Faculty Information

Sl. No.	Information	
		
1.	Name: Designation Contact address: Phone Number: E-mail ID:	**Dr. Rajanna S.** **Professor and Head** **Department of E&E Engineering, MCE** **8791340700** **sr@mcehassan.ac.in** **srajannamce@gmail.com** **AICTE ID:** 1-482816611; **Employee ID:** 29826794; **Malnad College PID:** 1-465501833
2.	Qualification:	**B.E., M.Tech., Ph.D. (IIT, Roorkee)**
3.	Date of Joining:	**11.08.2008**
4.	Position held:	**Present designation: PROFESSOR & HEAD** • Professor & Head (since June 2024) • Professor (since 2020) • Associate Professor (since 2011) • Assistant Professor (since 2008)

<table>
<tr><td>5.</td><td>Ongoing Research guidance:</td><td>
<table>
<tr><th>Registration</th><th>Name of the Candidate</th><th>Title of the Ph.D. Topic</th><th>Remarks</th></tr>
<tr><td>2017</td><td>Dhavala R.K.</td><td>Development of Optimal Hybrid Renewable Energy Model for the Chosen Remote Areas</td><td>Ph. D Awarded</td></tr>
<tr><td>2017</td><td>Manjunath</td><td>Parameters Extraction Technique for Photo-Voltaic Models and Their Performance Assessment Studies</td><td>Ph. D Awarded</td></tr>
<tr><td>2019</td><td>Varaprasad N. L</td><td>Development of integrated solar wind-based charging station for plug-in hybrid electric vehicles</td><td>Course Work completed</td></tr>
<tr><td>2019</td><td>Shruthi K.H</td><td>Design and implementation of a grid connected three phase inverters for a solar photovoltaic system</td><td>Pre-Ph.D. Comprehensive viva is completed</td></tr>
<tr><td>2020</td><td>G.R. Sowmya</td><td>Standalone based integrated hybrid renewable energy system for electrification</td><td>Course Work completed</td></tr>
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<tr><td>6.</td><td>As Invited resource person</td><td>As Invited resource person on topics of interest:

1. Invited to a technical talk on Emerging Trends in solar Energy Conversion Systems in October 2017, delivered at Jawaharlal Nehru National College of Engineering.

2. Invited for delivering technical talk for the AICTE sponsored two-week FDP on Recent developments in renewable energy sources and its applications conducted from 13th to 25 November 2017 at Ghousia College of Engg, Ramanagar.

3. Invited to deliver an expert talk for AICTE-ISTE sponsored induction programme on Lets trends in renewable energy technologies on 07-06-2018. organized at BMS college of Engineering, Bangalore.

4. Invited to deliver an expert talk for TEQIP-II sponsored one week FDP programme on Latest developments in Renewable Energy sources on 07-06-2018. Sponsored by</td></tr>
</table>

		AICTE organized by department of automobile engineering, **MCE, Hassan.** 5. Invited for delivering a technical talk for Two-week FDP on **" Research Perspectives on solar and wind energy systems",** during Jan 15-27, 2018, Sponsored by AICTE organized by department of E&E Engg at Rajiv Gandhi Institute of Technology **Kottayam, Kerala.** 6. Invited to deliver an expert talk for **TEQIP-III** sponsored one week FDP programme on **Latest developments in Renewable Energy sources** on 07-06-2018. Sponsored by AICTE organized by department of automobile engineering, **MCE, Hassan.** 7. Invited to deliver a technical talk on "**Research opportunities in power electronics and power system engineering**" Organized by Dept. of EEE, MVJCE in association with IETE, Bangalore Chapter from 1-5 March 2021**.**
7.	Research Interest:	➢ Development of hybrid /integrated renewable energy system for a remote area/ standalone applications/ grid connected system. ➢ Optimal design of grid connected FET based inverter. ➢ Development of integrated solar wind-based charging station for plug-in hybrid electric vehicles ➢ Performance investigation of photovoltaic systems, effect of partial shading. ➢ Optimal sizing and siting of distributed generation.
8.	Citations	

	Cited
Total Citations	**933**
h-index	**10**
i10-index	**10**

Publications: **Summary:**

International Journals	International Conferences	National Conferences	TOTAL
12	**09**	**01**	**22**

Publications: International Journals

- Manivannan, G. S., Rajaguru, H., **Rajanna, S.,** & Talawar, S. V. (2024). Cardiovascular disease detection from cardiac arrhythmia ECG signals using artificial intelligence models with hyperparameters tuning methodologies. Heliyon, 10(17). **(Q1)**

- **S. Rajanna,** Dhavala R. K. ''Case study on demand side management-based cost optimized battery integrated hybrid renewable energy system for remote rural electrification' Energy Storage (Wiley). 2022; DOI: 10.1002/est2.410.

- **S. Rajanna,** Manjunath, H. N., Suresh, ''Hybrid interconnection schemes for output power enhancement of solar photovoltaic array under partial shading conditions' IET Renew. Power Gener. 2022;1–22.

- **S. Rajanna,** Dhavala R. K. ''Effects of different batteries and dispatch strategies on performance of standalone PV/WT/DG/battery system: A case study' Energy Storage (Wiley). 2022; DOI: 10.1002/est2.306.

- **S. Rajanna,** Manjunath, H. N., Suresh ''Maximization of photo-voltaic array power output through Lo Sho Square shade dispersion technique-based re-configuration scheme' Energy Conversion and Management 260 (2022) 115588.

- **S. Rajanna,** Manjunath, H. N., Suresh, "Performance enhancement of Hybrid interconnected Solar Photovoltaic array using shade dispersion Magic Square Puzzle Pattern technique under partial shading conditions", *Solar Energy (Elsevier)*, vol. 194, pp. 602-617, 2019.

- **S. Rajanna,** Manjunath, H. N. Suresh, "Reduction of Mislead Power and Mismatch Power Loss under Partial Shading Conditions using Novel Square Matrix Shade Dispersion Technique", *Solar Energy (Elsevier)*, vol. 207, pp. 1364-1383, 2020.

- **Rajanna S.** and R.P. Saini "Review on Planning, Configurations, Modeling and Optimization Techniques of Hybrid Renewable Energy Systems for off Grid Applications", Renewable and sustainable Energy Review,2016, 58,376–39.

- **Rajanna S.** and R.P. Saini "Modeling of Integrated Renewable Energy System for Electrification of a Remote Area in India", Renewable Energy,2016, 90,175-187.

- **Rajanna S.** and R.P. Saini "Development of optimal integrated renewable energy model with battery storage for a remote Indian area", Energy, 2016,111, 803-817.

- **Rajanna S.** and R.P. Saini "Employing demand side management for selection of suitable scenario-wise isolated integrated renewal energy models in an Indian remote rural area", Renewable Energy, 2016, 99, 1161-1180.

- **Rajanna S.** and Vara prasad N.L "Microcontroller based DC Motor control with Fuzzy maximum power plant tracking on PV system", International Journal of Current Engg & Technology 2013, ISSN2277-4106, Vol.3 No. 4.

Publications: International Conferences

- Poornima, H. G., Bindushree, S. N., Raksha, A., Lateshkumar, S. N., **Rajanna, S.,** & Ramesh, M. (2024, June). Simulation Based Hybrid Solar and Wind Energy System for Standalone Application. In 2024 IEEE Students Conference on Engineering and Systems (SCES) (pp. 1-6). IEEE.

	➢ **Rajanna S**., Dhavala R.K, H.N. Suresh. 'Feasibility study by demand side management for selected remote area "IEEE 7th International conference on Electrical energy systems, February 11-13,2021, SSN, College of Engg, Chennai. ➢ **Rajanna S**., Manjunath, H.N. Suresh. 'Extraction of efficient electrical DC parameters of solar Photo-voltaic model by analytical and numerical techniques" 3rd international conference on electrical, electronics, communication, computer and optimization techniques (ICEECCOT), Mysore, 2018, pp.1183-1188,2018. ➢ **Rajanna S**., Manjunath, H.N. Suresh. 'Enhancement of output power generation from solar photo-voltaic array under partial shading conditions using total cross tied (TCT) Configuration"6th national Conference on Emerging Trends in Engineering and technology. maddur.15th May 2020. ➢ **Rajanna S.** and Manjunath **S**, Extraction of Efficient Electrical DC Parameters of Solar Photo-Voltaic Model by Analytical and Numerical Technique, communicated to 3rd IEEE International Conference on Electrical, Electronics, Communication, Computer Technologies & Optimization Techniques (ICEECCCOT-2018), GSSS Mysuru, Karnataka to be held during 14 - 15 December 2018. ➢ **Rajanna S.** and R.P. Saini " GA based Optimal Modeling of Integrated Renewable Energy System for Electrification of a Remote Rural Area",6th IEEE International Conference on Power Systems, (ICPS), IIT, 2016, Delhi, India. ➢ **Rajanna S.** and R.P. Saini "Optimal modeling of an Integrated Renewable Energy System with Battery storage for off grid Electrification of remote rural area" First international conference on Power Electronics, Intelligent Control, and energy system (ICPEICES) 2016, DTU, Delhi, India. ➢ **Rajanna S.** and R.P. Saini "Selection of Suitable Strategy with peak load shifting based DSM of an Integrated Renewable Energy System for a remote region", First international conference on Power Electronics, Intelligent Control, and energy system (ICPEICES) 2016, DTU, Delhi, India. ➢ **Rajanna S.** and M.S. Kavya, **"**Remote controlling and monitoring of temperature and pressure calibration using LAB View**"** "8th international conference on control instrumentation system, Manipal Institute of Technology, Manipal, Karnataka,2011, PP 683-688.
	Patent Details ➢ "An optimized battery integrated hybrid renewable energy System for remote rural electrification" OFFICIAL JOURNAL OF THE PATENT OFFICE, 13.07.2023, Application no. 202441053581. **(Published)** ➢ "Dispatch Strategies-based Performance Analysis of a Hybrid Renewable Energy System for a Remote Rural Area in India." OFFICIAL JOURNAL OF THE PATENT OFFICE, 21.07.2023, Application no. 202341049419. **(Published)** ➢ "Isolated integrated renewable Energy Model" OFFICIAL JOURNAL OF THE PATENT OFFICE, 03.08.2023, Application no. 202341052112. **(Published)** ➢ "Laser Interferometer for length measurement", UK Design Patent, 25.10.2023, Application no. 6319739. **(Granted)**

9	Workshops/ FDP/ STTP Conducted and Attended	**Workshops Conducted** ➢ One-week short term training programme on “Recent developments in renewable energy sources and conversion systems for on/off grid applications “held from 9th-14th December 2019 Sponsored by AICTE at department of E&E Engg, MCE, Hassan. ➢ One-week Interdisciplinary FDP program on “Recent Trends in Solar & Wind energy system for on/Off grid applications “held from 9th-13th July 2018 Sponsored by TEQIP-II at department of E&E Engg, MCE, Hassan. ➢ Two-day workshop on " Recent Trends in Solar Energy Applications " during 27 &28 March 2017 Sponsored by TEQIP-II at department of E&E Engg, MCE, Hassan. **Workshops Attended** ➢ Two-week ISTE STTP on " **Electric power system**", conducted by Indian Institute of Technology, Kharagpur from 12th June ,2017 to 15th July 2017.This workshop was under the National Mission on Education through ICT(MHRD) in association with EEE, SJCE, Mysore ➢ Two-week FDP on **“Research Perspectives on solar and wind energy systems**", during Jan 15-27, 2018, Sponsored by AICTE organized by department of E&E Engg at Rajiv Gandhi Institute of Technology Kottayam, Kerala. ➢ One week FDP on "**Challenges in Non-Conventional Energy sources** " during April 9 -13, 2018 Sponsored by TEQIP-III at department of Automobile Engg, MCE, Hassan. ➢ One week workshop on "**Smart Grid and Internet of things**" during June 18-22, 2018, Sponsored by TEQIP-III organized by department of E&E Engg, NIE, Mysore. ➢ One week FDP on "**MEMS & MOEMS**” during April 30th of April to -4th of May 2018 Sponsored by TEQIP-III at department of E&C Engg, MCE, Hassan. ➢ Five days Training programme on "**Computation and Real Time analysis of Systems using MATLAB & XILING**" during 16-20 July 2018 Sponsored by TEQIP-III at department of E&E Engg, MCE, and Hassan.

		➢ Two-day workshop on "**MATLAB & Simulink Application in Engg**" held during 18th -19th March 2017 Sponsored by TEQIP-II organized by department of E&E Engg, MCE, Hassan. ➢ Three-day FDP on "**Digital Control System**" held from 23rd to 25th March 2017 Sponsored by TEQIP-II organized by department of E&E Engg, MCE, Hassan ➢ One day workshop on "**New Model Curriculum for First year Syllabus**" on June 05, 2018, Sponsored by TEQIP-1.3 conducted at department of E&E Engg, SCEM, Mangalore organized by VTU, Belgavi. ➢ One day workshop on "**New Model Curriculum for PG course**" on June 06, 2018, Sponsored by TEQIP-1.3 conducted at department of E&E Engg, SCEM, Mangalore organized by VTU, Belgaum. ➢ Two-day workshop on "**Recent trends in Solar Energy Applications**" held from 27th to 28th March 2017. Sponsored by TEQIP-II organized by department of E&E Engg, MCE, Hassan. ➢ One day workshop on "**Professional & Academic quality in engineering courses (PAQ)**" held on 23 ,2018 under TEQIP III organized by department of E&E Engg, MCE, Hassan. ➢ Two day "**Awareness workshop - NIRF INDIA RANKINGS - 2021 for Higher Educational Institutions**" held on-line on 18th & 19th January 2021 by Institute for Academic Excellence in collaboration with Collegiate Education & Technical Education Department, Govt. of Telangana. ➢ Two-day online workshop "**Transformation through NAAC Accreditation Process, A National Level Workshop for Higher Educational Institutions**" held on 21st & 22nd June 2021 conducted by "Institute for Academic Excellence, Hyderabad" in collaboration with "Collegiate Education & Technical Education Department, Telangana State.

<table>
<tr><td></td><td>Ph.D., Thesis Title</td><td>
<table>
<tr><th>Name</th><th>Title of the Thesis</th><th>Year of Degree awarded</th></tr>
<tr><td>Manjunatha
4MC18PEE02</td><td>Performance Enhancemenet of solar photovoltaic array using effective shade dispersion technique under partial shading conditions</td><td>2021</td></tr>
<tr><td>Dhavala R.K.</td><td>Development of Optimal Hybrid Renewable Energy Model for the Chosen Remote Areas</td><td>2024</td></tr>
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<tr><td></td><td>M.Tech., Thesis Title</td><td>
<table>
<tr><th>Name and year</th><th>Title of the thesis</th></tr>
<tr><td>Sahithyashree H R (4MC21ECD01)</td><td>Solar Charging Station for Electric Vehicle</td></tr>
<tr><td>Pooja. B</td><td>Design of a Battery Charge Controller through Maximum Power Point Tracking based Solar Photovoltaic System</td></tr>
<tr><td>Naveen K. R
4MC16ECD04</td><td>Performance Enhancement of Photovoltaic array configuration under uniform and partial shading scenario.</td></tr>
<tr><td>Yashaswini C.P
4MC15ECD17</td><td>Minimization of leakage current in the PV grid Connect Cascaded Multi-Level Inverter Using PWM Techniques.</td></tr>
<tr><td>Manjunatha A.M
4MC11ECD07</td><td>Non-Isolated ZVT two-Induction boost -converter for high step-up Applications.</td></tr>
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<tr><td>10</td><td>Responsibilities</td><td>

Head of the Department (June 2024 to Till Date)
Dean Examinations for both UG & PG (Since 2023 to 2024)
BOS V.T.U nominee for Vidyavardhaka college of engineering, Mysore
Participated as an Invited speaker/Resource person in 10 Workshops/FDP
Convener for Rotaract Club
PG Coordinator (since 2017)
Research guidance leading to Ph.D./M.Sc. (Engg.) by Research degree:
Academic Council member (Since 2019)

</td></tr>
<tr><td>11</td><td>Memberships</td><td>
1. FIE: Fellow (Life term) of Institution of Engineers (India) (M-146764-0)
2. MISTE: Member (Life term) of Indian Society for Technical Education (L M 43434)
</td></tr>
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