



UNIVERSITIES
SOUTH AFRICA



Research & **Innovation** Dialogue

31 May – 1 June 2018

Emperors Palace Convention
Centre

Compendium

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Introduction



It is with great pleasure that Universities South Africa (USAf) extends a warm welcome to delegates attending the 2018 Research and Innovation Dialogue.

In line with USAf's mandate to strengthen research and innovation in the higher education sector, USAf is proud to host the 2018 Research and Innovation Dialogue, under the strategic leadership of the Research & Innovation Strategy Group (RISG), chaired by Prof Cheryl de la Rey, Vice-Chancellor and Principal of the University of Pretoria (UP).

This Dialogue brings together a selected group of delegates from Universities, Government Departments, industry and other agencies, to engage on a range of matters of collective interest for research and innovation in Higher Education. These include, for example, funding for research, doctoral training, inter-institutional and international collaboration. This event is a significant opportunity to facilitate learning and to deepen understanding on topics of high relevance within the university sector.

The following thematic areas will be addressed in the Dialogue:

- The next generation of researchers;
- Postgraduate funding; and
- Opportunities for internationalisation and inter-institutional collaboration

We are confident that this event will provide a forum for the exchange of ideas, inspire new research, and establish new contacts for closer cooperation and collaboration, to envisage together a future of promising development within this field.

PROFESSOR AHMED BAWA

Chief Executive Officer, USAf

May 2018

Programme

Thursday 31 May 2018

Theme: Postgraduate training and funding

Opening and welcome



Professor Cheryl de la Rey

Vice-Chancellor and Principal of the University of Pretoria, Chairperson of the RISG

Prof Cheryl de la Rey has been the Vice-Chancellor and Principal of the University of Pretoria since November 2009. Her previous executive positions include being the Chief Executive Officer of the Council on Higher Education, Deputy Vice-Chancellor at the University of Cape Town and Executive Director at the National Research Foundation. She has published books and several journal articles and she is registered as a Psychologist by the Health Professions Council of South Africa (HPCSA), is a fellow of the Psychological Society of South Africa (PsySSA), a fellow of the Royal Society of South Africa (RSSAf) and of the Academy of Science of South Africa (ASSAf). She is the Chairperson of the National Advisory Council on Innovation (NACI), Vice Chairperson of the Talloires Network and the African co-Chairperson of the Australia-Africa Universities Network (AAUN).

Ministerial Address



Honourable Mmamoloko Kubayi-Ngubane

Minister of Science and Technology

Ms Mmamoloko Tryphosa Kubayi-Ngubane, the Minister of Science and Technology, has been an ANC Member of Parliament since 2009.

Before joining the Department of Science and Technology in February 2018, she was Minister of Energy from March to October 2017, and Minister of Communications from October 2016 to February 2017.

She has served on three Portfolio Committees, chairing the Portfolio Committee on Telecommunications and Postal Services between June 2014 and March 2017, and serving as Committee Whip for the Portfolio Committees on Basic Education and Higher Education between May 2009 and May 2011. She was Parliamentary Advisor to the Deputy President of South Africa from June 2013 to May 2014.

With a master's degree in Public and Development Management from the Wits School of Governance and a BA from Vista, Ms Kubayi-Ngubane started out as a community developer. She moved on to become a leadership consultant at First National Bank, a Skills Development Manager and Facilitator at the National Health Laboratory Services, an ANC Proportional Representative Councillor in the City of Johannesburg Metropolitan Council, and the Director: Special Projects in the Deputy President's Office.

Currently a member of the ANC's National Executive Committee, she has held many political leadership roles, including in the ANC Women's League, ANC Youth League and the South African Students Congress.

Keynote Address:

Collaboration for postgraduate training amongst
Commonwealth universities and related funding opportunities.



Dr Joanna Newman

Chief Executive and Secretary General of the Association of
Commonwealth Universities (ACU)

Dr Joanna Newman is Chief Executive and Secretary General of the Association of Commonwealth Universities (ACU), where she is responsible for fostering and promoting the Association's aims, as defined by its membership, in developing inter-Commonwealth relations in higher education. Established in 1913, the ACU is the world's first and oldest international university network, with more than 500 member institutions in over 50 countries. With three distinct but interconnected areas of work – member services, programmes, and scholarship administration – supported by robust infrastructure and governance arrangements, the ACU delivers value to its members while achieving impact on the world of higher education and wider society.

Prior to joining the ACU in April 2017, Joanna was Vice-Principal (International) at King's College London. Her previous positions include Director of the UK Higher Education International Unit (now known as Universities UK International) and Head of Higher Education at the British Library. Joanna is a Senior Research Fellow in the Department of History at King's College London and an Honorary Research Fellow at the University of Southampton. She has also taught history at University College London and the University of Warwick.

Joanna is on the board of the University of London's School of Advanced Study, the board of trustees for CARA and The Conversation. She is a judge on the Times Higher Education Awards, and regularly speaks on issues relating to higher education and internationalisation at conferences, roundtables, and on international platforms. In 2014, Joanna was awarded an MBE in recognition of her work promoting British higher education internationally

Abstract

Dr Joanna Newman, Secretary General of the Association of Commonwealth Universities will address the need for postgraduate training and the potential offered by the Commonwealth and the ACU's network of over 500 members for international collaboration. Dr Newman will discuss the value of Commonwealth cooperation in relation to the global context for

postgraduate training, including a shortage of Ph.Ds, lack of institutional support for early career academics and misaligned incentives. Her presentation will outline the ACU's approach to fostering collaboration through international mobility, capacity building programmes and policy dialogue, and the need for a holistic approach to postgraduate training, addressing individual training, institutional capacity for ongoing training and support, and the wider research environment. Dr Newman will conclude by exploring future options for postgraduate training and potential international funding opportunities.

Session Chairperson



Professor Ahmed Bawa

Chief Executive Officer, Universities South Africa (USAf)

Ahmed Bawa, a theoretical physicist, leads Universities South Africa. Until 30 April 2016 he was Vice-Chancellor and Principal of Durban University of Technology and before that spent several years as a faculty member of the Department of Physics and Astronomy at Hunter College and a member of the doctoral faculty at the Graduate Center, City University of New York. He served as the Program Officer for Higher Education in Africa with the Ford Foundation and during this time led and coordinated the Foundation's African Higher Education Initiative. Ahmed Bawa holds a Ph.D. in Theoretical Physics from the University of Durham in the UK. He served on a number of policy development teams in the post-1994 period in the areas of Science and Technology and Higher Education. He is Fellow of the Royal Society of South Africa as well as the Academy of Science of South Africa of which he was one of the inaugural vice-presidents and is a current Council member. He also served as Chair of the Board of the Foundation for Research Development, and was Vice-Chair of the board of the Atomic Energy Corporation.

Session 1: Next Generation of Researchers

Building a cadres of emerging researchers for Higher Education in South Africa.
Implications for the Research and Innovation system.



Session Chairperson



Dr Thomas Auf der Heyde

Deputy Director-General, Department of Science and Technology

Currently Deputy Director-General at the South African national Department of Science and Technology (DST), Dr. Auf der Heyde has held teaching, research and executive management posts at the universities of Johannesburg, the Western Cape, Cape Town, Berne (Switzerland), Cambridge and Princeton. Following a successful early career as a structural chemist, he developed interests in science and technology policy, and research and higher education management, acting as a consultant and advisor in this field to a range of government bodies, civil society organisations and trades union. Prior to joining the DST, Dr Auf der Heyde held the post of Professor and Executive Director for Research and Innovation at the University of Johannesburg. From 2009-2014 he was appointed as an Extraordinary Professor in the Centre for Research and Evaluation on Science and Technology at the University of Stellenbosch. At the DST he is responsible for national research development and support programmes, research infrastructure and cyberinfrastructure, as well as support to all basic and strategic sciences such as astronomy, Antarctic and marine research, and paleo-sciences.

Presenter



Professor Johann Mouton

Director of the Centre for Research on Evaluation, Science and Technology, University of Stellenbosch

Johann Mouton is Professor in, and Director of the Centre for Research on Evaluation, Science and Technology at Stellenbosch University and the DST-NRF Centre of Excellence for Scientometrics and STI Policy. Johann Mouton is also the Programme Director of five post-graduate programmes in Monitoring and Evaluation Studies and Science and Technology Studies. He is on the editorial board of 6 international journals including the *International Journal of Research Methodology*, the *Journal of Mixed Methods Research*, *Science and Public Policy*, *Science, Technology and Society* and *Minerva*. He has authored or co-authored 10 monographs including *Understanding social research* (1996), *The practice of social research* (2002, with E Babbie) and *How to succeed in your Masters and doctoral studies* (2001). He has also edited or co-edited 9 books, published 90 articles in peer reviewed journals and chapters in books, written more than 100 contract and technical reports and given more than 200 papers at national and international conferences and seminars. He has presented more than 60 workshops on research methodology and post-graduate supervision and supervised 72 doctoral and master's students over the past twenty years. He has received two prizes from the Academy for Science and Arts in South Africa including one for his contribution to the promotion of research methodology in South Africa. In 2012 he was elected to the Council of the Academy of Science of South Africa. His main research interests are the philosophy and methodology of the social sciences, higher education knowledge production, sociology of science, scientometrics and science policy studies.

ABSTRACT

The presentation will summarise the main findings and recommendations of a recently commissioned study on emerging scholars in South Africa. The presentation will discuss the results pertaining to the two main objectives of the study: (1) To establish the proportion and demographics of academics at lecturer and senior lecturer levels/all levels of the permanent instruction staff at Higher Education Institutions (HEIs) who are active researchers, as well as those who are not active researchers. (2) To investigate the environmental context, enablers and impediments to increasing the number of emerging researchers at systemic, institutional and individual levels. As far as the latter is concerned, the presentation will include the main findings of a national web-survey amongst SA academics, as well as targeted qualitative interviews with more than 120 young academics.

Session 2: Doctoral Training and Support



Session Chairperson



Professor Deresh Ramjugernath

Deputy Vice-Chancellor: Research, University of KwaZulu-Natal

Prof Deresh Ramjugernath has a BScEng (Chemical) degree from the University of Natal, which he obtained in 1993. He graduated with a PhD in Engineering (Chemical) from the University of Natal in 2001. He is currently the Deputy Vice-Chancellor: Research at the University of KwaZulu-Natal. He also holds the DST/NRF South Africa Research Chair (SARChI): Fluorine Process Engineering and Separation Technology at the University of KwaZulu-Natal (since September 2007), and is also the Director of the Thermodynamics Research Unit (since January 2004). He has to date published in excess of 300 peer-reviewed journal papers and over 340 national and international conference papers. Prof Ramjugernath has been the recipient of numerous awards and recognition, including the NRF President's Award in 2005; NSTF Awards in 2006 and 2010; UKZN Vice-Chancellor's Awardee in 2010; inducted as a member of the Academy of Science of South Africa in 2012; inducted as a fellow of the South African Academy of Engineers in 2013; inducted as a fellow of the African Academy of Science in 2015; Fellow of UKZN in 2017; South African Institute of Chemical Engineers Gold Medal in 2013; South African Institute of Chemical Engineers Innovation Award in 2013, to name a few.

International collaboration and Doctoral training opportunities

Presenters / Panelists



Professor Ahmed Bawa

Chief Executive Officer, Universities South Africa (USAf)

ABSTRACT

During the British Council's Going Global Conference held in Cape Town in 2016, it was decided that one of the initiatives to be taken up was to investigate the possibility of setting up joint doctoral training centres (DTCs) between South African and UK universities. The DTC experience in the UK has been both extensive and successful.

High-level research and teaching/learning in Mathematics, Statistics and Data Analytics is central to the success of any science system and following consultations with our own researchers in these areas it was decided that this would be the first area that would be investigated. Two other areas that have been identified are also under consideration are Food Security and Energy Security.

Universities SA and the National Research Foundation have been in regular engagement with Universities UK and this led to a very substantial workshop earlier this year in which detailed discussions were held leading to a much better understanding of what had to be done to make a success of this project.

A second workshop, this time of the academics involved, is being planned for later this year.



Dr Molapo Qhobela

Chief Executive Officer of the National Research Foundation (NRF)

Dr Molapo Qhobela is a seasoned executive leader with extensive policy and administration experience that has seen him head up the development of a significant number of policy and strategy documents, which have shaped the nature and operations of South African universities as well as the education system in general. He has exceptional knowledge of the South African Higher Education System and the National System of Innovation, and has established well-seeded international relationships and networks with funders and government entities over the years.

His prior appointments include: Vice-Principal: Institutional Development at the University of South Africa; Deputy Director-General at the Department of Science and Technology; Deputy Director-General and Acting Director-General of the Department of Higher Education and Training. Dr Qhobela obtained his PhD (Plant

Pathology) from Kansas State University and a BSc (Botany and Zoology) from the University of Zimbabwe.

ABSTRACT

Dr Qhobela's presentation reflect on the national collaboration between the NRF-USAf (and of course the universities that USAf supports), including DHET; DST to enhance the production of more graduates in mathematics and statics, improving the numbers of academics in these fields. In doing so the collaboration with international partners - UK universities, UK Funding partners – like Research UK (and the relevant Councils); Royal Society; British Council etc to pull resources together. He will also highlight possible areas of interventions and of course challenges/issue related to management of such collaboration.



Ms Anisa Khan

Newton Fund and Higher Education Programme Manager

Anisa Khan is the British Council's programme lead on Science and Higher Education. Ms Khan manages the British Council's programmes under the Newton Fund, a science, technology and innovation focused funding mechanism of the Department of Science and Technology (SA) and the Department for Business, Energy and Industrial Strategy (UK). The programme supports researcher and institutional Links, doctoral training, and capacity development for tech transfer and innovation projects. Ms Khan is the Chair of the Commonwealth Scholarship nominating agency's selection panel, coordinated by Universities South Africa as nominating agency. Ms Khan holds a Masters Degree in Education and supports mutual goals of Internationalising Education through SA-UK joint collaborations. Before joining the British Council, Ms Khan was actively engaged in the civil society sector as programme lead for an Environment and Education for Sustainable Development non-governmental organisation. She is an Environmental Sciences alumni of UKZN and the UCT Climate Systems Analysis Group and a fellow of the Wits University GIZ Climate Leadership Programme.

ABSTRACT

The Newton Fund, established by the Department of Business, Energy and Industrial Strategy in the UK, supports bilateral research and innovation in 17 countries worldwide and is match-funded by the Department of Science and Technology South Africa. The British Council is the UK's leading organisation for cultural and educational opportunities and is a delivery partner on Newton Funded programmes. Since its inception the fund has supported Doctoral training through scholarship programmes and most recently in South Africa, in partnership with the National Research Foundation, delivered doctoral training through a consortium model to support PhD's in systems analysis. This session explores partnership models for doctoral training and highlights some of the early lessons learned under the Newton Fund and from the recently held UK-SA international doctoral training workshops convened by Universities UK International.

Supporting postgraduate students – best practices for doctoral training



SUMMARY

Successful doctoral training is key to our national aspirations for the development of research and innovation, contributing to strengthening the academic and international profiles of our institutions, and to a transformed, inclusive, and equitable scientific community. Through provision of quality doctoral education, we can develop the high-level skills and specialised knowledge needed to build human capital in our knowledge institutions, to foster social responsiveness and to impact society.

New and innovative approaches to doctoral training can provide opportunities to achieve these goals on a meaningful scale. These different approaches can also provide our doctoral graduates with a broader training, preparing them for future work, integrating advanced theory with practice in an increasingly complex and challenging environment, in a wide range of professional contexts.

The panel will discuss ways in which support for postgraduate students can contribute to successful doctoral training in our present national context.

Presenters / Panelists



Professor Stephanie Burton

Vice-Principal: Research, University of Pretoria

Professor Stephanie Burton is the Vice-Principal responsible for research, postgraduate education, innovation and international partnerships at the University of Pretoria. She holds an MSc in Organic Chemistry (1990) and a PhD in Biochemistry (1994) from Rhodes University. Professor Burton has lectured in Biochemistry and Biotechnology at Rhodes University, and then in Chemical Engineering at the University of Cape Town. In 2009, she was appointed Director of Postgraduate Studies, and leader of the Biocatalysis and Technical Biology Group, at Cape Peninsula University of Technology. Professor Burton took up the position of the Vice-Principal: Research and Postgraduate Education at the University of Pretoria in 2011. Her research interests are in the field of applied biochemistry and biotechnology, and her field of specialization is biocatalysis – the production of valuable compounds such as antioxidants using biological reaction systems. She is an NRF B-rated researcher, and has published extensively in international peer-reviewed journals and books, and holds several patents. She has supervised over 30 postgraduate students and is on the Editorial Board of three international journals in her field. Professor Burton also has a passion for postgraduate training and she plays an active role in a number of national initiatives focussing on quality and innovation in postgraduate education. She is a Fellow of the Royal Society of South Africa and a member of the Council of Academy of Science of South Africa.



Professor Sibusiso Moyo

Deputy Vice-Chancellor Research, Durban University of Technology

Professor Sibusiso Moyo holds a PhD in Mathematics from the University of Natal, Durban and a Masters (with distinction) in Tertiary Education Management from the LH Martin Institute, University of Melbourne Australia. She has published widely in the Mathematical Sciences with a focus on differential equations and optimization

problems in international peer reviewed journals. She has also successfully supervised postgraduate students and continues mentoring and supervising at Masters and Doctoral level. She is currently an Associate Editor for the Journal of Higher Education Policy and Management published by Taylor and Francis and has served as Guest Editor of the Mathematical Methods in the Applied Sciences Journal (published by John Wiley & Sons) and Journal of Engineering Mathematics (published by Springer). She is also board member for Agenda Feminist Media (which hosts the Agenda journal published by Taylor & Francis). She acquired a number of grants and awards – the most recent being the award to host the first Carnegie African Diaspora Fellow at DUT.

ABSTRACT

Towards creating enabling environments for doctoral training in low medium income countries: A South African case study

Strong arguments have been presented both in the South African National Development Plan 2030 and other policy documents on the need to increase the doctoral pipeline. It is within this context that I will look at the critical factors and enablers for successful and quality doctoral training that contributes to developing a pipeline of researchers with cross sectoral mobility and international research careers and why this is relevant for low medium income countries within the African context. There are a number of determinants both at individual and institutional level which the doctoral candidate, research and postgraduate managers and strategic policy and governance structures need to be aware of in creating enablers to successfully develop doctoral candidates as researchers as well as the research.

Comparisons are drawn from the context of a University of Technology – where “train the trainer” acceleration programmes need more urgency and elements from various key national reports are taken into account and specific observations made.



Professor Sioux McKenna

Director: Postgraduate Studies, Rhodes University

Professor Sioux McKenna is the Director of Postgraduate Studies at Rhodes University where she runs a number of support initiatives for postgraduate supervisors and scholars and also runs a large PhD programme in higher education studies. She is the project manager for three international collaborations focused on postgraduate education funded by the EU, NUFFIC and DHET: a national

supervision development course, *Strengthening Postgraduate Supervision* (www.postgradsupervision.com), an online Creative Commons site, *Enhancing Postgraduate Environments* (www.postgradenvironments.com), and a project with University of Zululand, Penn State and Durban University of Technology focused on postgraduate education.

Sioux served on the South African accreditation committee for seven years and has participated in institutional reviews in South Africa, Oman, Egypt and Bahrain. Her involvement in a number of national and international research projects provides her with a broad view of higher education. She sits on the editorial board of a number of international journals and her publications reflect her breadth of interest. Her particular concern is with who gets access to higher education and how the norms and values of the institution emerge as literacy practices, particularly at postgraduate level.

<https://orcid.org/0000-0002-1202-5999>

ABSTRACT

Supporting postgraduate students by nurturing research cultures and academic identities

The 4th industrial revolution brings with it very specific knowledge demands to which doctoral education needs to attend. But if we do so in ways focused on economic development for industry without concomitant concern about ecological degradation and social injustices then we become training centres rather than universities. We need to ensure that we are supporting our doctoral scholars to not only be producing knowledge at the boundaries of the fields but to do so in a way that fosters a deep commitment to the public good. It is from this ideological position that this presentation will focus on the development of doctoral scholars to produce cutting-edge research. By looking at a range of national initiatives for doctoral scholars and supervisors, in particular *Strengthening Postgraduate Supervision* (postgradsupervision.com) and *Enhancing Postgraduate Environments* (postgradenvironments.com), I will argue that there is a need to foreground issues of I will argue that there is a need to foreground issues of institutional culture and academic identities in such initiatives.

The National Science, Technology and Innovation Portal developed by the National Advisory Council on Innovation (NACI)



SUMMARY

The National Advisory Council on Innovation (NACI) in partnership with different stakeholders developed, and launched the National STI Data and Information Portal in 2017. The Portal is intended to serve as a single point of access, providing up to date, accurate information on the state of the National System of Innovation in South Africa. It was launched in 2017.

Presenter



Dr Mlungisi Cele

CEO, NACI

Dr Cele holds a PhD in Higher Education Studies from the University of the Western Cape and an MPhil in Science and Technology Studies from Stellenbosch University. He joined the DST in 2005 and has been involved in various assignments related to science, technology and innovation, policy, human capital development and strategy and planning and reviews. Prior to joining the DST, he worked as a researcher at the former University of Durban-Westville and the University of the Western Cape, where he conducted research and published in areas of higher education policy, science and technology policy, youth and student politics.

Cocktail Event



Address: Professor Thandwa Mthembu



Professor Thandwa Mthembu

Deputy Vice-Chancellor & Principal, Durban University of Technology, and
Chairperson of the USAf Board

Professor Thandwa Mthembu was appointed Vice-Chancellor & Principal of Durban University of Technology (DUT) on 1 October 2016, after serving almost 10 years in a similar position at Central University of Technology (CUT) in South Africa.

A PhD in mathematics from Wits University by formal education, he has published mathematics papers in international journals and is co-author of a monograph in approximation theory. His scholarship has diversified into other fields including higher education management.

Nationally, he currently serves on the Boards of the South African Technology Network (since 2007 and as Chairman between 2010 and 2014); and Universities: South Africa (since 2007 and as the current Chairman). Internationally, he serves as the Regional Chairman: Southern Africa of the International Association of University Presidents (IAUP).

Programme

Friday 1 June 2018

Theme: Internationalisation and inter-institutional
collaboration

Welcome : Professor Cheryl de la Rey

Ministerial Address



Honourable Naledi Pandor

Minister of Higher Education and Training

Naledi Pandor is South Africa's Minister of Higher Education and Training. A life of exile from 1961 until 1984 resulted in an international flavour to her education. She holds a BA from the University of Botswana and Swaziland and an MA in Education from the University of London. In 1992 she studied for a Diploma in Higher Education, Administration and Leadership at Bryn Mawr in the USA. In 1997 she completed an MA in Linguistics at the University of Stellenbosch and a Diploma in Leadership in Development at the Kennedy School of Government at Harvard, while she was serving as an MP.

Pandor became an MP in 1994 and has amassed impressive experience in positions of public office, including deputy chief whip of the ANC in the National Assembly from 1995 to 1998, deputy chairperson of the National Council of Provinces in 1998, and its Chairperson from 1999-2004. Her experience in education policy planning made her a welcome appointment as South Africa's Minister of Education in 2004. She has been a member of cabinet ever since, serving as Minister of Education (2004-2009), Minister of Science and Technology (2009-2012 and 2014-2018), Minister of Home Affairs (2012-2014), and currently as Minister of Higher Education and Training.

Pandor has received honorary doctorates from the Cape Peninsula University of Technology, University of Stellenbosch, and the University of Lisbon (Portugal).

She was awarded the American Association for the Advancement of Science's 2016 Science Diplomacy Award, for promoting development through science in South Africa and abroad. Jean Lebel, the President of Canada's International Development Research Centre, recommended her for the award and wrote that she is leading numerous efforts to promote the research capacities of young and emerging scientists, particularly female scientists. "Under Minister Pandor's leadership," he continued, "South Africa has become a catalyst for developing scientific capabilities across the African continent". The Association is the world's largest general scientific society and the publisher of the journal *Science*.

UNISA awarded her the Outstanding Educator Award, an award reserved for alumni and extraordinary South Africans. On awarding her Germany's highest federal award, the Grand Cross of Merit, the German Ambassador to South Africa, Walter Lindner, said: "Pandor is for us a symbol of the new South Africa: modern, innovative, dedicated to scientific progress and also outstanding female leadership".

She is married to Sharif Pandor and they have four children and two grandchildren.

Keynote Address:

Changes in the global landscape of science and science funding.



Dr Heide Hackmann

Executive Director of the International Council for Science

Dr. Heide Hackmann is the Executive Director of the International Council for Science, following eight years as Executive Director of the International Social Science Council. Heide holds a M.Phil in contemporary social theory from the University of Cambridge, UK, and a PhD in science and technology studies from the University of Twente in the Netherlands. She has worked as a science policy maker, researcher and consultant in the Netherlands, Germany, the United Kingdom and South Africa. Before moving into the world of the international councils, Heide

worked as Head of the Department of International Relations and Quality Assessment of the Royal Netherlands Academy of Arts and Sciences. Her career in science policy dates back to the early 1990s when she worked at the Human Sciences Research Council in South Africa. Heide holds membership of several international advisory committees and boards, including the Scientific Advisory Board of the Potsdam Institute for Climate Impact Research in Germany and the Board of the Stockholm Resilience Centre in Sweden. She co-chairs the UN's 10-member group supporting the Technology Facilitation Mechanism (TFM) on the Sustainable Development Goals, and is a member of the World Economic Forum's Global Future Councils.

Session chairperson

Dr Molapo Qhobela

DHET policy on internationalisation; Opportunities for the Higher Education Sector



Presenter



Mr Mahlubi (Chief) Mabizela

Chief Director, University Policy and Development Support, DHET

Mahlubi Mabizela is a Chief Director responsible for University Education Policy and Development in the Department of Higher Education and Training, South Africa. The Chief Directorate's main responsibilities are the measurement of research outputs from universities; research development in the university sector; regulation of private higher education; internationalisation of HE; governance and transformation of the higher education sector. He holds a Masters in Education (M.Ed.) degree from the University of the Western Cape.

Before joining government he had been a researcher of higher education at the University of the Western Cape and at the Human Sciences Research Council (HSRC) in Pretoria. He is the author of *The Business of Higher Education: A Study of Public-Private Partnerships in the Provision of Higher Education in South Africa*. Pretoria: HSRC Publishers (2005) and principal co-editor of the

special issue of the *Journal of Higher Education in Africa*, Volume 5, Nos. 2 & 3 (2007) with the theme Private Surge Amid Public Dominance: Dynamics in the Private Provision of Higher Education in Africa. Mr Mabizela is an author of several other articles.

Session 4: Public funding for postgraduate research



Session chairperson



Dr Chris Nhlapo

Acting Vice-Chancellor: Cape Peninsula University of Technology

Dr Chris Nhlapo completed his PhD at then Potchefstroom University for Christian Higher Education (PUCHE). He is a qualified Physical Science Teacher. He is currently serving on numerous boards as a non-executive director nationally such as Mintek, Southern African–Nordic Centre (SANORD), Cape Higher Education Consortium (CHEC), World-Design Capital Cape Town 2014 NPC. He is also a member of both Research, Innovation Strategic Group (RISG) of USAf and South African Technology Network, Research and Innovation Coordinating Committee.

He occupied a number of senior positions at Higher Education Institutions (HEIs) and science councils. He is a fellow of the International Union of Pure and Applied Chemistry (IUPAC) and worked within Commission IV.1 the Macromolecular Division (MMD). In this commission, he published immensely in IUPAC Projects and in Pure and Applied Chemistry (PAC) journal. He was the Head of Chemistry at the University of the North and the Free State before joining the National Research Foundation (NRF) in management capacity. At the NRF he contributed immensely in building research capacity particularly at Higher Education Institutions (HEIs) by identifying strategic partnerships, both locally and internationally, in order to design appropriate interventions to address research capacity challenges faced by them.

Presenters



Dr Molapo Qhobela

CEO, National Research Foundation (NRF)



Dr Diane Parker

Deputy Director General: University Education in the Department of Higher Education and Training

Dr Diane Parker is Deputy Director General: University Education in the Department of Higher Education and Training, South Africa. Before joining the Department she spent 18 years as a teacher educator and academic in the fields of sociology of education and mathematics education. She served on the Board of the Health Professionals Council of South Africa, the Higher Education Quality Committee, and the Council on Higher Education. She is responsible for overseeing policy development and implementation to regulate and support the South African Higher Education System, including universities, private higher education institutions, the Council on Higher Education, National Institutes of Higher Education and the National Student Financial Aid Scheme (NSFAS).

Session 5: Private sector funding for research

The future of private sector funding for research and innovation



Session chairperson



Professor Zebulon Vilakazi

Deputy Vice-Chancellor Research and Postgraduate Affairs

Prof Zebulon Zenzele Vilakazi joined Wits on the 1st of January 2014 as the new Deputy Vice-Chancellor: Research and Postgraduate Affairs. He has brought a wealth of experience, insight and knowledge to Wits and the Executive Team, and is committed to increasing Wits' quantitative and qualitative research output over the next few years in line with Wits' strategic research plan. Dr Vilakazi was appointed Group Executive for Research and Development at the Nuclear Energy Corporation of South Africa (NECSA) in 2011, while also serving as the director of iThemba LABS – a position he has held since January 2007. He also holds an Honorary Professorship in the Department of Physics at the University of Cape Town (UCT). Vilakazi also served as a chairman of the International Atomic Energy Agency's Standing Advisory Committee on Nuclear Applications from 2009 to 2011. He is a member of the Programme Advisory Committee for Nuclear Physics at the Joint Institute for Nuclear Research in Russia and a member of the International Union of Pure and Applied Physics Working Group for Nuclear Physics. In 2010 he was nominated by the World Economic Forum as a Young Global Leader and is a member of the Academy of Sciences of South Africa. Vilakazi's research interests include heavy-ion collisions at ultra-relativistic energies and computational physics – in relation to GRID computing. He has more than 80 refereed articles in Nuclear and High Energy Physics and is a regular invitee for talks and presentations at conference and seminars.

Presenters / Panelists



Sietse van der Woude

Senior Executive: Modernisation and Safety

Sietse van der Woude has a Masters Degree in Radiation Physics. As Manager at the National Nuclear Regulator he was responsible for the establishment of a regulatory framework for radiation protection in mining. He did his MBA focusing on the integration of sustainability issues into business strategy. He subsequently joined Xstrata as a SHEQ Manager. In 2004, he was appointed as the Head of Safety and Sustainable Development at the Chamber of Mines, where he enjoyed being a part of the mining industry's journey to zero harm. Since 2015, he serves as the Senior Executive: Modernisation and Safety. His hope remains for an all gain, no pain modernisation towards the mine of tomorrow. His best day ever was 21 December 2012 when he got married to Marli after 47 years of bachelorhood. They are blessed

to have a young boy called Simo, the short of the isiZulu word 'Simangaliso', which means miracle. His hobby is to green his lifestyle to create a better future for Simo and all the young of today.



Paul Steenkamp

The Creative Leadership Collective Africa

Paul believes that we are all inherently creative and that there is great innovation talent within large, complex organisations. Paul designs and delivers lean innovation programmes that bring the principles, values, and practices of the innovation economy into large, complex organisations. By helping to surface and empower the Jack Frosts within, these programmes have delivered more than USD 700 million in (net) business benefit and more than 6000 implemented innovations since 2010 (including sustainable internal startups). Paul has worked in Africa's largest banking group by assets (Standard Bank) as the senior executive in charge of innovation capability building. He also ran the innovation programme at the Strongest Banking Brand in Africa (FNB) when it was named 'Most Innovative Bank in the World'. In 2017 he founded and convened the Creative Leadership Collective Africa - a Peer-to-Peer advisory group of innovation capability builders. Their mission is to review, promote and strengthen innovation strategy, management and practice, within and between leading and ambitious African organisations. Paul serves on the National Advisory Council on Innovation, and is a jury member for the BAI Global Banking Innovation Awards and the African Fintech Awards. He founded, and serves on the Board of Africa A+ Schools (a support network that prepares today's children to be citizens of tomorrow). He holds an Executive MBA (Innovation Management) from Henley Business School at the University of Reading, and an Organizational Psychology Honours degree from Rhodes University in South Africa.

ABSTRACT

The private sector is already moving away from 'technology development and diffusion' R&D towards a 'problem-solving/user-oriented' approach to R&D. And not R&D related to the problems/opportunities that are of interest to their executives and employees, but rather, those linked to their customers' pains and challenges. These lean innovation principles encourage a multidisciplinary approach to R&D that involves 'falling in love with the problem' and testing multiple solutions (often in parallel) - cheaply and quickly. This approach is radically different to traditional R&D

-which tends to take place in silos, be far more expensive, take years, and more often than not, delivers solutions that nobody wants or is willing to pay for.

Closing remarks and vote of thanks



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