

Name of the Teaching Staff	Dr. M.S.P.SUBATHRA			
Designation	PROFESSOR			
Department / School	ROBOTICS ENGINEERING/SET			
Date of Joining the Institution	26-02-1997			
Qualification with Class / Grade	U G	PG	Ph.D.	
	I Class	I Class	Commendable	
Other Qualifications	-			
Area of Specialization	Optimization Techniques, Machine Learning, Sensor Technology ,Signal Processing &Power Systems			
Research Interests	• Artificial Intelligence & Machine Learning • Optimization Techniques • Sensor Technologies • Signal Processing • Control Systems • Power Systems • Renewable Energy			
Total Experience in Years	Teaching	Industry	Research	
	24 & 6 Months	-	15	
Papers Published	National	-	International	27
Papers Presented in Conference	National	3	International	20
Conferences / Symposiums / Seminars / Workshops Participated	National	15	International	15
FDP / STTP / MDP / Summer / Winter School	12			

attended				
Ph.D. Projects Guided	Ph.D.s	6	Project at Master's Level	30
Professional Memberships	LIFE MEMBER ISTE, IAENG			
Awards & Honours	- Received "Achievers Award 2017-18" from Karunya University for Obtaining funded project from DST-WTI. - Developed student project- Prototype model titled "Smart drone for Agriculture" won the Second best project award by EEE department in the year 2017-18. (Under Patent Process). - Developed student project – Prototype model titled "Automatic Idly Making Machine" won the First best project award by EEE department in the year 2016-17. (Filed the Patent). - Reviewer for Solar Energy Journal - Reviewer for Journal of Renewable and Sustainable Energy - Reviewer for Biomedical Signal Processing & Control. - Reviewer for IEEE-Access - Reviewer for Neural Computing and Applications - Reviewer for Applied Artificial Intelligence - Reviewer for PLOS ONE			
Grants Fetched	A Novel TiO₂ coated Aluminum Electrode(TiO₂/Al) for treatment of textile dyeing wastewater using real time controlled multichannel electrocoagulation process (Co-PI) - Duration: 3 years ,Date of commencement : May 2017- June 2021, :Under Completion ,Cost : 37.09 Lakhs,Funding agency : WTI,DST. - Obtained funding from MNRE & CSIR for organizing a National Level Workshop in Solar Photovoltaic Technologies in the Year 2013.			
Interaction with Professional Institutions	- PSG College of Technology, Coimbatore - Coimbatore Institute of Technology, Coimbatore - Government College of Technology, Coimbatore - Alagappa Chettiar College of Engineering & Technology, Sivangai - Kumaraguru College of Technology, Coimbatore - SRM University, Chennai.			

Education I Details	● Ph.D (Electronics & Communication Engineering), Karunya University, Coimbatore- Completed in Oct 2014. ● M.E (Power Systems), Thiagarajar College of Engineering, Madurai, Completed in 1997. ● B.E – Electrical & Electronics Engineering, Thiagarajar College of Engineering, Madurai, Completed in 1995.
Experience	24 Years & 6 Months
Contact Details	Contact Details Dr. M.S.P.Subathra Professor, Dept. of Robotics Engineering, Karunya Institute of Technology and Sciences, Coimbatore -641 114 Email: subathra@karunya.edu
Papers Published	● Catherine Joy, R., Thomas George, S., Albert Rajan, A., & Subathra, M. S. P. (2021). Detection of ADHD From EEG Signals Using Different Entropy Measures and ANN. <i>Clinical EEG and Neuroscience</i>, 15500594211036788. (I.F 1.843) ● Priya, S. J., Rani, A. J., Subathra, M. S. P., Mohammed, M. A., Damaševičius, R., & Ubendran, N. (2021). Local Pattern Transformation Based Feature Extraction for Recognition of Parkinson's Disease Based on Gait Signals. <i>Diagnostics</i>, 11(8), 1395.(I.F 3.706) ● del Cerro, Ramiro T. Gonzalez, M. S. P. Subathra, NallapaneniManoj Kumar, Sebastian Verrastro, and S. Thomas George. "Modelling the daily reference evapotranspiration in semi-arid region of South India: A case study comparing ANFIS and empirical models." <i>Information Processing in Agriculture</i>. Vol 8,(1), 173-184. (2021). (I.F 3.110). ● Sairamya, N. J., Subathra, M. S. P., Thomas George S,(2020). A new approach for automatic detection of focal EEG signals using wavelet packet decomposition and quad binary pattern method. <i>Biomedical Signal Processing and Control</i>, (I.F: 3.880). ● Oğul Can Yurdakul, M.S.P. Subathra, and S. Thomas George, Detection of Parkinson's Disease from gait using Neighborhood Representation Local Binary

Patterns, Biomedical Signal Processing and Control, Volume 62,102070 September 2020. (I.F:3.880).

- Thomas George S, **Subathra M S P**, Sairamya N J, Susmitha L, Joel Premkumar (2020). Classification of epileptic EEG signals using PSO based artificial neural network and tunable-Q wavelet transform. Biocybernetics and Biomedical Engineering. (I.F: 4.314).
- Prasanna, J., **Subathra, M. S. P.**, Mohammed, M. A., Maashi, M. S., Garcia-Zapirain, B., Sairamya, N. J., & George, S. T. (2020). Detection of focal and non-focal electroencephalogram signals using fast Walsh-Hadamard transform and artificial neural network. Sensors, 20(17), 4952.(I.F 3.576)
- Dominguez, E. C., **Subathra, M. S. P.**, Sairamya, N. J., & George, S. T. (2020). Detection of focal epilepsy in brain maps through a novel pattern recognition technique. Neural Computing and Applications, 32 (14), pp. 10143-10157.. (I.F: 5.606).
- Kumar, S. Ananda, **M. S. P. Subathra**, NallapaneniManoj Kumar, Maria Malvoni, N. J. Sairamya, S. Thomas George, Easter S. Suviseshamuthu, and Shauhrat S. Chopra. "A Novel Islanding Detection Technique for a Resilient Photovoltaic-Based Distributed Power Generation System Using a Tunable-Q Wavelet Transform and an Artificial Neural Network." Energies 13, no. 16 (2020): 4238. (I.F:3.004).
- Darcy Gnana Jegha, A., **M. S. P. Subathra**, NallapaneniManoj Kumar, UmashankarSubramaniam, and SanjeevikumarPadmanaban,"A High Gain DC-DC Converter with Grey Wolf Optimizer Based MPPT Algorithm for PV Fed BLDC Motor Drive" Applied Sciences 10(8), (2020):2797. (I.F 2.679).
- Nageswara Rao, Pulivarthi, NallapaneniManoj Kumar, SanjeevikumarPadmanaban, **M. S. P. Subathra**, and Aneesh A. Chand. "A Novel Sensorless Approach for Speed and Displacement Control of Bearingless Switched Reluctance Motor." Applied Sciences 10, (12), (2020): 4070. (I.F 2.679).
- Darcy GnanaJegha, A., **M. S. P. Subathra**, NallapaneniManoj Kumar, and Aritra Ghosh, "Interleaved Luo Converter based BLDC Water Pump with Whale Optimization Algorithm for Grid Interactive Solar Photovoltaic Applications." Electronics, 2020. (I.F 2.397).

- Ananthi, Nallamuthu, **M. S. P. Subathra**, S. C. Emmanuel, and NallapaneniManoj Kumar. "Preparation and characterization of two dye-sensitized solar cells using AcalyphaGodseffia and EpipremnumAureum dyes as sensitizers." *Energy Sources, Part A: Recovery, Utilization, and Environmental Effects* 42, no. 13 (2020): 1662-1673. (I.F 1.184).
- Kumar, Nallapaneni Manoj, and **M. S. P. Subathra**. "Three years ahead solar irradiance forecasting to quantify degradation influenced energy potentials from thin film (a-Si) photovoltaic system." *Results in Physics* 12 (2019): 701-703. (I.F 4.019).
- Sairamya, N. J., Premkumar, M. J., George, S. T., &**Subathra, M. S. P.** (2019). Performance Evaluation of Discrete Wavelet Transform, and Wavelet Packet Decomposition for Automated Focal and Generalized Epileptic Seizure Detection. *IETE Journal of Research*, 1-21. (I.F: 1.244).
- Jegathambal, P., Nisha, R. R., Parameswari, K., & **Subathra, M. S. P.** (2019). Desalination and removal of organic pollutants using electrobiochemical reactor. *Applied Water Science*, 9(4), 1-10. (Web of Science).
- Sairamya, N. J., George, S. T., Ramasamy, B., Deivendran, N. P., &**Subathra, M. S. P.** (2018). Classification of EEG signals for detection of epileptic seizure activities based on feature extraction from brain maps using image processing algorithms. *IET Image Processing*, 12(12), 2153-2162. (I.F: 1.995)
- Sairamya, N. J., George, S. T., Balakrishnan, R., &**Subathra, M. S. P.** (2018). An effective approach to classify epileptic EEG signal using local neighbor gradient pattern transformation methods. *Australasian physical & engineering sciences in medicine*, 41(4), 1029-1046. (I.F: 1.43)
- Sairamya, N. J., George, S. T., Ponraj, D. N., &**Subathra, M. S. P.** (2018). Detection of Epileptic EEG Signal Using Improved Local Pattern Transformation Methods. *Circuits, Systems, and Signal Processing*, 1-22. (I.F: 1.976).
- Naveen Chakkaravarthy, A., **Subathra, M.S.P.**, Jerin Pradeep, P., Manoj Kumar, N. Solar irradiance forecasting and energy optimization for achieving nearly net zero energy building (2018) *Journal of Renewable and Sustainable Energy*, 10 (3), art. no. 035103. (I.F 2.219).
- **M. S. P. Subathra**, S. E. Selvan, A. A. Victoire, A. H. Christinal and U. Amato ,
“ A hybrid with Cross-entropy method and sequential quadratic programming to

solve economic load dispatch problem", IEEE Systems Journal Vol.(9),No.3,pp.no.1031-1044. September (2015). (I.F 3.931).

- S. Easter Selvan ,**M.S.P. Subathra** , A. Hepzibah Christinal , Umberto Amato , On the benefits of Laplace samples in solving a rare event problem using cross-entropy method in Applied Mathematics and Computation Vol 225 pp.no. 843-859 (2013). (I.F 4.091).
- **Scopus Journals :4**
- Pradip, C., Subathra, M.S.P. Antlion optimization-based energy management of grid connected domestic PV system,(2020) Journal of Green Engineering, 10 (8), pp. 4415-4435.
- Pradip, C., Subathra, M.S.P. Antlion optimization-based energy management of grid connected domestic PV system (2020) Journal of Green Engineering, 10 (8), pp. 4415-4435.
- Pradip, C., Subathra, M.S.P., Arya, K. Effective usage of solar energy through integration with utility grid (2020) Journal of Advanced Research in Dynamical and Control Systems, 12 (4 Special Issue), pp. 262-271.
- Pradip, C., Subathra, M.S.P., Amritha, R.P. Energy management strategy for pv-grid connected residential microgrid system (2019) Journal of Advanced Research in Dynamical and Control Systems, 11 (12 Special Issue), pp. 546-554.
- Shamili, G., Subathra, M.S.P. Development of high voltage gain using interleaved DC-DC boost converter with MPPT techniques for photovoltaic power generation (2015) International Journal of Applied Engineering Research, 10 (20), pp. 19102-19106.

Non –Scopus Journals:

- Jose, S., George, S. T., **Subathra, M. S. P.**, Handiru, V. S., Jeevanandam, P. K., Amato, U., & Suviseshamuthu, E. S. (2020). Robust Classification of Intramuscular EMG Signals to Aid the Diagnosis of Neuromuscular Disorders. **IEEE Open Journal of Engineering in Medicine and Biology**, 1, 235-242.
- NallapaneniManoj Kumar, **M.S.P Subathra**, Orville Cota Damaso, “Design and wind tunnel testing of funnel based wind energy harvesting system ”, in Procedia Technology, Elsevier, December 2015; 1(21), pp 33 – 40.

	● Tomy, A. M., Ahammed, N., Subathra, M. S. P., & Asirvatham, L. G. (2016). Analysing the performance of a flat plate solar collector with silver/water nanofluid using artificial neural network. <i>Procedia Computer Science</i>, 93, 33-40. ● Barbara, J. A., Rao, P. N., Pratap, C. B., Rao, K. S., George, S. T., & Subathra, M. S. P. (2020). A Modular Hybrid Cascaded Multilevel Converter For Efficient Power Conversion Using Sinusoidal Pwm Techniques. ● Aruldoss, S. J., & Subathra, M. S. P. Renewable Energy Hybrid Powered House For Rural Electrification. ● Jaison, H., Anas, S. R., Gopinath, A., & Subathra, M. S. P. A Dynamic Modelling Of Brushless Dc Motor Servo System for Electromechanical Actuator With Dual Redundancy Technique.
Papers presented in conferences	● Sahaya Ponrekha, A., Subathra, M.S.P., Kotwal, R., Sahu, R., Chandel, T.S. An expandable power bank with PV Charging capability (2020) International Conference on Futuristic Technologies in Control Systems and Renewable Energy, ICFCR 2020. ● Joy, R.C., Thomas George, S., Rajan, A.A., Subathra, M.S.P. Detection of attention deficit hyperactivity disorder from eeg signal using discrete wavelet transform (2019) Proceedings - 2019 5th International Conference on Computing, Communication Control and Automation, ICCUBEA 2019. ● Aruraj, A., Alex, A., Subathra, M.S.P., Sairamya, N.J., Thomas George, S., Vinodh Edwards, S.E. Detection and Classification of Diseases of Banana Plant Using Local Binary Pattern and Support Vector Machine(2019) 2nd International Conference on Signal Processing and Communication, ICSPC 2019 - Proceedings, art. no. 8976582, pp. 231-235. ● Prasanna, J., Thomas, G.S., Subathra, M.S.P., Sairamya, N.J. Automatic Epileptic Seizure Classification using MODWT and SVM (2019) 2nd International Conference on Signal Processing and Communication, ICSPC 2019 - Proceedings, art. no. 8976816, pp. 113-116. ● Ruth, V.C., Prasanna, J., Thomas, G.S., Sairamya, N.J., Subathra, M.S.P. Classification of normal, focal, and generalized EEG signals using EMD and ANN ,(2019) 2019 International Conference on Computer Communication and Informatics, ICCCI 2019. ● Prasanna, J., Sairamya, N.J., Thomas George, S., Ruth Vinutha, C., Subathra, M.S.P. Classification of Non-focal and Focal EEG signals using Local Binary Pattern, 2019 International Conference on Computer Communication and Informatics, ICCCI 2019.

- Catherine Joy, R., Mercy Prathyusha, T., Tejaswini, K., Rose Mary, K., Mounika, M., Thomas George, S., Panicker, A.S., Subathra, M.S.P. Certain Analysis on Attention-Deficit Hyperactivity Disorder Among Elementary Level School Children in Indian Scenario (2019) Advances in Intelligent Systems and Computing, 750, pp. 569-576.
- Subathra, M.S.P., Blessing, C.J., Thomas George, S., Thomas, A., Dhibak Raj, A., Ewards, V. Automated Intelligent Wireless Drip Irrigation Using ANN Techniques (2019) Advances in Intelligent Systems and Computing, 750, pp. 555-568.
- Sairamya, N.J., Thomas George, S., Subathra, M.S.P., Kumar, N.M., Computer-aided diagnosis of epilepsy based on the time-frequency texture descriptors of eeg signals using wavelet packet decomposition and artificial neural network (2019) Advances in Intelligent Systems and Computing, 768, pp. 677-688.
- Susmitha, L., Thomas George, S., Subathra, M.S.P., Kumar, N.M., Application of multi-domain fusion methods for detecting epilepsy from electroencephalogram using classification methods (2019) Advances in Intelligent Systems and Computing, 768, pp. 743-754.
- Kumar, N.M., Subathra, M.S.P., Moses, J.E. On-Grid Solar Photovoltaic System: Components, Design Considerations, and Case Study (2018) Proceedings of the 4th International Conference on Electrical Energy Systems, ICEES 2018, art. no. 8442403, pp. 616-619.
- Kumar, N.M., Subathra, M.S.P., Moses, J.E. Small Scale Rooftop Solar PV Systems for Rural Electrification in India (2018) Proceedings of the 4th International Conference on Electrical Energy Systems, ICEES 2018, art. no. 8442369, pp. 611-615.
- Shruthi, D., Subathra, M.S.P., Kumari, J., Raimond, K. Artificial neural network based prediction of monthly global solar radiation in Indian stations, (2018) Proceedings of IEEE International Conference on Signal Processing and Communication, ICSPC 2017, 2018-January, pp. 410-414.
- Sairamya, N.J., Thomas George, S., Narain Ponraj, D., Subathra, M.S.P. Automated detection of epileptic seizure using histogram of oriented gradients for analysing time frequency images of EEG signals, (2018) Communications in Computer and Information Science, 828, pp. 932-943.
- Kumari, J., Subathra, P., Edwin Moses, J., Shruthi, D. Economic analysis of hybrid energy system for rural electrification using homer (2017) Proceedings of IEEE International Conference on Innovations in Electrical, Electronics, Instrumentation and Media Technology, ICIEEIMT 2017, 2017-January, pp. 151-156.

	● Tomy, A.M., Ahammed, N., Subathra, M.S.P., Asirvatham, L.G. Analysing the Performance of a Flat Plate Solar Collector with Silver/Water Nanofluid Using Artificial Neural Network (2016) Procedia Computer Science, 93, pp. 33-40. ● A novel approach to wind power grid system with simple MPPT control using MATLAB/Simulink (2014) Proceeding of the IEEE International Conference on Green Computing, Communication and Electrical Engineering, ICGCCEE 2014. ● Vincent, P., Subathra, M.S.P., A novel approach to wind power grid system with simple MPPT control using MATLAB/Simulink (2014) Proceeding of the IEEE International Conference on Green Computing, Communication and Electrical Engineering, ICGCCEE 2014, ● Jaison, H., Anas, S.R., Gopinath, A., Subathra, M.S.P. A dual redundancy technique for electromechanical actuation system applied to launch vehicles, 2011 International Conference on Emerging Trends in Electrical and Computer Technology, ICETECT 2011, art. no. 5760142, pp. 352-357. ● Carnero, J., Christinal, H.A., Díaz-Pernil, D., Reina-Molina, R., Subathra, M.S.P. Improved parallelization of an image segmentation ,Bio-inspired algorithm (2014) Advances in Intelligent Systems and Computing, 236, pp. 75-82.
Patents	● A patent has been published under the title 'Low Cost Brain Mapping Tool for Epilepsy Detection vide patent 201941021614A on 07.06.2019. ● 2. A patent has been published under the title: Machine for making Rice Batter vide patent 201941021614A on 26.02.2021.
Books /Book Chapters	● Prasanna, J., George, S. T., & Subathra, M. S. P, Computer assisted diagnosis of gait dynamics neurodegenerative diseases using a machine learning approach. , Neurological Disorders and Imaging Physics, Volume 5.,2020. ● Philip, Jobin T., S. Thomas George, and M. S. P. Subathra., Performance Comparison of Machine Learning Algorithms in P300 Detection Using Balanced Mind-Speller Dataset., Lecture Notes on Data Engineering and Communications, Technologies 44, pp. 634-642,2020. ● Sairamya, N. J., L. Susmitha, S. Thomas George, and M. S. P. Subathra, Hybrid Approach for Classification of Electroencephalographic Signals Using Time–Frequency Images With Wavelets and Texture Features, In Intelligent Data Analysis for Biomedical Applications, pp. 253-273. Academic Press, 2019.

Research Group Members	● Center for Mobility and Rehabilitation Engineering Research Kessler Foundation, USA ● City University of Hong Kong ● University of Anbar, Iraq ● Auburn University ● Exeter University,UK. ● Nanyang Technological University ● Italian National Research Council, ● Aalborg University, Denmark ● KITS, Coimbatore