

National Institute of Technology, Tiruchirappalli:

Performa for CV of Faculty/ Staff Members

Curriculum Vitae



Prof. S Arul Daniel had served the Institute as Dean(academic) and had contributed immensely in implementing the flexible curriculum during his tenure. He had also served as Head of the Departments of Electrical and Electronics Engineering for three years and also Instrumentation and Control Engineering for a brief period. He is currently Professor(Higher Administrative Grade) in the Department of Electrical and Electronics Engineering of the Institute. During the last three decades of his service, he had tested various integrated renewable energy systems and had reported his findings in a number of high impact journals. His current research interests are micro-grids, smart-grids and virtual power plants. He was an academic council member of the Anna University, Kalasilingam University, Bishop Heber College, Tiruchirappalli.

1. Name : **S Arul Daniel**
2. Designation: Professor (Higher Administrative Grade)
3. Office Address: Department of Electrical and Electronics Engineering
4. Telephone :0431-2503256
Mobile:
5. Email (Primary):daniel@nitt.edu Email (Secondary) :saruldaniel@gmail.com
6. Field(s) of Specialization: Power Systems
7. Employment Profile

Job Title	Employer	From	To
Lecturer	REC, Trichy	05-09-1994	04-09-1999
Senior Lecturer	NIT, Trichy	05-09-1999	04-09-2004
Assistant Professor	NIT, Trichy	05-09-2004	04-09-2007
Associate Professor	NIT, Trichy	05-09-2007	04-09-2010
Professor	NIT, Trichy	05-09-2010	28-04-2019
Professor(HAG)	NIT, Trichy	29-04-2019	Till date

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

Examination	Board / University	Year	Division/ Grade	Subjects
PhD	RECT/BDU, Trichy	2003		Power Systems
ME	RECT/BDU, Trichy	1991	I	Power Systems

National Institute of Technology, Tiruchirappalli: Performa for CV of Faculty/ Staff Members

BE	GCT/BU, Coimbatore	1988	I	ECE
HSC	Board of Higher Secondary Edu., Chennai	1984	I	Maths, Physics, Chemistry
SSLC	Board of Secondary Edu., Chennai	1982	I	Maths, Sci, History & Geography

9. Academic/Administrative Responsibilities within the University

Position	Department/Institution	From	To
Dean (Academic)	NIT, Trichy	20 th Jan.2014	18 th Jan.2017
Head of the Dept.	Instrumentation and Control Engg. NIT, Trichy	26 th Nov. 2012	21 st May 2013
Head of the Dept.	Electrical and Electronics Engg. NIT, Trichy	2 nd Jan.2009	30 th Jan. 2012

10. Academic/Administrative Responsibilities outside the University

Position	Institution	From	To
Academic council member	Anna University, Chennai	15 th July 2017	14 th July 2020
Academic council member	Kalasilingam university		
Academic council member	Bishop Heber College, Tiruchirappalli		
BoS Member	TCE, Madurai, Annamalai University and few autonomous colleges of Anna University		

11. Awards, Associateships etc.

Year of Award	Name of the Award	Awarding Organization
2014	Golden Jubilee Distinguished Alumni Award	NIT, Tiruchirappalli and RECAL
1982	Merit Certificate for state rank in SSLC	Education Department, Govt. of Tamil Nadu

12. Fellowships

Year of Award	Name of the Fellowship	Awarding Organization	From (Month/Year)	To (Month/Year)
1997	British Council Study Fellow	Ministry of HRD, India	Jan. 1997	June 1997

National Institute of Technology, Tiruchirappalli: Performa for CV of Faculty/ Staff Members

13. Details of Academic Work

- (i) Curriculum Development : Introduced (a) Networks and Linear Systems (b) Design thinking at B.Tech. level & (a) Electrical Distribution Systems (b) Renewable power generation technolgiers at the M.Tech. level.
- (ii) Courses taught at Postgraduate and Undergraduate levels
 B.Tech : (a) Circuit theory (b) Networks and Linear systems (c) Transmission and distribution of electric energy (d) Power system analysis (c) Computer Architecture (d) Linear integrated circuits (e) control systems (f) instrumentation systems (g) circuits and devices laboratory (h) electronics laboratory (i) ac and dc machines laboratories (j)instrumentation and control laboratory (h) microprocessors and micro-controller laboratory (i) power electronics laboratory
 M.Tech. : (a) Power System Operation and Control (b) Electrical Distribution Systems (c) Power System Stability (d) Smart Grid technologies (e) Power system planning and reliability (f)Renewable power generation technologies
- (iii) Projects guided at Postgraduate level: More than 60
- (iv) Other contribution(s): Had been in Department Project Evaluation Committee (DPEC) since its inception.

14. Details of Major R&D Projects

Title of Project	Funding Agency	Duration		Status
		From	To	Ongoing/ Completed
Control of a hybrid wind-driven induction generator and PV array distributed generator for the isolated and grid-connected operations	MHRD	2004	2006	Completed
Performance testing of STP at Madurai	Madurai Corporation	2009	2010	Completed
Testing of High Energy batteries	High Energy battery	2001		Completed
Installing PV plant in Tiruchirappalli Airport	Airport Authority of India	1999		Completed

15. Number of PhDs guided

Name of the PhD Scholar	Title of PhD Thesis	Role (Supervisor/ Co-Supervisor)	Year of Award
Dr. (Smt.) M. Arutchelvi	<i>Autonomous and Non-Autonomous Operation strategies for hybrid Wind-PV Dispersed generators using Power Electronic Controllers</i>	Supervisor	2007
Dr. H. Habibullah Sait	<i>Control strategies for inverters integrated to the utility network and fed from renewable sources</i>	Supervisor	2010

**National Institute of Technology, Tiruchirappalli:
Performa for CV of Faculty/ Staff Members**

Dr. (Ms.) M.Venkatakirthiga	<i>Studies on development and operation of a sustainable autonomous micro-grid (2014)</i>	Supervisor	2014
Dr.(Smt.) K. Padmavathy	<i>Certain investigations on autonomous and grid-connected solar PV systems</i>	Supervisor	2015
Dr. M.M.Rajan Singaravel	<i>Sizing of storage and investigations on power electronic interfaces for hybrid Wind-PV energy conversion systems</i>	Supervisor	2015
Dr. (Smt.) S. Maheshwari	<i>Studies on the employment of roof-top PV systems in rural households of India</i>	Supervisor	2018
Dr. P. Muthuvel	<i>Sizing and design of PV based DC nano-grids for rural households</i>	Supervisor	2018
Dr. K. Ramakrishna	<i>Techno-Economic Analysis of a Smart Indian Distribution System</i>	Supervisor	2018
Dr. N. S. Suresh	<i>Interfaces for Energy Interchange between Domestic Prosumer and Utility network</i>	Supervisor	2019
Dr. B. Venkatesh	<i>Design and feasibility assessment of Autonomous, Grid-connected energy systems</i>	Supervisor	2021

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
12 th - 14 th Sep.2017	CDIO Forum	International	Participant	TEMASEK Foundation, Singapore	Singapore
28 th Sep. 2015	ABET Accreditation and Program Assessment Workshop	International	Participant	ABET and IEEE Education Society	Chennai

**National Institute of Technology, Tiruchirappalli:
Performa for CV of Faculty/ Staff Members**

April 3-4 th 2003	Power Academia Meet 2003	National	Speaker	IIT, Bombay	Mumbai
------------------------------------	--------------------------------	----------	---------	-------------	--------

**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
Chairman	National Power System Conf.	14 th – 16 th Dec. 2018	Programme Committee	NIT, Tiruchirappalli
Coordinator, Workshop on distributed generation	National	14 th & 15 th Dec. 2007	Organizing and resource person	--do--
Coordinator, Workshop on wind-solar power systems	National	6 th and 7 th Jan. 2012	Organizing and resource person	--do--

18. Invited Talks delivered

Topic	Date	Inviting Organization
Gandhi and Education policy	1 st October 2019	Institution of Engineers, Tiruchirappalli Local Centre and IEEE SB NIT, Tiruchirappalli
Goals of academic eco- systems for the Millenials and the Generation Z	11 th November 2018	IIIT, Srirangam and NIT, Tiruchirappalli

19. Membership of Learned Societies

Type of Membership (Ordinary Member/ Honorary Member / Life Member)	Organization	Membership No. with date
Senior Member	IEEE	90581959
Life Member	ISTE	LM 31301

20. Academic Foreign Visits

Country	Duration of Visit	Programme
UK	Six months	Indo-UK RECs project, British council study fellow for training in Wind generators and Control at University of Manchester

National Institute of Technology, Tiruchirappalli:
Performa for CV of Faculty/ Staff Members

Singapore	One month	Distributed generators and control training in NUS under TEQIP
Israel	One week	To attend IEEE conference at Eilat

21. Publications

(A) Refereed Research Journals:

Author(s)	Title of Paper	Journal	Volume (No.)	Page numbers	Year	Impact Factor of the Journal ¹ (Optional)
SA Daniel, N.AmmasaiGunden	A novel hybrid isolated generating system based on PV fed inverter-assisted wind-driven induction generators	IEEE Transactions on energy conversion	19 (2),	416-422	2004	4.877
M Arutchelvi, SA Danie	Voltage control of an autonomous hybrid generation scheme based on PV array and wind-driven induction generators	Electric power components and systems	34-7	759-773	2006	1.071
M Arutchelvi, S Arul Daniel	Composite controller for a hybrid power plant based on PV array fed wind-driven induction generator with battery storage	International journal of energy research	31 (5),	515-524	2007	4.671
M Arutchelvi, SA Daniel	Grid connected hybrid dispersed power generators based on PV array and wind-driven induction generator	Journal of electrical engineering	60-6	313-320	2009	

¹ As on 2022

National Institute of Technology, Tiruchirappalli:
Performa for CV of Faculty/ Staff Members

HH Sait, SA Daniel	A novel feed-forward and feedback control of a VSI for variable speed wind-driven PM alternators	International Journal of Power Electronics	2-2	200-214	2010	5.5
HH Sait, SA Daniel	New control paradigm for integration of photovoltaic energy sources with utility network	International Journal of Electrical Power & Energy Systems	33 (1)	86-93	2011	5.658
K Padmavathi, S Arul Daniel	Studies on installing solar water pumps in domestic urban sector	Sustainable Cities and Society	1-3	135-141	2011	10.696
MV Kirthiga, SA Daniel, S Gurunathan	A methodology for transforming an existing distribution network into a sustainable autonomous micro-grid	IEEE Transactions on Sustainable Energy,	4 (1)	31-41	2012	8.31
MMR Singaravel, SA Daniel	Studies on battery storage requirement of PV fed wind-driven induction generators	Energy conversion and management	67	34-43	2013	11.533
MMR Singaravel, SA Daniel	MPPT with single DC–DC converter and inverter for grid-connected hybrid wind-driven PMSG–PV system	IEEE Transactions on Industrial Electronics	62 (8),	4849-4857	2015	8.162
R Kappagantu, SA Daniel, M Venkatesh	Analysis of rooftop solar PV system implementation barrier in Puducherry	Procedia Technology,	21	490-497	2015	

**National Institute of Technology, Tiruchirappalli:
Performa for CV of Faculty/ Staff Members**

	Smart Grid Pilot Project					
R Kappagantu, S Senn, M Mahesh, DS Arul	Smart grid implementation in India–A case study of Puducherry pilot project	International Journal of Engineering, Science and Technology	7 (3),	94-101	2015	
R Kappagantu, SA Daniel, A Yadav	Power quality analysis of Smart Grid pilot project, Puducherry	Procedia Technology	21,	560-568	2015	
MM Rajan Singaravel, S Arul Daniel	Sizing of hybrid PMSG-PV system for battery charging of electric vehicles	Frontiers in Energy	9-1	68-74	2015	3.858
NS Suresh, NS Padmavathy, S Arul Daniel, Ramakrishna Kappagantu	Smart Grid in Indian Scenario	Journal Smart Grids and Microgrids: Technology Evolution		175-194	2015	0
D Sabaripandiyan, G Aarthi, H Habeebullah Sait, S Arul Daniel	Maximum Power Point Tracking using ANFIS	International Journal of Applied Engineering Research	10-51	1-6	2015	
P Muthuvel, SA Daniel, DG Yazhini	Retrofitting domestic appliances for PV powered DC Nano-grid and its impact on net zero energy homes in rural India	Engineering Science and Technology, an International Journal	19 (4),	1836-1844	2016	5.152
R Kappagantu, SA Daniel, NS Suresh	Techno-economic analysis of Smart Grid pilot project-Puducherry	Resource-efficient technologies	2-4	185-198	2016	

**National Institute of Technology, Tiruchirappalli:
Performa for CV of Faculty/ Staff Members**

S Murugesan, V Murali, SA Daniel	Hybrid Analyzing Technique for Active Islanding Detection Based on <i>d</i> -Axis Current Injection	IEEE Systems Journal	4-12	3608- 3617	2017	4.802
S Mageshwari, SA Daniel, NA Gounden	Feasibility studies of rooftop photovoltaic (PV) systems for domestic consumers in rural India	International Journal of Energy and Statistics	5-1	1750005	2017	
P Muthuvel, SA Daniel, SK Paul	Sizing of PV array in a DC nano-grid for isolated households after alteration in time of consumption	Engineering Science and Technology, an International Journal	20 (6),	1632- 1641	2017	5.152
R Kappagantu, SA Daniel	Challenges and issues of smart grid implementation: A case of Indian scenario	Journal of Electrical Systems and Information Technology	5 (3),	453-467	2018	
NS Suresh, S Arul Daniel	Novel Model Predictive Current Controller for Grid Connected Inverters in a Smart-Grid Environment	Power research	14-2	169-177	2018	
NS Suresh, Manish Kumar, S Arul Daniel	Multi-agent strategy for low voltage DC supply for a smart home	Journal of Smart and Sustainable Built Environment			2019	
P Palanichamy, AD Samuel, V Murali	Descriptive statistical approach for the assessment of the output of a virtual power plant in a	IET Generation, Transmission & Distribution	14 (11),	2191- 2200	2020	2.503

**National Institute of Technology, Tiruchirappalli:
Performa for CV of Faculty/ Staff Members**

	secondary distribution network					
V Boddapati, SA Daniel	Performance analysis and investigations of grid-connected Solar Power Park in Kurnool, South India	Energy for sustainable development	55	161-169	2020	5.655
V Boddapati, ASR Nandikatti, SA Daniel	Techno-economic performance assessment and the effect of power evacuation curtailment of a 50 MWp grid-interactive solar power park	Energy for Sustainable Development	62	16-28	2021	5.655
S. Arul Daniel Vishnu Dhinakaran, K Akash, Rakshaa Viswanathan, A. Rakesh Kumar	Analysis and control of an autonomous hybrid wind-driven PM alternator and photovoltaic array without battery storage	Distribution Generation & Alternative Energy Journal	37-2	255-280	2021	
Venkatesh Boddapati, Avinash Sree Ram Nandikatti, S Arul Daniel	Design and feasibility analysis of a solar PV array installation during the construction of high-rise residential buildings	Journal of Energy Systems	5-2	60-69	2021	
NS Suresh, NS Padmavathy, S Arul Daniel, Ramakrishna Kappagantu	Top of Form Bottom of Form Smart Grid Implementations and Feasibilities	Journal Integration of Renewable Energy Sources with Smart Grid	4-1	327-346	2021	

National Institute of Technology, Tiruchirappalli:
Performa for CV of Faculty/ Staff Members

M Gopinath Murali, S Arul Daniel	Top of Form	International	43(2-3)	247-261	2021	
	Bottom of Form Experiences in operating a 100 kW rooftop PV plant in an educational institution in India	Journal of Global Energy Issues				
Venkatesh Boddapati, A Rakesh Kumar, S Arul Daniel, Sanjeevikumar Padmanaban	Design and prospective assessment of a hybrid energy- based electric vehicle charging station	Sustainable Energy Technologies and Assessments	53	102389: 1-17	2022	7.632
Venkatesh Boddapati, A Rakesh Kumar, DB Prakash, S Arul Daniel	Design and Feasibility Analysis of a Solar PV and Biomass-based Electric Vehicle Charging Station for Metropolitan Cities (India)	Journal Distributed Generation & Alternative Energy Journal		793– 818-	2022	

(B) Conferences/Workshops/Symposia Proceedings

Author(s)	Title of Abstract/ Paper	Title of the Proceedings	Page numbers	Conference Theme	Venue	Year
S. Arul Daniel, N. Ammasai Gounden and M. Subbiah	hyristor choppers for wind-driven induction generators” proceedings of the All India Seminar on Electric power types of equipment and control of machines,	International conferences organized by Institution of Engineers	pp.2.42-2.52. 4-5		Ahmednagar.	Dec. 1993.

National Institute of Technology, Tiruchirappalli:
Performa for CV of Faculty/ Staff Members

S. Arul Daniel, K.Pandiaraj, N.Jenkins,	Control of integrated wind-turbine generator and photo-voltaic system for battery charging	Proceedings of the 19 th British Wind Energy Association Conference, Edinburgh		pp. 121-128,	Edinburgh	1997
S. Arul Daniel and N. Ammasai Gounden	Application of microcontrollers in small-scale remote power supplies	Proceedings of the IEEE ACE 2001, 27 th Annual Convention and Exhibition of IEEE India Council,		pp.67-70	New Delhi	2001
S. Arul Daniel and N. Ammasai Gounden,	A stand-alone integrated wind-turbine generator and photovoltaic array with feed-forward controlled PWM inverter”,	Proceedings of the International Conference on energy, automation and Information Technology (EAIT 2001), Indian Institute of Technology, Kharagpur.		pp.667-670,	Kanpur India	2001
S. Arul Daniel and N. Ammasai Gounden,	“Fuzzy logic control of an integrated wind- driven dc generator and PV array”,	Proceedings of the International Conference on Computer applications in electrical engineering – Recent Advances (CERA 01		pp. 678 – 682	Roorkey India	2002

**National Institute of Technology, Tiruchirappalli:
Performa for CV of Faculty/ Staff Members**

Sridhar, S. Arul Daniel	Optimization of integrated rural power system designed by non-traditional technique	Proceedings of the IEEE Annual Symposium on Power Systems(Bangalore Section),			Indian Institute of Science, Bangalor	2004
H Habeebullah Sait, S Arul Daniel	Integration of small scale wind generator to a single-phase supply using hybrid controller	2008 3rd IEEE Conference on Industrial Electronics and Applications	2325-2330		INDIA	2008
D.Sabaripandian and S.Arul Daniel	A Comparative Review on Small Scale Integration of Hybrid Fuel Cell and PV Generating System to Utility Network	2010 5th International Conference on Industrial and Information Systems, ICIIS 2010, Jul 29 - Aug 01, 2010, In	4-5		India	2010
R.Murali Krishna and S. Arul Danie	Design methodology for autonomous operation of a Micro-grid	IEEE Conferences			India	2014
Vishnu Dhinakaran, S Arul Daniel	New Frontiers in Solar Power Generation: A Comprehensive Review of Solar Power Satellite Schemes	2021 International Conference on Smart Generation Computing, Communication and Networking (SMART GENCON)	1-5		Pune INDIA	2022