Curriculum Vitae

Dr.Shelas Sathyan in presently working as an Assistant Professor, Department of Electrical and Electronics Engineering, National Institute of Technology, Tiruchirappalli. He earned his PhD in Electrical Engineering from Visvesvaraya National Institute of Technology, Nagpur in 2017. He did his M. Tech in Power Electronics and Drives from Visvesvaraya National institute of Technology, Nagpur in 2012. Prior to join in NIT Tiruchirapalli, He was an assistant professor with Department of Electrical Engineering, Shiv Nadar University, Greater Noida, Uttar Pradesh. His research area is power electronics, development of high efficient power converters for renewable energy integration, EV, resonant power converters, wideband gap devices etc.

1. Name: Shelas Sathyan
2. Designation: Assistant Professor
3. Office Address: EEEA2 G1, Department of EEE,
   NIT Trichy
4. Telephone (Direct) (Optional):4084

   Mobile (Optional):9561450634
5. Email (Primary): shelassathyan@nitt.edu
6. Field(s) of Specialization: Power Electronics

7. Employment Profile

Job Title	Employer	From	To
Assistant Professor	National Institute of Technology, Tiruchirappalli	14/5/2018	Till Date
Assistant Professor	Shiv Nadar University, Greater Noida	31/7/17	9/5/2018

8. Academic Qualifications (From Highest Degree to High School):

Examination	Board / University	Year	Division/ Grade	Subjects
PhD	VNIT-Nagpur	2017		Electrical Engineering
M. Tech	VNIT-Nagpur	2012	First Rank	Power Electronics and Drives
B. Tech	Government College of Engineering Kannur, Kerala	2009	First class (Honors)	Electrical and Electronics Engineering
HSSC	P.H.S.S. Perambra	2004	First class (Distinction)	Science

9. Academic/Administrative Responsibilities within the University

Position	Faculty/Department/Centre/Institution	From	To
Member of TATA motor MoU monitoring Committee	NITT	2020	Till date
member of movie screening committee (Officers' Club Core Committee)	NITT	2020	Till date
Member of MOOCs sub-Committee	NITT	2021	Till Date
Member of convocation committee	NITT	2022	
Member of convocation committee	NITT	2021	
Member of convocation committee	NITT	2020	
B. Tech program coordinator and	EEE Department, NITT	2022	2023

BOS coordinator			
Coordinator for TEQIP, Dept. Meetings, web page	EEE Department, NITT	2020	2021
B. Tech program coordinator and BOS coordinator	EEE Department, NITT	2019	2020
NBA Committee member	EEE Department, NITT	2018	2019
NBA Committee member	EEE Department, NITT	2019	2020

10. Academic/Administrative Responsibilities outside the University

Position	Institution	From	To

11. Awards, Associateships etc.

Year of Award	Name of the Award	Awarding Organization
2012	Academic Excellence Award	VNIT Nagpur
2002	National Merit Scholarship	Government of India

12. Fellowships

Year of Award	Name of the Fellowship	Awarding Organization	From (Month/Year)	To (Month/Year)
2012	MHRD Fellowship for PhD	MHRD and VNIT Nagpur	2012	2017
2010	MHRD Fellowship for M.Tech	MHRD and VNIT Nagpur	2010	2012

13. Details of Academic Work

(i) Curriculum Development:

EE701-SOFT SWITCHING POWER CONVERTERS

(ii) Courses taught at Postgraduate and Undergraduate levels

EE701-SOFT SWITCHING POWER CONVERTERS
EEPE29-POWER SWITCHING CONVERTERS
EE652-SWITCHED MODE POWER CONVERSION
EEHO14-POWER SWITCHING CONVERTERS
EEPC10-ELECTRON DEVICES
EEOE18-CONTROL SYSTEMS ENGINEERING
EE668-DIGITAL CONTROLLERS IN POWER ELECTRONICS APPLICATIONS
EEPE19-DESIGN WITH PIC MICROCONTROLLERS
EEPC23-MEASUREMENTS AND INSTRUMENTATION

(iii)Projects guided at Postgraduate level

Name	Project Title	Duration
Muhammed Shafy K.M	Performance enhancement of DAB converter over a wide range of load variation	2021-2022
Jay Damodar Pandya	Design, Model and Simulation of Multi-Port Converter	2020-2021
Akash Gangwar	Design of LLC Resonant Converter for EV charging	2020-2021
K. Ganesh Balaram	Grid Tied Transformerless inverter for PV	2020-2021
Mohd Shahnawaz Khan	Design and Development of On-board Battery Charger using Interleaved Boost type PFC and Phase Shifted Full Bridge Converter	2019-2020
Sachin Chandelker	Design and Hardware Implementation of Isolated Y-Source DC – DC Boost Converter with Zero Current Switching	2019-2020
S Satish Chandra Bommagani	Power Flow Control in a Single-Stage Single-Phase Grid connected PV systems	2019-2020
Govad Mahesh	Solar Powered EV smart charging with V2G capability to reduce peak demand on distribution network	2018-2019
Kumbha Veera Hanuamn	Grid connected PV system with DC/DC Resonant Converter	2018-2019

14. Details of Major R&D Projects

Title of Project	Funding Agency	Duration		Status
		From	To	Ongoing/ Completed
Development of Bi-directional Battery Charger-Discharge Regulator (BCDR)	ISRO	2022	2024	Ongoing
Sustainable Energy System for Achieving Novel Carbon Neutral Energy Communities (SUSTENANCE)	DST	2021	2024	Ongoing
Design and Development of WBG Device Based High Current Converters for Industry Applications	Ministry of Electronics and Information Technology, NaMPET	2020	2023	Ongoing

15. Number of PhDs guided

Name of the PhD Scholar	Title of PhD Thesis	Role (Supervisor/ Co-Supervisor)	Year of Award
Sugali Harinaik	-	Supervisor	Ongoing
Merlin Mary NJ	-	Supervisor	Ongoing
Sofiya S	-	Supervisor	Ongoing

16. Participation in Workshops/ Symposia/ Conferences/ Colloquia /Seminars/ Schools etc. (mentioning the role)

Date (s)	Title of Activity	Level of Event (International/ National/ Local)	Role (Participant/ Speaker/ Chairperson, Paper presenter, Any other)	Event Organized by	Venue
2021	IEEE SeFet	National	Session Chaire	Gokaraju Rangaraju institute of engineering	Online

				&technology	
2020	International Conference on Empowering Engineering & Technology	National	Keynote Speaker	Parisutham Institute of Technology and Science	Parisutham Institute of Technology and Science
2020	IEEE PEDES Conference	International	Track Chair	MNIT Jaipur	Online
2020	IEEE UPCON Conference	International	Technical Session Chair	MNNIT Allahabad	Online

17. Workshops/ Symposia/ Conferences/ Colloquia/Seminars Organized (as Chairman/ Organizing Secretary/ Convenor / Co-Convenor)

Title of Activity	Level of Event (International/ National/ Local)	Date (s)	Role	Venue
Emerging Power Conversion Techniques and Challenges for Renewable Energy and Electric Vehicle Applications	National Level	24.06.2019	Coordinator	NITT
Research Opportunities, Challenges in Power Electronics for EV and Its Impact on Smart Grid	National Level	14.12.2020	Coordinator	NITT

18. Invited Talks delivered

Topic	Date	Inviting Organization
Efficient Power converters for on-board battery chargers	10/06/2022	TKM college of engineering kollam
Power converter for EV charger- Architecture and topologies	30/04/2022	G.Narayanamma Institute of Technology and Science, Hyderabad
On Board battery Charger	22/04/2022	A.K.T Memorial College of

for EV- Architecture and topologies		Engineering and Technology, Kallakurichi
Efficient power converters for DC microgrid	31/03/2022	NIT Warangal
Power Electronic Converters for On-Board Battery Chargers	21/03/2022	NIT Warangal
Efficient dc to dc converters for renewable energy applications	10/11/2021	Government Engineering College - Thrissur
Efficient Power Converters for EV Charger	14/7/2021	NIT Calicut
A revisit to Gate Drivers and Magnetic Components for Power Electronic Converters in EV charger	6/2/2021	College of Engineering Vadakara
Soft switching converters and its applications	29/7/2020	Adi Shankara Institute of Engineering and Technology
Design of power electronic Converters-Gate Drivers and Magnetic components	25/7/2020	Saranathan college of Engineering, Trichy
Gate Drivers design for Power Electronic Converters	29/6/2020	Chennai Institute of Technology, TamilNadu
Soft switching and resonant Power converters	16/10/2019	Government College of Engineering, Kannur

19. Membership of Learned Societies

Type of Membership (Ordinary Member/ Honorary Member / Life Member)	Organization	Membership No. with date
Professional membership	IEEE	90389092

20. Academic Foreign Visits

Country	Duration of Visit	Programme

21. Publications

(A) Refereed Research Journals:

Author(s)	Title of Paper	Journal	Volume (No.)	Page numbers	Year	Impact Factor of the Journal (Optional)
Harinaik and Shelas Sathyan	Design and Analysis of Quasi-Y Source High Gain DC/DC Resonant Converter for Renewable Energy Applications	Distributed Generation & Alternative Energy Journal,	-	-	2022	
Merlin Mary NJ and Shelas Sathyan	Design and Controller Implementation of 3.3kW bridgeless boost-fed Three-level Resonant converter for EV battery charging	Electrical Engineering (Springer)	-	-	2021	1.836
Prashant Upadhyay, Rajneesh Kumar and Shelas Sathyan	A Coupled-Inductor Based High Gain Converter Utilizing Magnetizing Inductance to Achieve soft-switching with Low Voltage Stress on Devices	IET Power Electronics	13	576-591	2020	2.112
Shelas Sathyan, H. M. Suryawanshi, A. B.	Soft Switched Interleaved DC/DC Converter as front-end of	IEEE Transactions on Power Electronics	33	7645-7655	2018	5.967

Shitole, M. S. Ballal and V. B. Borghate	Multi Inverter Structure for Micro-Grid Applications					
H. M. Suryawanshi, S. Pachpor, T. Ajmal, G. G. Talapur, Shelas Sathyan, M. S. Ballal, V. B. Borghate, M. R. Ramteke	Hybrid Control of High Efficient Resonant Converter for Renewable Energy System	IEEE Transactions on Industrial Informatics	14	1835-1845	2018	11.648
A. B. Shitole, Shelas Sathyan, H. M. Suryawanshi, G. G. Talapur, P. Chaturvedi	Soft Switched High Voltage Gain Boost Integrated Flyback Converter Interfaced Single-Phase Grid Tied Inverter for SPV Integration	IEEE Transactions on Industry Applications	54	482-493	2018	4.079
Shelas Sathyan, H. M. Suryawanshi, M. S. Ballal and A. B. Shitole	Low switching stress DC-DC converter with capability of high voltage gain for low voltage energy sources	European Power Electronics and Drives Journal (EPE), Taylor & Francis	27	74-84	2017	0.933
A. B. Shitole, H. M. Suryawanshi, G. G. Talapur, Shelas Sathyan, M. S. Ballal, V. B. Borghate, M. Ramteke,	Grid Interfaced Distributed Generation System with Modified Current Control Loop using Adaptive Synchronization Technique	IEEE Transactions on Industrial Informatics	13	2634 - 2644	2017	11.648

and M. Chaudhari						
A. B. Shitole, H. M. Suryawanshi, Shelas Sathyan, G. G. Talapur and M. S. Ballal	A Comparative Performance Evaluation of Extended AANF with Different Parameter Estimation Techniques for Renewable Energy Integration	Electric Power Components and Systems, Taylor & Francis	45	870-1880	2016	1.071
Shelas Sathyan, H. M. Suryawanshi, Bhim singh, Chandan Chakraborty, Vishal Verma and M. S. Ballal	ZVS-ZCS High Voltage Gain Integrated Boost Converter For DC Microgrid	IEEE Transactions on Industrial Electronics	63	6898-6908	2016	8.162
Shelas Sathyan, H. M. Suryawanshi, M. S. Ballal and A. B. Shitole	Soft Switching DC-DC Converter for Distributed Energy Sources With High Step Up Voltage Capability	IEEE Transactions on Industrial Electronics	62	7039-7050	2015	8.162

(B) Conferences/Workshops/Symposia Proceedings

Author(s)	Title of Abstract/ Paper	Title of the Proceedings	Venue	Year
Sofiya S. and Shelas Sathyan	Three-Port Isolated Hybrid Converter for Power Supply Systems in EV	IEEE International conference on Power Electronics, Smart Grid and Renewable Energy (PESGRE2022)	Trivandrum	2022
Merlin	Design and analysis	IEEE International	India	2021.

Mary NJ and Shelas Sathyan	of Frequency modulated DAB-MSPRC for V2G and G2V Applications	Conference on Smart Technologies for Power, Energy and Control (STPEC)		
Sugali Harinaik and Shelas Sathyan	Design and Analysis of Zero Current switching Y-Source DC/DC Converter for Renewable Energy Applications	IEEE Power and Energy Conference at Kansas State University (IEEE KPEC)	Kansas,USA	2021
Merlin Mary NJ and Shelas Sathyan	Design and Analysis of Three-Level Soft-Switched Resonant Converter for EV Battery Charger,	IEEE Green Technologies conference	Denver, USA	2021
M. S. Khan, Shelas Sathyan, H. Sugali and S. S. Chandra Bommagani	Design of On-Board Battery Charger using Interleaved Bridgeless Type PFC and Phase Shifted Full Bridge Converter	IEEE International Students' Conference on Electrical,Electronics and Computer Science (SCEECS)	Bhopal	2020
P. Upadhyay, R. Kumar and Shelas Sathyan	Family of High-Frequency Nonisolated DC-DC ZVZCS Converters with High Conversion Range	National Power Electronics Conference (NPEC)	Tiruchirappalli	2019
K. Mistry, M. Sahoo and Shelas Sathyan	Single Stage Current Fed Switching Based Hybrid Converter for Photovoltaic Application	National Power Electronics Conference (NPEC)	Tiruchirappalli	2019
P. Priyanka, Shelas Sathyan and M. Sahoo	Current-fed Integrated Single-Input Multi-Output (SIMO) Switched Converter	INDICON	Coimbatore	2018
K. V. Hanuman, Shelas Sathyan	High Power Factor 3-Level Boost Converter For Interfacing Micro	Innovations in Power and Advanced Computing	Vellore	2018

and M. Sahoo	Hydal Generation System To D.C Micro Grid	Technologies (i-PACT)		
A. B. Shitole, H. M. Suryawanshi, G. G. Talapur and Shelas Sathyan	Performance improvement of grid interfaced three level diode clamped inverter under various power quality events	IEEE 26th International Symposium on Industrial Electronics (ISIE)	Edinburgh	2017
Shelas Sathyan, H. M. Suryawanshi, A. B. Shitole and G. G. Talapur	Soft switched high voltage gain boost integrated flyback converter	PEDES	Trivandrum	2016
G. G. Talapur, H. M. Suryawanshi, A. B. Shitole, Shelas Sathyan and V. V.Reddy	Performance improvement of digital variable band hysteresis current control using dual processor microcontroller	IECON 2016	Florence	2016
A. B. Shitole, H. M. Suryawanshi and Shelas Sathyan	Comparative evaluation of synchronization techniques for grid interconnection of renewable energy sources	IECON 2015	Yokohama,	2015
Shelas Sathyan, H. M. Suryawanshi and A. B. Shitole	Soft switched coupled inductor based high step up converter for distributed energy resources	IECON 2014	Dallas	2014
Shelas Sathyan and H. M. Suryawanshi	Interleaved high step up converter for renewable energy sources	IECON 2013	Vienna	2013

(C) Books & Monographs

Author(s)	Title of Book/Monograph	Name of Publishers	Year of Publication	ISSN/ISBN Number