



National Science and  
Technology Forum

# Chemical elements for South Africa's future

**'Rare elements for new technologies' & 'Managing  
elements for nutrition and safety'**

**18 March 2019, Kempton Park, Gauteng**

**#Elements4tech #IYPT\_za**

## Biographies of Speakers

### Mr Sietse van der Woude



Sietse van der Woude has a master's 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.

### Dr Annelize Botes



Dr Botes started her research career in 1996 conducting research in the field of Hot-Dip Galvanizing of Spheroidal Graphite Cast Iron. She completed her Doctorate degree on the topic of Laser Deformation of Dual Phase Steel Components and has a general track record in Research Management. At Nelson Mandela University (previously NMMU [UPE & PE Technikon]) she became the deputy niche area leader of the Manufacturing Technology NRF niche area and acted as the Research Manager of the Manufacturing Technology Research Center (MTRC) from 2003 to 2007 and was the Director of the Friction Processing Research Institute (FPRI) from 2007 up to December 2011. She was an active member of the Friction Stir Welding research group and a member of the NMMU Research, Technology and Innovation committee and served five years on the NMMU Research Ethics committee. She was actively involved as a metallurgical consultant to the automotive and related manufacturing industries through the TIA supported Technology Station (eNtsa) and has to date completed over 300 industrial reports for industry.

Dr Botes joined the CSIR's National Laser Centre (NLC) in August 2013 where she was the project manager responsible for laser surface engineering process development for the transport industry. In August 2014 she joined the Strategic Business Development (SBD) unit where her main function included partnering with internal and external technology providers to translate engineering integration needs and requirements into specifications and optimal solutions for large integrated projects for CSIR strategic research partners. Dr Botes joined the Light Metals research group at the Materials Science and Manufacturing (MSM) business unit in October 2017 in the capacity as a principal technologist and is actively involved with Titanium Centre of Competence activities.

## Dr Leon Kruger



Leon Krüger joined Mintek as Manager of the Hydrometallurgy Division in 2011. Before that, he occupied senior Research and Development positions at De Beers and Multotec. He holds a PhD in Inorganic Chemistry (1990) and has extensive experience in a wide range of process as well as environmental technologies acquired over a period of 29 years in the minerals processing industry. These include PGM and REE processing, diamond processing as well as development of mineral processing equipment. Highlights are the process development for ferrofluid manufacture, ferrohydrostatic separation of minerals, chemistry and process design for the hydrofluoric acid dissolution of kimberlite (micro diamond liberation), chemically enhanced weathering of kimberlite, ice sorting, paste thickening and co-disposal, electrokinetic dewatering as well as spatial modelling for mine closure planning and liability estimation.

Major focus areas in the Hydrometallurgy Division at Mintek are currently, fundamental process modelling, reagent recycling, process intensification and novel separation processes

## Dr Mesfin Kebede



Mesfin Kebede has completed his PhD in 2009 in Materials Science and Engineering from Inha University South Korea. He is currently a principal researcher based at Energy Centre of CSIR. He has been studying and researching nanostructured materials properties and applications as electrodes for lithium ion battery, luminescent and photoluminescence for more than a decade. His current research interest focuses on the utilization of manganese-based electrode materials for electrochemical energy storage applications.

He has been supervising and mentoring MSc and PhD students research projects. He has authored 2 book chapters and more than 48 papers in reputed journals with h-index of 12 and has been serving as reviewer for several high impact journals and he also serves as editorial board member.