



# Radiography and Clinical Technology

**NEWS**

Newsletter for Professional Board for Radiography & Clinical Technology







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# MEET THE PROFESSIONAL BOARD FOR RADIOGRAPHY AND CLINICAL TECHNOLOGY MEMBERS FOR THE TERM 2020/21 – 2025/26



## DR CHEVON LEE CLARK

Dr Chevon Clark was appointed as the Chairperson of the Professional Board for Radiography and Clinical Technology (RCT) on 2 November 2020. Chevon serves as an Executive Committee member on the RCT Board and a member of the Professional Practice Committee and Preliminary Inquiry Committee.

Dr Chevon Clark, is a Clinical Technologist with diverse experience and a strong academic background. Over her 20-year career, she has held various leadership positions including Vice-Chairperson for the RCT Board, member of the Education, Training and Registration Committee, Chairperson of the Tshwane University of Technology Advisory Committee, Executive Committee member of the South African Renal Care Society, Board member for the Gauteng Clinical Technology Society and Executive Committee member for National Renal Care.

Dr Clark has held various academic positions, as a part time lecturer at Tshwane University of Technology and Central University of Technology and as an external examiner for the Durban University of Technology, University of KwaZulu-Natal and the University of South Africa.

Dr Clark has a fervent desire for continuous learning, sharing of knowledge and contributing to the healthcare industry. She has presented her research internationally in San Francisco, Hong Kong, Vancouver and Glasgow. She has presented nine presentations at the South African Renal Congress,

where she won the Heilie Uys Research Award, the Best Presentation Award, the Ted Pope Best Research Award and the Best Scientific Presentation Award.

Dr Clark has supervised thirty postgraduate research projects and currently reviews articles for the African Journal of Nephrology, American Journal of Cardiology: Elsevier and the International Journal of Africa Nursing Sciences: Elsevier.

### Academic qualifications, training and experience:

Dr Clark's academic qualifications include a Bachelor of Science, a Doctorate degree in Clinical Technology and a Master's degree in Business Administration.

### Professional and academic interests:

Dr Clark has a particular interest in health standards, policy development, improving and strengthening healthcare systems and processes, digitalisation of healthcare, participatory medicine and co-creating person centric quality health environments.



## MS TINTSWALO BRENDA MAHLAOLA

Ms Mahlaola matriculated at the age of 15 and obtained my undergraduate qualification at the age of 19. She has dual qualifications in Diagnostic Radiography and Ultrasound. She is a lecturer at the University of Johannesburg (UJ), Department of Medical Imaging and Radiation sciences. Personally, she is intrigued by African methods of moral reasoning and its place in the bioethical discourse.



She was appointed as the Vice Chairperson of the Professional Board for Radiography and Clinical Technology (RCT) on 2 November 2020.

#### **Academic qualifications, training and experience:**

B Rad (Diagnostics) Cum laude: Medunsa, B.Tech (Ultrasound): UJ and M.Tech (Radiography): UJ.

#### **Professional and academic interests:**

The ethics of technology is Ms Mahlaola's passion. She has a specific interest in the implications of new technology in respect for human dignity as it applies to the radiography profession. New technologies driven by artificial intelligence (AI) are minimising disruptions caused by the COVID-19 pandemic on the education, training and practice of radiography. However, their applications have implications for justice and the basic conditions of moral agency that underpins the respect for human dignity. Professional bodies have a duty to regulate new technology in ensuring that its benefits to society are leveraged and the risks minimised. She hopes to utilise her time in the Board advocating for the regulatory foundations for the applications of AI in radiography. Such advocacy is important to protect the public and guide professionals on the safe and ethical use of new technology in the radiography profession.



#### **DR BHEKI SHONGWE**

Dr Bheki Shongwe is the Chairman and Founder of Citizens in Partnership with Government (CPG) and a member of the City of Johannesburg Soweto Development Committee. He was also a community Project Leader and Coordinator at the Fons Luminis Secondary School Improvement Project.

He was employed by the SABC in the following portfolios: Head of SABC Radio Research, Acting Research Head for SABC Sports, Head of Special Projects and External Liaison, internal consultant and

adviser to the SABC top/senior management, SABC radio station managers, and the SABC Group Sales Division.

#### **His leadership and academic roles are as follows:**

- Head of Research, postgraduate supervisor and lecturer in Leadership and Human Resource Management at Unisa Graduate School of Business Leadership.
- Member of the Executive Committee at Unisa Graduate School of Business Leadership and also the Chairman of the Unisa Graduate School of Business Leadership Research Committee.
- Member of Unisa Senate Research Committee and Ethics.
- Lectured Human Resource Management (HRM) Strategies to MBA students at the Tshwane University of Technology (TUT) Business School
- Visiting lecturer in Marketing at Milpark Business School.
- Lectured Research Methodology and Statistics at Lehman College, City University of New York.
- Lectured Employment Law and Human Resource Management at Damelin.
- Managing Director of GISRC Consulting Services.

#### **Academic qualifications, training and experience:**

- PhD in Psychology (University of Pretoria) with sub-specialisations in Human Resource Management; Advanced Statistics; Media Psychology, Broadcasting and Communications; Strategic Communication Management and Corporate Communications.
- Master's Degree in Psychology (Cleveland State University, USA)
- BA (Hons), UED; BA (University of Zululand)
- Diploma in Business Management, Higher Certificate in Advanced Financial Management (Cum Laude).
- Certification in the following: Financial Management, Basic Bookkeeping, Practical Accounting, Executive Development (Damelin Management School), Product Strategy and Brand Management Programme (Wits Business School).

#### **Professional and academic interests:**

Dr Shongwe is the CEO and Founder Member of South Africa Day as well as the South Africa Day Community Investment Trust and Acting CEO of the South Africa Day Bursary Fund Trust. He is also the co-founder of the Strong Towns and Cities Network.

He is the main driver of the Alexandra Township Makeover Project.





Below are the links to some of his outstanding leadership initiatives:

<https://www.welovealex.org.za/>.

<https://youtu.be/etg860tUMc0> <https://youtu.be/Tn1RzIE89yo>;

<https://www.youtube.com/watch?v=olsXLJiuyz8&feature=share>;  
<https://www.youtube.com/watch?v=tnGLniwtRPA&feature=share>

Dr Shongwe serves as a member of the Radiography and Clinical Technology (RCT) Board of the Health Professions Council of South Africa (HPCSA) as the Minister of Health Appointee and Community Representative on the following committees: Executive Committee, Preliminary Inquiry, Education, Training and Registration, and on the HPCSA Council's Education, Training and Quality Assurance (ETQA) Committee.



### TLHOTSE ENOCH MOTSWALEDI

#### Academic Qualifications and Training:

- MBL & PBL (UNISA SBL)
- MSc (Psych)(RAU now UJ)

- M.Dip (HRM)(RAU)
- BSc (Hons)(Psych)(MEDUNSA)

#### Professional and academic interests:

Mr Motswaledi played multiple professional roles that exposed him to a wide spectrum of management sciences in academia and as a manager in real life situations. In November 2020, he assumed an Executive Director role at the Africa Psychosocial Support Institute (APSSI), a subsidiary of the Regional Psychosocial Support Institute (REPSSI). In addition to being a member of the Institute of Business Advisors SA (IBASA), he is a member of the Project Management SA (PMSA), the Institute of Directors SA (IoDSA) and the South African Clinical Neuropsychological Association (SACNA).

Mr Motswaledi served in leadership roles at a different organisations, some of which are:

- Board Chairperson at Pretoria West Hospital (2009-2015)(Gauteng Department of Health)
- Board Member at Steve Biko Academic Hospital (SBAH)(2019-2022)(GDoH)
- National Department of Public Works and Infrastructure (DPWI) at the Independent Development Trust (IDT)(2012-2020) as the Deputy Chairperson and a member of the Board Executive Committee
- Chairperson: HRCS Committee (overseeing the environments: Legal, Human Capital, ICT)
- Chairperson: Board Bid Adjudication Committee, Chairperson: Strategy and Programmes
- Chairperson: Litigations Task Team. In his second term at the IDT, he later served as the Interim Chairperson of the IDT Board
- Chairperson: HRCS Governance at the National Consumer Tribunal (NCT)(2017-2020)
- Community Representative: Professional Board for Radiography and Clinical Technology (RCT-HPCSA). (Re-appointed a Community Representative in the RCT Board for the period



2020-2025)

Mr Motswaledi's governance knowledge is supported by formal MBL training in Governance and Executive Project Management. In pursuance of self-development, he has completed several courses at the IoDSA. Earlier in his career, he had the privilege of being an Executive Director (HR)(MEDUNSA) where he led bargaining forums first as an Academic Staff Union President and later as the employer representative at this University-Hospital Complex (now Sefako-Makgatho Health Sciences University-Dr George Mukhari Academic Hospital).



### MRS LAURA NAIDOO

Mrs Laura Naidoo is a Clinical technologist specialising in Cardiovascular Perfusion and Critical Care qualifying from the Durban University of Technology. She is currently in private practice and services majority of the hospitals in KwaZulu-Natal Central. Laura has spent most of her years representing Clinical Technologists in their movement for recognition in the health industry. She has played a critical role in the affiliation of Clinical Technologist between the National Department of Health during the White Paper Publication of the Presidential Health Summit as well as between major Medical Funders and Administrators.

#### Academic qualifications, training and experience:

- B.Tech in Clinical Technology (Perfusion)
- NDip in Clinical Technology
- Postgraduate Diploma in Public Health from University of KwaZulu-Natal.

#### Professional and academic interests:

Her passion lies in the development and progression of the Clinical Technology profession. This is Laura's second term on the Board and she firmly believes that with a new dynamic and dedicated team the

profession will receive the much needed attention it requires. Laura also served on the South African Clinical Technology Board as the Vice Chairperson and sits on the Board for the iKethelo Children's Village as her other interests lie in the development and upliftment of the community.



### DR NTSHENGEDZENI MARGARET RAVHENGANI ("MAGGIE")

Dr Ntshengedzeni Margaret Ravhengani is a public health expert with approximately 30 years working experience both in the academic field and public sector.

#### Academic qualifications and training:

- Bachelor of Oral Hygiene, Master of Public Health, Doctor of Philosophy (PhD): Health Sciences.

#### EXPERIENCE

##### Previous positions:

- Oral Hygienist: Tshilidzini Hospital: 1989 December – December 1991;
- Lecturer: Oral hygiene (MEDUNSA Oral Health Centre): 1992 January – June 2005;
- Senior Lecturer: Health Systems Management and Policy (University of Limpopo – School of Public Health): 2005 July – June 2008;
- Deputy Director: Monitoring, Evaluation & Reporting (Gauteng Provincial Health Department): 2008 July - October 2008.

##### Current position:

- Director: Human Resources (HR): Stakeholder Relations and Management (National Department of Health, HR for Health Development and Planning Chief Directorate): 2008 November to date.

#### Professional and academic interests:

- Public Health Policy and Research; Health System Management; HR Planning and Management.

#### Membership of Committees:

- South African National Oral Health Policy formulation Task group, 1996/97;
- HPCSA: Professional Board for Dental Therapy and Oral Hygiene, 1996 to 2001;
- Gender and Employment Equity Committee, 1999 to 2005;
- Students Representative Council Management Committee – MEDUNSA Campus, 2005-2006;
- South African Oral Hygiene Association Executive committee, Policy and Advocacy, 1994 to 2006;
- Oral Hygiene Association (OHASA) Journal Editorial member, 2001- 2006;
- University of Limpopo, Medunsa AIDS Action Committee (MAAC), 2003 to 2006;
- South African Institute of Health Care Managers (SAIHCM) conference committee, 2006-2007
- Research and Ethics Committee, MEDUNSA Campus, 2006 to 2008;
- South African Vaccination and Immunisation Centre (SAVIC) Work-group leader – April 2006 to 2008;
- HPCSA: Dental Therapy and Oral Hygiene: Course Evaluator, September 2007 to 2008;
- National WISN Coordinator, September 2012 to date;
- The Presidency NHI War Room for HR for Health Committee: 2019 to date;
- Interim Technical Advisory Committee – Resource Person, for the Human Resources for Health Strategy Development- 2018 to date;
- National Department of Health Management Committee – 2008 to date;
- Health Systems Global Research member – 2018 to date;
- COVID-19 Incident Management Team (IMT)

member - HR for Health Workstream – November 2020 to date.



### DR RAYMOND NELL

Dr Nell is the Deputy Director Southern/Western Substructure (SWSS), Professional Support Services which include radiology, ultrasound, radiation safety, infrastructure and Human Resources (HR). Dr Nell is part of the Executive Management team at SWSS, Department of Health, Metro District Health Services ensuring the efficient running and maintenance of x-ray and ultrasound equipment. As part of the forward vision in protecting equipment, Dr Nell have written a Load shedding SOP to ensure protection for equipment and efficient service delivery.

### Academic qualifications, training and experience:

Diploma in Radiography; Degree in Radiography; Master's degree in Electrical Engineering; Doctor Technologiae: Engineering- Electrical; Perinatal Education Programme (Birth Defects); Perinatal



### **Professional and academic interests:**

Dr RD Nell is the current Chairperson of the Educational, Training and Registration Committee of the Professional Board for Radiography and Clinical Technology at the HPCSA. Besides rendering radiography services, Dr Nell contributes to research in telemedicine, ultrasound and imaging and in genetics. Dr Nell has good leadership and managerial skills and has assisted postgraduate students with Prof. MTE Khan at the Electrical Engineering Department (CPUT). He has four publications in accredited journals and has participated in many presentations at national and international conferences.

Dr Nell ensures the safe handling and operation of the equipment as well as radiation safety to staff and patients as per regulation. Dr Nell was involved in the specification documents for the purchasing of equipment and digital DICOM viewing PACS system for the Khayelithsa Hospital, other institutions and also managed a Radiology Department, performance management and placement of community service students at Primary Health Care.

With his knowledge, leadership skills, experience and research ability, Dr Nell contributes to radiography education, he is also involved in research coordination and contribute to the institutional goals of the HPCSA, RCT-Board and servicing the Republic of South Africa in any form needed.



### **DR NALEDZANI JEFFREY RAMALIVHANA**

Dr Ramalivhana has more than 26 published articles in national and international peer reviewed journals. He reviews national and international journals such as the African Journal of Biotechnology; Medical Science Monitor (International Medical Journal for experimental and Clinical Research; New York, USA); Canadian Journal of Microbiology to name a few.

Dr Ramalivhana has more than 15 years' experience in management, working with Government, parastatals and private sector in the following roles:

In Project Management: programme / project identification, preparation / formulation from inception to completion.

In Research, epidemiology, monitoring and evaluation consultancy: extensive research consulting experience in epidemiology, monitoring and evaluation, grant proposal writing, research report writing and auditing. Statistical analysis services, development and validation of data collection tools for monitoring and evaluation.

Teaching and student supervisor: Lecturing and supervision of both Master's and Doctoral students.

### **Academic qualifications, training and experience:**

- Doctor of Philosophy (Microbiology)
- Master of Science
- Master of Public Health (epidemiology and biostatistics)
- BSc (hons) degree (Botany)
- NDip Biomedical Technology (microbiology)
- Diploma in Occupational Health and Safety
- Diploma in Personnel and Training Management
- Membership of professional/research organisations
- Member of National Health Research Ethic Council (NHREC) (2013 – 2016)
- Member of Steering Committee, Limpopo Research forum.
- Member of the Professional Board of the Health Professions Council of South Africa (HPCSA) (2015-2020)
- Member of Committee for medical science (HPCSA) (2015-2020)
- Member of Steering Committee for Governance (SGB) (HPCSA) (2015-2020)
- Member of Review Committee: National research foundation (NRF) (2017- to date)
- Member of the Professional Board of the Health Professions Council of South Africa (HPCSA) Radiography and Clinical Technology (2020-2025)
- Member of the National Health Laboratory Services Board (NHLS) (2020-2025)
- Member of the National Health Laboratory Services Committee on Finance (2020-2025)
- Member of the National Health Laboratory Services Committee on Research and Innovation (2020-2025)







#### Professional and academic interests:

- Tropical Medicine and hygiene
- Environmental epidemiology
- Extended spectrum beta-lactamases
- Antibiotic resistance
- Clinical infectious diseases
- Traditional and complementary medicine
- Health laws policies and regulations; legislations governing health.
- Clinical research



#### DR ERNST VERMAAK

Dr Ernst Vermaak was born in the Free State and has lived in Brandfort until 1969 and in Bloemfontein to date. He is married to Elsabé, with daughters Anél and Elrie. Grandchildren Jeandré and Mia. He has retired from practice, but keeps busy with

clinical technology matters, farming bonsmara and succulents and is also a keen amateur rocketeer.

#### Academic qualification, training and experience:

He started out as a biomedical technologist in 1973 at the Academic Hospital in Bloemfontein, after having qualified in microbiology and clinical pathology. Then in 1981 he moved to internal medicine, pulmonology until 1999, when he was appointed as a senior lecturer at the Technikon Free State (later Central University Technology) till 2019.

He obtained a Master's degree of Medical Sciences from the University of the Free State in 1999 and a Doctor Technologiae: Clinical Technology from CTU in 2014.

He, qualified in polysomnography at Sydney University, Australia.

#### Professional and academic interests:

He is currently involved with international clinical research, private practice and the HPCSA.





### MRS RAZANA WILLIAMS

Mrs Williams was in clinical practice for 17 years as a diagnostic radiographer and has been in academia for the past 11 years. She is currently a lecturer and the Head of Department for Radiography at the Nelson Mandela University. Mrs Williams serves on the following committees on the RCT Board: Preliminary Enquiry Committee as well as the Professional Practice Committee.

#### Academic qualifications, training and experience:

- Diploma: Radiography (Diagnostic) – 1992
- Bachelor of Technology: Radiography: Diagnostic – 1997
- Master of Technology: Radiography (Research) – 2015

#### Professional and academic interests:

As a Head of Department, she keeps abreast of national norms and standards regarding radiography training as well as the Health Professions Act, POPI Act and the imminent Health Insurance Act. Her seat on the Faculty Postgraduate Studies Committee also nurtured her interest in ethics regarding research and has reviewed many undergraduate and postgraduate proposals. Mrs Williams has successfully completed online programmes linked to research ethics evaluation and completed a course in: Strengthening Postgraduate Supervision. She also has a keen interest in professional ethics amongst professionals and students. Mrs Williams is emerging onto the field of research and has published articles in peer reviewed journals, presented her research findings at the International Congress hosted by the Radiological Society of South Africa and the Society of Radiographers of South Africa. She is also active in the supervision of research studies at undergraduate and postgraduate level. At present, she is involved in an institutional research project namely: Coronavirus disease (COVID-19): imaging appearances, imaging techniques and experiences, anxiety and fear among South African diagnostic radiographers.



### DR BUSISIWE NKOSI

Dr Busisiwe Nkosi, currently the Head of Department in Radiography, senior lecturer and the coordinator for the Radiotherapy Programme in the Faculty of Health Sciences at the Durban University of Technology since 2013. She is a dual qualified radiographer with 15 years' work experience as a diagnostic radiographer and 13 years' work experience as a therapy radiographer, respectively. In this interim, she held positions of senior and chief radiographer as well as the Assistant Director from 2005 to 2012. She joined academia in 2013 where in her current position, she manages all teaching and learning related activities in four programmes (Diagnostic, Sonography, Nuclear medicine and Radiotherapy). Furthermore, Dr Nkosi is an internal examiner for master's students in other departments, reviews postgraduate proposals at masters and doctoral levels, and supervises masters and doctoral students within the Faculty of Health Sciences.

#### Academic qualifications, training and experience:

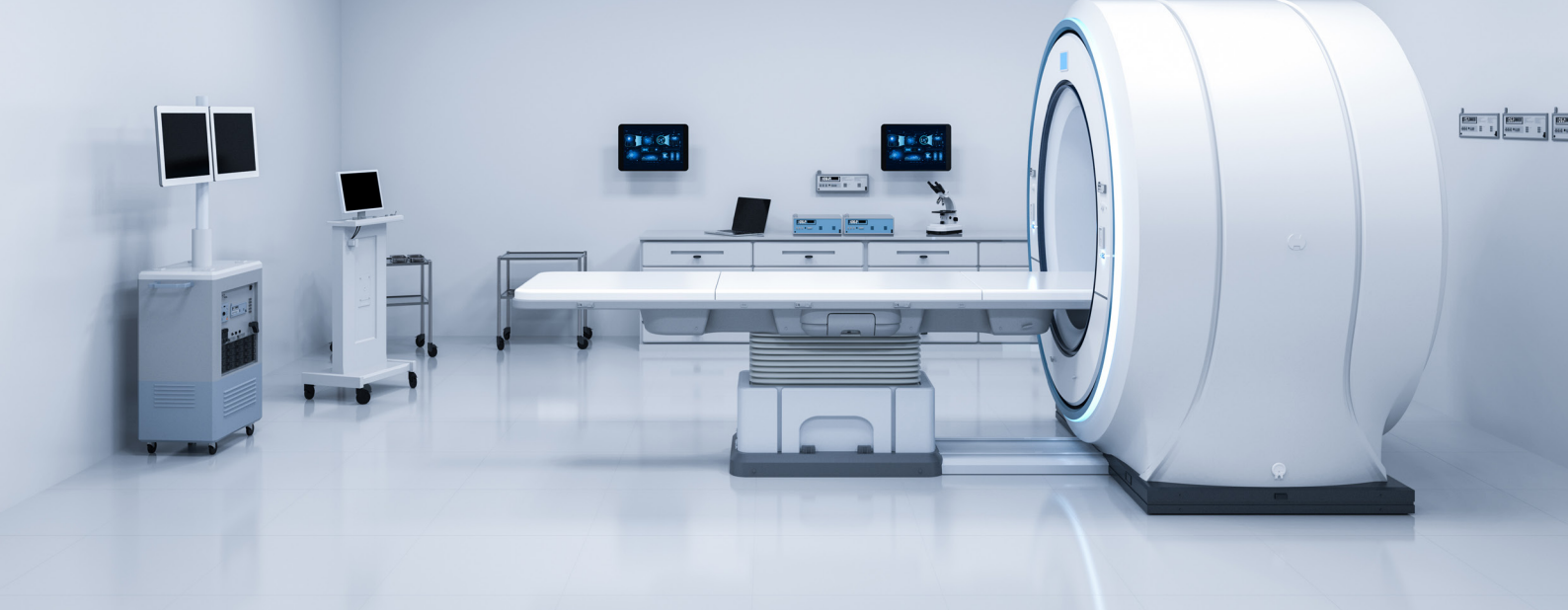
She holds PhD: Health Sciences (DUT); Master of Business Leadership (UNISA); M.Tech in Therapy (UJ); B.Tech in Therapy (DUT) and National Diploma: Radiography (Diagnostic). Dr Nkosi also has certificates in Facilitate Learning Using a Variety of Given Methodologies (NQF level 5), Strategic implementation of ICT integration in education, and Strengthening Postgraduate Supervision. Other certificates include Hospital Management from Wits University, SAIM Programme in Business Management from UNISA, and Project Management from University of Pretoria.

#### Professional and academic interests:

Dr Nkosi's interests are in education, training and research supervision. Her research niche is in cancer control and integrated cancer treatment.







## DR ROSALEY PRAKASCHANDRA

Dr Prakaschandra qualified and practised as a Cardiac Technologist in 1998 until she joined the Durban University of Technology in 2009. She became Head of Department in 2014 and completed two terms of headship recently (30 June 2020). She has great passion for teaching, learning research as evidenced by her track record, having successfully developed and driven research, community engagement, curriculum renewal, as well as improved engagement between industry partners and her department at DUT using various strategies. Dr Prakaschandra has served in various university committees, including the Senate, NRF Masters and Doctoral Institutional Review Committee, and was acting Executive Dean of the Faculty of Health Sciences. She also forged international partnerships between her department and other departments on the African continent, and beyond.

She has received recognition and honours from various national bodies, including Universities South Africa, Department of Higher Education, South African

Technology Network (SATN) and the South African Heart Association, in the form of guest speaker invitations, grants and certification.

### Academic qualifications, training and experience:

- PhD: Clinical Medicine (Cardiology) (UKZN)
- MMedSci (Cardiology) UKZN
- B.Tech Clin Tech (DUT)
- 

Skills set include clinical practice, higher education knowledge and governance, academic leadership, experience in learned societies, postgraduate supervision and research publications.

### Professional and academic interests:

She is an academic with a track record of research and publications and strives to promote the profession of clinical technology in its continuous stages of evolution. She is currently involved in undergraduate teaching, undergraduate and postgraduate supervision (Masters and doctoral candidates), independent and collaborative research projects, as well as reviewing of the existing curriculum of clinical technology. She is currently a member of the following associations and organisations:

- National: South African Heart Association
- Society for Endocrinology, Metabolism and Diabetes of South Africa
- International: European Society of Cardiology (ESC) Council on Cardiovascular Nursing and Allied Professions
- European Society of Cardiovascular Imaging
- European Association of Preventive Cardiology
- International External Counterpulsation Association.



## MS FLORENCE MAHLOBO

Ms Mahlobo has a dual qualification in diagnostic radiography and ultrasound. She is currently in clinical practice and recently appointed as Assistant Director Ultrasound at the Charlotte Maxeke Academic Hospital after spending 13 years at the Chris Hani Baragwanath Hospital managing the Ultrasound Department in Radiology. She is registered for Master's degree at the University of Johannesburg under the topic Sonographic detection of parathyroid adenomas. Ms Mahlobo serves on the following committees on the RCT Board: Preliminary Enquiry Committee as well as the Professional Practice Committee.

### Academic qualifications, training and experience:

- Diploma: Radiography (Diagnostic) – 1992
- Bachelor of Technology: Ultrasound – 2004

- Currently registered for Master of Technology: Radiography (Research) under the topic Sonographic detection of parathyroid adenomas, comparative analysis to surgical and histology data.

### Professional and academic interests:

As a new Assistant Director Ultrasound at the Charlotte Maxeke Academic Hospital, Ms Mahlobo has a keen interest in the training of student sonographers at clinical level to ensure higher level of competency upon qualifying to meet the ever growing demand for sonographers in our country. Ms Mahlobo continues to mentor junior sonographers remotely when they encounter difficult cases, she also has an interest in publication of interesting cases that are seen in clinical practice. She has in the past collaborated with clinicians at Chris Hani Baragwanath Hospital in publishing rare and interesting case studies:

- Sonar guided focused parathyroidectomy under cervical block. S Afri J Surg 2018;56(2).
- Renal arteriovenous malformation: an unusual pathology. SA Journal of radiology Vol 23 No 1(2019). This article has received numerous citations
- "Prostatic cyst: incidental findings on ultrasound ."published on the World Wide Medicine 16 August 2019
- Penile Mondor's Disease: Clinical and sonographic images. Nov 2019. This article has also received citations.







## IMPROVING OUTCOMES IMPORTANT TO PATIENTS

Healthcare systems continue to move to putting patients at the centre of their care. The essence of patient-centred care is an attempt at understanding the experience of illness from the patient's perspective and truly understanding what matters most to patients. The International Alliance of Patients Organisations' (IAPO) Declaration on patient centred healthcare defines patient centred healthcare as a healthcare model designed around the patient, who remains at the centre of the healthcare model.

In South Africa, the provision of patient centred care is defined within the Constitution of South Africa Second Amendment Act, 3 of 2003, where it stipulates that all citizens have the right to healthcare that is caring, free from harm and as effective as possible. Further supporting a patient centred approach is the White Paper on Transforming Public Service Delivery, the Batho Pele White Paper no. 1459 of 1997), which was published by the Department of Public Service and Administration. "Batho Pele", means 'people first'.

The measurement of quality in healthcare should be directly related to the provision of patient centred care and the enactment of the Batho Pele Principles and the Patients' Rights Charter. Measuring patient experience provides an opportunity to improve business processes and an opportunity to improve the

quality of care. Patient experience can also be seen as an opportunity towards an increasingly important source of competitive advantage. Healthcare can be improved when patients share what is important to them and any issues that may influence their care and treatment.

The medical outcomes study has led much of the initial work around patient outcomes and examining the differences in care, clinicians and communication styles. However, there is a continued need to identify valid and reliable patient reported experiences and outcome measures. These would truly allow for the understanding of what are the most important issues for to patient. It would then allow us to later record how effective their treatments have been for achieving these goals. When used in care delivery, patient reported outcome measures (PROMs) improves communication between the patient and their healthcare team, which could lead to improved service delivery and survival.

Patient reported experience measures (PREMs) are instruments used to report patient satisfaction with a health service. Patient experience tools measure patient feedback and focus on general experience such as customer experience. Included in PREMs are questions about the patient experience of the process

of care. For example, how often did the healthcare professional explain things in a way you could understand? Further, PREMs are used to measure clinical effectiveness and economic efficiencies in healthcare.

PROMs differ to patient experience measures, in that PROMs measures patient's view of their symptoms, their functional status, their health-related quality of life, personal experience of care and health-related behaviours such as anxiety and depression. PROMs are often self-completed tools and are either general or disease-specific tools. Patient involvement in defining outcome is essential to developing meaningful measures for patients to assess their care and to set their health goals in relation to what they see as important.

The pharmaceutical and health research industry initially adopted PROMs measures to improve clinical care of patients. In 1975, the healthcare industry in Sweden implemented national reporting of PROMs using disease-specific clinical databases referred to as quality registers. By 2000, measuring and reporting of PROM data was introduced into several parts of the United States (US), with the aim to integrate it into the reimbursement structure in healthcare facilities. The continued adoption and growth of PROMs has led to both the US Food and Drug administration and the European Medicines Agency to mandate the use of PROMs to support labelling claims. From 2009, it is mandatory in the United Kingdom to use PROMs to report outcomes for certain elective surgical

patients. This has enabled the comparison of health services, policy development and the establishment of measures that truly matter to patients improving healthcare service delivery.

Both PROMs and PREMs support a person-centred and value-based care model, by providing a way of measuring health outcomes from the patient perspective, measuring what truly matter to a patient. The value of patient involvement in the delivery and design of healthcare service has been internationally recognised and continues to gain increasing recognition of the importance of involving patients in healthcare delivery and design improving patient care and safety [4].

“Care is truly patient-centred when it is guided by the perspective of the one that matters – the patient”.

## References

1. Wong, E., F. Mavondo, and J. Fisher, Patient feedback to improve quality of patient-centred care in public hospitals: a systematic review of the evidence. BMC health services research, 2020. 20(1): p. 530-530.
2. Jardien-Baboo, S., et al., Perceptions of patient-centred care at public hospitals in Nelson Mandela Bay. Health SA gesondheid, 2016. 21: p. 391-405.
3. Carrus B, et al., Measuring the patient experience: Lessons from other industries. Healthcare systems and services: McKinsey & Company, 2015: p. 1-8.
4. Weldring, T. a







# THE BACHELOR IN CLINICAL TECHNOLOGY DEGREE

## PREAMBLE

Before 1994, Technikons (now universities of technology) had a strong vocational focus and provided training for a career-focused, work-ready skilled labour force in a wide range of fields (McKenna & Boughey 2014). The Education White Paper 3 of 1997, aimed to ensure uniformity in how the system is planned, funded, and governed. Thus, Technikons were thrust into the process of moving from content-driven to objective-driven learning, incorporating a stronger element of theory, with the subsequent academisation (Sabela, Masuku & Qwabe, 2020).

South African realities demand that the curriculum is designed in the context of globalisation, democratisation and massification of education (Ramruthan, 2020). In response, all three universities in South Africa offering the Clinical Technology qualification (Central University of Technology, Durban University of Technology and Tshwane University of Technology) have been involved in a curriculum renewal process, culminating in the Bachelor of Health Science degree in Clinical Technology, now being offered across the board as the first exit qualification. The qualification equips the student with the necessary knowledge, skills, attributes and values to practice as a Clinical Technologist, as a part of a multi-disciplinary team, in one of the following specialist categories: Cardiology,

Cardiovascular Perfusion, Critical Care, Nephrology, Neurology, Pulmonology or Reproductive Biology.

From 2012 onwards, the Clinical Technology programmes underwent a re-curriculation process, where all relevant stakeholders, including academic staff, students, industry partners, Universities of Technology, and the HPCSA, were consulted on various aspects in the design of the curriculum for this qualification. The proposed curriculum was approved at institutional level and sent to national regulatory and statutory bodies for approval. The new degree was offered for the first time from 2017 onwards at the Durban University of Technology, and the first student cohort completed this qualification in January 2021. The Central University of Technology began this offering in 2019, and the Tshwane University of Technology began in 2020.

## ENTRY REQUIREMENTS

The numbers admitted per institution vary, but are usually small, and hence admission is very competitive. As part of the selection process, short-listed candidates are invited to an interview conducted by academic and practitioners, where they are scored and ranked. The following minimum requirements for application are in place:

DEPARTMENTAL NSC REQUIREMENTS		DEPARTMENTAL SENIOR CERTIFICATE REQUIREMENTS	
NSC Degree Entry*		A Senior Certificate or Equivalent Qualification	
Compulsory subjects	NSC Rating Code	Compulsory Subjects	HG
English (Home lang)	4	English (Home lang)	D
English (1st additional lang)	4	English (1st additional lang)	D
Life Sciences	4	Life Sciences	D
Physical Science	4	Physical Science	D
Mathematics	4	Mathematics	D

\* - Minimum Admission point system (APS) of 24 may apply

## REGISTRATION WITH THE PROFESSIONAL BOARD FOR RADIOGRAPHY AND CLINICAL TECHNOLOGY

Registration as an independent practitioner is possible once all theoretical and clinical competency requirements for the degree have been met.

### COURSE STRUCTURE

Although the course structure varies between the three institutions, the common elements in each of the years are shown below.

#### Year 1:

Introduction to Clinical Technology, Biomedical Instrumentation, Communication/Academic & information literacy modules, Basic science (Anatomy, Physiology, Pathophysiology, Physics, Chemistry), clinical rotation.

#### Year 2:

Basic science (Anatomy, Physiology, Pathophysiology, Pharmacology), Clinical Technology practice, Biomedical instrumentation, ethics, research methods, clinical rotation.

#### Year 3:

Clinical placement in the specialist module Pharmacology, pathophysiology, Clinical Technology practice, Biomedical Instrumentation, Research methods, Healthcare management

#### Year 4:

Clinical placement in the specialist module Clinical Technology practice, Biomedical Instrumentation, Research project, Healthcare management.

*General education modules encompassing Ethics and medical Law, Entrepreneurship, community healthcare and research are offered at various levels depending on the institution registered at. Specific information on course structure is available in the links provided in the references.*



## EVOLUTION

The year 2020 will be remembered for the COVID-19 pandemic, which unleashed catastrophe, chaos and panic, not seen in this century, and starkly revealed the socio-economic inequalities pervading into education, not just in South Africa, but worldwide. The question that emerges is how has the COVID-19 pandemic influenced the teaching, learning and assessment of students, as well as development of the graduate attributes, and does the current curriculum need transformation to adequately develop students for the requisite self-study skills and access to accommodate such perpetrators of inequality?

Newly qualified clinical technologists are expected to progress almost instantaneously from students to independent practitioners, and as such, it is essential to evaluate the effectiveness of the original pedagogical principles which informed curriculum renewal.

## FUTURE PROJECTIONS

Inasmuch as there are national guidelines or regulations promulgated on what should be included in the curriculum, the manner in which the curricula are conceptualised, the pedagogies used, and the clinical training units are factors which ultimately influence the students' experience and their sense of preparedness (van Heerden, 2013). There are projects that are currently underway and the data from these studies will inform the critical processes

of curriculum review post curriculum renewal. In addition, as the world espouses the Fourth Industrial Revolution (4IR), we will need to consider how such elements like the internet of things (IoT), artificial intelligence (AI), and big data analytics may be incorporated into the curriculum, as the profession evolves.

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- [https://www.dut.ac.za/faculty/health\\_sciences/biom](https://www.dut.ac.za/faculty/health_sciences/biom)

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