

## Message from the Head of Department (HoD): Prof IE Davidson

As we set course into the new session 2020, it's our pleasure to introduce a Departmental Newsletter, which conveys current activities and upcoming events that affect the Department. All staff and students are most welcome to contribute articles, announcements, contributions and upcoming events to enrich the life of Power Engineers, Technologist and Technicians. Welcome to this maiden issue of the Digest, and I trust you find the information refreshing and uplifting. Your contributions are most welcome. Make a submission to the Editors.

## SAUPEC/RobMech/PRASA 2020

It is with great pleasure to announce the 1<sup>st</sup> Conference in 2020 that was attended by our staff and post graduate students. Southern Africa Universities Power Engineering Conference (SAUPEC) was held on 29<sup>th</sup> January at The River Club, Cape Town, South Africa. This flagship Southern Africa regional conference was hosted by the Department of Electrical Engineering, University of Cape Town, in conjunction with the South African Institute of Electrical Engineers (SAIEE). SAUPEC, RobMech and PRASA brings together experts from the industry, academics and students in engineering, computer science, pattern recognition, robotics and mechatronics to present research papers, network, and expand the fraternity that has been built as part of the SAUPEC, RobMech, and PRASA legacies. The conference incorporates Eskom Tertiary Education Support Programme (TESP) report-back meeting. DUT researchers made contributions of four (4) oral presentations and one (1) poster presentation

## Refereed Conference Papers and Posters

- [1] Innocent Davidson, "Successes in University - Industry Partnerships - Perspectives from Durban University of technology". *In Proceedings of SAUPEC/RobMech/PRASA 2020 Conference*, 29-31 January 2020, Cape Town, South Africa.
- [2] Milton Estrice, Gulshan Sharma, Kayode T. Akindeji and Innocent Davidson, "Frequency Regulation Studies of Interconnected PV Thermal Power System". *In Proceedings of SAUPEC/RobMech/PRASA 2020 Conference*, 29-31 January 2020, Cape Town, South Africa.
- [3] Vasu Chetty and Innocent E. Davidson, "Challenges of Planning Future High Voltage Power Systems Networks". *In Proceedings of SAUPEC/RobMech/PRASA 2020 Conference*, 29-31 January 2020, Cape Town, South Africa.
- [4] Milan Joshi, Gulshan Sharma, and Innocent E. Davidson, "Investigation of Diverse Sampling Time for LFC of Hydro Power System using Discrete LQR with UPFC and RFB". *In Proceedings of SAUPEC/RobMech/PRASA 2020 Conference*, 29-31 January 2020, Cape Town, South Africa.
- [5] Sindisiwe C. Malanda, Innocent E. Davidson and Grain P. Adam, "Comparison of DC Voltage Control Strategies for Multi-Terminal HVDC Network During AC Faults". *In Proceedings of SAUPEC/RobMech/PRASA 2020 Conference*, 29-31 January 2020, Cape Town, South Africa.

## SAUPEC/RobMech/PRASA 2020 PRESENTERS



Milan Joshi



Sindisiwe C. Malanda



Milton Estrice

## Events and Announcements

**DUT Registration**  
10 January - 31 January 2020

**Extended Registration**  
13 March 2020 (**Last Day of Registration**)

**Departmental Research Committee (DRC)**  
17 January 2020  
21 February 2020

**Faculty Research Committee (FRC)**  
31 January 2020  
03 March 2020

**Faculty Board Meeting**  
19 February 2020  
**Venue: S2 Block, Level 1, BS2104, Test Venue**  
**Time: 10:00 -12:00**



### DUT EPE Group at SAUPEC Conference 2020

Left to Right: Timothy Akindeji, Prof Inno Davidson, Sindi Malanda, Milton Estrice and Dr Gulshan Sharma (Milan Joshi is the Photographer)

### Journal Articles

- [1] Aluko, A.O.; Dorrell, D.G.; Pillay Carpanen, R.; Ojo, E.E. Heuristic Optimization of Virtual Inertia Control in Grid-Connected Wind Energy Conversion Systems for Frequency Support in a Restructured Environment. *Energies* **2020**, *13*, 564. <https://doi.org/10.3390/en13030564>.
- [2] Gulshan Sharma, K. Narayanan, I. E. Davidson and K. T. Akindeji, "Integration & Enhancement of Load Frequency Control Design for Diverse Sources Power System via DFIG based Wind Power Generation and Interconnected via Parallel HVDC/EHVAC Tie-Lines", *International Journal of Engineering Research in Africa*, Vol. 46, pp 106-124, <https://doi.org/10.4028/www.scientific.net/JERA.46.106>, © 2020 Trans Tech Publications Ltd, Switzerland.
- [3] Gulshan Sharma, K. Loji and M. Kabeya, "Application of Diverse FACTS in AGC of Multi-area Interconnected Energy Systems", *Indonesian Journal of Electrical Engineering and Informatics*, Vol. 7, No. 2, pp. 241-254, **2019**.
- [4] Elutunji Buraimoh, Innocent E. Davidson and Fernando Martines-Rodrigo, "Fault Ride-Through Enhancement of Grid Supporting Inverter-Based Microgrid using Delayed Signal Cancellation Algorithm Secondary Control", *Energies* **2019**, Vol 12, Issue 20, 3994; doi:10.3390/en12203994

### Upcoming Conferences

- PSC 2020 Clemson University Power Systems Conference, March 10-13, 2020, Clemson, SC, USA**
- ICSMARTGRID 2020**  
**8th International Conference On Smart Grid**  
**17-19 June, 2020, Paris/France**
- IEEE PES & IAS Power Africa Conference,**  
**August 25-28, 2020, Nairobi, Kenya**
- NEIS 2020 - Conference on Sustainable Energy Supply and Energy Storage Systems**  
**14 – 15 September 2020, Hamburg, Germany**
- ICRERA 2020**  
**9<sup>th</sup> International Conference on Renewable Energy Research and Applications**  
**September 27-30, 2020, Glasgow/UK**
- IEEE Region 8 AFRICON 2021, 13-15 September 2021, Arusha, Tanzania**

#### **EDITORS**

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