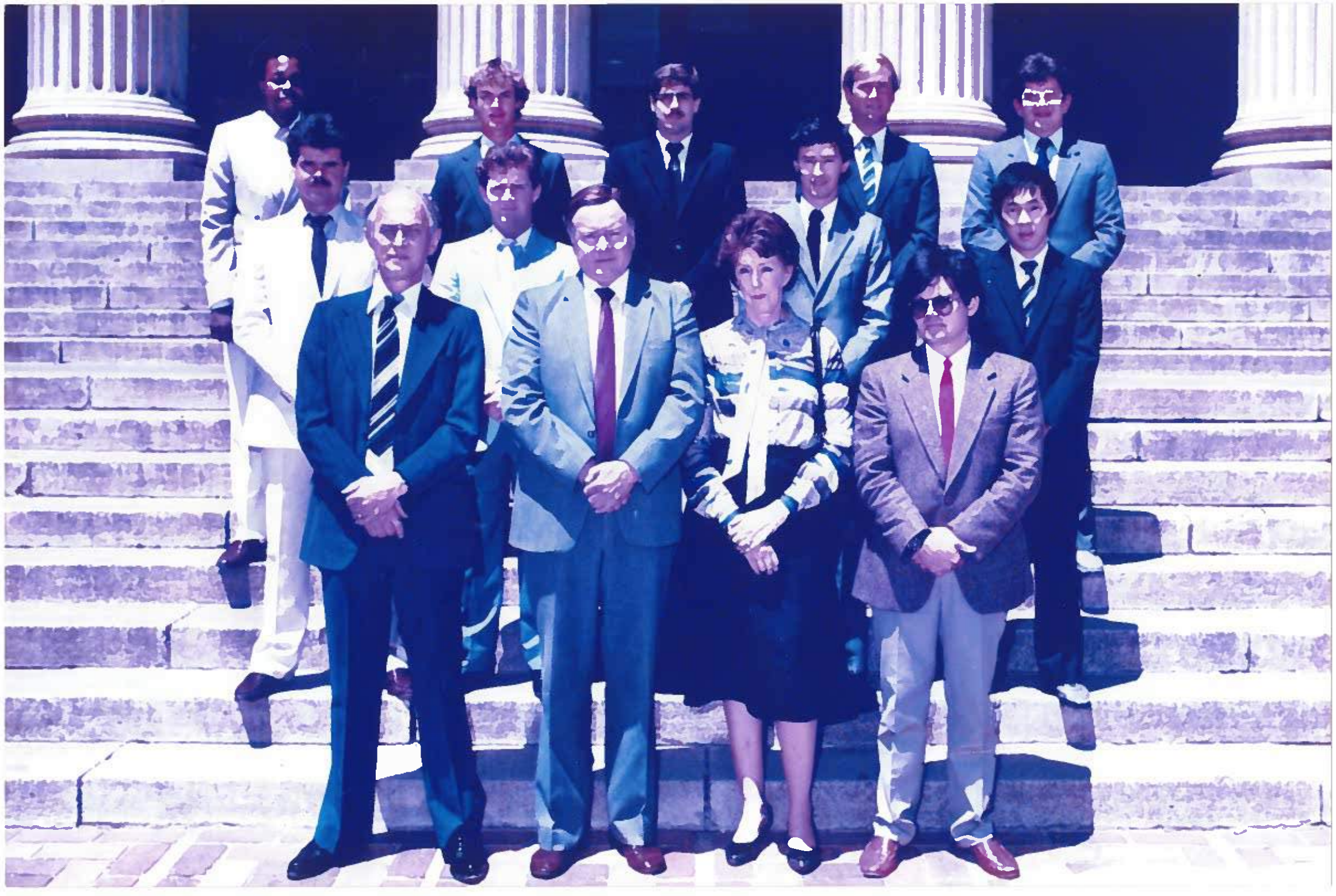
UNIVERSITY OF THE WITWATERSRAND
Final Year Building Science 1985



TOP ROW: (Left to Right) W P Witthuhn, Mr R E Roebert, A M Walsh, P B Raymer.
THIRD ROW: (Left to Right) M E G Valente, R E Lockett, I G McDougall, A N Schedler, I D Lowe, Miss J Kagan.
SECOND ROW: (Left to Right) C B Pope, K A Morris, M S S Hassan, S G Dickinson, M M Mkhize, A M M Goncalves, S B Smyth.
FRONT ROW: (Left to Right) Mr A Jaff, Professor L J Cohen, Mr R I Schloss, Mr M Carel, Mr J Segal, Mr D Blanckensee.

UNIVERSITY OF THE WITWATERSRAND

Final Year Quantity Surveying 1986



BACK ROW: (Left to Right) Paul Kgole, Robert Lane, Howard Rauff, Anthony Dance, David Lawrence.
MIDDLE ROW: (Left to Right) Mark Harding, Steven Alister, Gareth Pritchard, Gerald Loe.
FRONT ROW: (Left to Right) Prof D Samson, Ian Cochran, Shirley Robinson, Frederick Pretorius.

UNIVERSITY OF THE WITWATERSRAND
Final Year Building Science 1986



BACK ROW: (Left to Right) C Dubery, P Derbyshire, A Kaufman, A Barrett, R Stoch, F Cardoso.
THIRD ROW: (Left to Right) M William, R Cottrill, D Welsh, L van der Merwe, P Reinecke, S de Klerk, D Bouwer, W Campbell.
SECOND ROW: (Left to Right) R J Marais, J Duarte, P O'Brien, C Timm, R Graspointner, S Efrat, S Abraham, R F Marais.
FRONT ROW: (Left to Right) D Savage, Mrs G Wilson, Mr H Mantel, Mr A Jaff, Mr R Schloss, Mr E Roebert, Mr D Blanckensee, Miss J Kagan, Mr Y Kimmel.

UNIVERSITY OF THE WITWATERSRAND
Final Year Quantity Surveying 1987



BACK ROW: (Left to Right) Paul Kgole, Robert Lane, Howard Rauff, Anthony Dance, David Lawrence.
MIDDLE ROW: (Left to Right) Mark Harding, Steven Alister, Gareth Pritchard, Gerald Loe.
FRONT ROW: (Left to Right) Prof D Samson, Ian Cochran, Shirley Robinson, Frederick Pretorius.

UNIVERSITY OF THE WITWATERSRAND

Final Year Building Science 1988



FRONT ROW: (Left to Right) Mr. W Sher, Mr H Mantel, Mr A Jaff, Prof J Morris, Prof R I Schloss, Mrs G Wilson, Mr D Blanckensee, Mr I Kimmel.
SECOND ROW: (Left to Right) Mr R E Roebert, W Pugin, A Jassat, J Shorten, N Thornhill, R Rankine, R Attridge, V Swana, Mr W van Heerden.
THIRD ROW: (Left to Right) M Brown, B Evans, B Clayton, M Kirschner, P Gavin, M Trehearn, J Townsend.
FOURTH ROW: (Left to Right) L Harrod, G Whalley, S Retzlaff, D Keightley, B Smith.
BACK ROW: (Left to Right) D Jones, M Perrow, S Ghersi, W Jordaan, D van Baalen, C Globert.

UNIVERSITY OF THE WITWATERSRAND
Final Year Quantity Surveying 1989



TOP ROW: (Left to Right) Wayne Creamer, Michael Werry, Craig Marshall, Shaun Montgomery, Darien Pemberton
MIDDLE ROW: (Left to Right) Andrew Taylor, Timothy Crossley, Allen Milner, Clifford Hayim, Ermano Giacovazzi.
FRONT ROW: (Left to Right) Mr Ross Phillips, Andrea Kaiser, Shobhna Bhukhen, Ginette Fung, Heather Dalgleish, Soraya Navsa, Heather Ralph, Prof. Dirk Samson.
ABSENT: Timothy Dhlamini.

UNIVERSITY OF THE WITWATERSRAND

Final Year B.Sc. Building Science 1989



TOP ROW: (Left to Right) S Feldman, D Inskip, Miss R Wilson, P Norton, B Bremner.
SECOND ROW: (Left to Right) K Hari, R Ichikowitz, G Beaton, K Armstrong, M Stiekema, B Valentine, R Gravette, A Soares.
THIRD ROW: (Left to Right) D Geldenhuys, P Bartosch, D Fuchsloch, D Richmond, J Price, R Smith, M Gebler, J Fleming.
FRONT ROW: (Left to Right) I Kimmel, Miss J Trayler (Secretary), Prof J Morris, Prof R I Schloss, Prof L Cohen, R E Roebert.
LECTURERS: D Blanckensee, W Sher

UNIVERSITY OF THE WITWATERSRAND

Final Year Quantity Surveying 1990



TOP ROW: (Left to Right)Faizel Ghood, Riaz Koor, Warren Forsyth, Adrian Timp, Hilton van Dyk, Berto de Gouveia, Malcolm Steyn.
MIDDLE ROW: (Left to Right)Yusuf Dindar, Leon Coetzee, Harold Bates, Robert Onsiong, Wayne Creamer, Desmond Berkowitz.
FRONT ROW: (Left to Right)Andrew Texeira, Grant Roodt, Mr J Br mmer, Janine Jordan, Prof D Samson, Mark Meiklejohn, Gary Jackson.

UNIVERSITY OF THE WITWATERSRAND

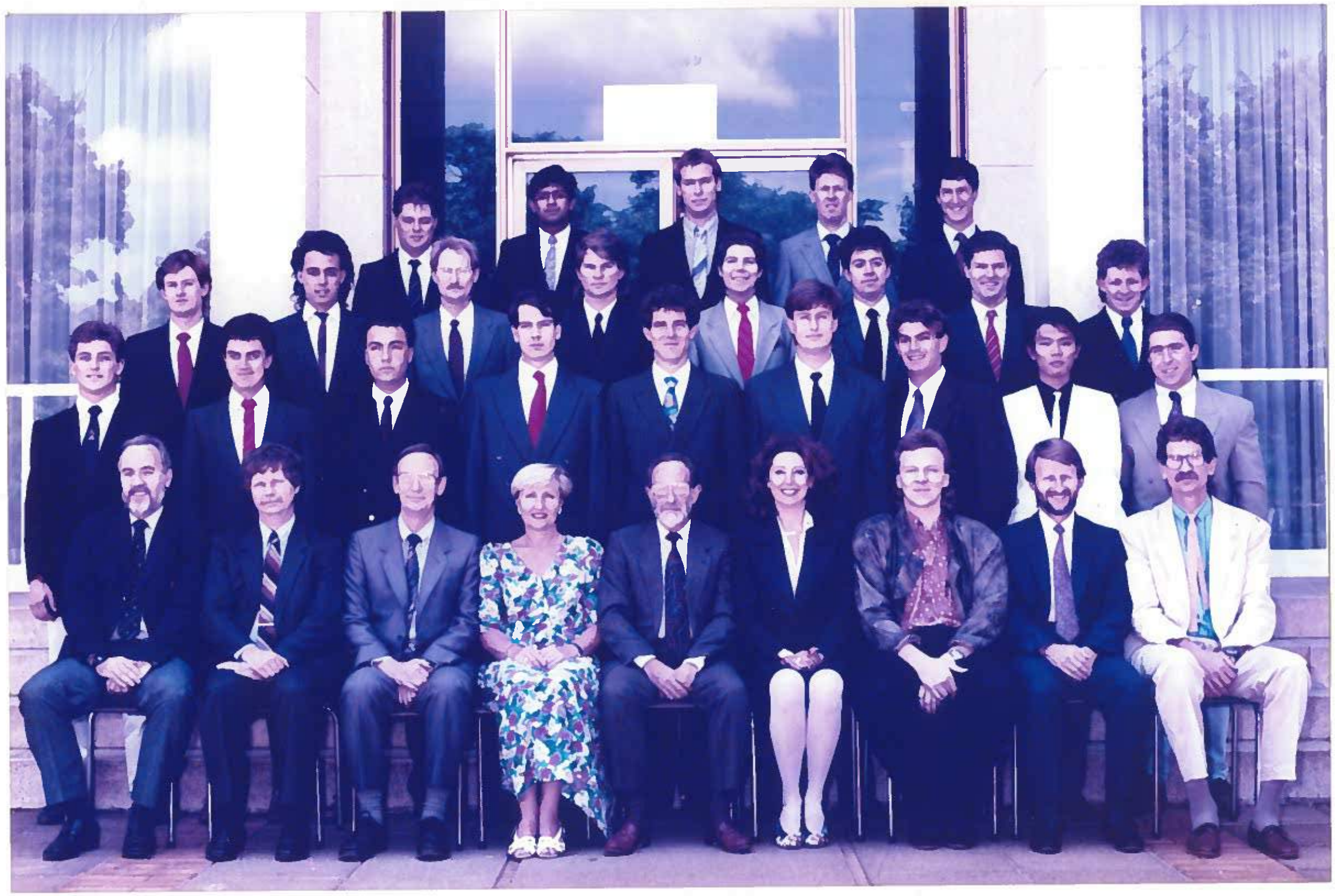
Final Year B.Sc. Building Science 1990



BACK ROW: (Left to Right) G Cook, W Kretzmar, L Vimercati, P Steinschulte, S Krost, J Robbertze, B Parrot, R Knight, Mr E Roebert (Lecturer).
THIRD ROW: (Left to Right) D Papadopoulos, J Rafel, G Cocotos, J Michaelides, A Beddow, W Peterson, A Venter, J Bol, S Maron, P Whalley, S Gore, M Leigh.
SECOND ROW: (Left to Right) T Kemp, K Sithole, C MacNair, A Gollub, C Roberg, M Roseman, J van Blerck, A Currie, C Horsfall, B Aab, M Tannian.
FRONT ROW: (Left to Right) Mr H Ovsiowitz, Mr I Kimmel, Mr F Higgs, Mrs J Doran, Prof J Morris, Prof R Schloss (Head of Dept.), Mr P Stavely, Miss J Kagan, Mr A Jaff, Mr W Sher.

UNIVERSITY OF THE WITWATERSRAND

Final Year B.Sc. Building Science 1991



TOP ROW: (Left to Right) W Snaddon, V Singh, C Harrison, A Patterson, G Sperber.
THIRD ROW: (Left to Right) G Field, C Pinho, J Staples, A McFarlane, G Lees, S Gordon, B Usher, C Scheffel.
SECOND ROW: (Left to Right) G Muller, A De Zwart, L Mendes, W Wilkie, B Lewis, B Sutherland, A Kuming, E Chew, A Upiter.
FRONT ROW: (Left to Right) Mr G Prior, Dr F Higgs, Prof J Morris, Mrs D Pousson, Prof R Schloss, Miss J Kagan, Mr P Rudzinske, Mr D Blanckensee, Mr W Sher.

UNIVERSITY OF THE WITWATERSRAND
Final Year B.Sc. Quantity Surveying 1992



TOP ROW: (Left to Right) Mokwena Mothogoane, Euan Stuart, Giulio Capuzzimati, Trevor Clark, Raymond Bott, Ivan Plisic, Sharmraj Bauchoo, Peter Thoo.
MIDDLE ROW: (Left to Right) Darren Faugust, Michael Berkowitz, Richard Cork, Allessandro Masselli, Socratis Avgitidis, Molefe LLale, Ross Attewell, Marco De Sambento.
FRONT ROW: (Left to Right) Margaret Smith, Prof R Schloss, Ms J Kagan, Prof D Samson Dr F Higgs, Jackie Henderson.
INSERT: Richard Duff

UNIVERSITY OF THE WITWATERSRAND

Final Year B.Sc. Building Science 1992



TOP ROW: (Left to Right) W Snaddon, V Singh, C Harrison, A Patterson, G Sperber.
THIRD ROW: (Left to Right) G Field, C Pinho, J Staples, A McFarlane, G Lees, S Gordon, B Usher, C Scheffel.
SECOND ROW: (Left to Right) G Muller, A De Zwart, L Mendes, W Wilkie, B Lewis, B Sutherland, A Kuming, E Chew, A Upiter.
FRONT ROW: (Left to Right) Mr G Prior, Dr F Higgs, Prof J Morris, Mrs D Pousson, Prof R Schloss, Miss J Kagan, Mr P Rudzinske, Mr D Blanckensee, Mr W Sher.

UNIVERSITY OF THE WITWATERSRAND
Final Year B.Sc. Quantity Surveying 1993



FOURTH ROW: (Left to Right) L Adler, B Shapiro, C Erickson, N Hind, A Gerazounis, A Ainsworth.
THIRD ROW: (Left to Right) E Matji, Y Haffejee, E Ahmed, Z Abdoola, Z Adroos, R Brown, R Taylor.
SECOND ROW: (Left to Right) Y Theba, R Tayob, M Khota, F Wadiwalla, J Thomson, S Mtshazo, M Quan, A Hayim.
FRONT ROW: (Left to Right) Mr I Finnie, Mr I Cochran, Prof J Morris, Prof D Samson, Prof R Schloss, Mrs D Pousson, Mr D Blackensee, Miss J Kagan

UNIVERSITY OF THE WITWATERSRAND
Department of Building and Quantity Surveying 1994



BACK ROW: (Left to Right) G Shor (B), J Perlstein (B), K Rascher (B), J Southern (B), A Fleming (B), D Rivetti (B), B Schofield (Q.S.), J Bunn (B), M Hoffmann (B), G Blight (B).

FOURTH ROW: (Left to Right) B Lynch (B), G Gibbon (B), W Qina (B), B Kirchmann (Q.S), A Kerfoot (B), A Rogers (B), M Rocha (B), R Williams (B), M Luyckx (B), C Chen (B), B Ballard (Q.S), C Fogolin (Q.S).

THIRD ROW: (Left to Right) D Egan (B), S Gordon (B), G Robertson (B), G Genovese (B), M Mohlasedi (Q.S.), I Macaulay (B), P. Fountas (B), L Fabris (B), H Bhyat (Q.S.), U Pillay (Q.S.), S Chetty (Q.S) K Sun (Q.S), Y Carim (Q.S).

SECOND ROW: (Left to Right) N Harrison (B), G Mutyanda (Q.S.), G Jones (B), C Gibbs (B), V Conchie (B), A De Oliveira (Q.S.), H Stocker (Q.S.), V Murkovic (Q.S), K Wixley (Q.S.), N Mohamed (Q.S.),G Weale (Q.S.), S Yoganathan (Q.S.), N Bismilla (Q.S.), Y Patel (Q.S.).

FRONT ROW: (Left to Right) Mr I Cochran, Mr P Rudzinske, Mr J Rafel, Mr E Roebert, Mrs D Pousson, Prof D Samson, Prof R Schloss, Prof J Morris, Dr R Nkado, Mr D Blanckensee, Mr R Rankin, Mr I Finnie.

UNIVERSITY OF THE WITWATERSRAND

Department of B.Sc. Building and Quantity Surveying

Final year 1995



TOP ROW: (Left to Right) Evan Berger, Greg Falkof, Toni Capuzzimati, Alex Hall, Andrew McLaggan, Stephen Standfest, James Tannenberger.
FIFTH ROW: (Left to Right) Jason Snell, Adam Wesek, David Hanson, Wilton Wratten, Jerome Nixon, Richard Hart, Sean Friend, Stephen Price.
FOURTH ROW: (Left to Right) Duncan Stainer, Nicola Di Santo, Carlo Marques, Digvijay Poorooye, Stuart Williamson, Justin Spencer-Young, Eduard Stephenson, Sivanasen Veeran.
THIRD ROW: (Left to Right) Frans van Kets, Meck Mberi, Richard Barrow, Godfrey Chaane, Angus McRae, Jose Monteiro, Richardo Infante, Dalan Cohen.
SECOND ROW: (Left to Right) Lance Tempest, Janet Pain, Kirtika Vallabh, Bridget Kelly, Margaret Lopes, Carla Silva, Laura De Rose, Clint Wilson Alon Feldman, Terry Handel.
FRONT ROW: (Left to Right) Mr W Soutter, Mr P Rudzinske, Mr E Roebert, Prof J Morris, Prof R Schloss, Mrs D Pousson, Mr D Blanckensee, Mr I Finnie.
INSETS: Iain Watters, Mr R Rankine, Prof D Samson Dr R Nkado.

UNIVERSITY OF THE WITWATERSRAND

Department of B.Sc. Building and Quantity Surveying

Final year 1996



BACK ROW: (Left to Right) G Cockcroft, S Johnston, C Rix, P Breedveld, A Banoo, R Bathke.
FOURTH ROW: (Left to Right) R Wilson, R Amm, A Bain, J Roxburgh, M Rosenmann, T Smith, S Abeeluck, I Perkovic, V Ngwenya.
THIRD ROW: (Left to Right) P Vester, R Miller, M Merolla, Y Nabeemeeah, A Kressnig, K Liao, C Shattaoulas, C Schneider, T Chwene, M Kaunda.
SECOND ROW: (Left to Right) C Heydenrych, G Donald, S Snaddon, M Cathrall, X Giannone, G Arthur, G Letcher, E Viljoen G Andrew, J Llale, L Monda, M Casmod.
FRONT ROW: (Left to Right) Mr I Finnie, Mr J Odhiambo, Mr P Rudzinske, Mrs D Pousson, Prof D Samson, Prof R Schloss (Head of Department), Prof J Morris, Mr D Blanckensee, Dr R Nkado, Mrs G Sorrell-Saunders, Mr C Jennings.
ABSENT: Mr R Rankine

UNIVERSITY OF THE WITWATERSRAND
Department of B.Sc. Building and Quantity Surveying
Final year 1997



FRONT ROW: (Left to Right) R Ndlovu, Mr P Rudzinske, Mr S Wesselink, Mr R Rankine, Prof J Morris, Prof R I Schloss, Prof D Samson, Mrs D Pousson, Mr D Blanckensee, Mrs S Sheppard, Mr I Finnie.
SECOND ROW: (Left to Right) M Lerotholi, Mr J Odhiambo, A Galgut, J Holden, M Corbett, D Afonso, M Ielpi, P Berger, T Herbst, U Mabela, K Seabe, T Thomo, Dr R Nkado.
THIRD ROW: (Left to Right) I R Ramasamy, D Flammer, G Meskin, S Mayieka, G Hope, G Rule, R Jacobs, M Setwaba, D Jeevananthan, J Pieterse, S Desai, M Molefe.
FOURTH ROW: (Left to Right) A Ranoto, F Marsura, E Gonen, B Fine, I Goodman, J Pimblett, C Kupritz, A Ridolfi, J Reikstins, Q Booysen, J Gardee, J Kakitahi, M Manganye.

UNIVERSITY OF THE WITWATERSRAND
Department of B.Sc. Building and Quantity Surveying
Final year 1998



BACK ROW: (Left to Right) D Gabagas, M Pronto, J Chaitowitz, D Herman, T Mervis, M Lowe, R Machet, J Lamb, M Pearmain, G Bastion.
SECOND ROW: (Left to Right) K Klein, A Matopi, C Joubert, S Welton, C Morton-Shepherd, G Harisis, L Dehrmann, D Bonnert, D Mavrokefalos, Mr R Ndlovu, Mr R P Rudzinske.
FRONT ROW: (Left to Right) Mr I Finnie, Mr R Bathke, Mr C Rix, Prof J Morris, Mr J Appiah-Baiden, Mrs D Pousson, Prof R I Schloss, Mrs S Shepperd, Mr G Shor, Dr R Nkado, Mr A De Goede, Mr D Blanckensee.

UNIVERSITY OF THE WITWATERSRAND

Department of B.Sc. Building and Quantity Surveying

Final year 1999



BACK ROW: (Left to Right) Grant Elliott, Peter Janofsky, Nicholas Fintanis, Paul Coelho, Neil Morgan, Craig Weaver, Gavin Webb, Shoayb Loonat, Panagiotis, Zagaretos, Todd Sheahan.

THIRD ROW: (Left to Right) Mothusi Nkwana, Kenneth Mothei, Oliver Stainer, Luis Moreira, Steven Abromowitz, Seiden Pyneeandee, Roberto Jardim, Cristian Blasa, Anthony Graham, Mark de Haast, Scott Elliott.

SECOND ROW: (Left to Right) Anthony Rosmarin, Leoma Matamane, Phenyo Mathopa, Koenehelo Thejane, Angela Lai, Thirusha Pather, Shorai Manyande, Belinda Dalgleish, Shih-Tsan Yang, Clinton Forbes, Arthur Davies, Li Chung Chang.

FRONT ROW: (Left to Right) Mr D Mavrokefalos, Mr P Rudzinske, Mr A de Goede, Mr M Murray, Mr J Appiah-Baiden, Mrs D Pousson, Prof R Schloss, Mr F Viruly, Mrs S Sheppard, Ms J Kagan, Mr G Shor, Dr R Nkado, Mr D Blanckensee.

UNIVERSITY OF THE WITWATERSRAND

Department of Construction Economics and Management

B.Sc. Construction Management and Quantity Surveying

Final Year 2000



BACK ROW: (Left to Right) M G Bonnet, D P Dickson, J R Williams, R G C Conroy, G R Altini, B Ngxito, H B Maluleke, M C Letsie.
THIRD ROW: (Left to Right) Mr I Finnie, J P Chiu, O B K Basiami, A Giudice, M Wraten, T H Mabasa, Mr M Murray, Mr D Mavrokefalos.
SECOND ROW: (Left to Right) D Miller, G Ahier, N G Calasse, L Kusada, C J Lin, L G Dlamini, S Davies, N Makanjee, A Samson, C Y Chung.
FRONT ROW: (Left to Right) Mr P Rudzinske, Ms A Lai, Mr J Appiah-Baiden, Mrs S Sheppard, Prof R I Schloss, Mrs D Pousson, Mr D Blanckensee, Ms J Kagan, Mr G Shor.

UNIVERSITY OF THE WITWATERSRAND

School of Construction Economics and Management

B.Sc. Construction Management and B.Sc. Quantity Surveying 2002



BACK ROW: (Left to Right) Joshua Maroge, Mark van Staden, Mark Kakitahi, Nicholas Webb, Kwaku Kyereh, Luvo Peter.
THIRD ROW: (Left to Right) Tafara Masanganise, James Cahill, John Alexander, Matthew Spurrier, Ricci Davidoff, Alex Bester, Ashraf Sayed, Mokhele Ramonate, Mr P Rudzinske, Ms E Heron.
SECOND ROW: (Left to Right) Mr J Mbachu, Alex Ling, Chun-Neng Shou, Katherine Sadler, Samkelisiwe Qwabe, Makili Moeketse, Joana Estrela, Sindiswa Mthimkulu, Abraham Baloyi, Mr N Meeta, Mr D Mavrakefalos.
FRONT ROW: (Left to Right) Ms A Arif, Mr M Murray, Mrs T Sithole, Mr J Appiah-Baiden, Mr F Viruly, Professor R Schloss (Head of School), Mr R Ndlovu, Mrs D Pousson, Ms S Bhana, Mr S Wesselink, Mr D Blanckensee.

UNIVERSITY OF THE WITWATERSRAND

School of Construction Economics and Management

Final Year 2003



BACK ROW: (Left to Right) M Mogalia, E Mokoena, E Dlamini, S Kallan, P Katabua, M Wilson, M Kakitahi, M Van Staden
THIRD ROW: (Left to Right) Mr R Ndlovu, B Tshwili, X Mnyani, M Walker, B McWilliams, W Webb, J Matthee, M Nel, J Libera, D Souto, Mr I Finnie
SECOND ROW: (Left to Right) Mr M Murray, Mr S Wesselink, Z Pule, E Matsheka, Chiloane, L Tsotsi, R Pedro, M Seedat, L Marumo C Masebi, J Simente
FIRST ROW: (Left to Right) Dr J Mbachu, Mrs D Pousson, Mr P Butt, E Nyandoro, N Tsoeu, Y Tladi, N Moonsamy, H Molae, L Moetete, O Mangole, C Wu, N Meeta
FRONT ROW: (Left to Right) Mr O A Akindele, Mr G Bryant, Ms E Heron, Mr J Appiah-Baiden, Dr A Talukhaba, Prof E Pienaar, Mr D Blanckensee, Mr C Kupritz, Ms S Bhana

UNIVERSITY OF THE WITWATERSRAND

School of Construction Economics and Management

Final Year 2004



Back Row: (left to right) O Jones, M Baloyi, E Chabangu, D Yudelowitz, L Nosenzo, K Phokela, Mr R Ndlovu, Mr C Kupritz, Mr G Bryant.
Third Row: (left to right) J Navesse, P Herold, R Wallace, D Spagnuolo, M Tabile, Mrs T Sithole, Y Jayakody, M Papo, T Maphalala, M Mashele, P Ramesh Rampersad, Ms E Heron.
Second Row: (left to right) Mr I Finnie, Mr F Viruly, Mr R Rono, Mrs R Billett, N Lenono, L Maseko, M Folose, R Khoali, K Letlape, Ms S Bhana.
Front Row: (left to right) Mr O A Akindele, Ms A Arif, Mr J Appiah-Baiden, Dr J Mbachu, Prof E Pienaar (Head of School), Dr A Talukhaba, Mr D Blanckensee, Mr H Kammeyer.

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School of Construction Economics and Management
2005



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Email: admin@leebaileyfps.co.za

From left to right

FIRST ROW : Mr S Blumberg, Ms E Heron, Mr O Akindele, Mr J Appiah-Baiden, S Wesselink, Prof F Viruly, Prof A Talukhaba, Prof E Pienaar, Mr H Kammeyer, Mr I Finnie, Mr D Blanckensee, Ms S Bhana.

SECOND ROW : Ms N Zulu, Ms M Mapatha, Mr M S Ngobese, Mr G Segodi, Ms E L Mashaba, Mr M I Dlamini, Mr L R Ndlovu, Mr M Kotelo, Mr P Sobekwa, Mr G Ajusi, Ms T Chake, Ms N Sibiya, Ms T Mangalana

THIRD ROW : Ms R Rakometsi, Mr K S Moloisane, Mr N Mijere, Mr M Pholafudi, Mr N B Khosa, Mr A M F Rodrigues, Mr M A van Staden, Mr E J Naphambo, Ms D E Wooldridge, Mr T M Dithejane.

FOURTH ROW : Mr S F Shabalala, Mr M B Ndhlela, Mr W E Chauke, Mr M Phooko, Mr M M V Mtimkulu, Mr J A Wischhausen, Mr K J Mokoenyema, Mr N J Makgalefa, Mr S W Molefe, Mr N R Lepholletse, Ms M J Mothiba, Ms R Billett, Ms S S Lubisi.

FIFTH ROW : Mr E V Cloete, Mr Z A Asmal, Mr I Mphohoni, Mr M V Mavhina, Mr D W Bamuza, Mr L Muzawazi, Mr E M Malonkane, Ms A Seedat. Mr C T D Mogotlhe.

INSERT : Mr G Jay

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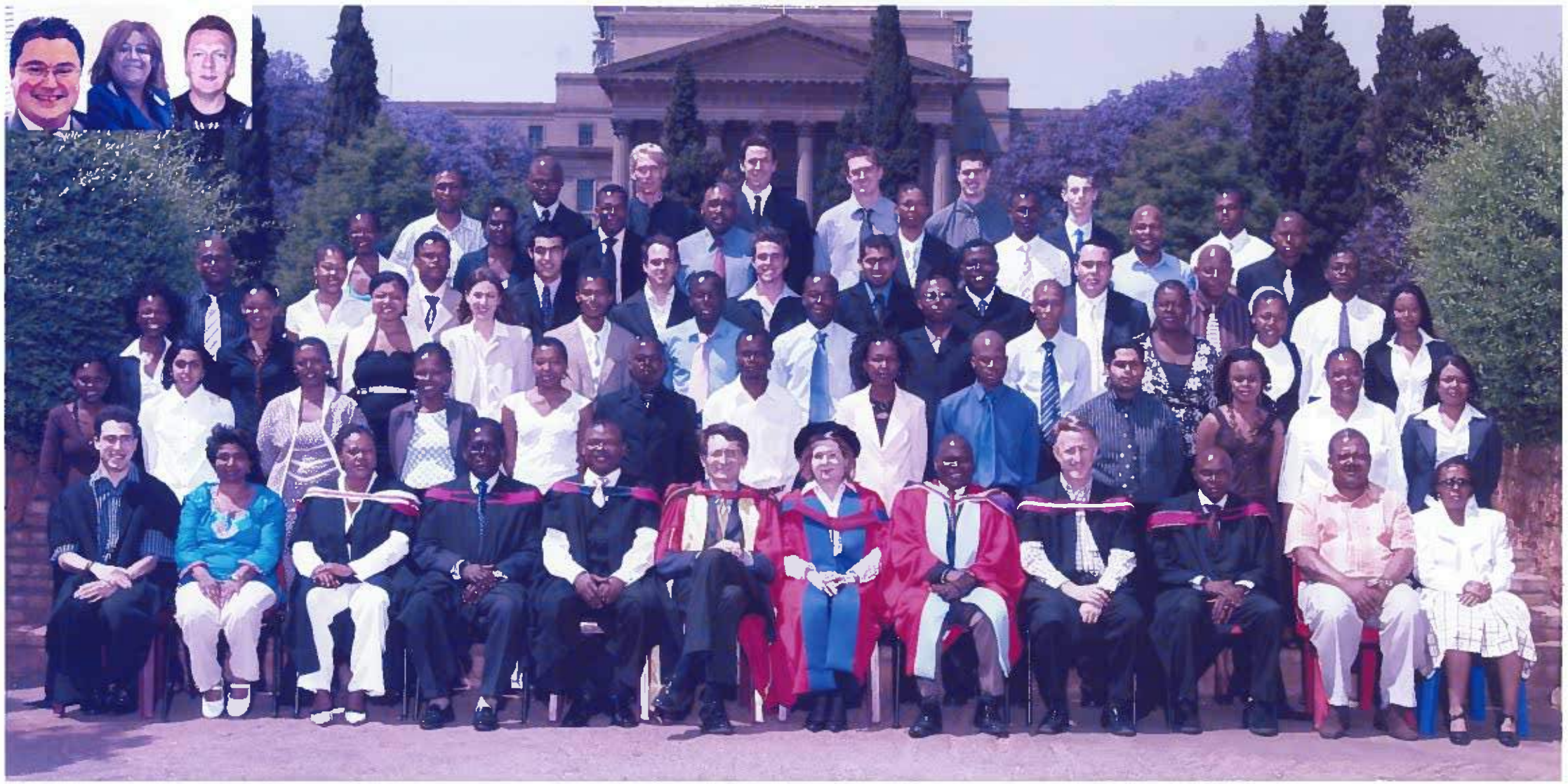

From left to right

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FIRST ROW : Mr S C Blumberg, Ms S Bhana, Ms M L Macheli, Mr J K Appiah-Baiden, Mr O A Akindele, Prof F M Viruly (Head, Property Studies), Prof E Picnaar (Head of School), Prof A A Talukhaba (Head, Quantity Surveying), Mr D Blanckensee, Mr O Adetunji, Mr L R Ndlovu, Mrs T M Sithole.

SECOND ROW : K W Mabunda, S A Pahad, L J Tlali, M Lebesa, E M Lenkwe, R E Zitha, J Nukeri, M Motlhagodi, A Maluleke, Y S Ahmed, M K Molotsi, K H Moesi, B B Itholeng.

THIRD ROW : E Monamate, P Kgoale, A Notununu, L Altini, D Ngwenya, J J Mthethwa, M Moja, R M Ditsepu, A W Mahlaku, X S Magagane, N Janda, P Maamogwa.

FOURTH ROW : T E Tivana, L D Nkuta, M E July, J L C Capelo, J De Sousa, L Morton-Shepherd, I I Varachhia, M I Sikhwari, J Steuber, E Gumbu, S M Sibanda.

FIFTH ROW : D Kubheka, T Taziba, M L Ndlovu, B Dibobo, K A Ntsipe, J L Mokobake, C T D Mogotlhe, L Matlanyane, K P Moabelo.

SIXTH ROW : N Nkonyane, A Mtati, G M Walsh, R Noble, J P Bolle, M Simmonds, H S Shak.

INSERT : G Jay, R Billet, P Rudzinske.

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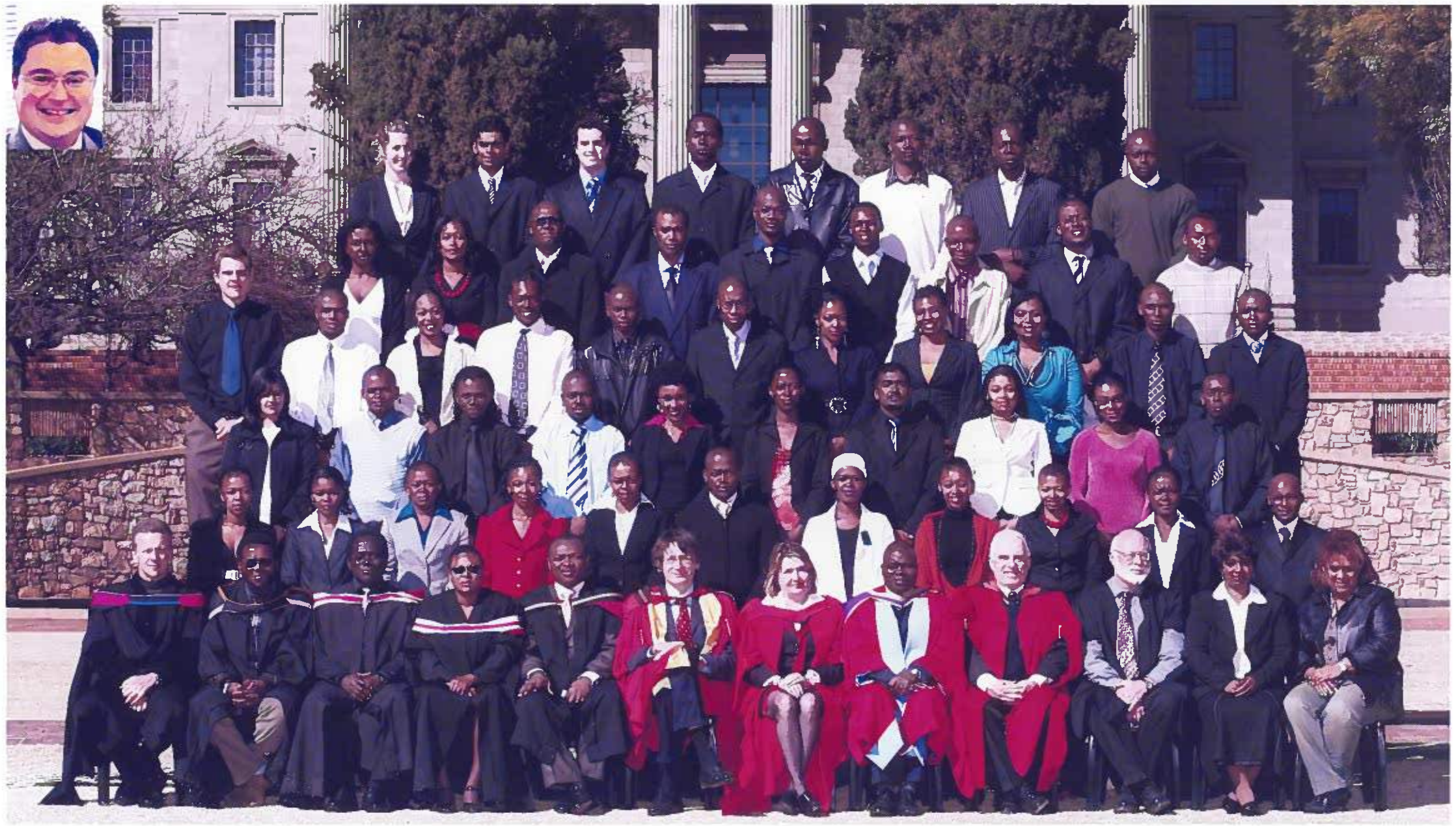

From left to right

Gordon Harris Photographic cc Tel: 0861 467 366

FIRST ROW : Mr P Rudzinske, Mr C Mukucha, Mr J Appiah-Baiden, Ms M Macheli, Mr O A Akindele, Prof F M Viruly (Head, Property Studies), Prof E Pienaar (Head of School), Prof A A Talukhaba (Head, Quantity Surveying), Dr I G Kennedy, Mr I J Finnie, Ms S Bhana, Mrs R Billett.

SECOND ROW : R M Malete, M R Mogoiwa, F Dowelani, A Somaguda, M E Mhangwana, S G Maduna, N P Marakalala, A Mondliwa, J Mthabini, O Mathebula, M L Makhwiting.

THIRD ROW : S Mohamed, M Tsiri, M T Mtsweni, G E Matsebula, T F Maluleke, P M Valoyi, M Mohan, N S Mochabe, G Konning, S S Kunene.

FOURTH ROW : M Schmidthe, M L Hobyani, L R Lobelo, P Baloyi, M J Maepa, M E Tseke, G N Matsenjwa, J J Paunde, N F Makhafola, P M Moloi, C M Mamakoko.

FIFTH ROW : N F Addai, L B Mhlangu, S Mkile, D Rugambwa, N Yeboah-Asuamah, P G Nhlapo, N N Masuko, S Chimhundu, D Kusemamuriwo.

SIXTH ROW : A T Clatworthy, A Lalloo, C A Merry, L F Mehlape, D F Mnisi, S F Mathe, A B Mthombeni, D Raphela.

INSERT : Mr G Jay.

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FIRST ROW : Mr P Rudzinske, Mr C Mukucha, Mr J Appiah-Baiden, Ms M Macheli, Mr O A Akindele, Prof F M Viruly (Head, Property Studies), Prof E Pienaar (Head of School), Prof A A Talukhaba (Head, Quantity Surveying), Dr I G Kennedy, Mr I J Finnie, Ms S Bhana, Mrs R Billet.

SECOND ROW : M Kefhilwe, R A Moteane, N E Shabalala, T L Mashele, T Chauke, G Q Mbeki.

THIRD ROW : D P Blundell, S G Moreotsile, L A Keepile, Z Myeko, H E Huang, T L Nkambule, W D Kapp.

FOURTH ROW : L Zwane, R Jackson, R Markiewicz, R J Dovey, R Di Giorgio, S M Buthelezi.

FIFTH ROW : M P Kearns, P Matshikwe, D P Christodoulides, N Z Sangweni.

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From left to right

FIRST ROW : T Marule, N Zenzile, B Sanqela, Dr E Saghatforoush, Prof D Root, Dr Y A Adewinmi, Dr B Mpofu, K I Selowa, L B Kabi-Nombungu, N V S Ngema.

SECOND ROW : S A Myoli, T K Tluka, R Satar, M R Daya, R Doola, Z Loonat, M G Dlamini, R A Bulbulia, M S Khoza.

THIRD ROW : L S Seisa, D Mhlanga, T Ndlovu, A S Mnguni, S Mavunda, L Bekindawo, N Moodley, U Ntabeni, G T Mthombeni.

FOURTH ROW : H V Mongawe, M M Mooketsi, K C Tambani, S Kanye, S Bhengu, C Kamukwamba, I G Korope, B Ranchod.

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