

# POWER DIGEST

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## 2022 IEEE PES/IAS Power Africa Conference

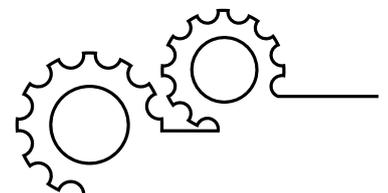


From left to right: Mr. K Loji, Mr. K Ntuli, Ms. NF Mtukushe, Prof. IE Davidson, Dr. EE Ojo, Ms. N Ndlela, Dr. M Kabeya, Mr. N Ntombela, Mr. P Ngema

Nine DUT delegates attended the 2022 IEEE PES/IAS Power Africa Conference in Kigali, Rwanda. PAC2022 was held at the University of Rwanda and Carnegie Mellon University of Africa from 22nd - 26th August 2022. Power Africa 2022 is a premier conference providing a forum for researchers, scientists, engineers, and practitioners to present and discuss the latest research findings, ideas, and emerging technologies and applications in power systems integrations, business models, technological advances, policies, regulatory frameworks for the African continent.

The conference featured keynote addresses and invited presentations by distinguished experts and engineers. The ninth annual IEEE PES/IAS Power Africa Conference (PAC

2022) is co-sponsored by the IEEE, USA, IEEE Industry Applications Society (IAS), IEEE Power and Energy Society (PES), Republic of Rwanda Ministry of Infrastructure, Rwanda Convention Bureau, The University of Rwanda, and Carnegie Mellon University Africa; under the theme, "Convergence of National and Off-Grid Systems: Renewables, Productive Use, and Electric Mobility."



## New Academic Staff

Dr. Katleho Moloi

Dr. Katleho Moloi recently joined the Durban University of Technology as a Senior Lecturer, Department of Electrical Power Engineering, Faculty of Engineering and the Built Environment. Dr. Moloi received the National Diploma in Electrical Engineering, Vaal University of Technology, in 2014; and completed the BTech (Cum Laude) in 2015 from Tshwane University of Technology. He joined Eskom as a Field Services Engineer, and subsequently promoted to a Protection and Power Line Design Specialist. He obtained the Master of Engineering degree (cum laude) and Doctor of Engineering degree in 2019 and 2022 respectively. Dr. Moloi is a seasoned professional, with high grade industry experience as an Eskom Engineer, Project Engineer and excellent lecturing experience at both Tshwane University of Technology and the University of South Africa. He has over 30 journal articles and conference proceedings to his credit, and has executed a myriad of national technical industry projects. Dr. Moloi was instrumental in the development of numerous policies and practice standard at Eskom. In 2018 his paper titled, "The development of High Impedance Fault Detection Scheme", won the Best Paper award an international conference in Spain. and published in an ISI journal.

Dr. Moloi is a registered professional technologist, with the Engineering Council of South Africa (ECSA) and served on the board as a reviewer. He serves as a reviewer for both local and international journals and conferences. His research interests are in power system analysis, renewable energy, network optimization, and the application of artificial intelligence (machine learning) in electric power and energy systems.



## CALL FOR CONTRIBUTIONS!



**2nd Space Science and CNS Symposium**  
**Venue: Coastlands Musgrave Hotel, 315-319 Peter Mokaba Ridge, Musgrave, Durban, 4001. Date: 24th of October 2022**

### Synopsis:

The South African Government is committed to transforming the economy into a Digital Economy in readiness for Industry 4.0. DUT Space Science (SS) program is a capacity-building initiative to train/develop expertise in satellite communications, navigation, and positioning, through graduate studies and research in SS and CNS (Communication, Navigation/e-Navigation, and Surveillance) for national economic development, with applications in various sectors of the economy such as telecommunication, power and energy, mining, marine navigation, and air-traffic. Activities include Satellite & Space-based Engineering; Satellite E-solutions; Stratospheric Platform Systems for CNS: Airships and Aircraft; Intelligent Transport Systems and Augmentation of GNSS Solutions.

### Sub-Themes:

- Communications, Navigation and Surveillance Systems (CNS)
- Nanosatellite technology
- Innovative Small Satellite Technology and Applications
- Astrophysics and Cosmology

- Global navigation satellite system (GNSS) for positioning, navigation, and timing (PNT)
- Space Segment, Space Applications, and Industrialization of Space
- Unmanned Vehicles, Port Automation, Marine and Mining
- Extragalactic Astronomy, Large-scale structures, and clusters of galaxies
- ICT for Space and Geographic Information System (GIS)
- GNSS time Synchronization and Smart Grid
- GNSS application in Ground Mapping and Transportation
- Precision Agriculture and Machine Control
- Construction, Surveying, Defence and Aerial Photogrammetry
- Global positioning system (GPS) for satellite navigation, wireless internet.
- Relativistic Astrophysics, including the study of compact objects

**Abstract submission is now open!!**

**For further details kindly contact: Ms Slindile Sithole at [slindiles3@dut.ac.za](mailto:slindiles3@dut.ac.za)**

## Book Chapter

[1] Buraimoh E, Davidson IE. Virtual Power Plant with Demand Response Control in Aggregated Distributed Energy Resources of Microgrid. In "Virtual Power Plant Solution for Future Smart Energy Communities", pp. 39-54. CRC Press, Boca Raton, 25 July 2022. DOI: <https://doi.org/10.1201/9781003257202>, eBook ISBN9781003257202



## JOURNAL ARTICLES

[2] Dele W.S. Alausa, Emmanuel Adetiba, Joke A. Badejo, Innocent E. Davidson, Obiseye Obiyemi, Elutunji Buraimoh, Abdultafoek Abayomi, and Oluwadamilola Oshin., "Contactless Palmprint Recognition System: A Survey", IEEE Access, pp. 1 – 1, 25 July 2022, DOI: 10.1109/ACCESS.2022.3193382, Electronic ISSN: 2169-3536.

[3] Sachi Chaudhary, Riya Kakkar, Nilesh Kumar Jadav, Anuja Nair, Rajesh Gupta, Sudeep Tanwar, Smitta Agrawal, Mohammad Dahman Alshehri, Ravi Sharma, Gulshan Sharma and Innocent E. Davidson, "A Taxonomy on Smart Healthcare Technologies: Security Framework, Case Study, and Future Directions," Journal of Sensors (Hindawi), Vol. 2022, Article ID 1863838, 30 pages, 2022. <https://doi.org/10.1155/2022/1863838>.

[4] Elutunji Buraimoh, Anuluwapo Aluko, Oluwafemi Emmanuel Oni and Innocent E. Davidson, "Decentralized Virtual Impedance-Conventional Droop Control for Power Sharing for Inverter-Based Distributed Energy Resources of a Microgrid". Energies 2022, 15 (12), 4439; <https://doi.org/10.3390/en15124439>

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