

Faculty of Engineering

University of Mauritius



Electrical and Electronic Engineering Department



<http://uom.ac.mu/foe/eee/>

Agenda



Overview of
EEED

Areas of
Expertise

Current
Research
and
Consultancy
Projects

Overview of EEE Department



Activities

- Teaching
- Research
- Administration

Academic Staff Members:

1. Dr. R. T. F. Ah King
2. Dr. V. Bassoo
3. Dr. Y. Beeharry
4. Dr. Y. Bissessur
5. Dr. T. P Fowdur
6. Dr. M. A. Hosany
7. Dr. I. M. Jahmeerbacus
8. Mr. R. A. Jugurnauth
9. Mr. A. P. Murdan
10. Dr. V. Oree
11. Dr. B. Rajkumarsingh
12. Dr. Y. K. Ramgolam
13. Mrs. R. Ramjug-Ballgobin
14. Dr. G. Ramsawock
15. Dr. S. Z. Sayed Hassen
16. Mr. H. Shamachurn

Technical Staff Members:

1. Mr. M. S. Beekaroo
2. Mr. P. S. Bhugawn
3. Mr. D. Cuppoor
4. Ms. Y. Jhugursing
5. Mr. A. D Muttea
6. Mr. A. Purahoo
7. Mr. N. Sujeebun

Teaching

Undergraduate Courses

- BEng (Hons) Electrical and Electronic Engineering
- BEng (Hons) Telecommunications Engineering with Networking
- BEng (Hons) Mechatronics Engineering (EEED & MPED)
- BEng (Hons) Electronic and Communication Engineering*
- BSc (Hons) Electronic with Computer Science*

In process of Accreditation with ECESA

*-phasing out

Post Graduate Courses

- MSc. Telecommunication Systems with IoT 2 Yrs P/T
- MSc. Renewable Energy and Smart Electrical Systems 2 Yrs P/T
- MSc. by Research 1.5 Yrs F/T 2-3 Yrs P/T
- MPhil/PhD 3-5 Yrs F/T or 3.5-7 Yrs P/T

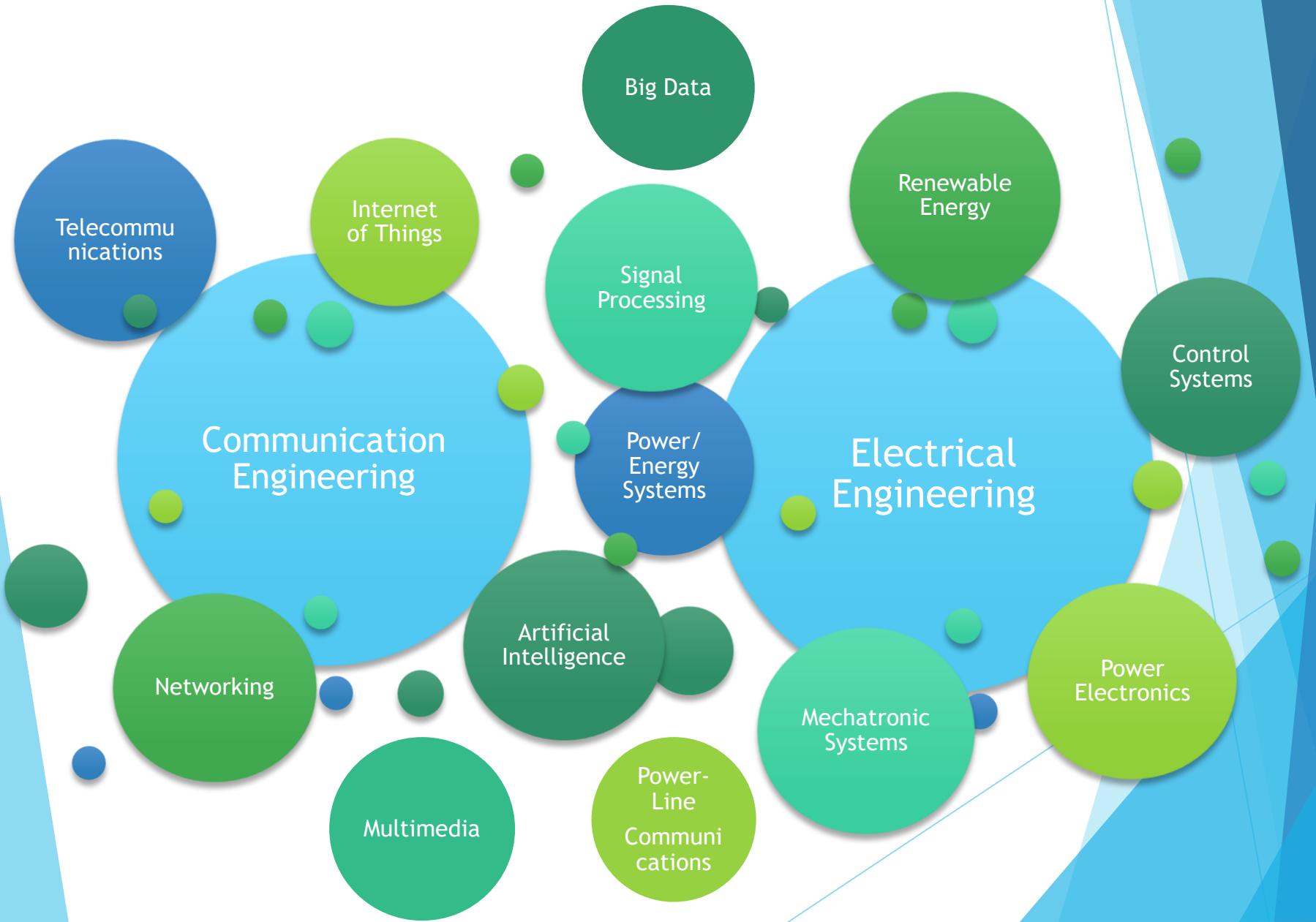
Student Population

- 290 in 2018/2019 with ~ 40 Graduates in 2018/2019

Facilities

- Electronics Laboratory
- Microprocessor, Instrumentation and Controls Laboratory
- Electrical Power and Machines Laboratory
- Communications Laboratory

Research Areas of EEED



Research Projects

Note - *et al.* involves staff of other departments/faculties

Renewable Energy

- Dr Y K Ramgolam et al. - ‘Innovation in the First Axe of PESP: Phase I Online Solar Energy Mapping, Forecasting and PV Education Platform’ (Ongoing)
- Dr Y K Ramgolam, Prof K M S Soyjaudah and Mr H Shamachurn - ‘Investigating the Outdoor Performance of Three PV Technologies in the Tropical Climate of Mauritius’ (Completed)
- Mr A P Murdan, Mr V Oree et al. - ‘Experimental evaluation of an evacuated tube solar-thermal collector model’, (Completed)

> MUR 1.2M

Artificial Intelligence/Big Data

- Dr S Z Sayed Hassen, Dr. M I Jahmeerbacus, Mr R A Jugurnauth *et al.* - ‘Automatic Detection of Electrical Appliances using Machine Learning Techniques with a view to improve household energy savings’ (Ongoing)
- Dr T P Fowdur, Dr V D Bassoo *et al.* - ‘An adaptive Short-term Localised Weather Forecasting System for Mauritius’ (Completed)
- Dr Y Beeharry - ‘Artificial Intelligence based Machine Learning Algorithms for the Prediction of Customer Attrition in the Telecommunications Industry’ (Ongoing)

> MUR 1.5M

Research Projects

Note - *et al.* involves staffs of other departments/faculties

Energy Efficiency

- Dr R Ah King, Dr B Rajkumarsingh - ‘Building Information Modelling of a Smart and Green building: Case study for the Engineering Tower at the University of Mauritius’ (Ongoing)
- Dr. M I Jahmeerbacus, Dr S Z Sayed Hassen,, Mr R A Jugurnauth - ‘Improving Energy Efficiency of Single-Phase Electric Motor Driven Domestic Water Pumps with Variable Speed Drives’ (Ongoing)
- Mr H Shamachurn - ‘A comparative assessment of the State of the Art control techniques for the optimization of HVAC energy consumption in buildings/ A holistic approach and focus on the Mauritian context’ (Ongoing)
- Mr H Shamachurn et al. “Investigating the outdoor performance of commercially available heat reflecting materials to reduce building cooling energy requirements in the tropical climate of Mauritius” (Completed)
- Dr V Oree, Mr H Shamachurn et al. - ‘In-situ U-Value measurements for energy analysis of building facades locally’ (Ongoing)
- Mr H Shamachurn et al.- “Assessing the efficacy of solar chimneys in Mauritius through dynamic simulations and in-situ measurements” (Ongoing)
- Mr H Shamachurn et al.- ‘Sustainable Low Cost Steel Houses in Mauritius (Completed)

^ MUR 5M

Research Projects

Note - *et al.* involves staffs of other departments/faculties

Mobile/Wireless/Multimedia Communication

- Dr M. Hosany - ‘Designing of a robust video communication system for mobile networks and implementation of new wireless communications laboratory experiments to teach students of the University of Mauritius’ (Ongoing)
- Dr M Hosany, Dr T P Fowdur - ‘Design of an Unequal Error Protection Scheme employing Concatenated Coding and Hierarchical Modulation for Multimedia Communications over WiMAX and DVB-T Networks’ (Ongoing)

MUR 0.5M

Internet of Things

- Dr V Bassoo, Dr Y Beeharry, Mrs R Ramjug-Ballgobin, Dr T P Fowdur - ‘A Low Cost Real-time Road Surface Condition Monitoring and Alert System (Ongoing)
- Mr A Murdan, Dr V Oree - ‘Bus CONTROLS (Capturing operationally needed trip data via Remote on-line sensors’ (Ongoing)

MUR 1.5M

Consultancy Services

Note - *et al.* involves staff of other departments/faculties

Renewable Energy

- Dr Y K Ramgolam - Technical Assessment of 15MW_{ac} Century SolarCity PV Project
- Dr Y K Ramgolam - Consultancy Services for installation of Photovoltaic Renewable Energy System at Mauritius Oceaneography Institute
- Dr Y K Ramgolam - Design of monitoring system for True Tesla Cascading Hydro Power Plant
- Dr Y K Ramgolam et al. - Development of an online GIS Solar Map for Mauritius, Rodrigues and Agalega

Electrical systems

- Dr R Ah King - New Generator with Canopy for Tertiary Education Commission
- Dr V Oree et al. - Expert advice for the design and installation of water and electrical systems at Minleh Co. Ltd.
- Dr V Oree, Mr A Murdan - Energy audit and redesign of electrical installation system at Polytol Paints Ltd

Consultancy Services

Note - *et al.* involves staff of other departments/faculties

Energy audits

- Dr V Oree, Mr A Murdan et al. - Energy Pre-Audit and Training in SMEs and Industries
- Dr V Oree, Mr A Murdan et al. - Energy Audits in Government Buildings
- Dr V Oree, Mr A Murdan et al. - Energy Audits at CWA sites

Internet of Things

- Mr A Murdan, Dr V Oree - An IoT based data collection and analytics system at Polytol Paints Ltd.
- Dr T P Fowdur, Mr A Murdan, Dr V Oree et al. - An IoT based landslide monitoring system for Mauritius

Short Courses and CPDs

- **Electronic Management** for Petrol and Diesel Engine
- Training Programme on **Green Buildings**
- Training Programme on 'Design of **fire hydrant** and hose reel systems for Buildings
- **Photovoltaics** for Beginners
- **Advanced Photovoltaics**
- **Photovoltaics Energy Systems**
- **Internet of Things** : Implementation with Microcontrollers
- **Basic Telecommunications Applications Programming**
- Introduction to **Microcontrollers** using the Arduino
- **Advanced Telecommunications Applications Programming**

1. Aapravasi Ghat Trust Fund
2. Civil Aviation Department
3. Ministry of Housing and Lands
4. Ecovadis
5. Leal Energie Ltd
6. Mauritius Telecom
7. Emtel Ltd
8. Huawei
9. CEB
10. UdM
11. OUM
12. MIE
13. MITD
14. PKL Autoparts
15. Audio Link Ltd
16. VJ Computers
17. Seculogix Ltd
18. NCB
19. TEC
20. IT Solvz Ltd
21. Sunrise Power Ltd
22. SMF
23. Charles Telfair Institute
24. NATEC
25. Manser Saxon Contracting Ltd
26. Pro-Five
27. Bonne Terre Mgt Co Ltd
28. Emtel Ltd
29. PRO VISION LTD
30. GoSolar Ltd
31. Blue Print Architects
32. Allegra Creations Ltd
33. FAREI
34. Duraco Ltd
35. Elemech Ltd
36. Solar Pro Ltd.
37. Axis Engineers
38. Synnove Energy
39. City Services
40. ESD
41. Prodesign Ltd

Conference Organisation

- ❑ IEEE AFRICON 2013
- ❑ Emerging Trends in Electrical, Electronic and Communications Engineering (ELECOM) Series of International Conferences
 - 2016 Edition “Advances in Research Through Innovative Technologies
 - 2018 Edition “Smart and Sustainable Engineering for Next Generation Applications”
 - Conference proceedings of the first two editions were published by Springer in their Lecture Notes in Electrical Engineering series
 - 2020 Edition will be held online from 25-27 November due to the COVID-19 pandemic.
 - Technically sponsored by IEEE.
 - Registration is now open!!!

Example of Successful Collaboration with Industry

HUAWEI SEEDS FOR THE FUTURE



- Huawei's global CSR program in which it nurtures ICT professionals.
- The University of Mauritius was selected for the program
- First launched in May 2017 with ten students proceeding to China for training every year, with most of them from the EEED.

спасибо
danke 謝謝
ngiyabonga
teşekkür ederim
dank je
gracias
tapadh leat
mochchakkeram
go raibh maith agat
bedankt
hvala
maumuru
dziękuję
sagolun
sukriya kop khun krap
arigatō takk dakujem
merci
obrigado
unifogas
terima kasih
ευχαριστώ
감사합니다
merci