

FACULTY PROFILE

Name of the Staff : Dr. M. WILLJUICE IRUTHAYARAJAN

Official Address with E-mail Id : Professor & Head
Dept. of EEE
National Engineering College,
K.R. Nagar.



Mobile Number : 9442649406

1. Personal Details

Age : 51
Date of Birth : 16-06-1975
Sex & Marital Status : Male & Married
Citizenship : Indian
Date of joining : 01/07/2010
Present status : Professor & Head
Qualification : Ph.D.

PERSONNEL SOCIAL MEDIA AND RESEARCH MEDIUM LINK

- ❖ *Vidwan_ID* <https://vidwan.inflibnet.ac.in/profile/213601>
- ❖ *Scopus_ID* <https://www.scopus.com/authid/detail.uri?authorId=24332126100>
- ❖ *GoogleScholar_ID* <https://scholar.google.co.in/citations?user=EM-ASywAAAAJ&hl=en&authuser=1>
- ❖ *Researcher_ID* <https://www.webofscience.com/wos/author/record/C-7735-2015>
- ❖ *Orcid_ID* <https://orcid.org/0000-0001-8134-1699>
- ❖ *YouTube_Channel* <https://www.youtube.com/channel/UCfyNJc5VdRs7QUBDE2GbeeA>
<https://www.youtube.com/channel/UCKXmFsZIZOw73ozTA51roYQ>
- ❖ *Facebook_Profile* <https://www.facebook.com/mwilljuice.iruthayarajan/>
- ❖ *Instagram_Profile* https://www.instagram.com/dept_of_eee_nec
- ❖ *LinkedIn_Profile* <https://www.linkedin.com/in/willjuice-iruthayarajan-m-a142557/>
- ❖ *Twitter_Profile* https://twitter.com/hod_eee_nec

Degree	Programme and Specialisation	Class /CGPA	Month & Year of Passing	Institute/University
B.E.	Electrical & Electronics Engg	I Class	May 1996	Govt. College of Engg., M.S. University, Tirunelveli.
M.E.	Control & Instrumentation	I Class	Dec. 1998	College of Engg., Guindy, Anna University, Chennai

Ph.D	Control System		Nov 2010	Anna University, Chennai
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Professional Experience :

Designation	Institution/ Organisation	Period	Nature of Duties
Lecturer	Dr. MGR Engg. College, Chennai	08-06-1998 to 16-06-2003	Teaching
Lecturer	National Engg. College, K.R. Nagar.	18-06-2003 to 30-11-2006	Teaching
Ph.D. Research Scholar	Thiagarajar College of Engg., Madurai	22-02-2007 to 30-06-2010	Research
Assistant Professor	National Engg. College, K.R. Nagar.	01-07-2010 to 26-12-2010	Teaching and Research
Associate Professor		27-12-2010 to 26-06-2011	Teaching, Research
Associate Professor & HoD		27-06-2011 to 09-07-2013	Teaching, Research and Administration
Professor & HoD		10-07-2013 to Till Date	Teaching, Research and Administration

Courses taught:

Course Title	U.G. or P.G.
Control System; Measurements and Instrumentation; Digital Signal Processing; Computer Control of Process; Signals and Systems, PLC,DCS and SCADA, Logic and Distributed Control System	U.G
System Theory; Microcontroller and DSP based system design	P.G

2. Honors / Awards:

- Got “Gold Coin” award for producing excellent result in university examination at EEE Dept. Dr. MGR Engg College. 2001
- Paper titled “Auto tuning of PID controller based on Bode’s Integral “ authored Mary Jermila, M, Arivalahan, R and M. Willjuice Iruthayarjan, M, has been selected as “**Best Paper**” in the National Conference organized by NICE, Kumaracoil, 2005.
- Paper titled “Investigation on the properties of Natural Esters Blended with Mineral Oil and Pyrolysis Oil as Liquid Insulation for High Voltage Transformer” authored by and Bakruthen, M and Willjuice Iruthayarajan, M, has been awarded as “**Best Paper**” in the International conference ICIEES’17 organized by Dept. of EEE, PSG College of Technology, Coimbatore, 2017, authored by
- Paper titled “Analysis of Groundnut based Bio modified Liquid Insulation for High Voltage Transformer” authored by Pooraja, B, Willjuice Iruthayarajan, M and Bakruthen, B has been awarded as “**Best Paper**” in the International Conference on Intelligent Sustainable Systems (ICISS 2019) organized by SCAD Institute of Technology, Coimbatore, 21-22 Feb 2019.
- **H-Index – 21 (Scopus) & 22 (Google scholar)** as on 14/05/2026

3. Academic Achievements

3.1 Short term Courses / Seminars / Conference/ Workshops organized:

S.No	Title	Period	No. of Participants	venue
1	MATLAB fundamentals	1 Day	25	NEC
2	Soft Computing Techniques- DRDO Sponsored	2 Days	53	NEC
3	Implementation of Soft Computing Techniques	3 Days	27	NEC
4	FPGA based controllers for Power Electronics & Drives – DRDO Sponsored	2 Days	17	NEC
5	Design, Modeling and Control of Electrical Machines using Artificial Intelligence – CSIR Sponsored	2 Days	27	NEC
6	Artificial Intelligence Techniques for Renewable Energy Systems – DST Sponsored	2 Days	30	NEC
7	ELCON' 12 National Conference	1 Day	25	NEC
8	EMSYNEC' 2012 Symposium	1 Day	60	NEC
9	Introduction to MATLAB Programming	1 Day	30	NEC
10	Implementation of Fuzzy Logic Controller using ARM Processor	1 Day	30	NEC
11	Project Exhibition SIPRO' 12	1 Day	300	NEC
12	Energy Efficient Artificial Intelligence Drives – Recent Trends and Perspectives – DRDO	2 Days	30	NEC
13	Recent Advancements in the field of High Voltage Testing Techniques - CSIR	1 Day	30	NEC
14	ELCON' 13 National level conference– MNRE	1 Day	60	NEC
15	ALTANZIA' 13 Symposium	2 Days	100	NEC
16	Project Exhibition SIPRO' 13	2 Days	250	NEC
17	ALTANZIA' 14 Symposium	2 Days	100	NEC
18	ELCON' 14 National level conference	1 Day	40	NEC
19	Implementation of Soft Computing Techniques ISCT '14- IEEE CIS Technical Sponsor	3 Days	50	NEC
20	EE2353 – High Voltage Engineering – FDTP- Anna university	7 Days	25	NEC
21	Adaptive Control of Integrating Renewable Energy Sources with Smart Grid using SCADA, ACSGS'15- MNRE	2 Days	30	NEC
22	ALTANZIA' 15 Symposium	1 Day	100	NEC
23	ELCON' 15 National level conference	1 Day	40	NEC

24	Implementation of Soft Computing Techniques ISCT '15-IEEE CIS Sponsor	3 Days	35	NEC
25	Hands on training in PLC programming, SCADA & HMI	3 Days	40	NEC
26	Hands on Training on MATLAB Toolboxes – HTMT'16	2 Days	40	NEC
27	ALTANZIA' 16 Symposium	1 Day	100	NEC
28	ELCON' 16 National level conference	1 Day	35	NEC
29	ISCT' 16 IEEE CIS Technical Sponsor	3 Days	25	NEC
30	ALTANZIA' 17 symposium	2 Days	200	NEC
31	A two week FDP on “Recent trends and Applications in High Voltage Engineering – AICTE	2 Weeks	35	NEC
32	ALTANZIA' 18 symposium	2 Days	100	NEC
33	ISCT' 19 IEEE CIS Technical Sponsor	2 Days	25	NEC
34	ALTANZIA' 19 symposium	2 Days	200	NEC
35	“Smart Protection and Control using Numerical Relays” – National Level workshop - 2021	2 Days	65	Online
36	ALTANZIA' 23 symposium	2 Days	350	NEC
37	ALTANZIA' 24 symposium	2 Days	200	NEC

3.2 Short term Courses / Seminars / Conference/ Workshops Attended:

S.No.	Title	Period	venue
1	Digital VLSI Designing Using VHDL,	5 Days 3 rd to 7 th July, 2000	TANITECH, Chennai
2	QIP on “Switched Mode Power Conversion”	5 Days 7 th to 11 th Aug, 2000	Indian Institute of Science, Bangalore
3	Fuzzy Logic & Neural Network,	2 Days 23 rd and 24 th Feb., 2001.	EEE Department at Mohamed Sathak Engg. College, Kilakarai.
4	Intelligent Instrumentation	2 Days 23 rd and 24 th February, 2002	CSIR Campus, Taramani, Chennai
5	Programmable Logic Controller and Its Applications,	5 Days 10 th to 14 th June, 2002.	Technical Teachers' Training Institute, Chennai.

6	STTP on Automation, Control and Protection for Thermal Power Plants	2 Weeks 2 nd to 13 th June, 2003.	Dept. of ICE, Crescent Engineering College, Chennai,
7	Digital Signal Processing	1 Week 31 st May to 5 th June, 2004.	SSN College of Engineering, Kalavakkam, Chennai
8	Virtual Instrumentation	1 Day 17 th July, 2004.	Dept. EIE, National Engg. College
9	Industrial Automation Using PLC	3 Days 13 th to 15 th October, 2004	Dept. EIE, National Engg. College
10	PLCs, MMI, SCADA and AC Drives	6 Days 3 rd to 8 th Jan., 2006.	Dept. EIE, National Engg. College
11	Applications of Evolutionary Algorithms to Engineering Optimization Problem	5 Days 28 th May to 1 st June, 2007	Dept. of EEE, TCE, Madurai
12	Evolutionary Multiobjective Optimization Algorithms	3 Days 19 th to 21 st July 2007	Dept. of EEE, TCE, Madurai
13	Evolutionary Optimization Algorithms	6 Days 19 th to 24 th November, 2007.	Dept. of EEE, TCE, Madurai
14	Evolutionary Optimization Algorithms: Applications and Research Issues	6 Days 1 st to 6 th June, 2009.	Dept. of EEE, TCE, Madurai
15	MATLAB and Simulink for teaching and Research	1 Day 11 th September, 2009	Mathworks, India at Chennai
16	Advanced Automation and Automation System Technology	2 Days 18 th & 19 th December 2009.	C&I Group, CDAC, Thiruvananthapuram and Dept. of Instru. Engg, MIT Campus, Anna University, Chennai
17	Graphical system design for engineering applications using LABVIEW,	2 Days	ECE, NEC, Kovilpatti.
18	Research Opportunities at CVRDE	1 Day 6 th April 2011	AUTT, Tirunelveli
19	Advanced Control Theory	2 Days 30 th and 31 st August 2013	National Institute of Technology, Trichy.
20	New Outcome Based Accreditation	3 Days 26 th to 28 th September 2013	Thiagarajar College of Engineering
21	MATLAB and Simulink for Engineering Education	1 Day 7 th January 2014	Mathworks, India at Tirunelveli.
22	Institutional Quality Improvement: Role of Information and Communication Technology (IQAC)	2 Day 31 st January and 1 st February 2014	St.Mary's College, Thoothukudi.
23	New Paradigm in Higher Education - Research &	31 st October 2014	FICCI, Tamil Nadu circle, Chennai

	Development - Education & Employability - Teaching & Learning		
24	Intellectual Property Rights & Innovations	07.11.2015	NEC
25	Formulation of Research & Development Grant Proposals by Scientists and Technologies	18.11.2015 – 20.11.2015	NEC
26	Project Expo: Investigation on Electrical and Physical Properties of Transformer Oil and Natural Ester oil using Nanocomposites	17-20 December, 2015	IEI Assam State Centre, at Pragjyoti-ITA Centre, Machkhowa, Guwahati.
27	World Summit on Accreditation	18.03.2016 to 20.03.2016	NBA, NewDelhi
28	IEEE CSS Winter School on “Cyber-Physical Systems”	05-01-2017 to 09-01-2017	Kalasalingam Univ, Krishnankovil
29	QIP on “Nonlinear and Adaptive Control Design”	12-06-2017 to 16-06-2017	Indian Institute of Science, Bangeluru.
30	Training on “Protection Relay-P14D” by GE T&D India Ltd, Chennai	24-10-2017 & 25-10-2017	NEC
31	QIP on “Applied Optimal Control and State Estimation”	02-07-2018 to 06-07-2018	Indian Institute of Science, Bangeluru.
32	GIAN course on “Practical PID Control”	08/10/2018 to 12/10/2018	Madras Institute of Technology, Anna University, Chennai
33	AICTE sponsored STC on “Robotics and Control”	1/07/2019 to 5/07/2019	Indian Institute of Technology Roorkee
34	Online STC on “Essential tools in Optimization”	25/06/2020 to 29/06/2020	Dr. B. R. Ambedkar National Institute of Technology, Jalandhar, Punjab – 144011
35	Online Instructor led course on “Machine Learning & Deep Learning using MATLAB”	14/12/2020 to 16/12/2020	MATHWORKS
36	GIAN Course on “Soft Sensor Development Using State & Parameter Estimation Techniques and their Applications”	11/07/2022 to 16/07/2022	Madras Institute of Technology, Anna University, Chennai
37	Online Instructor led course on “Physical Modeling and Control of Electric Vehicles with Simulink and Simscape”	27/07/2022 to 29/07/2022	MATHWORKS
38	OMICRON South Asian User Meeting - Virtual	05/09/2022 to 07/09/2022	OMICRON Energy Solutions Pvt. Ltd, India
39	Industrial Automation	1 Month, Certificate ID SDFDP-11733, dt 4/10/2024	Skill Dzire

40	“Digital Tools and Emerging Technologies for Teaching and Learning”	21/07/2025 to 25/07/2025	D Y Patil International University, Pune
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3.3 Online Courses Attended:

- ❖ Completed **Machine Learning** an online non-credit course authorized by **Stanford University** and offered through **Coursera** on 24/09/2018.
- ❖ Completed **Neural Networks and Deep Learning** an online non-credit course authorized by **Deeplearning.ai** and offered through **Coursera** on Oct 2018.
- ❖ Completed **Improving Deep Neural Networks: Hyperparameter tuning, Regularization and Optimization** an online non-credit course authorized by **Deeplearning.ai** and offered through **Coursera** on Nov 2018.
- ❖ Completed **Structured Machine Learning Projects** an online non-credit course authorized by **Deeplearning.ai** and offered through **Coursera** on Nov 2018.
- ❖ Completed **Life Skills for Engineers (Level II)** an online non-credit course authorized by CEMCA and University of Hyderabad and offered through **MOOC** during Nov 6 –Dec 20, 2018.
- ❖ Completed **Programming for Everybody (Getting Started with Python)** an online non-credit course authorized by **University of Michigan** and offered through **Coursera** on Oct 2019.
- ❖ Completed **PLC Programming from Scratch (PLC I)** an online course authorized by **Paul Lynn** and offered through **Udemy** on Oct 2019.
- ❖ Completed **Python Data Structures** an online non-credit course authorized by **University of Michigan** and offered through **Coursera** on Oct 2019.
- ❖ Completed **Using Python to Access Web Data** an online non-credit course authorized by **University of Michigan** and offered through **Coursera** on Nov 2019.
- ❖ Completed **AI for Everybody** an online non-credit course authorized by **Deeplearning.ai** and offered through **Coursera** on July 2020.
- ❖ Completed **Practical PLC Programming (PLC II)** an online course authorized by **Paul Lynn** and offered through **Udemy** on Sep 2020.

3.4 Expert Lecture Delivered :

S.No	Title	Venue	Date
1	Concept of PLC Programming	Dept of EIE, National Engg. College, Kovilpatti,	14 th October, 2004

2	Genetic Algorithm for Engineering Applications	St. Xavier's Catholic Engineering College, Nagercoil, on	25 th September, 2008.
3	Introduction to Genetic Algorithm	Dr. MGR University, Chennai	12 th September, 2009.
4	Introduction to MATLAB Programming	IEEE Student branch of NEC	29 th January 2011
5	Evolutionary algorithms for Bio-Medical applications	EIE Dept., National Engg. College, Kovilpatti	17 th March 2011.
6	Evolutionary Computation for Engg. Optimization.	ECE Dept, National Engg. College, Kovilpatti on	1 st April 2011.
7	Evolutionary Computation technique for Electrical Engg. Applications	KSR College of Engg., Thiruchengode	30 th April 2011
8	Optimization Techniques for Communication Engg.	CSE Dept., KLN College of Engg., Madurai	30 th June 2011
9	Electrical Engineering Applications for Evolutionary Computation	EEE Dept., National Engg. College, Kovilaptti on	4 th Aug. 2011.
10	Introduction to Genetic Algorithm and its implementation using MATLAB	EEE Dept., National Engg. College, Kovilaptti	30 th Sep. 2011.
11	Intelligent Controller using Evolutionary Computation	EEE Dept., National Engg. College, Kovilaptti	28 th Oct. 2011.
12	Introduction to Genetic Algorithm and its application to Renewable Energy Systems	EEE Dept., National Engg. College, Kovilaptti	20 th Jan. 2012
13	Genetic Algorithm based design of SRM Controller	EEDRTP '12, EEE Dept., National Engg. College, Kovilaptti	14 th Sep. 2012
14	Introduction to Genetic Algorithm and Particle Swarm Optimization and its implementation using MATLAB	EEE Dept., National Engg. College, Kovilpatti	19 th & 20 th Oct. 2012
15	Genetic Algorithm based design of Nuclear reactor controller	CSE, National Engg. College, Kovilpatti	Oct 2012
16	Introduction to Genetic Algorithm	CSE (PG), National Engg. College, Kovilpatti	30 rd Nov. 2012
17	Introduction to Evolutionary Computation, Particle Swarm Optimization and Differential Evolution and their Engg. Applications	EEE Dept., University college of Engg., Panruti.	07 th Dec. 2012

18	Evolutionary Algorithm and its application to Non Destructive Testing	EIE, NEC	20.09.2013
19	Evolutionary Algorithm based Cost Minimization of Hybrid Power Generation System	Central Power Research Institute, Bangalore	11 th and 12 th October, 2013
	Optimization of Controllers in Hybrid Power Generation System		
20	Genetic Algorithm and its implementation using MATLAB and PSO	ISCT 2013	23 – 25 th October 2013
21	Control System Engineering	SCAD College of Engineering and Technology	4 th April, 2014
22	Introduction of PSO	ISCT 2014	25 th - 27 th August 2014
23	Workshop on MATLAB	St. Mary's College, Tuticorin	27 th September 2014
24	Overview of Evolutionary Algorithm	ADELCO-2015, National Engineering College, Kovilpatti	18.03.2015
25	Evolutionary Algorithm and its Application to Control System	Kamaraj College of Engineering and Technology, Virudhunagar	28.03.2015
26	Evolutionary Algorithm and its Application to Controller Tuning	Noorul Islam Center for Higher Education, Thucklay - ICSCS 2015	21.04.2015
27	Introduction to Genetic Algorithm and PSO	ISCT 2016	06/08/2016
28	Genetic Algorithm and its Applications	Francis Xavier Engineering College, Tirunelveli	17.02.2017
29	Introduction of PSO	ISCT 2019	25/01/2019

30	Application of Soft Computing Techniques in Electrical Engineering	University VOC college of Engineering, Anna University, Thoothukudi	15/03/2019
31	Introduction to MATLAB	St. Mary's College, Tuticorin	11/07/2019
32	Digital Image Processing using MATLAB	St. Mary's College, Tuticorin	18/09/2019
33	Particle Swarm Optimization, Differential Evolution and application of Evolutionary computation - Case studies	AICTE -STTP program at Syed Ammal Engg. College, Ramanathapuram	21/07/2020, 22/07/2020, 11/08/2020 and 12/08/2020
34	Outcome Based Teaching Learning Process	AICTE - ISTE INDUCTION / REFRESHER PROGRAM, Dept of CSE, KLN College of Engineering, Madurai	22/04/2021 and 13/05/2021
35	Soft computing-based optimization of predictive intelligence	ATAL FDP Online, Dept of CSE, NEC, Kovilpatti	14/07/2021
36	A Method of Writing Research Article and Successful Research Proposal - Online	Sri Sairam College of Engineering, Bengaluru	09/09/2023
37	An Art of Writing Research Article	Dept of AIML, Sri Sairam College of Engineering, Bengaluru	20/11/2025

3.4 Membership in Professional bodies:

Name of Society	Year of Induction	Grade of Membership
ISTE	2004	Life Member LM40872
System Society of India	2006	Life Member LM27010
Institute of Engineers (India)	Sep 2018 2020 2006	Fellow F-1244198 Chartered Engineer [India] -018980 Associate Member AM094268-8
Instrument Society of India	2006	Life Member LM1469
IEEE	2009 SM 2018	Member (Control system, Computational Intelligence Society, SMC society, Signal Processing Society) 90250500
Soft Computing Research Society	2017	Life Member 2017-07-01-455

3.5 Research Achievements :

3.5.1 Publications :

Journal publications :

International Journal Publications with Impact Factor

S.No	Authors	Title of the Paper	Name of the Journal	Vol.No & Page No.	Month & Year
1	PS Manoharan, PS Kannan, S Baskar, MW Iruthayarajan	Penalty parameter-less constraint handling scheme based evolutionary algorithm solutions to economic dispatch	IET Generation, Transmission and Distribution	vol.2, No.4, pp.478-490	2008
2	MW Iruthayarajan , S Baskar	Evolutionary algorithms based design of multivariable PID controller	Expert systems with Application	Vol.36, pp. 9159-9167	2009
3	PS Manoharan, PS Kannan, S Baskar, MW Iruthayarajan	Covariance matrix adapted evolution strategy algorithm based solutions to dynamic economic dispatch problems	Engineering Optimization	Vol. 41, No. 7, pp. 635-657	2009
4	PS Manoharan, PS Kannan, S Baskar, MW Iruthayarajan	Evolutionary algorithm solution and KKT based optimality verification to multi-area economic dispatch	Electric Power and Energy Systems	Vol. 31, No. 7-8 pp 365-373,	2009
5	MW Iruthayarajan , S Baskar	Covariance matrix adaptation evolution strategy based design of centralized PID controller	Expert Systems with Application	Vol. 37, pp. 5775-5781	2010
6	S Jeyadevi, S Baskar, CK Babulal, MW Iruthayarajan	Solving multiobjective optimal reactive power dispatch using modified NSGA-II	Electrical Power and Energy Systems	Vol.33, No.2, pp.219-228	2011
7	N Lakshminarasimman, S Baskar, A Alphones, M Willjuice Iruthayarajan	Evolutionary Multiobjective Optimization of Cellular Base Station Locations using Modified NSGA-II	Wireless Networks	Vol.17, No.3, 597-609	2011
8	S Jeyadevi, S Baskar, MW Iruthayarajan	Reactive power planning with voltage stability enhancement using covariance	European Transactions on Electrical Power	Vol. 21, No. 3, pp. 1343–1360	2011

		matrix adopted evolution strategy			
9	SZ Zhao, M Willjuice Iruthayarajan , S Baskar, PN Suganthan	Multi-objective Robust PID Controller Tuning using Two Lbests Multi-objective Particle Swarm Optimization	Information Sciences	Vol. 181, No. 16, 15, pp. 3323-3335	2011
10	N Lakshminarasimman, S Baskar, A Alphones, M Willjuice Iruthayarajan	Optimal placement of mobile antenna in an urban area using evolutionary multiobjective optimization	Microwave and Optical Technology Letters	Vol. 54, No. 3, 737-743	2012
11	R Karthik, TSR Raja, MW Iruthayarajan	Investigations of Furanic derivatives in Transformer Oil using UV absorption property	IET Electric Power Appl	Vol. 7, No. 2, 123-130	2013
12	N Lakshminarasimman, S Baskar, A Alphones, M Willjuice Iruthayarajan	Base Station Placement for Dynamic Traffic Load Using Evolutionary Algorithms	Wireless Personal Communications	Vol. 72, No. 1, pp. 671-691	2013
13	L Kalaivani, P Subburaj, MW Iruthayarajan	Speed control of switched reluctance motor with torque ripple reduction using non-dominated sorting genetic algorithm (NSGA-II)	International Journal of Electrical Power & Energy Systems	Vol. 53, pp. 69-77	2013
14	L Kalaivani, P Subburaj, MW Iruthayarajan	Artificial Intelligence based Control for Torque Ripple Minimization in Switched Reluctance Motor Drives	Journal of Acta Scientiarum Technology	Vol. 36, No. 1, pp. 33-40,	2014
15	RV Maheswari, P Subburaj, B Vigneshwaran, MW Iruthayarajan	Partial Discharge Signal Denoising using Adaptive Translation Invariant Wavelet Transform-Online Measurement	Journal of Electrical Engineering and Technology (JEET) I.F = 0.725	Vol.9, No.2: pp. 695-706	2014
16	S Manikandan, K Ramar, MW Iruthayarajan , KG Srinivasagan	Multilevel Thresholding for Segmentation of Medical Brain Images using Real Coded Genetic Algorithm	Internal Journal of Measurements	Vol. 47, pp. 558 - 568	2014

17	RV Maheswari, P Subburaj, B Vigneshwaran, MW Iruthayarajan	Support Vector Machine Based Denoising Technique for Removal of White Noise in Partial Discharge Signal	Electric Power Components and Systems	Vol.42, No.14. pp. 1611-1622	2014
18	N. Murugan, B Vigneshwaran, G.Kannayeram, RV Maheswari, MW Iruthayarajan	Analysis of Stress Control on 33kV Non- Ceramic Insulators using FEM	Electric Power Components and Systems	Vol. 43, No. 5, pp. 566- 577	2015
19	G. Saravanakumar, K. Valarmathi, M. Pallikonda rajasekaran, Seshadhri Srinivasan, M. Willjuice Iruthayarajan, Valentina E. Balas	Tuning of Multivariable Decentralized PID Controller using State Transition Algorithm	Studies in Informatics and Control	Vol. 24, No. 4, pp. 367 - 378	2015
20	S Senthil Kumar, MW Iruthayarajan, M Bakruthen	Investigations on the suitability of rice bran oil and corn oil as alternative insulating liquids for transformers	IEEJ Transactions on Electrical and Electronic Engineering	Vol.11, No. 1, pp. 10-14	2016
21	S Senthil Kumar, MW Iruthayarajan, M Bakruthen, SG Kannan	Effect of Antioxidants on Critical Properties of Natural Esters for Liquid Insulations	IEEE Transactions on Dielectrics and Electrical Insulation	Vol. 23, No. 4, pp. 2068- 2078	2016
22	RT Arun Ram Prasath, M. Willjuice Iruthayarajan, R. Karthik	Retreatment of aged mineral oil using semiconductive nanocomposites for power transformer application	International Transactions on Electrical Energy Systems	Vol. 27, No.9 :e2358, https://doi.org/10.1002/etep.2358	2017
23	T Piraisoodi, MW Iruthayarajan, KMA Kadhar	An Optimized Nonlinear Controller Design for Boiler- Turbine System Using Evolutionary Algorithms	IETE Journal of research	Vol.64, No.4, pp. 451-462 http://dx.doi.org/10.1080/03772063.2017.1360805	2018
24	T Piraisoodi, MW Iruthayarajan, KMA Kadhar	Application of Single- and Multi-Objective Evolutionary Algorithms for Optimal Nonlinear Controller Design in	International Journal of Fuzzy Systems	Vol 20, No.3, pp 803–816	March 2018

		Boiler–Turbine System			
25	R Muniraj, M Willjuice Iruthayarajan , R Arun	Tuning of Robust PID Controller with Filter for SISO System Using Evolutionary Algorithms	Studies in Informatics and Control	vol. 26, No. 3, pp. 277-286	2017
26	RT Arun Ram Prasath, M. Willjuice Iruthayarajan , R. Karthik	Performance Studies on Dielectric and Physical Properties of Eco-friendly based Natural Ester Oils using Semiconductive Nanocomposites for Power Transformer Application	IET Science, Measurement and Technology	Vol. 12, No. 3, pp. 323 – 327 DOI: 10.1049/iet-smt.2017.0467	2018
27	Bakruthen M, Willjuice Iruthayarajan M , Narayani A	Influence of Ultrasonic Waves on Viscosity of Edible Natural Esters Based Liquid Insulation	IEEE Transactions on Dielectrics and Electrical Insulation	Vol. 25, No.5, pp. 1628-1635	2018
28	Bakruthen M, Willjuice Iruthayarajan M , Narayani A	Statistical Failure Reliability Analysis on Edible and Non Edible Natural Esters Based Liquid Insulation for the Applications in High Voltage Transformers	IEEE Transactions on Dielectrics and Electrical Insulation	Vol. 25, No.5, pp. 1579-1586	2018
29	Nafeena, R., Willjuice Iruthayarajan, M.	Redundant Placement of Phasor Measurement Unit using Multi Objective Evolutionary Algorithms Based on Modified Spectral Clustering	Cluster Computing	Vol. 22, pp. 12713–12725. https://doi.org/10.1007/s10586-018-1746-6	2019
30	J. Sivadasan, M. Willjuice Iruthayarajan	Tuning of Nonlinear PID Controller for TRMS Using Evolutionary Computation Methods	Technical Gazette	VOL.25, No. Supplement 1, pp.105-111 10.17559/TV-20170612090511	2018
31	Madavan, R., Kumar, S.S., Willjuice Iruthayarajan, M.	A comparative investigation on effects of nanoparticles on characteristics of natural esters-based nanofluids	Colloids and Surfaces A: Physicochemical and Engineering Aspects	Vol. 556, pp. 30-36	2018

32	Vigneshwaran, B. , MW Iruthayarajan, RV Maheswari,	Recognition of Multiple Partial Discharge patterns by Multi-class SVM using Fractal Image processing technique	IET Science, Measurement and Technology	Vol. 12, No.8, pp. 1031-1038	2018
33	T Piraisoodi, MW Iruthayarajan, KMA Kadhar	Multi-Objective Robust Fuzzy Fractional Order PID Controller Design for Nonlinear Hydraulic Turbine Governing System Using Evolutionary Computation Techniques	Expert Systems	Vol. 36, No.2, e12366	2019
34	S. Ajithapriyadarsini P. Melba Mary M. Willjuice Iruthayarajan	Automatic generation control of a multi-area power system with renewable energy source under deregulated environment: adaptive fuzzy logic-based differential evolution (DE) algorithm	Soft Computing	Vol. 23, No.22. pp. 12087–12101	2019
35	R. Muniraj, M. Willjuice Iruthayarajan, R. Arun, T.Sivakumar	Parameter Optimization of Multi Objective Robust Proportional Integral Derivative Controller with Filter using Multi Objective Evolutionary Algorithms	Revue Roumaine des Sciences Techniques	Vol. 64, 3, pp. 259–265	2019
36	Vigneshwaran, B. , M Willjuice Iruthayarajan, RV Maheswari,	Partial discharge pattern analysis using multi class support vector machine to estimate cavity size and position in solid insulation	Soft Computing	Vol.24, pp. 10645–10656 https://doi.org/10.1007/s00500-019-04570-7	2020
37	Rajamani.M.P.E, Willjuice Iruthayarajan.M and Sankara Kumar.S	Design of NSGA Based Controller for Boost Converter	Sylwan	Vol. 163, No. 12, pp. 386-408	2019
38	Rajamani.M.P.E, Willjuice Iruthayarajan.M and Sankara Kumar.S	Design of NSGA Based Controller for Non-Inverting Buck-Boost Converter	Sylwan	Vol. 163, No. 12, pp. 409-432	2019

39	Sankara Kumar.S, Willjuice Iruthayarajan.M and T.Sivakumar	Evolutionary Algorithm based Selective Harmonic Elimination for three phase Cascaded H- Bridge Multilevel Inverter with Optimized Input Sources	Journal of Power Electronics	Vol. 20, pp.1172–1183 https://doi.org/10.1007/s43236-020-00112-9	2020
40	Arun, R., Muniraj, R., Willjuice Iruthayarajan, M.	A New Controller Design Method for Single Loop Internal Model Control Systems	Studies in Informatics and Control	Vol. 29, No. 2, pp. 219 – 229 https://doi.org/10.24846/v29i2y202007	2020
41	Bakruthen M, Willjuice Iruthayarajan M	Impact of Ultrasonic Treatment Process on Pour Point of Vegetable Oils based Liquid Insulation	Ultrasonics Sonochemistr y	Vol. 71, 105380 https://doi.org/10.1016/j.ultrasonch.2020.105380	2021
42	Bakruthen M, Willjuice Iruthayarajan M, Ramachandran, E	Experimental Studies on the Influence of Benzyl Benzoate on Viscosity of Vegetable Oil based Insulating Liquids for Power Transformer	IET Science, Measurement and Technology	Vol. 15, No. 6, pp. 527- 534. https://doi.org/10.1049/smt2.12053	2021
43	Ajmal Ahamed, S., Mohamed Riyaz, S., Mahadevan, A., Bakruthen, M., Willjuice Iruthayarajan, M.	Impact of Moisture on AC Breakdown Voltage of Crude, Refined and Transesterified Groundnut Oil-based Liquid Insulations	Arabian Journal for Science and Engineering	Vol. 46, pp. 9763-9770 https://doi.org/10.1007/s13369-021-05543-5	2021
44	Rajamani, M.P.E., Rajesh, R., Willjuice Iruthayarajan, M.	Design and Experimental Validation of PID Controller for Buck Converter: A Multi- Objective Evolutionary Algorithms Based Approach	IETE Journal of Research	Vol. 69, No. 1, pp. 21-32 https://doi.org/10.1080/03772063.2021.1905564	2023
45	Arun, R., Muniraj, R., Willjuice Iruthayarajan, M., Prabhu, SR., Jarin, T.	Unified design method of time delayed PI controller for first order plus dead-time process models with different dead-time to time constant ratio	Archives of Control Sciences	Vol. 31, No. 2, pp. 447- 476 DOI: 10.24425/acs. 2021.137427	2021

46	Ajitha Priyadarsini Sobhanam, Paulraj Melba Mary, Willjuice Iruthayarajan Mariasiluvairaj and Rajeev Davy Wilson	Automatic Generation Control Using an Improved Artificial Electric Field in Multi-Area Power System	IETE Journal of Research	Vol. 69, No. 7, pp. 4813-4825 https://doi.org/10.1080/03772063.2021.1958076	2023
47	Arun, R., Muniraj, R., and Willjuice Iruthayarajan, M.	Performance Analysis of Proportional Integral Derivative Controller with Delayed External Reset and Proportional Integral Derivative Controller for Time Delay Process	Revue Roumaine Des Sciences Techniques	Vol. 66, No. 4, pp. 267-273 https://journal.iem.pub.ro/rst-ee/article/view/48	2021
48	Vigneshwaran, B., Willjuice Iruthayarajan, M. , Maheswari, R. V.	Recognition of shed damage on 11-KV Meter Ploymer Insulator Using Bayesian Optimized Convolution Neural Network	Soft Computing	Vol. 26, No. 14, 6857-6869. https://doi.org/10.1007/s00500-021-06629-w	2022
49	Vigneshwaran, B., Willjuice Iruthayarajan, M. , Maheswari, R. V.	Enhanced particle swarm optimization-based convolution neural network hyperparameters tuning for transformer failure diagnosis under complex data sources	Electrical Engineering	Vol. 104, No. 4, 2621-2636. https://doi.org/10.1007/s00202-022-01501-y	2022
50	Rajamani, M.P.E., Rajesh, R., Willjuice Iruthayarajan, M.	A PID Control Scheme with Enhanced Non-Dominated Sorting Genetic Algorithm Applied to a Non-inverting Buck-Boost Converter	Sadhana	Vol. 47, No. 4, pp. 222 https://doi.org/10.1007/s12046-022-02012-z	2022
51	Karthik Kumar, K, Willjuice Iruthayarajan, M. , Kamaraja, AS	Investigation of a solar incorporated improved quasi-Y-source DC-DC step-up converter connected with phase-shifted converter in electric vehicle battery charging	Electrical Engineering	Vol. 105, pp. 3647-3667 https://doi.org/10.1007/s00202-023-01909-0	2023

52	Karthik Kumar, K, Willjuice Iruthayarajan, M, Kamaraja, AS	Efficiency and dynamic characteristics of improved dual-stage power converter setup with advanced model predictive controller for electric vehicle battery charging	International Journal of Circuit Theory and Applications	Vol. 51, No. 12, pp. 5743-5775 https://doi.org/10.1002/cta.3736	2023
53	Arun, R., Muniraj, R., Boselin Prabhu, SR., Jarin, T., Willjuice Iruthayarajan, M.	Design of robust multi-loop PI controller for improved disturbance rejection with constraint on minimum singular value	Archives of Control Sciences	Vol. 33, No. 4, pp. 839-859. DOI: 10.24425/acs.2023.148884	2023
54	Sankara Kumar, S., Willjuice Iruthayarajan, M., Saravanan, R.	Hybrid technique for optimizing charging-discharging behaviour of EVs and demand response for cost-effective PV microgrid system	Journal of Energy Storage	Vol. 96, 112667 https://doi.org/10.1016/j.est.2024.112667	2024
55	Sivapalanirajan M, Willjuice Iruthayarajan M and Vigneshwarn B	Improved robot localization and mapping using adaptive tuna schooling optimization with sensor fusion techniques	Journal of Field Robotics	Vol. 42, No. 7, pp. 3795-3811 https://doi.org/10.1002/rob.22598	2025
56	Karthik Kumar, K, Willjuice Iruthayarajan, M, Kamaraja, AS	Optimizing Electric Vehicle Chargers for Improved Power Quality: A Novel NSTWCIPFC Converter Approach	Journal of the Chinese Institute of Engineers	Vol. 48, No. 8, pp.1335-1349 https://doi.org/10.1080/02533839.2025.2517808	2025
57	Arun Ramaveerapathiran , R Muniraj, T Jarin, SR Boselin Prabhu, M Willjuice Iruthayarajan	Evaluation of a robust PID dead-time compensation controller based on the evolutionary computation method	Automatika	Vol. 66, No. 4, pp. 32-46	2025

International Journal Publications (Non-Impact Factor –Scopus/ Scholar indexed)

S.No		Title of the Paper	Name of the Journal	Vol. No & Page No.	Month & Year
1	Sivadasan, J, Willjuice Iruthayarajan, M,	Design of Cross-Coupled Nonlinear PID	Mathematical Problems in Engineering	Vol. 2023, Article ID 7820047,	2023

	Albert Alexander Stonier, Raymon, A	Controller Using Single-Objective Evolutionary Algorithms			
2	C Rethish Kumar, M Willjuice Iruthayarajan , M Bakrutheen	Characteristics of Natural Ester Oil Exposed with Ultrasonic Sound Waves	International Journal of Recent Technology and Engineering	Vol. 9, No.1, pp. 73 - 76	2020
3	M.Vavuniya, R.Santhiya, A.M.Kirthika, T.SalomiyaPaulin, M.Sivapalanirajan, M.Willjuice Iruthayarajan	Trajectory Tracking Of Wheeled Mobile Robot: Model-Based Test And Validation Using QBOT	International Journal of Scientific & Technology Research	Vol.9, No. 4, pp. 2999 - 3004	2020
4	D. Abarna, B. Vigneshwaran, M. Willjuice Iruthayarajan ,R.V. Maheswari	Influence The Effect Of Cavity Size And Position In High Voltage Cable By Using Finite Element Method	International Journal of Scientific & Technology Research	Vol.9. No. 2, pp. 2706 - 2710	2020
5	K. Chermajeya, P. Eswari Prabha, V. Iswarya, B. Vigneswaran, M. Willjuice Iruthayarajan	Influence of Electric Field Distribution on 33kV Non-ceramic Insulator with Different Shed Configurations using 3D Finite Element Method	International Journal of Recent Technology and Engineering	Vol. 8, No. 4, pp. 11404-11409	2019
6	Sankarakumar S, M.Willjuice Iruthayarajan , T.Sivakumar	Performance Estimation Of Chaos Embedded Gravitational Search Algorithm For Power Converter Applications	Journal of Electrical Engineering	Vol. 19, No. 4, pp. 202- 211	2019
7	S, Arun Sankar, M. Willjuice Iruthayarajan	Design and performance analysis of a Maximum Power Point Tracking using Sliding Mode Controller for harvesting Photo Voltaic Power	Journal of Electrical Engineering	Vol. 19, No. 3, pp. 328-337	2019

8	Kannayeram, G., Manoharan, P.S., Willjuice Iruthayarajan, M. , Sivakumar, T	Tuning of unified power flow controller (UPFC) using PSO and NSGA-II investigations	Journal of Electrical Engineering	Vol.18, no. 2. Pp. 488-495	2018
9	Kannayeram, G., Manoharan, P.S., Willjuice Iruthayarajan, M. , Sivakumar, T	UPFC damping controller design using multi-objective evolutionary algorithms	International Journal of Business Intelligence and Data Mining	Vol. 13, No. 1-3, pp. 52–74.	2018
10	S Senthil Kumar, MW Iruthayarajan, M Bakruthen	Performance of activated bentonite and carbon in reclaiming the properties of used mineral oil	Journal of Electrical Engineering	Vol.17, No.3, pp.407-414	2017
11	MPE Rajamani, P Subburaj, MW Iruthayarajan, B Venkatasamy	Low Cost and High Efficiency Buck-Boost Converter for Photovoltaic Applications	Asian Journal of Research in Social Sciences and Humanities	Vol.7, No. 3, pp. 1087-1100	2017
12	Priyadarsini, S.A., Melba Mary, P., Iruthayarajan, M.W	Automatic Generation Control in Deregulated Power System Using Genetic Algorithm Optimized Fuzzy Controller	Applied Mathematics & Information Sciences	Vol. 11, No. 2, pp.478-487	2017
13	Saravanakumar, G., Valarmathi, K., Iruthayarajan, M.W. , Srinivasan, S.	Lagrangian-based state transition algorithm for tuning multivariable decentralised controller	International Journal of Advanced Intelligence Paradigms	Vol. 8, No. 3, pp. 303-317	2016
14	Nafeena, R., Willjuice Iruthayarajan, M. ,	Redundant Location of PMU for Complete Observability and Wide Area Monitoring of Power System using Real Coded Genetic Algorithm	Asian Journal of Research in Social Sciences and Humanities	Vol. 6, No. 11, 1131-1145	2016

15	Karthik, M., Willjuice Iruthayarajan, M., Bakruthen, M.	Suitability analysis of natural esters based liquid insulating medium for high voltage transformers	International Journal of Applied Engineering Research	Vol. 10, No. 20, pp. 15331- 15335	2015
16	Nafeena, R., Willjuice Iruthayarajan, M., Manikandan, K	Generator coherency based optimal placement of PMU using mixed integer linear programming	International Journal of Applied Engineering Research	Vol. 10, No. 55, pp.3060- 3066	2015

National Journal Publications: NA

International Conference Publications

S.No	Title of the Paper	Name of the Conference	Organizer	Month & Year
1	Optimization of PID parameters using Genegetic Algorithm and Particle Swarm Optimization	ICTES 07	Dr MGR University, Chennai.	December 20-22, 2007
2	Multiobjective Mobile Antenna Location Identification using Evolutionary Optimization Algorithm	ICCCNT 10	Chettinad college of Engineering and Technology, Karur.	July 29-31, 2010.
3	Covariance Matrix Adapted Evolutionary Strategy Based Design of Robust Optimal Fixed Structure Controller	ICCCNT 10	Chettinad college of Engineering and Technology, Karur.	July 29-31, 2010.
4	Wiener-Hammerstein systems modeling with dead zone	ICIRET 2010	Coimbatore Institute of Information Technology	August 12-14, 2010.
5	Multi-objective Robust PID Controller Tuning using Multi-objective Differential Evolution	ICARCV 2010	NTU, Singapore	December 7-10, 2010
6	Covariance matrix adaptation evolution strategy based design H_2 and H_∞ PID controller	SEMCCO'10	SRM university	Dec 16-18, 2010
7	Tracking Trajectory Using Iterative Learning Control	PACC, 2011	GCT, Coimbatore	20-22 July 2011
8	Optimal Design of High Voltage Bushing using Evolutionary Algorithm		Appolo Engineering College ,Chennai	2012

9	Partial Discharge Modeling based on Cavities of different shapes within Solid Dielectrics		J.K.K. Nattraja College of Engg. & Tech, Namakkal	2012
10	Interpretation of Dissolved Gas Analysis in Transformer Oil using Fuzzy Logic System		PSNA	2013
11	A Novel Technique for Optimal Placement OF PMU with Measurement Redundancy and Reliability		PSNA	2013
12	Evaluation and Prediction of Contamination Level in Coastal Region Insulators Based on Leakage Current Characteristics		Dept. of EEE, NICE	2013
13	Contour optimization of suspension insulators using real coded genetic algorithm with simulated binary crossover	Pattern Recognition, Informatics and Medical Engineering (PRIME)	Periyar University, Salem	2013
14	Investigation of critical parameters of mixed insulating fluid with antioxidants	ICCPCT'14	NI University	2014
15	Investigations on Critical Properties of Blended Edible Natural Esters based Insulating Oil	ICCPCT-2014	NI University	2014
16	Employing Mathematical Morphology Filters for De-noising partial discharge Signals	ICCPCT, 2014	NI University	2014
17	Enhancement of critical properties of pure and aged transformer oil using nanocomposites	ICCPCT, 2014	NI University	2014
18	Analysis of vegetable liquid insulating medium for applications in high voltage transformers	ICSEMR'14	Veltech MultiTech Chennai.	2014
19	Investigation of vegetable oil blended with anti-oxidants	ICECCT'15	SVS College of Engg, Coimbatore	2015
20	Suitability analysis of natural esters based liquid insulating medium for high voltage transformers	ICIECS'15	Karpagam College of Engineering, Coimbatore	2015
21	Studies on critical properties of vegetable oil based insulating fluids	INDICON'15	IIT, Delhi	2015
22	Performance of natural high oleic ester based blended oil insulation for transformer	ISCO'16	Karpagam College of Engineering, Coimbatore	2016
23	Electric Field Analysis of 11kv Socket End Fitting Composite Insulator	ISCO'16	Karpagam College of Engineering, Coimbatore	2016
24	Investigation on the properties of Natural Esters Blended with Mineral Oil and Pyrolysis Oil as	ICIEES'17	PSG College of Technology, Coimbatore-Intelligent and	2017

	Liquid Insulation for High Voltage Transformer		Efficient Electrical Systems pp 187-196 (LNEE, volume 446) -	
25	A statistical study on the AC breakdown voltage of corn oil and mineral oil for liquid insulation	AEEICB, 2017	Prathyusha Engineering College, Chennai	2017
26	Tuning of Robust PID controller with filter for PLL system using HCLPSO algorithm	ICCISC- 2017	Vignana Bharathi Institute of Technology, Hyderabad	2017
27	Mathematical Modeling and control of QNET Rotary inverted pendulum in MATLAB and real time implementation in LabVIEW using ELVIS	ICICCT 2018	Hotel Arcadia, Coimbatore	2018
28	Analysis of Groundnut based Bio modified Liquid Insulation for High Voltage Transformer	ICISS - 2019	SCAD Institute of Technology, Coimbatore	2019
29	Aging performance of Natural Ester Impregnated Nomex Paper Insulation	ICEES - 2019	SSN College of Engineering, Chennai	2019
30	Choatic GSA based Design of Multivariable Centralised Fractional – Order PID Controller for TRMS	IEEE GCAT- 2019	Nagarjuna College of Engineering & Technology, Bangalore.	2019
31	Tuning of MIMO PID controller Using HCLPSO Algorithm	ICPERES 2021	SRM Institute of Science & Technology, Chennai	2021
32	A Survey on various Electric vehicle batteries – Battery power management and performance monitoring system	ICAIS 2022	JCT college of Engineering and Technology, Coimbatore.	2022
33	Dynamic target tracking of wheeled mobile robots and analysis of controller with various orientation	ICAIS 2022	JCT college of Engineering and Technology, Coimbatore.	2022
34	Design of Earthing Grid using ETAP	ICOEI 2022	SCAD College of Engineering and Technology, Tirunelveli	2022
35	Accelerometer Based Hand Gesture Recognition and Control of Motor Powered Trolley	ICETET-SIP-22	G H Raison College of Engineering, Nagpur	2022
36	Machine Learning-based Short Term Wind Speed Prediction of Aeroelastic Model	ICCES 2022	PPG Institute of Technology, Coimbatore	2022

37	Design and Implementation of a Solar Energy-Supported Standalone Electric Vehicle Charging Point/Panel using MVO Optimization	ICCES 2022	PPG Institute of Technology, Coimbatore	2022
38	An Automatic Solar Panel Performance Monitoring System and Load Control using IoT Technique	ICSSIT 2023	Francis Xavier Engineering College, Tirunelveli.	2023
39	Exploiting Reliable Power from Independent PV-Battery Systems by Combining Improved INC with Power Management Circuitry	ICAIS 2023	JCT College of Engineering and Technology, Coimbatore	2023
49	Gyroscopic Control of Tank bot with Obstacle Avoidance and Performance Comparison in Different Terrains	2024 10th International Conference on Advanced Computing and Communication Systems (ICACCS)	Sri Eshwar College of Engineering, Coimbatore	2024

National Conference Publications

S.No	Title of the Paper	Name of the Conference	Organizer	Month & Year
1	Auto tuning of PID controller based on Bode's Integral	RAIN 05	NICE, Kumaracoil	March 17 th -18 th , 2005.
2	On-line Modelling of Hammerstein Systems with Discontinuous Nonlinearities	PCID 2010	Bannari Amman Institute of Tech, Erode	
3	Evolutionary Algorithm based Robust Optimal PID Controller Design	PCID 2010	Bannari Amman Institute of Tech, Erode	
4	Evaluation of Risk Factors on EHV and UHV Network Based on location of Surge Arresters	RTPM'11		2011
5	Field Analysis of High Voltage Bushing Using FEM	NCEIS'12	Govt. College of Tech., Coimbatore	22 nd March, 2012
6	Analysis of field in High Voltage electrode contour line		Einstein College of Engineering	24 & 25 Feb, 2012.
7	Design of Power System Stabilizers and Static Var Compensator using Evolutionary Algorithms		Dept Of CSE, Agni College of Technology, Chennai	15 th March 2013
8	A Novel Extension Method To Identify Power		Kamaraj College Of Engineering &	March 2013

	Transformer Faults Using Fuzzy Logic System		Technology, Virudhunagar	
9	Analysis of Thermal Deterioration and Decomposition of Oil Impregnated NomexA Paper	NPERSC-2018	Indian Institute of Technology Madras, Chennai	24/02/2018

Sponsored Projects:

S.No	Project Investigators	Sponsoring Organisation	Title	Amount (Rs)	Year Of Sanction	Duration
1.	Dr. M. Willjuice Iruthayarajan Mr. J. Sivadasan	AICTE (RPS)	Tuning of Nonlinear PID Controllers for TRMS using Evolutionary Algorithms	9.75 Lakhs	2013	3 Years
2	Dr. M. Willjuice Iruthayarajan ME. Student: R.T.Arun Ram Prasath	IE(I)	Investigation on electrical and physical properties of transformer oil and natural ester oil using nanocomposites	35,000	2013	1 year
3	Project Mentors: Dr. M. Willjuice Iruthayarajan, Dr. N.B. Prakash, Dr. B. Vigneshwaran Student Members: Gomathi Arasu A, Selvakumar A, Ganesh Kumar M, Naveen Kumar P	NewGen IEDC	Electro Cardiogram Based Human Authentication (ECG-HA)	2,50,000	2019-2020	1 Year
4	Dr. M. Willjuice Iruthayarajan Dr. MPE. Rajamani BE. Student: Pon Saravana Kumar	IE(I)	Real-Time Implementation of Fractional Order PID Controller for Quadratic Boost Converter in Electric Bicycle using Evolutionary computation	23,000	2022-2023	1 Year

5	Dr. M. Willjuice Iruthayarajan Dr. B. Vigneshwaran, Mr. M. Sivapalanirajan	ISRO - RESPOND	Denosing Algorithms for Noise reduction in MEMS Sensor	18, 90, 960	2023-2025	2 Years
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3.5.3 Research Guidance :

Recognized Supervisor	: Anna University Ref. No. 1730288.
Scholars Completed	: 9 (As Supervisor) 1 (As Joint Supervisor)
Scholars' submitted thesis/Synopsis if any	: Nil
Scholars pursuing	: 03

Ph.D. Thesis Details

As a Joint Supervisor

- **Dr. Ajitha Priyadarsini S.** “*Investigation and Analysis of Soft Computing based Intelligent Controllers for Load Frequency Control in Deregulated Power System*”. **December 2017.**

As a Supervisor

- **Dr. Senthil Kumar S.** “*Investigation on Natural Ester based Alternative Liquid Insulation for Power Transformer*”. **April 2018.**
- **Dr. Piraisoodi T.** “*Design of Controllers for Critical Processes in Thermal and Hydro Power Plants using Evolutionary Computation Techniques*”. **July 2018.**
- **Dr. Muniraj R.** “*Tuning of Multi Objective Robust PID controller using Evolutionary Computation Techniques*”. **April 2019.**
- **Dr. Arunsankar S.** “*Investigations on Performance of Converters for Photovoltaic Energy Harvesting System*”. **September 2019**
- **Dr. Nafeena R.** “*Evolutionary Computation based Optimal Placement of Phasor Measurement Unit for Observability and Islanding Issues and Stability Studies for Smart Grid*”. **October 2019.**
- **Dr. Vigneshwaran B.** “*Measurement and Recognition of Single and Multiple Partial Discharge Pattern using Artificial Intelligence Techniques*”. **December 2019.**
- **Dr. Sankarakumar S.** “*Harmonic Elimination in Multilevel Inverters using Evolutionary Computation Techniques*”. **January 2020.**
- **Dr. Sivadasan J.** “*Evolutionary Computation based Tuning of Nonlinear PID controller for Twin Rotor MIMO System*”. **June 2020.**
- **Dr. Bakruthen M.** “*Investigation on Edible and Non Edible Natural Esters as Liquid Insulation for Power Transformers*”. **June 2020.**
- **Dr. Karthik Kumar K.** “*Development and Analysis of High Efficiency Dual Stage Power Converters for Solar Photovoltaic Based Electric Vehicle Battery Charging Systems*”. **September 2025.**

3.5.4 Conference attended – Session Chair:

- ❖ Co-chair in SEISCON' 2011 at MGR University, Chennai, July 2011.
- ❖ Co-chair in EIE Dept., KLNCE, Madurai.

3.6 Countries visited : India

3.7 International Research Collaborations:

Research Papers published with the following Professors

- Dr. P.N. Suganthan, Asso. Prof., Dept of EEE, Nanyang Technological University, Singapore
- Dr. A. Alphones, Asso. Prof. School of EEE, Nanyang Technological University, Singapore
- Valentina E. BALAS, Professor of Automation and Applied Informatics, Aurel Vlaicu University of Arad, ROMANIA.

3.8 Additional Responsibilities held

- **IEEE Student Branch Counselor, IEEE Student Branch, NEC. (July 2010 to Dec 2013)**
- **Secretary, IEEE Computational Intelligence Society, IEEE Madras Section, Chennai. (Jan 2015 to Dec 2022)**
- **Reviewer of the following International Journals:**
 - ❖ International Journal of Electrical Power and Energy Systems – Elsevier
 - ❖ Swarm and Evolutionary Computation – Elsevier
 - ❖ IEEE Systems Journal
 - ❖ IEEE Systems, Man, and Cybernetics--Part B: Cybernetics
 - ❖ Chemical Engineering Communications – Taylor & Francis
 - ❖ Electric Power Components and Systems – Taylor & Francis
 - ❖ Control and Intelligent Systems - ACTA Press.
 - ❖ Asia – Pacific Journal of Chemical Engineering – Wiley
 - ❖ Heliyon – Elsevier
 - ❖ IET Networks
 - ❖ Soft Computing