



South African Institute of Physics

NPO Registration Number: 130-172 NPO

SAQA Professional Body ID: 777

<http://www.saip.org.za/>

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Prof. D. Naidoo (President)

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Prof. R. R Maphanga (Honorary Secretary)

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Date: 26 May 2021

Dear SAIP Member

Election of Council for the Term 2021 - 2023

A new Council for the South African Institute of Physics needs to be elected. We will be making use of electronic voting on the OMS system which was successfully used the previous years. You are encouraged to participate in this election to help determine your representatives for the SAIP 2021– 2023 Council.

Voting will be open from 31 May 2021 and will close end of business on 16 July 2021.

Below is a list of nominees for the next SAIP Council.

1. Election of President-Elect

Nominee: Dr Rudolph Erasmus

Current Position: Senior Lecturer, School of Physics - Wits University

Proposer: Prof M L Chithambo

Secunder: Prof Deena Naidoo

As only one nomination was received, Dr Rudolph Erasmus is elected unopposed.

2. Election of Secretary

Nominee: Prof Regina Maphanga

Current Position: Principal Researcher, Council for Scientific and Industrial Research

Proposer: Prof Deena Naidoo

Secunder: Prof M L Chithambo

As only one nomination was received, Prof Regina Maphanga is elected unopposed.

3. Election of Treasurer

Nominee: Prof Ernest van Dyk

Current Position: Professor and Director at PVinsight (Pty) Ltd, Nelson Mandela Metropolitan University (NMMU)

Proposer: Prof Deena Naidoo

Secunder: Prof M L Chithambo

As only one nomination was received, Prof Ernest van Dyk is elected unopposed.

4. Election of 4 Ordinary Members

Your ballot allows you to vote for four Ordinary Members of Council. Seven nominations were received. Kindly indicate your choice with a mark next to the names **of no more than** four candidates on the online voting system.

The Nominees for Ordinary Member on Council are listed in alphabetical order below. Their brief CVs and Manifestos are attached to this letter.

Nominee:

Prof Du Toit Strauss

Proposer:

Amare Abebe

Secunder :N. Eugene Engelbrecht

Current Position:

Associate Professor in Physics, North-West University,
South Africa

Nominee: Prof. Emanuela Carleschi
Proposer: Prof M L Chithambo **Second** :Prof Deena Naidoo
Current Position: Associate Professor, Department of Physics, University of Johannesburg, Auckland Park campus (South Africa).

Nominee: Dr Eric Nnditshedzeni Maluta
Proposer: Prof Deena Naidoo **Second** : Prof Makaiko Chithambo
Current Position: Head of Physics and Coordinator of Vumani Science center (University of Venda)

Nominee: Dr Joseph Kiprono Kirui
Proposer: Irvy Gledhill **Second** : Prof M L Chithambo Strategic
Current Position: Senior Lecturer Physics, University of Venda

Nominee: Prof Manny Mathuthu
Proposer: Prof Regina Maphanga **Second** : Prof Iyabo Usman
Current Position: Full Professor at the Centre for Applied Radiation Science and Technology - North West University (Mafikeng)

Nominee: Dr Rudzani Nematudi
Proposer: Dr Peane Maleka **Second** : Dr Siegfried Förtsch
Current Position: iThemba LABS Deputy Director; IUPAP Associate Secretary General

Nominee: Dr Zama Katamzi-Joseph
Proposer: Prof. Makaiko Chithambo **Second** : Prof Deena Naidoo
Current Position: iThemba LABS Deputy Director; IUPAP Associate Secretary General

5. Results of the Election

The results of the election will be announced at the Annual General Meeting of the SAIP at the SAIP2021 Virtual Conference on Friday, 30 July 2021.

Yours truly,
Regina Maphanga
Honorary Secretary SAIP

VOTING INSTRUCTIONS

Please to login to the SAIP OMS System and cast your vote on or before **31 May 2021**.

- 1) Go to the SAIP Online Membership System <http://http://oldsite.saip.org.za/>
- 2) Use your last login details (If you have forgotten login details just enter your email address then click on either : **Forgot your password?** Or **Forgot your username?**)
- 3) Under **User Menu** on your left-hand side click on **"SAIP Voting System"**
- 4) Under Category Select **"All"** Click on **"SAIP Council Elections 2021"**
- 5) Click on green arrows next to your choice to vote for them. After clicking a red arrow appears to indicate that you have vote that individual.

If you have any problem logging in or voting please email : tebogo.mokhine@saip.org.za

MANIFESTOS & BRIEF CVS

Dr Rudolph Erasmus – President Elect

Brief Manifesto:

I have been involved with Physics research and Physics-related teaching since my undergraduate degree at the University of Pretoria in 1990. As an experimental physicist in Solid State Physics and Materials Science in academia for the past 20+ years, and for a short period before that in industry, I am aware of the importance of mutual support and collaboration between science practitioners to advance knowledge in our chosen field(s) of research. Without this support, and associated networks, productive research is hampered. The importance of the transfer of skills and knowledge, especially to post-graduate students, has also been strongly highlighted through my interactions with these students. I value inter-disciplinary research highly and view the importance of cooperation between different science and engineering disciplines as essential in order to make advances, both in fundamental research and applied fields.

My two years as Ordinary Member of Council has highlighted the important role that scientists can play in formulating policy and being proactively involved in its implementation. The SAIP also plays a pivotal role in further education of Science teachers and is very active in efforts to address gender equity in Physics. I view these as high value projects that need vigorous support as their success is central to the future of STEM activities in South Africa. The SAIP Office acts as a vital enabler for much that the Council is involved in, and keeping the office funded and capable to deliver on its mandate in the medium and longer term is crucial for all SAIP activities.

I look forward to continue being part of Council and playing an active role in its activities.

Brief curriculum vitae:

I obtained my MSc from the University of Pretoria in 1996 and thereafter spent two years at the De Beers Diamond Research Laboratory as a Senior Scientist. I subsequently obtained my PhD from the University of the Witwatersrand. I have been responsible for the Raman and Luminescence Laboratory at the University of the Witwatersrand since 2001, initially as Senior Research Officer, and as Senior Lecturer in the School of Physics since 2013. I have a partial secondment to the Wits Microscopy and Microanalysis Unit (MMU) as a Senior Instrument Scientist, also since 2013. I have published 98 papers in peer-reviewed journals and 23 papers in reviewed conference proceedings. This has resulted in a Web of Science h-index of 18 (Jan 2021).

I have strived, where possible, to make the Raman laboratory facilities readily accessible to users both within Wits and from other institutions. The Laboratory has a substantial user group, with 70 users (staff and postgraduate students) making use of the facilities to various degrees during 2020 in spite of the COVID downtime. I am involved in collaborative projects in Physics, Chemistry, Geology and Engineering, where I am responsible for the spectroscopic characterisation and interpretation. I am one of the lecturing team for first-year Physics for Engineers and also teach a module in Materials Characterisation Techniques for the third year Materials Science students. I am currently co-supervising two PhD students and one MSc student. I have served on the organising committees of several local workshops and conferences, including SAIP 2007 when it was held at Wits University.

I chair the Division for the Physics of Condensed Matter and Materials (DPCMM) of the SAIP since 2019. I was elected to the SAIP Council as an Ordinary Member in 2019, where I hold the Standards and Awards portfolio. I have assisted in the organisation of two International conferences held in South Africa. I chaired the organising committee of the third SA Raman Workshop that was held in Stellenbosch in November 2017. I have volunteered at several Wits University Open Days and have facilitated job shadowing arrangements by aspirant physicists in Grades 11 and 12. I have acted as referee for the South African Journal of Chemistry, Analytical Chemistry, Journal of Applied Physics, Journal of Physical Chemistry, Physica Status Solidi c (conference series), Journal of Alloys and Compounds, Physica B and Journal of Raman Spectroscopy. I have acted as external examiner for dissertations and theses from Nelson Mandela Metropolitan University, University of Pretoria, University of Johannesburg, Wits University and University of Stellenbosch.

Prof Regina Maphanga – Secretary

Brief Manifesto:

The growth and development of every nation in the 21st century is directly linked to the development of science and technology in that particular nation. Thus, science and technology have a profound effect on nation's ability to compete in global markets. Hence, physics as a science subject contributes to employment, health, human well-being, and prosperity worldwide. My mission is to be a South African Institute of Physics agent, by articulating its visions, mission statements, actions, and business plans with integrity. Also, I believe the institute needs to retain young physicists to enhance its sustainability and prepare them to take part in policy and decision makings for future South African physics community.

Brief curriculum vitae:

Regina Maphanga is a Principal Researcher and an Acting Research Group Leader at the Council for Scientific and Industrial Research – Next Generation Enterprises and Institutions Cluster. Prior to joining CSIR she was an Associate Professor of Physics at the University of Limpopo and is currently appointed as a Research Associate at the same institution, also an Associate of National Institute of Theoretical Computational Sciences. In 2012 Regina was appointed as a Junior Associate at the Abdus Salam International Centre for Theoretical Physics in Italy. Her research focuses on using computer simulations methods to probe materials properties and design new materials, mainly for energy storage. She is an alumni member of South African Young Academy of Science and Global Young Academy – the voice of the young scientists around the world. Amongst various professional committees she serves, she is an Honorary Secretary and Executive Council Member for the South African Institute of Physics and an elected member of C20 Commission on Computational Physics of International Union of Pure and Applied Physics (IUPAP).

Prof EE van Dyk – Treasurer

Brief Manifesto:

I currently serve on the SAIP Council as the representative for Divisions and am also currently the Treasurer of the Applied Physics Division. My association with the institute started in 1983 as a student and I have been a member of the SAIP since 1990, and am currently also registered as a Professional Physicist. I have, in the past served as secretary and treasurer of the Division for Physics of Condensed Matter and Materials. I have also been actively involved in the Applied Physics Division as Chair and now Treasurer. During the time that I have been associated with the Applied Physics Division we have built the Division into a strong and viable entity of the Institute. I believe I am have the relevant experience to make a contribution to the Institute and it would be an honour for me to serve as the SAIP Council for 2019-2021 as Treasurer.

Brief curriculum vitae:

Professor Eugene Ernest van Dyk BSc (Physics and Applied Mathematics), BSc Hons (Physics), MSc (Physics), PhD (Physics), Pr.Nat.Sci., Pr.Phys.

Professor of Physics: Nelson Mandela University

Director: PVinsight (Pty) Ltd

Ernest van Dyk obtained his PhD in Physics at the University of Port Elizabeth in 1994. He teaches Physics at Nelson Mandela University and is also the leader of the Physics Departments Photovoltaic Research Group (PVRG). He was the Director of the Centre for Energy Research (CER) at the university from 2006 to 2017. The CER was involved with several renewable energy research projects for industry and government agencies. He is currently the Director of a spin-off company, PVinsight, which is a SANAS accredited laboratory which conducts quality assurance testing on Photovoltaic modules. Prof van Dyk's research interests are in the field of Solar Energy, specialising in Photovoltaics. He has supervised 23 MSc and 16 PhD student projects to completion and is currently supervising 1 MSc and 2 PhD students. He has published over 60 scientific journal articles in the field of Photovoltaics and has authored or co-authored more than 50 international conference papers and 190 national conference presentations. Prof van Dyk has a passion for teaching Physics and researching Renewable Energy Technologies. He also regularly consults on Photovoltaics and Solar Energy to national and international companies.

Brief Manifesto:

As an ordinary member of the SAIP council I will aim to advance the SAIP's general mission of being the voice of physics in South Africa by actively engaging with SAIP members, identifying their needs, suggestions, and concerns, and present these to the larger SAIP council. I will also work towards advancing the cooperation between different physics departments and research institutions in South Africa through, e.g., joint curriculum and module development to enhance the quality of tertiary physics education and facilitate local research collaboration.

Brief curriculum vitae:

EDUCATION

2013: PhD in Space Physics, North-West University, South Africa

2009: MSc in Physics, North-West University, South Africa

2007: BSc Honours in Physics, North-West University, South Africa

2006: BSc in Physics, Mathematics, and Applied Mathematics, North-West University, South Africa

EMPLOYMENT

2018 - present: Associate professor in Physics, North-West University, South Africa

2020 - present: Affiliate graduate faculty, Department of Space Science, University of Alabama in Huntsville, USA

2014 - 2018: Senior lecturer in Physics, North-West University, South Africa

2011 - 2013: Lecturer in Physics, North-West University, South Africa

2008 - 2010: Junior lecturer in Physics, North-West University, South Africa

PROFESSIONAL MEMBERSHIPS

Member of the South African Institute of Physics (SAIP), the American Geophysical Union (AGU), the European Geophysical Union (EGU), AGNES (the African-German Network of Excellence in Science), an associate of the Committee on Space Research (COSPAR), and an affiliate of both the South African National Institute of Theoretical Physics (NITheP) and The African Academy of Sciences.

AWARDS AND FELLOWSHIPS

Awarded a Prestigious (P) award rating from the South African National Research Foundation (NRF) in 2019. Awarded the 2019 South African Institute of Physics Silver Jubilee medal. Invited to the University of Central Lancashire (UCLan), UK, for a research visit in 2019 as part of their Distinguished Collaborator Program. Received a merit award from the Faculty of Natural Sciences for my teaching contribution in the Subject Group: Physics in 2012, 2017. Received a Visiting Scholar award from the Fulbright Program for a sabbatical visit to the University of Alabama in Huntsville in the USA (March - May 2015). Awarded the Outstanding Paper Award For Young Scientists, in COSPAR's Scientific Commission D, in both 2014 and 2016. Received a post-doctoral fellowship from the Alexander von Humboldt-Foundation for a research sabbatical to the Ruhr University in Bochum, Germany (January - June 2014).

RESEARCH ACTIVITIES

Active researcher in the NWU's Centre for Space Research with 51 peer-reviewed publications in ISI accredited journals and 32 published conference proceedings. A complete publication history is available at <https://orcid.org/0000-0002-0205-0808>

ADMINISTRATIVE ACTIVITIES

Chairperson of the local organising committee of the 2020/2021 South African Institute of Physics (SAIP) conference. Associate editor for the journal *Advances in Space Research* (2021 – present). Subject group leader (similar to HOD) of Physics at the NWU for the 2019/2020 term. Chair of the Space Science division of the South African Institute of Physics for the 2017/2018 term.

Brief Manifesto:

I am currently an Associate Professor in experimental condensed matter physics working in the Department of Physics, Faculty of Science, of the University of Johannesburg. I have served as Deputy Head of Department for Teaching and Learning and as Head of Department, as well as on the first-year orientation and teaching and learning committees of my Faculty.

I am an active researcher in the field of experimental condensed matter physics, specialising in electronic structure investigation and characterisation of materials. Together with a colleague of mine, I oversee the XPS and ARPES Lab in the Department of Physics at UJ, where we provide XPS measurement in service of a large national community of users in both chemistry and physics. To date, I have co-authored 57 peer reviewed articles in accredited international journals, as well as 9 conference proceedings. I currently hold a C2 rating from the South African National Research Foundation.

I have more than 11 years of experience in teaching and coordinating physics courses at undergraduate and Honours level. I am also interested in doing research in physics education, and I am currently involved in two major research projects involving first and second year BSc students dealing with conceptual understanding and curriculum development. As for my formal involvement with the SAIP endeavours, I currently serve as a member of the Executive Committee (EXCO) of the Division for Condensed Matter and Materials of the South African Institute of Physics. I was elected as Women in Physics representative on the EXCO as from December 2018. In the past I have also served as member for the National Working Group of WiPiSA (Women in Physics in South Africa), where my portfolio was website and communication with the broader community.

Finally, the SAIP annual conference was hosted by my Department in 2014, and I was a member of the Local Organising Committee, where my conference portfolio was catering, social events and transport coordination. Please refer to the next section and my full CV for more information. Thank you.

Brief curriculum vitae:

57 published/accepted articles in international peer-reviewed journals

9 published peer-reviewed articles in national conference proceedings

11 years of experience in coordinating and lecturing undergraduate and Honours physics courses at university level
South African National Research Foundation (NRF) Rating history: C2 (from 01/01/2020 to present); Y2 (from 01/01/2014 to 31/12/2019) h-index: 14 (Google Scholar, 14 May 2021), 13 (Scopus, 14 May 2021) i10-index: 19 (Google Scholar, 14 May 2021) Number of citations: 514 (Google Scholar, 14 May 2021), 395 (Scopus, 14 May 2021)
Currently a reviewer for Scientific Reports, Physical Review B, Physical Review Materials, Journal of Physics: Condensed Matter, Rare Metals; in the past also reviewer for Physical Review Letters, and Applied Surface Science. In the past reviewer for SAIP2014, SAIP2015, SAIP2016 and SAIP2017 conference proceedings, and recently a reviewer for the International Conference on Physics Education 2018 proceedings, as well as for several NRF panels and funding calls.

Research interests:

Strongly correlated electron systems; electronic structure; X-ray photoemission spectroscopy; angle resolved photoemission spectroscopy; resonant core level spectroscopies; X-ray absorption spectroscopy; synchrotron science; surface science; nanoparticles and materials for catalysis; physics education.

Academic record:

1) September 1998 - December 2004: Laurea Magistrale cum laude in Physics, Università Cattolica del Sacro Cuore, Brescia (Italy)
Dissertation: Study of the electronic structure of URu₂Si₂ by high-resolution angle resolved photoemissionspectroscopy (Advisor: Prof. Fulvio Parmigiani)

2) January 2006 - March 2009: Doctoral Degree (PhD) in Physics, University of Trieste and Beamline BACH, Elettra Synchrotron Radiation Facility and TASC INFN-CNR National Laboratory, Trieste (Italy).

PhD Thesis: Electronic structure of transition metal and rare earth ions in complex materials by resonant core-level spectroscopies (Advisor: Prof. Fulvio Parmigiani)

Career in academia:

• July 2009 – September 2014: Lecturer (Contract), Department of Physics, University of Johannesburg, Auckland Park campus (South Africa).

• October 2014 – July 2015: Lecturer (Permanent), Department of Physics, University of Johannesburg, Auckland Park campus (South Africa).

• August 2015 – July 2019: Senior Lecturer (Permanent), Department of Physics, University of Johannesburg, Auckland Park campus (South Africa).

• January 2016 – March 2017: Deputy Head of Department: Teaching and Learning, Department of Physics, University of Johannesburg, Auckland Park campus (South Africa).

• April 2017 – March 2020 Head of Department, Department of Physics, University of Johannesburg, Auckland Park campus (South Africa).

• August 2019 – present: Associate Professor (Permanent), Department of Physics, University of Johannesburg, Auckland Park campus (South Africa).

Dr Eric Nnditshedzeni Maluta – Ordinary Member

Brief Manifesto:

As a person, I would like to improve the use of energy in the rural areas through renewable research and improve physics education development and nurture the next generation in science, engineering, technology, and mathematics disciplines.

Brief curriculum vitae:

Dr Eric Nnditshedzeni Maluta holds a PhD in Physics from the University of Bath (UK) since 2011. He has been working as a lecturer from 2015 until present.

Research Work

Dr Maluta has supervised 3 PhD and 6 Masters students in Physics and over 20 Honours research projects. He has published more than 15 papers as Journal papers, Conference Proceedings and 2 Book Chapters. He has presented his research work at both International and National conferences and has been an invited speaker in several conferences. Science engagement work Since January 2011 to date, he is the Science Technology Engineering and Mathematics Ambassador for the Vuwani Science Resource Centre. He assists secondary school students with physics experiments and content revision and promote science awareness in rural areas.

Teacher Development Workshop

Dr Maluta has assisted with the SAIP Vhembe teacher's development workshop and training since 2011. Professional Appointment During the period, 2019 – 2021, Dr Maluta as served in the capacity of the Teacher Development Portfolio within Council of the South African Institute of Physics.

Brief Manifesto:

I. ENTRENCHING THE LOVE OF SCIENCE IN OUR YOUTH

There are many youngsters all over the country that have potential to excel in science. They just need to be identified and then nurture and encourage.

- I will work to popularize SAIP and its activities in schools near me.
- Many of my former students still in constant contact.
- I will enable SAIP - the voice of Physics in SA - to reach them as well
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II. INCREASING NUMBER OF STUDENTS IN PHYSICS

- I will actively encourage our students at UNIVEN to register as members of SAIP.
- In my teaching and research activities I will propagate the message through example that being attached to SAIP will be helpful in strengthening Physics in the country. After all example is better than precept.
- I will encourage both boys and girl in equal measure to pursue Physics and Mathematics.
- I will work with others to demystify the myth that Physics is hard. The difficulty will evaporate with enough ATTENTION. Like the great Newton said, his success was because of two main reasons: one, standing on the shoulders of giants and two, his habit of ATTENTION.
- I will work with colleagues to imbue in our high school youth the habit of attention to counteract the debilitating scourge of distractive social media addiction.

III. FACILITATING CONVENING SCIENTIFIC MEETINGS, LECTURES AND WORKSHOPS

- I will work with high school educators to identify young talent way before matric examinations.
- I will reach out to the society in the outskirts of the University of Venda ... and identify important issues of strengthening the learning of physics and mathematics by the youth.
- I will forge partnership with community radio station UNIVEN FM and thus organize broadcasts of important topics in Physics and Mathematics.
- I will also approach the SABC local branch the Phalaphala FM at Thohoyandou for greater broadcast coverage.
- I will work with the SAIP leadership to organize roadshows from SAIP and other stakeholders to drum up the importance of physics and mathematics.
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IV. INTERNATIONALIZATION OF PHYSICS

- I will endeavour to recruit physicists from Kenya – my country of birth- to join SAIP. A number of Kenyan physicists are former students of SA Universities and they should easily respond positively.
- I will then work with colleagues to identify other nationals in the rest of Africa to join a now vibrant SAIP.
- I will endeavour to forge and encourage research partnership as a spinoff from SAIP affiliation

V. PUBLIC APPRECIATION OF PHYSICS

- Philosophy of great scientists:
- I believe the great that made great discoveries are amazing. They had a different lifestyle. They were philosophers . We should find away to teach this philosophy to the general public.
- I will teach and share the working principles of appliances that now play a great role in modern living from the cell phones to washing machines to fast levitating trains.
- I work with colleagues at the University to initiate arrangementf for efficient sharing of physics resources at UNIVEN.
- Initiate a group of youngsters who are passionate about fixing mechanical, electrical and even simple electronic gadgets and hence deepen the appreciation of Physics among the youth.

VI. BRIEF HISTORIES OF GREAT SCIENTISTS – THEY INVARIABLY SHOWED TALENT FROM YOUNG AGE

- I believe we lose too many young physics talents to the wrong fields in tertiary education because we are unable to discover them.
- As a SAIP council member, I will strive to assist in catching future scientist at schools.
- I believe we must find a way to cultivate a science ethic right from early in life- this can be liberating.
- While we celebrate sports legends, it would be a great injustice for humanity to ignore the legends like Isaac Newton, Einstein and others in daily discourse. We must not only mention them in classroom teaching from books but their names must be on our lips when we talk of spacecrafts taking humans to Mars. This attitude must change.

VII. PHILOSOPHIES OF LIFE BY WHICH GREAT SCIENTISTS LIVED

- The great scientists were philosophers. They epitomized a unique philosophy of discipline and immense devotion to work.
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- Their ways of life are worth emulating. It is a gem for greatness and should teach us all that persistence will always bear fruit whatever the obstacles.
- I have been fascinated by the great scientists since my high school days. I want to share this fascination with youngsters in my area.
- Their lifestyles are everlasting examples to live by. Our youth and all should be encouraged to emulate. At SAIP we should do just that.
- The above I will endeavour to instil in our youth by example with the support of SAIP and other stakeholders.

Brief curriculum vitae:

Personal Details

Name: Dr Joseph Kiprono Kirui

ID: 5809165376186

Residency: South African Permanent Resident

Nationality: Kenyan

Affiliation: University of Venda, Thohoyandou, Limpopo, South Africa.

Contact : +27 796340868

Email: joseph.kirui@univen.ac.za

OrcID: 0000-0003-4811-2020

Educational History:

2008: Obtained PhD- at the University of the Witwatersrand, Johannesburg .Thesis: Structures of irradiation damage centres in Diamond.

1990: MSc(Physics), University of British Columbia (UBC) , Canada- Thesis : research in Defects in Solids.

1984: BSc Hons (Physics and Mathematics), University of Nairobi, Kenya.

Scholarship: Canadian International Development Agency (CIDA) Scholarship (1986-90)

Work History:

2009-to date: Senior Lecturer, Dept of Physics, University of Venda, Thohoyandou, South Africa

2002 – 2009: Lecturer, Dept of Physics, University of Venda

1990- 1996- Assistant lecturer at Egerton University, Njoro , Kenya

1984- 1998- Physics Lecturer,,Kenya Polytechnic, Nairobi Kenya

Teaching Experience

I taught the following courses at UNIVEN:

1. Solid State Physics Honours class (2009- to date)
2. Solid State Physics (3rd year Physics majors) 2009- 2017
3. Waves and Optics (2nd Years majors – 2005 – 2007.

4. Mechanics (2nd years Majors in Physics and Chemistry)- 2003- 2006
5. Modern Physics (2nd year Majors in Physics and Chemistry)- 2003- 2007 and then 2020 and continuing.
6. General Physics – service physics to non-majors at UNIVEN (2003-2006)

At Egerton University I taught first year Physics: 1900- 1996

Research Interests:

I am currently doing research in materials for renewable energy notably nanomaterials for energy harvesting and storage. Of particular interest to us are metal oxide nanostructures and hybrid perovskite semiconductors for PV applications.

Graduate student supervision:

I have recently promoted/ co-promoted 3 PhDs and 3 MSc students. I am also working with Computational Physics group at our Physics Department which started a decade ago on Dye sensitized solar cells(DSSC) but now have broadened to include hybrid perovskites over and above titanium oxides.

Appointments and special roles

- HOD, Physics Dept, University of Venda – 2009-2016
- Strategic Associate, National Institute of Theoretical Physics (NITheP), 2016- to date
- Coordinator for Habitable Planet Workshop (HPW) – A School Engagement Programme – involving UNIVEN undergraduate and postgraduate students outreach programme to sensitize high school learners on environmental issues and caring for our planet. 2017
- Facilitator – SAIP/Vhembe Dept of Education Teachers Training Programme- 2017- 2019

Membership of Professional bodies

- I HAVE received notification of acceptance as new Professional Member of SAIP : May 2021- onwards

Extracurricular interests:

Major interests are:

- Music: I like a few genres
- Languages - I am now proficient in Tshivenda and already making huge steps to do the same in Sepedi and Xitsonga
- Philosophy: I am immensely fascinated by the Stoic Philosophy

Brief Manifesto:

My view of the South African Institute of Physics is that it has become a Spring Boat for many Young Nuclear Scientists to step into the Future of Nuclear Science (Physics) as Researchers, by providing them an opportunity to publicly present their seemingly inferior work and still win a prize for it. That every effort is acknowledged. As a Member of the SAIP Council, I intend to actively promote this Role of SAIP by encouraging young Postgraduates in my Institution to participate and competed annually in the SAIP Conference. I also intend to motivate Science Teachers and their learners to see Nuclear Physics differently. That is, as a fascinating career subject in which new discoveries are always possible. The motive is to convince them that, since Nature has already shown us that it is made of matter and antimatter, so is Nuclear Physics made for both male and female leaners and graduates.

Brief curriculum vitae:

ORCID # 0000-0001-7608-2610

Full Professor of Applied Radiation Science and Technology

FAMILY Name: MATHUTHU

First name: MANNY

Sex: M

Nationality: South African Permanent Resident

SA National ID #: 620 121 527 8183

MARRITAL STATUS: Married

Full name/address of permanent Institution: North-West University (Mafikeng) Cnr Albert Luthuli and University Drive
Centre for Applied Radiation Science Mmabatho, 2735, RSA
and Technology (CARST),

E-mail: Manny.Mathuthu@nwu.ac.za and mathuthu@gmail.com

Cell No: +27 76 507 3327

Tel. No: +27 18 389 2777

Home address: Flat # 1, BEIRUT Flats, Unit 2, Mmabatho, 2735, RSA

Cell. No. +27 84 808 3305

3. COMPETENCES AND PERSONAL PROFILE

I have had opportunities to Manage Projects valued as high as R5,000,000.00 and supervise around 6-8 PhDs and 4-6 MScs per year. I developed the first ever CARST PhD Programme which was approved by Senate and ICAS (SICAS). It was available for the first registration of PhD candidates in January 2018 and in 2019, this programme has an average of 8 registered candidates. In the year 2018. I was awarded the C3 Rating (for an Established Researcher) by the National Research Foundation of South Africa. In the same year I was awarded the Prestigious IAEA Fellowship for Training in Nuclear Forensics at the Tennessee University in the USA. This has resulted in us developing our Nuclear Forensics LAB at CARST. One of my latest joy was ability to negotiate a signed MOU with Debre Markos University in Ethiopia in May 2019 and the iThemba LABS (signed in August 2019).

National & International Collaborations

4. Research collaborators and Roles

- a. Prof R Mavunda @ NCSA Nuclear Forensics Team
- b. Prof Eva @ Hungary Nuclear Forensics Lab (Hungarian Academy of Science)
- c. Kalambuka @ Univ of Kenya, Phys Dept, Nuclear Forensics with LIBS
- d. Thomas @ Berkely Lab, LasernetUS
- e. Nelson @ Berkeley Lab, LIBS

5. International student training (showing our international recognition)

- a. Ms Tshegofatso W Solomon - Botswana, IAEA funded (2018 – 2020)
- b. Ms Vera Usshona – Namibia, Self funded (2018 – 2020)
- c. Mr Vaino Indongo – Namibia, IAEA funded (2019 – 2021)
- d. Ms Bathuina Adam – Sudan, (2021 – 2023)
- e. Mr Mashingayidze – Zimbabwe. (2021 – 2023)

6. Inter-laboratory Comparison (showing international recognition of our Nuclear forensics LAB)

- a. WICO-IAEA, Sample analysis for inter comparison
- b. Joint European Commission, Isotope ratio comparisons

OTHER MANAGERIAL TASKS ACCOMPLISHED

1. Assessor For Nrf Physics And Astronomy Review Panel Meeting 2019 - Date
2. Reviewer And Moderator For National Research Foundation (Nrf) 2018 - Date
- Funding Applications Zar 5, 000,000.00 From Nrf For Equipment
3. MSc and 2 PhD reviewed from International Universities
4. Education (Higher Degrees) PhD, University Of Zimbabwe Dec 1998

Employment and Academic Responsibility

August 2017 to Current, Full Professor at the Centre for Applied Radiation Science and Technology (CARST)- North West University (Mafikeng), RSA

3 PhDs & 3 MScs graduating in May 2021, plus over 20 graduated last 8 years.

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Dr Rudzani Nemutudi – Ordinary Member

Brief Manifesto:

Dr Nemutudi is the Deputy Director at the National Research Foundation, iThemba LABS, and currently an Ordinary Member within the SAIP Council. Given his local (former NMISA board member) and international (Associate Secretary General at the IUPAP) experience and networks, this will contribute vastly to the SAIP value proposition.

Brief curriculum vitae:

Current: iThemba LABS Deputy Director; IUPAP Associate Secretary General, Ordinary Member SAIP council (Fundraising)

Former: HoD Material Research Department iThemba LABS, Non-Executive Management at NMISA(Chair of Technical Committee)

Brief Manifesto:

There are far less women in Physics with PhDs, who participate as lecturers, student supervisors and are NRF grant holder in South Africa. WiPiSA can be used as an instrument to encourage more females into academic career in Physics as well as more women participation in SAIP, however many students and academics are unaware of WiPiSA and its activities within the community or even if aware do not participate in WiPiSA. If elected as a member of the SAIP council, I am going to advocate to increase activities, and exposure of WiPiSA (Women in Physics of South Africa) to encourage more female participation in Physics academia and SAIP, for WiPiSA workshops every 3-2 years to promote relevant issues to women and female students, as well as special WiPiSA social, network and professional events during the annual SAIP conference.

There are large number of students that attend SAIP's annual conferences, but there are few activities dedicated to encouraging them remain within the field. If elected I will work towards introducing events for young people to socialize and network amongst each other as well as to engage with senior academics to discuss the future direction of the community, current opportunities for future growth and other topics related to helping the students see Physics academia as a visible future career for themselves.

Brief curriculum vitae:

Education:

University of Bath, United Kingdom : PhD - Ionospheric Physics (2011)

Rhodes University, South Africa: MSc - Astrophysics with distinction (2008)

University of Cape Town, South Africa: BSc Hon - Astrophysics and Space Physics (2006), BSc - Physics (2005).

Work Experience:

Researcher, South African National Space Agency (SANSA), South Africa (2012 - Current)

Postdoctoral Researcher, Hermanus Magnetic Observatory (HMO) / SANSA, South Africa, (2011)

Professional Membership:

American Geophysical Union (2018 - current)

ISCU national board member (2017 - current)

URSI national committee member (2013 -current)

South African Institute of Physics (2006 - current): Treasurer for SAIP Division D (2012 -2013) and co-chair of Division D (2018 - current)