



**Dr. Rohikaa Micky R**

Assistant Professor

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**Qualifications:**

BE in Electrical and Electronics Engineering- VTU, Belgaum

M.Tech in Power Systems, NIE, Mysore, VTU, Belgaum

PhD in Power System, National Institute of Technology Calicut

**PhD Thesis titled**

“Synchronphasor Data Driven Islanding Detection Strategies and A Defensive Scheme for Microgrids”

**Experience:**

- Working as Assistant Professor in College of Engineering Vadakara since 6/07/2012
- Worked as Assistant Professor in College of Engineering Thalassery from 03/01/2011 to 05/07/2012
- Worked as Project Engineer for Wipro Technologies Bangalore for 6 months
- Worked as guest lecturer in College of Engineering Trivandrum for 6 months
- Total service: 12 years 6 months

**Areas of Interest:**

- Smart grid, Wide area monitoring systems,
- Synchronphasor applications in power system protection and control,
- Application of Signal Processing in Power System Engineering,
- Application of AI/Machine learning in Power System Engineering,
- Demand side management for smart home, smart cities.

### **Positions held:**

Head of the Department, since March 15, 2022

Placement Officer, since December 2021

Student Branch Advisor, IEEE PES SBC CEV since January 2021

Faculty Advisor - EEE 2013-2016 Batch, 2019 Batch since September 2020

Manager, Continuing Education Cell-2014-2015

### **Project Grants:**

- Received a grant of 15 Lakhs as Research Scholar in NIT Calicut for NaMPET II (Sub. Project- NaMPET-II/SP21/Ex09) sponsored Security Assessment of Microgrids in Isolated and in Grid Connected Mode with Dr. Ashok S (PI) and Dr. Sunitha R (Co-PI).

Project Duration: 04/06/2015 - 07-12-2016

Status: Completed

- As a principal investigator, received a seed money grant of Rs. 1,00,000/- from TEQIP II, CEV for the research project entitled " Analysis of internal unbalancing current in distribution transformers ".

Project Duration: 2014-2015.

Status: Completed

- As a Co-investigator, received a seed money grant of Rs. 1,00,000/- from TEQIP II, CEV for the research project entitled "Concept of permanent magnet reciprocating machine and applications".

Project Duration: 2014-2015.

Status: Completed

### **Subjects Taught:**

Power Systems I, Power systems II, Power system analysis, Electronic Device and Circuits, Industrial Electronics, Linear Integrated circuits, Electronic Instrumentation, Industrial Instrumentation and Automation, Distributed generation and smart grid, Signals and Systems.

Power Systems lab, Basic Electronics Lab, Measurements Lab, Microprocessor Lab

### **Projects Guided:**

- Concept of permanent magnet reciprocating machine and applications 2014-2015
- Analysis of internal unbalancing current in distribution transformers 2014-2015
- Development of load priority system for demand response 2020-2021
- Smart solar home system with solar data 2020-2021

### **Publications:**

#### **International Journal Publications**

- Rohikaa Micky R., Ashok Sankar, Sunitha R., “Synchrophasor data driven islanding detection, localization and prediction for microgrid using energy operator”, *IEEE Trans. on Power systems*, 36(5), pp. 4052-4065, Sept. 2021, (SCI, IEEE, IF: 6.663)
- Rohikaa Micky Radhakrishnan, Ashok Sankar, Sunitha Rajan, “Synchrophasor based islanding detection for microgrids using moving window principal component analysis and extended mathematical morphology”, *IET Renewable Power Generation*, 14 (12), 2020,2089-2099, (SCI, IET, IF: 3.894)
- Rohikaa Micky Radhakrishnan, Ashok Sankar, Sunitha Rajan, “A combined islanding detection algorithm for grid connected multiple microgrids for enhanced microgrid utilization”, *International Transactions on Electrical Energy Systems*, 30 (2), e12232, 2019, (SCI, Wiley, IF: 2.86)

### **International Conference Publications**

- A L Akhila, Rohikaa Micky R, Adnan Mohemmed, E P Cheriyan, S Ashok, “Implementation of an algorithm for phasor estimation and system parameters for an FPGA based PMU,” 2017 IEEE International Conference on Signal Processing, Informatics Communication and Energy Systems (SPICES), 2017, pp. 1-6.
- Adnan Mohemmed, Rohikaa Micky R, A L Akhila, S Ashok, “Open source implementation of IEEE C37. 118-2011 protocol and serial communication interface for an FPGA based phasor measurement unit”, 2017 2nd IEEE International Conference on Recent Trends in Electronics, Information & Communication Technology (RTEICT), 2017, pp. 308-313.
- Rohikaa Micky R, R Lakshmi, R Sunitha, S Ashok, “Generation adequacy assessment for microgrid with ESS”, 2016 IEEE 7th power India international conference (PIICON), 2016,1-6
- Rohikaa Micky R, Lakshmi R, Sunitha R, Ashok S, “An Islanding Detection Algorithm for a Microgrid set up based on Decision Trees Using Synchrophasor Data”, Energy Systems Conference 2016: London, UK.
- Rohikaa Micky R, R Lakshmi, R Sunitha, S Ashok, “Assessment of voltage stability in microgrid,” 2016 International Conference on Electrical, Electronics, and Optimization Techniques (ICEEOT), 2016, pp. 1268-1273.
- Rohikaa Micky R, K K Sujith, S Ashok, V Vipin, R Ramachandran, E Aruna, “Analysis of internal unbalancing current in distribution transformers,” 2015 IEEE International Conference on Signal Processing, Informatics, Communication and Energy Systems (SPICES), 2015, pp. 1-5
- F. R. Pazheri, M. F. Othman, N. H. Malik, E. A. Al-Ammar and Micky. R. Rohikaa, "Optimization of fuel cost and transmission loss in power dispatch with renewable energy and energy storage," 2012 International Conference on Green Technologies (ICGT), 2012, pp. 293-296, doi: 10.1109/ICGT.2012.6477988.
- Arun C, Aswin Raj R, Bijoy M T, Nidheesh M, and Rohikaa Micky R, “Day Ahead Demand Response using Load shifting Techniques in presence of increased Renewable

Penetration”,2022, IEEE 7<sup>th</sup> International Conference for convergence in Technology (I2CT) Pune, India, April 7 -9 ,2022

### Book Chapter

- Rohikaa Micky R, R Sunitha, S Ashok, “ Techno-Economic Analysis of WAMS Based Islanding Detection Algorithm for Microgrids with Minimal PMU in Smart Grid Environment,” (Chapter 19) Wide Area Power Systems Stability, Protection, and Security, Springer, Cham, 499-522,2021, [https://doi.org/10.1007/978-3-030-54275-7\\_19](https://doi.org/10.1007/978-3-030-54275-7_19).

### Training Programmes Organised:

- Co-ordinator, 5-day TEQIP II sponsored Online Faculty Development Program on “Smart grid monitoring and stability: a microgrid perspective”, Dept. of Electrical & Electronics Engineering, College of Engineering Vadakara, 24th to 28th July 2021.
- Co-ordinator, 2-day National Conference on Advances in Computing Communication Signals Energy and Technology ACCSET’21, organized of College of Engineering Vadakara on 26/05/2021 and 27/05/2021.
- Co-ordinator Expert Talk on “Renewable Energy Integration into the grid and its power quality issues- an introduction and practical aspects,” Dept. of Electrical & Electronics Engineering, College of Engineering Vadakara 25/01/2021, 26/01/2021.
- Organised, IEEE ComSoc VDL by Prof Biplab Sikdar, Associate professor, Dept. of ECE, National University of Singapore on 17 Jun 2021 on the topic "Cyber Security and privacy for smart cities".
- Co-ordinator, 3-day TEQIP II sponsored National level seminar on Power and Energy Systems (PES-2013),25,26,27 March 2013, Dept. of Electrical and Electronics Engineering, College of Engineering Vadakara.

### Training Programmes Attended:

Course Name	Conducted by	Sponsoring Agency	From Date	To Date	Duration
Trends in Advanced Research in Technology	CEV Vadakara	TEQIP II	3 <sup>rd</sup> December,2012	6 <sup>th</sup> December,2012	3 days
Managerial Effectiveness, Focus:	Jaipur Productivity Centre, Jaipur	Jaipur Productivity	21 <sup>st</sup> October 2013	25 <sup>th</sup> October 2013	5 days

Emotional Intelligence		Centre, Jaipur			
Vedic Mathematics	CEV Vadakara	TEQIP II	25 <sup>th</sup> November 2013	29 <sup>th</sup> November 2013	5 Days
Management Research Methodology	National Institute of Technology Calicut	AICTE-MHRD	10 <sup>th</sup> June 2013	15 <sup>th</sup> June 2013	5 days
Study and Maintenance of Electrical and Electronics Lab Equipments	CEV Vadakara	TEQIP II	04 <sup>th</sup> November 2013	08 <sup>th</sup> November 2013	5 days
Research and Technical Challenges of Smart Grid	National Institute of Technology Calicut	AICTE-MHRD	16 <sup>th</sup> June 2013	22 June 2013	7 days
A National level seminar on Power and Energy Systems	CEV Vadakara	TEQIP II	25 <sup>th</sup> March 2013	27 <sup>th</sup> March 2013	3 days
Security Assessment and Power Management in Smart Grid	National Institute of Technology Calicut	MHRD-TEQIP II	15 <sup>th</sup> June 2015	19 <sup>th</sup> June 2015	5 days
Workshop Python Primer'	NIELIT Calicut	IEEE MSS, IEEE RAS	10 <sup>th</sup> October 2015	11 <sup>th</sup> October 2015	2 days
National Seminar on Renewable Energy Systems	PSG College of Technology, Coimbatore	CSIR & MNRE	7 <sup>th</sup> December 2012	8 <sup>th</sup> December 2012	2 days
Managing Adolescence	CEV Vadakara	TEQIP II	5 <sup>th</sup> December 2012	5 <sup>th</sup> December 2012	1 day
MATLAB and Simulink Control Design Architecture	Mathworks	TEQIP II	1 June 2013	2 June 2013	2 days
LV Switch gear and Reactive power Management Techniques	PSG College of Technology Coimbatore	TEQIP II	5 April 2013	6 April 2013	2 days
Research Challenges in Power Electronics and Power systems	NIT Calicut	NaMPET II, TEQIP II	6 <sup>th</sup> March 2016	7 <sup>th</sup> March 2016	2 days
Xilinx Vivado based FPGA design and Zynq Architecture	NIT Calicut	IEEE PES SB,NITC	3 <sup>rd</sup> September 2016	4 <sup>th</sup> September 2016	2 days
Applications of power converters in	NIT Calicut	MHRD-TEQIP	19 <sup>th</sup> June 2016	25 <sup>th</sup> June 2016	7 days

distributed generation and microgrid					
Electric power quality	NIT Calicut	IEEE PES SB,NITC	11, March 2016	12 <sup>th</sup> March 2016	2 days
MATLAB AND ITS APPLICATIONS	NIT Calicut	IEEE PES SB,NITC	7 MARCH 2017	9 MARCH 2017	3 days
AC and DC gas insulated transmission lines	NIT Calicut	IEEE PES SB,NITC	6 February 2018	6 February 2018	1 day
PCB Design and Prototyping	NIT Calicut	IEEE PES SB,NITC	30 August 2018	31 August 2018	2 days
Real Time Monitoring, Protection and Control of Power Systems	NIT Calicut	MHRD-TEQIP III	21 May 2018	26 May 2018	6 days
Large scale renewable integration: A perspective on Power System Stability	NIT Calicut	SERB,DST	8 <sup>th</sup> April 2019	12 <sup>th</sup> April 2019	5 days
Beyond glass barriers	NIT Calicut	IEEE MSS	14/12/2019	14/12/2019	1 day
Multivariate data analysis	IIMK	IIMK	18 <sup>th</sup> Nov.2019	22 <sup>nd</sup> Nov.2019	5 days
Artificial Intelligence	NIT Calicut	ATAL Academy	9 <sup>th</sup> November 2020	13 <sup>th</sup> November 2020	5 days
FDP on Microgrid System design and simulation using Homer Pro Software	Dell soft Technologies Pvt.Limited	Dell soft Technologies Pvt.Limited	23 <sup>rd</sup> December 2020	24 <sup>th</sup> December 2020	2 days
IEEE R10 Panel of conference organizers	NIT Calicut	IEEE MSS	18 <sup>th</sup> December 2020	19 <sup>th</sup> December 2020	2 days
Electric power grid modernization : Trends, Challenges and Opportunities	NIE, Mysore	TEQIP III, IEEE PES Bangalore Section	20 <sup>th</sup> July 2020	24 <sup>th</sup> July 2020	5 days
Teaching and Learning in the Post COVID Era	NIT Calicut	IEEE MSS	25th June 2020	25th June 2020	1 day
Computational Challenges for Power Systems Operation	Mr. Yousu Chen, The IEEE PES SBC VJEC in collaboration with	IEEE PES Kerala Chapter	26th February 2021	26th February 2021	1 day
Role of Power Electronics in Renewable energy systems	College of Engineering Kidangoor	TEQIP II	5 <sup>TH</sup> July 2021	9 <sup>th</sup> July 2021	5 days

High reporting rate measurements for smart grids	IEEE Malabar Subsection	IEEE Malabar Subsection	24 <sup>th</sup> June 2021	24 <sup>th</sup> June 2021	1 day
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### **Professional Body Memberships:**

- Member of IEEE
- Member of IEEE Power and Energy Society
- Life Member of Indian Society for Technical Education (ISTE)

### **Awards and Honours:**

First Rank with Gold medal for M. Tech in Power Systems, Visvesvaraya Technological University (VTU) Belgaum, 2008

### **Academic achievements:**

GATE 2005 Qualified (9.25 percentile)

### **Invited Talks:**

Online Guest Lecture on “Wide area monitoring system for micro grid security” Organized by Department of Electrical & Electronics Engineering, R. R. Institute of Technology, Bengaluru, 04<sup>th</sup> June, 2021.

### **Professional Services:**

- Reviewer for the following peer-reviewed journals (Publons.com):
  - (i) IEEE Systems
  - (ii) IEEE Access
- Served as reviewer of the 2021 IEEE International Power and Renewable Energy Conference (IPRECON 2021), College of Engineering Karunagapally, Kerala
- Served as reviewer of the 2021 IEEE International Conference on Power Electronics, Smart Grid and Renewable Energy (PESGRE 2022), Trivandrim, Kerala
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- Served as reviewer and track chair of the Advances in Computing Communication Signals Energy and Technology ACCSET’21, organized by College of Engineering Vadakara, Kerala on 26/05/2021 and 27/05/2021.