



Dr. Sushil Sitaram Thale

Dean R&D & Professor (Dept. of Electrical Engineering)

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Total Experience 31 years

i) Teaching 29 years

ii) Industrial 02 year

Qualifications

Exam Passed	Year	University/Institution	Branch/Specialization
L.E.E.	1989	V.J.T.I. Mumbai	Electronics Engg
B.E.	1992	S.P.C.E, Mumbai / Univ. of Mumbai	Electrical Engineering
M.E.	1996	V.J.T.I. Mumbai / Univ. of Mumbai	Control Systems Engg
Ph.D.	Oct. 2015	Indian Institute of Technology - Bombay, Powai	Power Electronics and Power Systems

Additional Qualification: Certified Energy Auditor and Certified Energy Manager (EA6820) by Bureau of Energy Efficiency (BEE) Ministry of Power Govt. of India. 2007

Employment Record (from present to past)

Institution	Year (From To)	Designation*	Concol. No.
Fr. CRIT, Navi Mumbai	July 2017 to till date	Dean R&D and Professor (Electrical)	TAAS(CT)/ICD/2017-18/11897 Dt. 21/4/18
Fr. CRIT, Navi Mumbai	July 2016 to June 2017	Dean R&D and Professor * (Electronics and Telecomm)	TAAS(CT)/ICD/2016-17/17795 Dt. 24/1/17
Fr. CRIT, Navi Mumbai	July 2010 to June 2016	Associate Professor* (Electrical Engg)	NA
Fr. CRIT, Navi Mumbai	July 1999 to July 2010	Assistant Professor* (Electrical Engg)	CONCOL/SA/ICD/2012-13/21071, Dt. 21 st Nov. 2012
Fr. CRIT, Navi Mumbai	July 1995 to July 1999	Lecturer * (Electrical Engg)	CONCOL/SA/5545 of 2006 Dt. 17 th Oct 2006
Siemens Ltd, Thane	June 1992 to June 1993	GET(QC: Switchgear)	NA
Apprenticeship @ Nelco Ltd, Mumbai, Lawkim Ltd, Thane and Meco Pvt Ltd, Mumbai for duration of 1 year 2 months.			

* University of Mumbai approval received for the post

Undergraduate / Postgraduate Teaching Experience / PhD Guide Approval

UG Teaching: Since 15th July 1995 till the date (29 years)

PG Teaching: Since July 2010 till the date (13 years)

PG Teacher Approval:

1. Electrical Engg: PG Teacher Approval since 15th Nov. 2011 (Letter Ref. No PG/2/5379/ of 2011 dated 15th Dec 2011)
2. Electronics & Telecommunication Engg: PG Teacher Approval since 2nd March 2017 (Letter Ref. No PG/2/ICD/2017-18/480 dated 15th May 2017)

PhD Teacher Approval

1. Electrical Engg PhD Teacher approval: Since 7th Sept 2016 (Letter Ref. No PG/ICD/2016-17/2040 dated 10th Oct 2016)
2. Electronics & Telecommunication Engg PhD Teacher approval: Since 4th Sept 2018 (Letter Ref. No PG/ICD/2018-19/977 dated 12th Oct 2018)

Subjects Taught at UG level

Sr. No	Name of Subject	Department and Year of UG
1	Basic Electronics / Electronics-I	S.E(Electrical) Sem III SE.(EXTC/Comp) Sem III
2	Electronics Devices and Circuits	S.E(Electrical) Sem IV SE.(EXTC/Comp) Sem IV
3	Electronics Circuit Design	S.E(Electrical) Sem IV
4	Electrical Measurements and Measuring Instruments	S.E(Electrical) Sem III
5	Analog and Digital Integrated Circuits	S.E(Electrical) Sem IV
6	Control Systems I	T.E(EXTC/Comp/Elect)Sem V and VI
7	Electronics for Industry Application	T.E(Electrical) Sem VI
8	Power Electronics	T.E(Electrical) Sem VI
9	TV and Video Engineering	T.E(EXTC) Sem VI
10	Introduction to System Design	B.E(Electrical) Sem VII
11	Object Oriented Programming System	B.E(Electrical) Sem VII
12	Illumination Engineering	B.E(Electrical) Sem VII
13	Communication Engineering- II	B.E(Electrical) Sem VII
14	Design, Management and Auditing of Electrical Systems	B.E(Electrical) Sem VIII
15	Analysis and Design of Switched Mode Converters	B.E(Electrical) Sem VII
16	Renewable Energy and Energy Storage Systems	B.E(Electrical) Sem VII
17	Electric and Hybrid Electric Vehicle Technology	B.E(Electrical) Sem VII/ VIII
18	Energy Auditing and Management (R-2012 /R-2016)	B.E(Electrical) Sem VII /VIII
19	Microgrid (R-2016)	T.E.(Electrical) Sem VI
20	Electric Vehicle Technology (R-2016)	B.E(Electrical) Sem VII

EXTC: Electronics and Telecommunication Engineering

Subjects Taught at PhD and PG level

Sr. No	Name of Subject	Department and Year of PG
1	Research Methodology (PhD)	PhD (EXTC/Elect/Mech)
2	Research Publication and Ethics (PhD)	PhD (EXTC/Elect)
3	Institute Elective: Research Methodology	M.E (EXTC/Elect/Mech) Sem II
4	Power Semiconductor Devices and Circuits	M.E. Electrical Engg. (Power Electronics and Drives) Sem.I
5	Digital Signal Processor Applications in Power Electronics	M.E. Electrical Engg. (Power Electronics and Drives) Sem.II
6	Distributed Generation and Microgrid	M.E. Electrical Engg. (Power Electronics and Drives) Sem.I
7	Digital Signal Processors for Control and Power Applications	M.E. Electrical Engg. (Power Electronics and Drives) Sem.II

Research Funding / Consultancy Services:

Industrial R&D/ Consultancy funded Projects:

Sr no	Name of Research / Consultancy Project	Type of Grant	Name of funding Organization/ Industry	Amount (Rs.)	Duration
1	Design of 110kW Electric Vehicle drive for SUV	Product Design and Technical Consultancy	Saini Electrical Works, Ambernath	Rs. 25.96 Lakhs (including GST)	Feb 2019- Sept 2022
2	LED Products Design	Product Design and Technical Consultancy	Shubh Die Casting Pvt Ltd., Vasai, Thane	Rs. 8 Lakhs (including GST)	April- 2017 - Sept 2018
3	Design and Development of Active Power Filter	Product Design and Technical Consultancy	Autodata Pvt Ltd., Navi Mumbai	Rs. 9.55 Lakhs (including GST)	Oct-2017 - June 2018
4	Design of Solid state Airfield Lighting products	Technical Consultancy	AMA Pvt. Ltd , Mumbai	Rs. 2.95 Lakhs (including GST)	Nov- 2017-Sept 2018
5	Design of Solar Rooftop Installations	Technical Consultant	Machale Energy Systems Pvt. Ltd., Pune	No Charge (Alumni Start up)	June 2016- June 2018
6	IOT based tyre monitoring System	Technical Advisor	Lemon Street Venture Pvt Ltd (Tyre Express)Vashi	Rs. 1.41 Lacs (including GST)	Feb 2018- Jan 2019
7	Energy Audit and Solar PV Rooftop Installation	Energy Audit and Technical Consultancy	Dhanwantari Hospital, Pune	Rs. 20,000/-	Aug 2017.

Research Grants

Sr. No.	Name of the Funding Organization	Type of Grant	Amount (Rs)	Year	Name of the Research Project
1	University of Mumbai	Minor Research Grant	45000/-	2012-13	Design Of Hybrid Shunt Active Filter
2	University of Mumbai	Minor Research Grant	50000/-	2015-16	Design And Development Of 3 Phase Grid Tied Inverter
3	The Institution of Engineers (India) HQ, Kolkata	R&D Grant in Aid for PhD student	70000/-	2016-17	Design And Control Of Power Conversion System For Electric Vehicles

Technical Collaboration /Lab Funding with Industries

Sr. No.	Name of the Funding Organization	Type of Support	Amount (Rs)	Year
1	Larsen and Toubro Ltd (L&T), Mumbai	Switchgear & Protection lab equipments support	100000/-	2010-13
2	Texas Instruments, Bangalore	DSP(C2000), MSP 430 Micro-controller and Analog lab equipments support and training	450000/-	2012-14
3	Tata Power	Technical Collaboration for Innovation in Electrical Distribution data analytics	---	2022-23

Electrical / Solar PV Projects

Sr. No.	Name of the Company / Organisation	Address	Nature of the work	Details
1	Agnel Charities' Fr. Agnel Technical Education Complex, Vashi	Navi Mumbai	Electrical Substation Design and commissioning	Connected Load- 2.25 MW
2	Agnel Charities' Fr. Agnel Technical Education Complex, Vashi	Navi Mumbai	Solar PV Rooftop Installation	100 kW Grid Tied System
3	Agnel Charities' Fr.C. Rodrigues College of Engineering, Bandra	Mumbai	Solar PV Rooftop Installation	40 kW Grid Tied System
4	Dhanwantari Hospital	Pune	Solar PV Rooftop Installation	20 kW Grid Tied System

Professional Societies Fellowship/ Membership:

1. Senior Member of IEEE
2. Fellow of Institute of Electronics and Telecommunication Engineers (IETE) and Chairman of IETE Mumbai Center (2014-2016) Governing Council Member IETE HQ (2014-2016)
3. Fellow of Indian Society for Lighting Engineers (ISLE).
4. Fellow of Institute of Engineers (IE)
5. Member of Society of Automotive Engineers- India (SAEINDIA)
6. Start-ups Mentor at Centre for Incubation and Business Acceleration (CIBA), Navi Mumbai
7. Chartered Engineer (CEng) from IE India

Achievements/Award/Major Position:

1. **Received the IEI NMLC-FCRIT Academic Excellence in Teaching Faculty (Regional Category) Award- 2023**
2. **Received The Teacher of the Year Award 2021 from ‘Academisthan Foundation’, Mumbai**
3. **Won POSOCO Power System Award (PPSA) for the year 2016 in Doctoral Category from POSOCO Ltd and Foundation for Innovation & Technology Transfer (FITT), IIT Delhi.**
4. **Won the Best Paper Award** for paper titled, “Design and Development of AC Microgrid Power Conditioning Unit for Renewable Energy Integration,” at *Int. Conf. CAC3*, Dec 2019, Mumbai
5. **Won the Best Paper Award** for paper titled, “Unbalanced Voltage Mitigation with Reactive Power Control of Grid-tied Solar PV System,” *6th International Conference on Advances in Energy Research 2017*, IIT Bombay, **Mumbai**, India, December 12-14, 2017.
6. **Won the Best Paper Award** for paper titled, “Precision Agriculture through ICT and Data Ecosystem: An opportunity for Digital Transformation,” *60th Annual IETE Convention- 2017*, Kochi, Kerala, 16th -18th Sept. 2017.
7. **Won the Best Paper Award in Electrical Engineering** for paper titled, “Design and Development of a Solar PV Inverter for Water Pumping Applications,” *International Conference on Nascent Technologies (ICNTE 2015)*, Fr. C. Rodrigues Institute of Tech., Navi Mumbai, Jan. 2015.
8. **Won the Best Paper Award in Electrical Engineering** for paper titled, “Design, Modeling and Implementation of a DSP Controlled Buck Converter,” *National Conference on Nascent Technologies (NCNTE)*, Fr. C. Rodrigues Institute of Technology, Navi Mumbai, Feb 2012.
9. **Served as Editorial Board Member for IETE Journal of Research since Feb 2019 till Jan 2023**
10. **Member, IETE TRAC Committee year 2018-2019**
11. **Chairman, Board of Studies (BOS) Electrical Engineering, University of Mumbai**
12. **Member of Board of Studies- Post Graduate Program in Electrical Engineering at Sardar Patel College of Engineering (SPCE), Andheri, Mumbai**
13. Received the **National Merit Scholarship** for during the School Education
14. In year 1989, **ranked third** in Maharashtra State in Diploma in Electrical and Electronics Engineering (LEE- VJTI) Exam.
15. **Ranked First** in University of Mumbai at M.E. in Electrical Engineering with Specialization in Control Systems for the batch 1993-1995.
16. **Certified Energy Auditor and Certified Energy Manager** by Bureau of Energy Efficiency (BEE) Ministry of Power Govt. of India (June 2007)
17. **Reviewer for Transactions and International Journals**
 - IEEE Transaction on Smart Grid,
 - IEEE Transaction on Power Electronics,
 - IEEE Transaction on Industry Applications,
 - IEEE Transaction on Industrial Electronics,
 - IEEE Transaction on Industrial Informatics
 - IEEE Transaction on Control System Technology
 - IET Generation, Transmission & Distribution Journal
 - Journal of Emerging and Selected Topics in Power Electronics
 - Journal of Energy Storage
 - Elsevier’s Energy Conversion and Management
 - Alexandria Engineering Journal
 - International Journal of Sustainable Engineering

Completed PhD in Microgrids (Power Electronics and Power Systems) from Dept of Electrical Engg. IIT- Bombay, Mumbai.

Title: Investigations into the Control, Coordination and Protection Aspects of an AC Microgrid

The research contributions of this thesis work are summarized in brief as follows:

1. Proposed and developed a novel reconfigurable and fault tolerant hierarchical controlled microgrid architecture for sustainability in the event of undesirable failure of microgrid components or subsystems to enhance the reliability of the microgrids.
2. Proposed a robust and fault tolerant communication backbone needed to accomplish the implementation of various control strategies and coordination algorithms for cohesive operation of various elements of the designed reconfigurable microgrid.
3. Proposed the black-start operation with non dispatchable microgrid sources like solar PV and wind with the support of energy storage based systems, which eliminates the use of a dedicated black-start generator.
4. Proposed a novel and robust Controller Area Network (CAN) communication assisted grid synchronization method. It reduces the effective time needed to energize and synchronize all the microgrid sources compared to existing methods. It simplifies the grid synchronization operation by simultaneously coordinating all the microgrid sources participating in synchronization process
5. Proposed an enhancement in the utility of ultra-capacitor based ESS beyond the transient backup. The UC fed source is used as a fault current source which enables the use of conventional protection schemes for islanded microgrids. The adaptive protections scheme is implemented and its effectiveness was verified for renewable energy based microgrid power architecture.
6. Proposed an integration of microgrid technology researched in this thesis work with the residential rooftop PV micro-inverter systems combined with common community energy storage system. This is expected to lead to further enhancement in the reliability of rooftop solar PV systems.

Projects Awarded / Guided / Ongoing in PhD/ PG/ UG Level

PhD Completed:

1. **Mrs. Bindu R:** Domain: Electric Vehicles; Research title “Investigation into Design and Control Aspects of Power Conversion System for Electric Vehicles”, Completed PhD in Jan. 2022.
2. **Mr. Shrishell Muchande:** Domain: Microgrids; Research title “Investigations into Power Control Strategies in Steady State and Emergency Conditions for DC Microgrids”, Completed PhD in May 2023

PhD Thesis/ Synopsis Submitted:

1. **Mr. Raja Vikram Reddy;** Research title: “Investigations in Pedestrian Detection for Performance Improvement in Driver Assistance System” Joined in Aug 2019. Synopsis Submitted Aug. 2024
2. **Ms. Keerthi Unni;** Research title: ‘Investigation of Energy Consumption and Residual Range Prediction in Electric Vehicles’” Joined in Aug 2019. Thesis Submitted Nov. 2024.

PhD Ongoing:

1. Research Scholar: **Mr. Shantanu Kulkarni** Research title: “Investigation into Energy Optimization with Bi-directional On-board charger for EV application” Joined in Aug 2021

2. Research Scholar: **Mrs. Shraddha Sawant**- Research title: “Energy Storage Management in Microgrid Scenario for Performance Improvement” Joined in Aug 2021
3. Research Scholar: **Mr. Manoj Lonkar**- Research Domain: “Microgrids” Joined in Aug 2022

• ***Guided 23 PG projects in the field of power electronics and renewable energy sources. Details are as follows***

1. Sakshi Gawande, “Design and Development of Solar Powered EV charging Station”, **completed in July 2023**
2. Mayur Kumavat, “Implementation of PID Controller for Temperature Control of Industrial Tanks Using PLC” **completed in July 2022**
3. Sanket Dalvi, “Smart Battery Management for Li-Ion Battery Pack for Electric Vehicle Applications”, **completed June 2021**
4. Ann Raichel Mathew, “Design and Development of EV Power Drive for Small Utility Four Wheeler”, **completed June 2021 (Co-guide)**
5. Misbah Khan, “Design and Development of 3-phase Inverter with Grid Synchronization and Islanding Capabilities”, **completed in Jan 2020**
6. Salil Patwardhan, “Modeling, Simulation & Analysis of Battery Electric Vehicles” **completed in Jan 2020 (Co-guide)**
7. Akshay Purohit, “Implementation of Optimal Power Sharing Strategies in DC Microgrid Scenario under Various Operating condition”, **completed in June 2018.**
8. Sujata Patil, “Design and Development of Power Drive for Small Utility Vehicle”, **completed June 2018 (as a Co-guide).**
9. Chanchal Patil, “Adaptive Protection System for Microgrid”, **completed in June 2017**
10. Swathy Pillai, “Design and Implementation of a Three Phase Inverter for Renewable Energy Source with Unified Control Strategy”, **completed July 2016**
11. Prajakta Pawar, “Harmonic Optimization in Three Phase Inverter”, **completed October 2015**
12. Shantanu Kulkarni, “Design and Development of Solar PV based Grid Interactive Inverter”, **completed October 2015**
13. Prachi Bhopi, “Active Generation and Load Management of Solar Photovoltaic Systems”, **completed October 2015**
14. Medha Kulkarni, “Investigation into selection and sizing of Energy Storage for Designing of Dispatchable Solar PV System”, **completed October 2015**
15. Gauri Madan, “Investigation into Design of Fault Tolerant System for DC microgrid”, **completed October 2015**
16. Rashmi Kale “PV Module Integrated Fractional Power Grid Connected Inverter”, **completed in August 2013**
17. Arvind Kadam, “Power Management in Grid Connected and Stand-Alone Distributed Generation System”, **completed in August 2013**
18. Soladhra Tritalben, “Multifunction Emulator for Photovoltaic, Fuel Cell and Battery Based Sources”, **completed in August 2013**
19. Sheetal Gore, “Design of Adaptive Protection Scheme for Distributed Generation Based On Renewable Sources”, **completed in August 2012**
20. Shrishell Muchande, “Design of Controller for Direct Torque Control of 3-Phase Induction Motor”, **completed in August 2012**
21. Keerthy Unni, “Control of Power Electronic Converters Using Controller Area Network Protocol”, **completed in August 2012**
22. Vaishali Machale, “Design of High Efficiency PV System”, **completed in August 2012**
23. Kulvinder Bhambra, “Design of Solar PV Emulator Using DSP TMS320F28027 on LabVIEW Platform”, **completed in August 2012**

- Guided more than 70+ Projects at the undergraduate level in the field of Electrical Engg, Electronics Engg. and Biomedical Engg,

Patents Granted:

Sushil Thale and Vivek Agarwal, “Method and Apparatus for a Novel Solar Photovoltaic Micro-inverter based Microgrid with Common Community Energy Storage for Residential Applications” Indian Patent filed on 28th Nov, 2014, Application No. 3999/MUM/2014. Patent Granted (Patent No.359817), Date of patent grant: 26/02/2021.

List of Journal Papers Published (Scopus Indexed/ Web of Science Indexed)

1. **Sushil Thale**, Rupesh Wandhare and Vivek Agarwal, “A Novel Reconfigurable Microgrid Architecture with Renewable Energy Sources and Storage,” **IEEE Trans. on Industry Applications**, vol.51, no. 2 pp. 1805 – 1816, March-April 2015. (Scopus Indexed/ SCI-Q1)
2. **Sushil Thale** and Vivek Agarwal, “Controller Area Network Assisted Grid Synchronization of a Microgrid with Renewable Energy Sources and Storage,” **IEEE Trans. on Smart Grid**, vol. 7, no. 3, pp. 1442 – 1452, May 2016 (Scopus Indexed/ SCI-Q1)
3. Swathy Pillai and **Sushil Thale**, “Design and Implementation of a Three Phase Inverter for Renewable Energy Source with Unified Control Strategy,” **Energy Procedia, Elsevier**, vol. 90, pp 673-680, December 2016. [Scopus coverage years: from 2009 to 2019 (coverage discontinued in Scopus in 2019) ISSN:1876-610]
4. Bindu R and **Sushil Thale**, “Power Management Strategy for an Electric Vehicle Driven by Hybrid Energy Storage System,” **IETE Journal of Research**, India, vol. 68, no. 4, pp. 2801-2811, Mar 2020 (Scopus Indexed/ SCIE-Q3)
5. Bindu R and **Sushil Thale**, “Performance Analysis of Power Sharing Control Strategies for Battery/Ultracapacitor Hybrid Energy Storage Based Electric Vehicle,” **International Review of Electrical Engineering (IREE)**, Praise Worthy Prize Publishing House, April 2020 (Scopus Indexed-Q2)
6. Dipti Patil, Bindu S, and **Sushil Thale**, ‘A Novel Method for Real Time Protection of DC Microgrid Using Cumulative Summation and Wavelet Transform,’ **International Journal of Electrical and Computer Engineering Systems**, vol. 13, no. 4, 2022 April 2022. (Scopus Indexed/ e-SCI-Q4)
7. Dipti Patil, Bindu S, and **Sushil Thale**, “Deep Neural Network Enabled Fault Detection in LVDC Microgrid Using Empirical Mode Decomposition,” **International Journal of Advanced Technology and Engineering Exploration (IJATEE)**, vol. 9(87) ISSN (Online): 2394-7454 Feb. 2022 (Scopus Indexed-Q3)
8. Shrisheil Muchande and **Sushil Thale**, “Hierarchical Control of a Low Voltage DC Microgrid with Coordinated Power Management Strategies”, **Engineering, Technology, and Applied Science Research (ETASR) Journal**, vol. 12, no. 1, February 2022. (e-SCI/ Scopus Indexed-Q2)
9. Shrisheil Muchande and **Sushil Thale**, “A Novel Reconfigurable Coordinated Control for Autonomous Low Voltage DC Microgrid”, **International Review of Electrical Engineering (I.R.E.E.)**, vol. 18, no. 1, pp. 36-49, May 2023 (Scopus Indexed-Q2).
10. Keerthi Unni and **Sushil Thale**, “Energy Consumption Analysis for Prediction of Battery Residual Energy in Electric Vehicles,” **Engineering, Technology & Applied Science Research (ETASR) Journal**, vol. 13, No. 3, pp. 11011-11019, June 2023 <https://doi.org/10.48084/etasr.5868> (e-SCI/ Scopus Indexed-Q2)
11. E. Raja Vikram Reddy and **Sushil Thale**, “A Novel Efficient Dual-Gate Mixed Dilated Convolution Network for Multi-Scale Pedestrian Detection” **Engineering, Technology &**

Applied Science Research (ETASR) Journal, vol. 13, no. 6, December 2023 (e-SCI/ Scopus Indexed-Q2).

12. Keerthi Unni and **Sushil Thale**, “Regression Algorithm based Residual Range Prediction and Validation on EV Travel Data”, **Australian Journal of Electrical and Electronics Engineering**, Jan 2025, <https://doi.org/10.1080/1448837X.2025.2457256> (Scopus Indexed-Q3)
13. Dipti Patil, Bindu S., and **Sushil Thale**, "Arc Fault Detection and Classification in DC Microgrid Using Deep Neural Network," **SSRG International Journal of Electronics and Communication Engineering**, vol. 11, no. 8, pp. 131-139, Aug. 2024. (Scopus Indexed-Q4) <https://doi.org/10.14445/23488549/IJECE-V11I8P114>
- 14 Keerthi Unni and **Sushil Thale**, “Machine Learning Based Range Estimation for Electric Vehicles with Indian Road Perspective,” submitted to **Sigma Journal of Engineering and Natural Sciences**, Jan 2025. (e-SCI/ Scopus Indexed-Q4).

Non-Scopus Indexed/ UGC Journals

1. Pillai Swati, **Sushil Thale**, Purohit Akshay, “Unbalanced Voltage Mitigation with Reactive Power Control of Grid-Tied Solar PV System,” *Advances in Energy Research*, vol. 2, pp 877-891, Springer Proceedings in Energy, Springer, Singapore, May 2020.
2. Arvind Kadam, Keerthi Unni, and **Sushil Thale**, “Performance Analysis of Voltage Stability against Sudden Load Changes in Voltage Controlled Inverters for Distributed Generation,” *International Journal of Applied Power Engineering*, vol.3, no. 1, pp. 33-40, April 2014 (Now 2022-24- Scopus Indexed-Q3)
3. Shrishell Muchande, Arvind Kadam, Keerthi Unni and **Sushil Thale**, “Design and Implementation of a Direct Torque Control Space Vector Modulated Three Phase Induction Motor Drive,” Springer Verilog, *Advances in Computing, Communication, and Control*, vol. 361 of the series Communications in Computer and Information Science, pp 659-672, 2013.

List of Papers Published in National and International Conferences

- 1 **Sushil Thale**, Bhagyalakshmi Nair and Kiran Vichare, “Energy Monitoring System: Design and Implementation,” CIEEPS06, Pondicherry Engg. College, Pillaichavady, Sept 2006
- 2 **Sushil Thale**, Bhagyalakshmi Nair, and Dr. K.T.V. Reddy, “Remote monitoring System for Electrical Networks” at the International Conference on the Emerging Technologies in Telecommunication Convergence, IETE Mumbai Centre at Hyatt Regency, January 09 - 11, 2007
- 3 Arvind Srinivasan, Ramakrishnan Venkatapathy and **Sushil Thale**, “Power Line Communications in Low Voltage Industrial Network: A Concept for Electrical Power Control using PLC Simulation of Network characteristics of LV Motor Power Systems,” National Conference on Distribution Automation, 29-31st Oct 07
- 4 Umesh Mhapankar, DV Bhoir, and **Sushil Thale**, “A Wearable Medical Multi-Parameter Storage Device and Alert System,” National Conference on Nascent Technologies in the Engineering fields NCNTE 08’, FCRIT, Vashi, February 29 – March 1, 2008
- 5 Ashish H, **Sushil Thale** and M.S. Panse, “Low Cost Digital Stethoscope for Heart Sounds”, International Conference and workshop on Emerging Trends in Technology (ICWET), TCET, Mumbai, Feb 2011, pp.1275-1279.
- 6 Ashish H, **Sushil Thale** and M.S. Panse, “Digital Stethoscope for Heart Sounds”, International Journal of Computer Application proceedings on ICWET,2011, pp.42-45
- 7 Abhay Lolekar, Aris Shaikh, Ipshita Burman, J. S. Khatwani, **Sushil Thale** and Umesh Mhapankar, “Fetal ECG Monitoring System Using DSP Techniques”, National Conference on

Emerging Trends in Engineering and Technology (NCETET), L.R.Tiwari College, Mira Road, March 2011

- 8 **Sushil Thale** and Vivek Agarwal “Design and Implementation of Communication and Control Architecture for Solar PV Based Microgrid Supported by PEM Fuel Cell Based Auxiliary Source” Photo-Voltaic Specialist Conference 2011, PVSC-2011, Seattle, USA, 19-24 June 2011
- 9 **Sushil Thale** and Vivek Agarwal, “Smart Control Strategy for the Black Start of a Microgrid Based on PV and Other Auxiliary Sources Under Islanded Condition” Photo-Voltaic Specialist Conference 2011, PVSC-2011, Seattle, USA, 19-24, June 2011
- 10 **Sushil Thale** and Vivek Agarwal, “Controller Area Network (CAN) based Smart Protection Scheme for Solar PV, Fuel Cell, Ultra-Capacitor and Wind Energy System based Microgrid,” 38th IEEE Photovoltaic Specialist Conference PVSC- 2012, Austin, Texas, June 2012
- 11 Kapil Bhise, Nataraj Pragallapati, **Sushil Thale**, and Vivek Agarwal, “LabVIEW Based Emulation of Photovoltaic Array to Study Maximum Power Point Tracking Algorithms” 38th IEEE Photovoltaic Specialist Conference PVSC- 2012, Austin, Texas, June 2012
- 12 Keerthi Unni and **Sushil Thale**, “Design, Modeling and Implementation of a DSP Controlled Buck Converter,” National Conference on Nascent Technologies (NCNTE), Fr. C. Rodrigues Institute of Technology, Navi Mumbai, Feb 2012. **Won the Best Paper Award**
- 13 Kalpesh Mahajan, Sincy George, and **Sushil Thale**, “Simulation Of Shunt Active Filter Using d-q Theory,” National Conference on Nascent Technologies (NCNTE), Fr. C. Rodrigues Institute of Technology, Navi Mumbai, Feb 2012.
- 14 Vaishali Machale, **Sushil Thale**, and Mahendra Rane, “Recent Developments In Solar Photovoltaic System From Efficiency Aspect,” National Conference on Nascent Technologies (NCNTE), Fr. C. Rodrigues Institute of Technology, Navi Mumbai, Feb 2012.
- 15 **Sushil Thale**, Keerthi Unni and Vivek Agarwal “CAN based Control of DC-DC Converters in Distributed Generation Units Operating in Master Slave Configuration”, IEEE International Conference on Power Electronics, Drives and Energy Systems 2012 (PEDES 2012), Bengaluru, India 16-19, December 2012.
- 16 **Sushil Thale**, Sheetal Gore and Vivek Agarwal “Adaptive Protection Scheme with Fault Detection, Classification and Isolation Features for Off-grid Distributed Generation System”, IEEE International Conference on Power Electronics, Drives and Energy Systems 2012 (PEDES 2012), Bengaluru, India 16-19, December 2012
- 17 Shrishell Muchande, Arvind Kadam, Keerthi Unni, and **Sushil Thale**, “Design and Implementation of a Direct Torque Control Space Vector Modulated Three Phase Induction Motor Drive,” 3rd International Conference on Advances in Computing, Communication & Control – 2013, Mumbai, India, vol. 361, pp. 659–672, January 2013.
- 18 Rupesh Wandhare, **Sushil Thale**, and Vivek Agarwal, "Reconfigurable Hierarchical Control of a Microgrid Developed with PV, Wind, Micro-hydro, Fuel Cell and Ultra-Capacitor," in 28th IEEE Applied Power Electronics Conference and Exposition (APEC- 2013), Long Beach, CA, USA, March 2013.
- 19 Trital Soladhra, Kulvinder Kaur Bhambra, Keerthi Unni and **Sushil Thale**, “DSP Controlled Multifunction Emulator for Non-Conventional Energy Sources with LabVIEW Graphical User Interface,” 2nd International Conference on Advance Communication and Computing Technologies-2013, Mumbai, 10th & 11th Aug, 2013.
- 20 Rashmi Kale, **Sushil Thale** and Vivek Agarwal, “Design and Implementation of A Solar PV Panel Integrated Inverter with Multi-mode Operation Capability,” 39th IEEE Photovoltaic Specialist Conference (PVSC), Tampa, Florida, USA, June 16-21, 2013.
- 21 Arvind Kadam, Keerthi Unni, and **Sushil Thale**, “Performance Analysis of Voltage Stability against Sudden Load Changes in Voltage Controlled Inverters for Distributed Generation,” *International Journal of Applied Power Engineering*, Vol.3, No. 1, pp.33-40, April 2014

- 22 Rupesh Wandhare, **Sushil Thale**, and Vivek Agarwal, "Design of a Photovoltaic Power Conditioning System for Hierarchical Control of a Microgrid," 40th IEEE Photovoltaic Specialist Conference (PVSC), Denver, Colorado, USA, June 2014.
- 23 Prajakta Pawar and **Sushil Thale**, "Harmonic Analysis and Selective Elimination in PWM Technique Controlled Three Phase Inverter," *ICNTE 2015*, Fr. C. Rodrigues Institute of Tech., Navi Mumbai, Jan. 2015.
- 24 Keerthi Unni, and **Sushil Thale**, "Design and Development of a Solar PV Inverter for Water Pumping Applications," *ICNTE 2015*, Fr. C. Rodrigues Institute of Tech., Navi Mumbai, Jan. 2015. **Won the Best Paper Award**
- 25 Shantanu Kulkarni and **Sushil Thale**, "Design and Development of Solar PV based Grid Interactive Inverter," *ICNTE 2015*, Fr. C. Rodrigues Institute of Tech., Navi Mumbai, Jan. 2015.
- 26 Umesh Mhapankar, Sonali Sherigar and **Sushil Thale**, "Electro-gastrography: a Non- Invasive Technique to Evaluate Gastric Electrical Activity for Early Detection of Stomach Cancer," HTI-2015 – SAMEER, IIT-Bombay, Powai, 9th – 10th Jan. 2015.
- 27 Gauri Madan, Keerthy Unni, Swathy Pillai, and **Sushil Thale**, "Design and implementation of a DC Microgrid with multiple sources," National Conference on Nascent and Advanced Technologies, IETE Navi Mumbai Centre, August 2015.
- 28 Medha Kulkarni and **Sushil Thale**, "Investigation into Selection and Sizing of Energy Storage for Designing of Dispatchable Solar PV System," National Conference on Nascent and Advanced Technologies, IETE Navi Mumbai Centre, August 2015.
- 29 Prachi Bhopi and **Sushil Thale**, "Active Generation Management and Load Management for Standalone Solar Photovoltaic System," National Conference on Nascent and Advanced Technologies, IETE Navi Mumbai Centre, August 2015.
- 30 Swathy Pillai and **Sushil Thale**, "Design and Implementation of a Three Phase Inverter for Renewable Energy Source with Unified Control Strategy," 5th International Conference on Advances in Energy Research (ICAER 2015), IIT-Bombay, Mumbai, 15-17 December, 2015.
- 31 Rachit Pradhan, Martin Chirayath and **Sushil Thale**, "Coordinated Control Strategy for a DC Microgrid with Low Bandwidth Communication," Accepted at IEEE International Conference on Power Electronics, Drives and Energy Systems (PEDES2016), 14-17 December 2016, Trivandrum, Kerala, India
- 32 Arvind H. Kadam, Keerthi Unni and **Sushil Thale**, "Control Scheme for Seamless Operating Mode Transfer of AC Microgrid," 5th IEEE International conference on Smart Energy Grid Engineering (SEGE2017), Oshawa, Canada, August 14-17, 2017.
- 33 Chanchal Patil, **Sushil S. Thale**, Shrishell Muchande and Arvind H. Kadam, "A Novel Protection Scheme for DC Microgrid with Hierarchical Control," 5th IEEE International conference on Smart Energy Grid Engineering (SEGE2017), Oshawa, Canada, August 14-17, 2017.
- 34 Keerthi Unni and **Sushil Thale**, "Precision Agriculture through ICT and Data Ecosystem: An opportunity for Digital Transformation," 60th Annual IETE Convention- 2017, Kochi, Kerala, 16th -18th Sept. 2017. **Won the Best Paper Award**
- 35 Bindu R and **Sushil Thale**, "Sizing of Hybrid Energy Storage System and Propulsion Unit for Electric Vehicle," 2nd IEEE International Transportation Electrification Conference-India (ITEC India 2017), Pune, India, 13-15th Dec. 2017.
- 36 Bindu R, Sujata Patil and **Sushil Thale**, "Design and Control of Power Conversion System for Electric Vehicle Application," *IEEE International(Biennial) Conference on Technological Advancements in Power and Energy (TAP Energy 2017)*, Amrita School of Engineering, Amritapuri, Amrita Vishwa Vidyapeetham, Amrita University, Kollam, Kerala, India, December 21-23, 2017.

- 37 **Sushil Thale**, Uma L., Arnab Panja, Roshal Fernandes, Shamli Jondhale and Pierson D'souza, "A Novel Configurable Signal Acquisition System for Multiple Bio-signal Measurements: Assistive Technology for Home Rehabilitation," *IEEE International(Biennial) Conference on Technological Advancements in Power and Energy (TAP Energy 2017)*, Amrita School of Engineering, Amritapuri, Amrita Vishwa Vidyapeetham, Amrita University, Kollam, Kerala, India, December 21-23, 2017.
- 38 Swathy Pillai, **Sushil Thale** and Akshay Purohit, "Unbalanced Voltage Mitigation with Reactive Power Control of Grid-tied Solar PV System," *6th International Conference on Advances in Energy Research 2017*, IIT Bombay, Mumbai, India, December 12-14, 2017. **Won the Best Paper Award**
- 39 Salil Patwardhan, Bindu R, and **Sushil Thale**, "Modeling and Performance Analysis of Battery Electric Vehicle," *2nd Int. Conf. on Power and Embedded Drive Control*, 21-23 Aug 2019, Chennai, India.
- 40 Misbah Khan and **Sushil Thale**, "Design and Development of AC Microgrid Power Conditioning Unit for Renewable Energy Integration," *Int. Conf. CAC3*, Dec 2019, Mumbai: **Won the Best Paper Award**
- 41 Muazzam Phansopkar, Mahendra Rane and **Sushil Thale**, "Analysis and Control of Quasi Z-source Inverter with Digital Current Control for Energy Storage," *8th International Conference on Power Systems (ICPS)*, Jaipur, India, Dec 2019.
- 42 Sanket Dalvi and **Sushil Thale**, "Design of DSP Controlled Passive Cell Balancing Network based Battery Management System for EV Application," *IEEE India Council International Subsection' Conference (INDISCON-2020)* at Visakhapatnam during July 25-26, 2020.
- 43 Ann Raichel Mathew, Bindu R, and **Sushil Thale**, "Design of a Power Electronic Drive for a Small Utility Electric Vehicle," *IEEE India Council International Subsection' Conference (INDISCON-2020)* at Visakhapatnam during July 25-26, 2020.
- 44 Shrishell Muchande, **Sushil Thale** and Rupesh Wandhare, "Integrated Solar PV-Battery and Micro-Hydro Based Low-Voltage Autonomous DC Microgrid for Rural Electrification," *47th IEEE Photo-Voltaic Specialist Conference (PVSC)*, June 2020.
- 45 Rupesh Wandhare, Vrishabh Randive, and **Sushil Thale**, "Design of a PV fed Hybrid DC Bus Power Supply with the High Voltage Ride Through Capability," *47th IEEE Photo-Voltaic Specialist Conference (PVSC)*, June 2020.
- 46 Shrishell Muchande, and **Sushil Thale**, "Design and Implementation of Autonomous Low Voltage DC Microgrid with Hierarchical Control," *IEEE International Conference on Smart Technologies for Power, Energy and Control (STPEC 2020)*, organized by Visvesvaraya National Institute of Technology(VNIT), Nagpur, 25 – 26 September, 2020.
- 47 Keerthi Unni and **Sushil Thale**, "Simulation and Analysis of Factors Influencing the Residual Range of Electric Vehicle", *The 3rd IEEE Bombay Section Signature Conference (IBSSC-2021)* organized by IEEE Bombay Section and ABV-IIITM Gwalior, India, 18-20 Nov 2021
- 48 Keerthi Unni and **Sushil Thale**, "Influence of Auxiliary Loads on the Energy Consumption of Electric Vehicle – A Case Study", *IEEE Transportation Electrification Conference India (ITEC 2021)* organized by SAE India, 16-18 Dec. 2021
- 49 E. Raja Vikram Reddy and **Sushil Thale**, "Pedestrian Detection Using YOLOv5 for Autonomous Driving Applications", *IEEE Transportation Electrification Conference India (ITEC 2021)* organized by SAE India, 16-18 Dec. 2021.
- 50 Mayur Kumavat and **Sushil Thale**, "Analysis of CSTR Temperature Control with PID, MPC & Hybrid MPC-PID Controller", *Third International Conference on Automation, Computing and Communication 2022 (ICACC-2022)*, Ramrao Adik Institute of Technology, Nerul, Navi Mumbai, Maharashtra, April 7-8, 2022.
- 51 Ameya Thale, Udayraj Tawde, Avinash Saruk, Shreyas Sarnaik and **Sushil Thale**, "Design and Development of Emulated Fuel Cell Based Hierarchical Controlled DC Microgrid System,"

- Presented at 8th International Conference on Advances in Energy Research (ICAER 2022), IIT Bombay, Powai, Mumbai 7th -9th July 2022
- 52 Saakshi Gawande and **Sushil Thale**, “Design and Development of Solar Powered Phase Shifted Full Bridge Converter for EV Charger,” ‘International Conference on Communication Systems, Computing and IT Applications’, St. Francis Institute of Technology, Mumbai India March 2023.
 - 53 E. Raja Vikram Reddy, and **Sushil Thale**, “Pedestrian Detection Using YOLOv5 and Complete IoU Loss for Autonomous Driving Applications,” International Conference on Paradigms of Communication, Computing and Data Analytics (PCCDA 2023), APRIL 22-23, 2023, ADGITM New Delhi.
 - 54 Shantanu Kulkarni and **Sushil Thale**, “Phase-Shifted Dual Active Bridge Converter Based EV Charger Architecture with G2V and V2G Modes,” IEEE CONECCT 2024, 12th - 14th July, 2024, Bangalore
 - 55 Shraddha Sawant and **Sushil Thale**, “Efficient Energy Storage Management Strategy for A Low Voltage DC Microgrid,” IEEE CONECCT 2024, 12th - 14th July, 2024, Bangalore

Workshop/FDPs/ STTPs/ Webinars/ Certification Courses attended:

1. Research Conclave on Industrial Electronics, Automation, and Power Electronics, on November 23, 2024, organized by Sardar Patel Institute of Technology (SPIT), Mumbai, and IEEE Bombay Section.
2. STTP on "Electrical Engineering Solutions for Smart Cities: Integration, Innovation, and Impact" on 24th-29th June 2024 organized by Department of Electrical Engineering, St. Francis Institute of Technology, Borivali, Mumbai, India. (one week)
3. SAE India online Proficiency Development Program (PDP) on “EV Architecture, Components and Controls”, 17, 18 & 19th April 2024 (3 days)
4. BharatTech Foundation, Somaiya Vidyavihar University and AICTE Organised, “Trio Conclave R&D, Academia, And Industry-Connecting the Dots: New-Age Industry-Academia Collaboration for Viksit Bharat”, April 2nd- 3rd, 2024 (2 days)
5. ARAI (Automotive Research Association of India) organized 2 days Proficiency Improvement Program (PIP) on “Fundamentals of Automotive Electricals and Electronics”, 11th & 12th May 2023, ARAI Academy Chakan, Pune (2 days)
6. AICTE Training and Learning (ATAL) Academy Online FDP on "Electric Vehicles" from 2021-07-5 to 2021-07-9 at Vivekanand Education Society's Institute of Technology, Mumbai (5 days)
7. AICTE Training and Learning (ATAL) Academy Online Elementary FDP on "EV & Charging Infrastructure" from 2021-7-26 to 2021-7-30 at National Power Training Institute - Power Systems Training Institute (5 days)
8. AICTE Training and Learning (ATAL) Academy Online FDP on "Electric Vehicles" from 2020-10-5 to 2020-10-9 at All India Shri Shivaji Memorial Society's College of Engineering Pune. (5 days)
9. Skill Development Certificate (SDC) course in ‘High Voltage Vehicle Safety Expert - Level II’, Page 12 conducted by Haritha Techlogix, Tamilnadu and Automotive Skill Development Council (ASDC), June 2021 (4 days)
10. Competency Development Program (CDP) on ‘Electric and Hybrid Vehicle Engineering – Level 1’ conducted by Haritha Techlogix, Tamilnadu and G. Narayanamma Institute of Technology & Science, Hyderabad 21st June to 26th June – 2021 (6 days)
11. Online Webinar on “Advance Power Electronics for Automotive Applications” conducted by SAE India Western Section held on 12th April 2021 to 15th April 2021(4 days)
12. Online Proficiency Improvement Program (oPIP) on ‘Standard & Technology for Electric Vehicle Charging Infrastructure’ jointly organized by The Automotive Research Association of India (ARAI), Pune & India Energy Storage Alliance (IESA), Pune from 08th to 10th

September 2020 (3 Days).

13. Certificate course on “Basics of Digital Signal Processing for Power Engineers’ online course conducted on Udemy platform May 2020

Invited Lectures in FDP/ STTP:

1. Delivered R&D Expert Lecture on “Idea to Product Development: Technology Readiness Level & Commercialization of Lab Technologies” at Dept. of Electrical Engineering, Agnel Charities’ Fr. C. Rodrigues Institute of Technology on 9th Aug 2024.
2. Delivered Expert Lecture on “Microgrids” in Proficiency Development Program (PDP) on “Sustainable Technologies” (Solar PV, Energy Storage, Microgrids & Electric Vehicle) conducted by Dept. of Electrical Engineering, Agnel Charities’ Fr. C. Rodrigues Institute of Technology on 2nd and 3rd Aug. 2024
3. Delivered Expert Lecture on “Electric and Hybrid Electric Vehicle” in Online FDP on ‘Emerging Trends in Electrical Engineering’ organized by S. S. Jondhle Polytechnic, Asangaon, 11th -13th July 2024.
4. Delivered Expert Lecture on “Microgrid and Smartgrid” in Online FDP on ‘Emerging Trends in Electrical Engineering’ organized by S. S. Jondhle Polytechnic, Asangaon, 11th -13th July 2024.
5. Delivered R&D Expert Lecture on “Idea to Product” at Dept. of Electrical Engineering, Agnel Charities’ Fr. C. Rodrigues Institute of Technology on 2nd Sept 2023.
6. Delivered expert lecture on ‘DSP in Power Electronics Applications’ in Short Term Training Program on ‘Power Electronics and Drives’ organized by the Dept. of Electrical Engg., Agnel Charities’ Fr. C. Rodrigues Institute of Technology from 31st Oct. to 5th Nov. 2022.
7. Delivered five expert lectures on ‘Futuristic Electrical Power Systems’ at FDP organized by the Dept. of Electrical Engg., Agnel Charities’ Fr. C. Rodrigues Institute of Technology from 10th Nov. to 16th Nov. 2022.
8. Delivered expert lecture on “Design of Power Electronic Converters” at Dept. Electrical Engineering, A C Patil College of Engineering, Kharghar, Navi Mumbai, 4th Oct 2022.
9. Delivered expert lecture on “Electric Vehicles and Microgrids” at workshop conducted by Dept. Electrical Engineering, St. Francis Institute of Technology, Mumbai on 7th Oct 2022
10. Delivered lecture on "Industrial Research and Development" One Day Workshop for the 17th Inter-Collegiate/Institute/Department Aavishkar Research Convention on Wednesday, 24th August, 2022 conducted by Department of Students Development, University of Mumbai
11. Delivered expert lecture on “Process of Innovation Development and Technology Readiness Level (TRL) and Commercialization of Lab Technologies and Tech Transfer”, Pillai College of Arts, Commerce and Science, Panvel, 22nd Jan. 2022
12. Delivered expert lecture on “Design Considerations for Interface Circuits Used with DSP & PE Systems” at AICTE Training And Learning (ATAL) Academy Online Elementary on “Power Electronic Systems and its Real Time Control Implementation in DSP” from 08/11/2021 to 12/11/2021 at Fr. C. Rodrigues Institute of Technology, Vashi
13. Delivered expert lecture on “Publication Ethics”, during Two weeks’ online credit course on Research and Publication Ethics for Ph.D. students 15th November to 30th November 2021, Organized by Research & Development Cell, Sardar Patel Institute of Technology, Andheri, Mumbai
14. Conducted two days training on ‘DSP and its applications’ during ISTE approved STTP on ‘DSP, Aurdino and C/Python’ conducted by Fr. C. Rodrigues Institute of Technology- 10th may to 14th May 2021.
15. Delivered expert lecture on “Electric Vehicle Charging Infrastructure” at FDP on ‘Emerging Area in Engineering Technology’ conducted by Agnel Polytechnic, Navi Mumbai on 6th May 2021
16. Delivered expert lecture on “EV Drive Design” at ATAL-FDP on “Electric Vehicle

- Technology” conducted by FCRIT Vashi on 5th Nov 2020.
17. Delivered expert lecture on “R&D Consultancy Initiatives” at ‘REFINE’ lecture series on R&D conducted by PCCE, Verna, Goa on 25th Sept 2020.
 18. Delivered Invited Talk on “Industrial Design Aspects” at IEEE Students Chapter FCRIT, Vashi on 11th March 2020
 19. Delivered Invited Talk on “Industrial Consultancy” at Ramrao Adik Institute of Technology, Nerul on 4th Mar 2020.
 20. Delivered Expert Lecture on topic “Power Electronics and It’s Applications” by Agnel Polytechnic, Vashi, 17th Feb 2020
 21. Delivered Invited lecture on “Development and new trends in Electric Vehicles” at Vishwaniketan’s Institute of Management Entrepreneurship & Engineering Technology (ViMEET) on 13th Feb 2019.
 22. Delivered Invited lecture on “Design of Power Electronics converters” at ISTE approved one week STTP On "Modeling, Control and Design of Modular Multilevel Converter for HVDC Application" conducted by Dept. Electrical Engineering, A C Patil College of Engineering, Kharghar, Navi Mumbai, Dec 17-21,2018.
 23. Delivered Invited lecture on “Solar Photovoltaic Systems and Power Optimization” at Short Term Training Program on “Renewable Energy – Emerging trends and its potential in India.” conducted by Department of Mechanical Engineering, Agnel Polytechnic, Vashi, 20th March 2018
 24. Delivered Invited lecture on “Power Electronics Applications in Microgrids” at National Workshop on “Power Electronics Application to Renewable Energy Resources” conducted by Pillai HOC College of Engineering & Technology, 12th- 13th Jan 2018
 25. Delivered Invited lecture on “Electrical Energy Conservation” in One week ISTE Approved STTP on "Energy, Environment & Water Conservation" organized by Mechanical Engineering Department, A C Patil College of Engineering, Kharghar, Navi Mumbai June 26th – July 1st 2017.
 26. Delivered Invited lecture on “Emergence of Renewable Energy and Reliability Issues” in One week STTP on “Reliability in Electrical and Electronic Systems” organized by Dept. of Electrical Engineering, Fr. C. Rodrigues Institute of Technology, Vashi Navi Mumbai June 27th– July 1st, 2017.
 27. Delivered Invited lecture sessions and practical sessions on “Digital Signal Processors and Applications” in One Week Faculty Development Program (FDP) on Microcontroller & Its Applications,” sponsored by Dr. APJ Abdul Kalam Technological University, Lucknow June 19-24, 2017 at PSIT, Kanpur (U.P.), India.
 28. Delivered Invited lecture on “Microgrids and Distributed Generation” at Dept of Electrical Engg., Atharva College of Engineering, Malad Mumbai, 14th March 2017.
 29. Delivered Invited lecture on "Introduction & brief overview of Microgrid, Smartgrid & Futuristic Energy Paradigms", in State Level Two Days Workshop on "Microgrid, Smartgrid & Futuristic Energy Paradigms organized Dept. of Electrical Engineering, Institute of Technology, Management & Research (JIT), Nashik in association with Savitribai Phule Pune University 12-13th January, 2017.
 30. Delivered Invited lecture on “Renewable energy & Energy Storage Systems” at Dept of Electrical Engg., Atharva College of Engineering, Malad, Mumbai 21st Sept 2016.
 31. Delivered Invited lecture on “Basics of Distributed Generation Microgrid and SmartGrid” at STTP on “Microgrid, Smartgrid and Futuristic Energy Paradigms” Fr. C. Rodrigues Institute of Technology, Dept. of Electrical Engineering. 27th June 2016–01July 2016
 32. Delivered Invited lecture on “State of the art –Microgrids and Smart grid” at STTP on “Microgrid, Smartgrid and Futuristic Energy Paradigms” Fr. C. Rodrigues Institute of Technology, Dept. of Electrical Engineering. 27th June 2016–01July 2016
 33. Delivered Invited lecture on “Utility of Simulation Tools, their Merits & Demerits in Actual Practice”, at ISTE approved STTP on “Open Source Softwares & Its Applications in Engineering” organized by Agnel Polytechnic, Vashi, Navi Mumbai on 23rd March 2016.

34. Delivered Expert Lecture on “Importance of Digital Communication in Various Engineering Fields” in Dept of Electronics and Telecommunication Engineering on 23rd March 2016.
35. Delivered Expert Lecture on “Introduction to DSP” at Dept of Electrical Engg., Fr. C. Rodrigues Institute of Technology, Vashi, Navi Mumbai 10th Oct 2016.
36. Delivered Expert lecture on topic "Renewable Energy Sources" at Vidyalkar Polytechnic, Mumbai on 8th July 2015
37. Delivered Keynote lecture on “Simulation Software and Applications” during MSBTE sponsored Content Updating Program on Simulation Software in Agnel polytechnic, 15th Dec. 2014.
38. Delivered Invited lecture at Finishing School organized by Dept of Electrical Engineering, VJTI, Mumbai on “Microgrid Architecture and Control”, 25th June 2014
39. Delivered Invited lecture on “Microgrids” at International Workshop on "Passivity based Control- New Vistas" conducted by Centre of Excellence in Complex & Nonlinear Dynamical Systems (CNDS) at VJTI, Mumbai. 19th -23rd May, 2014.
40. Delivered Invited lecture on “Solar Energy and its Applications” at Content Updating Program on Renewable Energy Sources conducted by Agnel Polytechnic, Vashi, 8-12th Oct. 2013.
41. Delivered Expert Lecture on “DSP Processors” at AICTE approved STTP on “VLSI and Embedded Systems” in Dept of Electronics and Telecommunication Engineering on 4th July 2013.
42. Delivered Expert Lecture on topic “Embedded Systems Applications” during STTP on “Embedded System & Real-Time Programming” Terna Engineering College, Nerul, July 15,2011
43. Delivered Expert Lecture on topic “Power Devices: Characteristics, Specification and Comparison” at MSBTE Sponsored Content Updating Program on "Power Electronics, Drives and Control" conducted by Agnel Polytechnic, Vashi ,15th to 19th Feb 2011.
44. Delivered Expert Lecture on topic “Harmonics in Variable Frequency Drive” at MSBTE Sponsored Content Updating Program on "Power Electronics, Drives and Control" conducted by Agnel Polytechnic, Vashi, 15th to 19th Feb 2011.

International Conference Technical Program Committee Member / Reviewer:

1. Member of National Advisory Committee at “International Conference on Advances & Practices in Electrical Engineering (ICAPE 2018”) organized by KDK College of Engineering, Nagpur, 8th-9th March 2018
2. Served as Reviewer for IEEE International (biennial) Conference on “Technological Advancements in Power & Energy (TAP Energy-2017)”, Amrita School of Engineering, Amritapuri, Amrita Vishwa Vidyapeetham, Amrita University, Kollam, Kerala, India, December 21-23, 2017.
3. Member of Technical Program Committee for ICCMREA 2017 (2017 International Conference on Composite Materials & Renewable Energy Applications), 02-04 April 2017, Istanbul, Turkey.
4. Member of Technical Program Committee for 2nd International Conference on Communication Systems, Computing and IT Applications (CSCITA), 07 Apr - 08 Apr 2017 Mumbai.
5. Served as Reviewer for 5th IEEE International Conference on Smart Energy Grid Engineering (SEGE- 2017), University of Ontario Institute of Technology, Oshawa, Ontario, Canada, 14-17 Aug 2017.
6. Member of Technical Program Committee of 2nd International conferences on Information Technology, Information Systems and Electrical Engineering (ICITISEE-2017), Yogyakarta, Indonesia, Nov 2017
7. Member of Technical Program Committee of 8th National Power Electronics Conference 2017 (NPEC-2017), College of Engineering Pune (COEP), Dec 2017
8. Member of Technical Program Committee of 3rd IEEE Conference on Energy Conversion (CENCON 2017), Kuala Lumpur, Malaysia, 30–31 October 2017.
9. Served as Reviewer for 9th IEEE PES Asia-Pacific Power and Energy Engineering Conference

- 2017 (APPEEC-2017), Bangalore, India, November 8-10, 2017
10. Member of Technical Program Committee of 6th International Conference on Information and Communication Technology (ICoICT 2018), Bandung, Indonesia, May 2018.
 11. Served as reviewer for International Conference on Information and Communications Technology (ICOIACT) 2018, Yogyakarta, Indonesia, 6 – 8 March 2018.
 12. Served as reviewer at IEEE International Conference on Power Electronics, Drives and Energy Systems (PEDES2016), Trivandrum, Kerala, India, 14-17 December 2016.

Administrative Responsibilities at University of Mumbai and Institutes

1. **Member- Board of Studies (BoS) Electrical Engineering, 2023- 2027**
2. **Member-** Governing Council- Fr. C. Rodrigues Institute of Technology- 2023-26
3. **Member-** Academic Council- Fr. C. Rodrigues Institute of Technology- 2023-26
4. **Chairman - Board of Studies (BoS) Electrical Engineering, 2019- 2022**
5. Member, **Research Review Committee (RRC) Electrical Engineering 2019- 2022**
6. University Nominee Member of **Board of Studies (BoS)- Humanities and Basic Science in K.J Somaiya Institute of Engineering and Information Technology (Autonomous), Sion.**
7. Expert Member -Board of Studies (BoS)- Electrical Engineering, PG program, VJTI, Matunga-2022-23
8. Expert Member- Board of Studies (BoS) Electrical Engineering PG program, Saradar Patel College of Engineering, Andheri-2019-2022
9. Member of Board of Studies in Electrical Engineering Faculty of Technology, University of Mumbai. 2017-2019
10. Served as the member of Syllabus Committee for First Year Engineering Program for 2016 revision.
11. Served as the member of Syllabus Committees for Undergraduate programs in Electrical Engineering, Instrumentation Engineering, and Mechanical Engineering since year 2000.
12. Served as the member of Syllabus Committees for Postgraduate programs in Electrical Engineering (Power Electronics and Drives) and Electrical Engineering (Power System Engineering) since 2010
13. Served as the member of Result Moderation Committee for Electrical Engineering, Instrumentation Engineering and Biomedical Engineering 2016-2019

I hereby declare that all statements in this bio-data are true, complete and correct to the best of my knowledge and belief.

Place: Navi Mumbai

Date: 28th Feb. 2025

Dr. Sushil Thale

Citations Details: Dr. Sushil Thale (till 30th DEC 2024)

Sr. No	Paper Title	Journal / Conference	Date/ Year of Publication	Google Scholar Citation	Web of Science Citation	Scopus Index Citation	DOI
1	A novel reconfigurable microgrid architecture with renewable energy sources and storage	IEEE Transactions on Industry Applications	Aug. 2014	191	119	152	10.1109/TIA.2014.2350083
2	Controller Area Network (CAN) based smart protection scheme for Solar PV, fuel cell, Ultra-Capacitor and wind energy system based microgrid	38 th IEEE Photovoltaic Specialists Conference (PVSC)	2012	33	0	13	10.1109/PVSC.2012.6317680
3	A smart control strategy for the black start of a microgrid based on PV and other auxiliary sources under islanded condition	37 th IEEE Photovoltaic Specialists Conference (PVSC)	2011	43	0	21	10.1109/PVSC.2011.6186443
4	Reconfigurable hierarchical control of a microgrid developed with PV, wind, micro-hydro, fuel cell and ultra-capacitor	Applied Power Electronics Conference & Expo.(APEC)	2013	37	23	19	10.1109/APEC.2013.6520694
5	Low cost digital stethoscope for heart sounds	ACM Proceedings of the International Conference & Workshop on Emerging Trends in Technology	2011	21	0	7	10.1145/1980022.1980304
6	Labview based emulation of photovoltaic array to study maximum power point tracking algorithms	38 th IEEE Photovoltaic Specialists Conference (PVSC)	June 2012	21	7	12	10.1109/PVSC.2012.6318206
7	Controller area network assisted grid synchronization of a microgrid with renewable energy sources and storage	IEEE Transactions on Smart Grid	July 2015	77	46	63	10.1109/TSG.2015.2453157
8	Design of a photovoltaic power conditioning system for hierarchical control of a microgrid	40 th IEEE Photovoltaic Specialist Conference	2014	20	8	9	10.1109/PVSC.2014.6925603
9	Design and implementation of communication and control architecture for solar PV based microgrid supported by PEM fuel cell based auxiliary source	37 th IEEE Photovoltaic Specialists Conference (PVSC)	2011	12	0	6	10.1109/PVSC.2011.6186442
10	A novel low cost portable integrated solar PV, fuel cell and battery emulator with fast tracking algorithm	40 th IEEE Photovoltaic Specialist Conference (PVSC)	2014	22	13	15	10.1109/PVSC.2014.6925602

11	CAN based control of DC-DC converters in distributed generation units operating in master slave configuration	IEEE Conference on Power Electronics, Drives and Energy Systems (PEDES)	2012	5	0	3	10.1109/PEDES.2012.6484438
12	Design and implementation of a solar PV panel integrated inverter with multi-mode operation capability	Photovoltaic Specialists Conference (PVSC), 2013 IEEE 39th,	2013	7	3	4	10.1109/PVSC.2013.6745085
13	Performance Analysis of Voltage Stability against Sudden Load Changes in Voltage Controlled Inverters for Distributed Generation	International Journal of Applied Power Engineering,	2014	3	0	0	10.11591/ijape.v3.i1.pp33-40
14	Coordinated control strategy for a DC microgrid with low bandwidth communication	IEEE International Conference on Power Electronics, Drives and Energy Systems	Dec 2016	11	2	3	10.23919/ChiCC.2017.8028815
15	Design and implementation of a direct torque control space vector modulated three phase induction motor drive	Springer Journal in Advance Communications in Computer and Information Science	2013	5	0	2	10.1007/978-3-642-36321-4_61
16	Control Scheme for Seamless Operating Mode Transfer of AC Microgrid	5th IEEE International Conference on Smart Energy Grid Engg. (SEGE), Aug. 2017 UOIT, Canada	2017	3	1	3	10.1109/SEGE.2017.8052787
17	A novel configurable signal acquisition system for multiple bio-signal measurements: Assistive technology for home rehabilitation	International Conference on Technological Advancements in Power and Energy	2017	2	0	1	10.1109/TAPENERGY.2017.8397228
18	Design and control of power conversion system for electric vehicle application	Inter. Conference on Technological Advancements in Power and Energy (TAP Energy)	2017	2	0	1	10.1109/TAPENERGY.2017.8397264
19	Sizing of hybrid energy storage system and propulsion unit for electric vehicle	IEEE Transportation Electrification Conference (ITEC-India)	2017	15	0	6	10.1109/ITEC-India.2017.8333846
20	A novel protection scheme for DC microgrid with hierarchical control	IEEE Inter. Conference on Smart Energy Grid Engineering (SEGE)	2017	10	0	0	10.1109/SEGE.2017.8052786
21	Design and Implementation of a Three Phase Inverter for Renewable Energy Source with Unified Control Strategy	5th Inter. Conference on Advances in Energy Research (ICAER 2015), IIT-Bombay	Dec, 2015	3	1	1	

22	Power Management Strategy for an Electric Vehicle Driven by Hybrid Energy Storage System	IETE Journal of Research, India,	Mar 2020	16	2	2	
23	Adaptive protection scheme with fault detection, classification and isolation features for off-grid distributed generation system...	2012 IEEE International Conference on Power Electronics, Drives and Energy ...	2012	1	0	0	
24	Modeling and Performance Analysis of Battery Electric Vehicle	2019 International Conference on Power and Embedded Drive Control	2019	1	0	0	
25	Electric Vehicle Power Conditioner with Battery-Ultracapacitor Hybrid Energy Storage System	2018 15th IEEE India Council International Conference (INDICON)	2018	2	0	0	
26	Adaptive protection scheme with fault detection, classification and isolation features for off-grid distributed generation system	IEEE International Conference on Power Electronics, Drives and Energy Systems (PEDES)	2012	1	0	0	
27	Modeling and Performance Analysis of Battery Electric Vehicle	2nd Inter. Conference on Power and Embedded Drive Control (ICPEDC)	2019	1	0	0	
28	Integrated Solar PV-Battery and Micro-Hydro Based Low-Voltage Autonomous DC Microgrid for Rural Electrification	47th IEEE Photovoltaic Specialists Conference (PVSC)	2020	1	0	0	
29	Design of DSP Controlled Passive Cell Balancing Network based Battery Management System for EV Application	2020 IEEE India Council International Subsections Conference (INDISCON)	2020	1	0	0	
30	Harmonic Analysis and Selective Elimination in PWM Technique Controlled Three Phase Inverter	International Conference on Nascent Technology In Engineering (ICNTE 2015), Navi Mumbai,	2015	1	0	0	
				Total	732	259	501

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Controller area network assisted grid synchronization of a microgrid with renewable energy sources and storage S.S. Thale, V. Agrewal IEEE Transactions on Smart Grid 7 (3), 1560-1567	2016
A smart control strategy for the black start of a microgrid based on PV and other auxiliary sources under islanded condition S. Thale, V. Agrewal 2011 IEEE ICCC Phoenix/Specialty Conference, 2011/12/01-2011/12/03	2011
Reconfigurable hierarchical control of a microgrid developed with PV, wind, micro-hydro, fuel cell and ultra-capacitor R.G. Wankar, S. Thale, V. Agrewal 2014 Twenty-Eighth Annual IEEE Applied Power Electronics Conference and Exposition	2013
Controller Area Network (CAN) based smart protection scheme for Solar PV, fuel cell, Ultra Capacitor and wind energy system based microgrid S. Thale, V. Agrewal 2013 IEEE 34th Phoenix/Specialty Conference, 2013/12/01-2013/12/03	2013
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