



Dr. Rajakumar D. G.

Professor & Dean Non-Conventional Energy,
Department of Mechanical Engineering,
GM Institute of Technology, Davangere-06

Vision

Seeking a good position in a professional organization to explore and utilize my best skills and abilities that would help the growth and development of the organization and thus provide me an opportunity to grow in both professional and personal front.

Educational Qualifications

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| 1 | <p>Ph.D.:- From Department of Mechanical Engineering, University B.D.T. College of Engineering, Davangere, (Kuvempu University), India, awarded 2012. Doctoral Thesis Topic-“<i>Problems and Prospects of Renewable Energy Systems: An Analysis of Three Wind Mill Clusters in Karnataka.</i>”</p> |
| 2 | <p>M.Tech. (Thermal Energy Systems):-From B.V.B. College of Engineering and Technology, Hubballi, (Visvesvaraya Technological University), India, 2003. Dissertation Topic-“<i>Energy Conversion from Distilleries: A Case Study at M/S Samsons Distilleries Pvt. Ltd.</i>”</p> |
| 3 | <p>B.E.(Mechanical Engineering):- From U.B.D.T. College of Engg.Davangere, (Kuvempu University) India, 1995 Project Title- “<i>Manually Operated Fertilizer for Small Scale Applications</i>”</p> |
| 4 | <p>SUPERVISION OF RESEARCH WORK:- Ph.D. under Supervision;</p> <ol style="list-style-type: none">1. Production of Bio Ethanol from Natural Sources and its Performance Evaluation on Four Stroke SI Engine with CFD Analysis- A Part time research work at <i>IISc, Bangalore</i>2. Combustion Characterization of Gaseous Alternative Fuels in Practical Combustion Systems – Experimental and Numerical |

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| | <p style="text-align: center;">Approach – Full time Research Scholar at <i>IISc Bangalore</i></p> <p><u>PROJECT GUIDANCE:-</u></p> <p><i>Post Graduate (PG)</i></p> <p>Guided <u>Five Projects</u> of M.Tech. Students in the areas of Renewable Energy with special focus on Bio-mass energy, wind energy, and Hybrid energy systems.</p> <p><i>Under Graduate (UG)</i></p> <p>Guided more than <u>Thirty Projects</u> for B.E. students in the areas of thermal energy systems, solar desalination system, energy auditing and energy management, wind-solar (Hybrid) power generation systems, solar rooftop canopy for small scale power generation, automobile theft detecting systems, power generation using vertical axis wind turbine, performance comparison of solar photovoltaic application, production of Biodiesel from dairy waste, and from non-edible oil, etc.</p> |
| 5 | <p><u>R&D FACILITIES DEVELOPED AND RESEARCH CONTRIBUTIONS</u></p> <p>Right from the beginning of my professional carrier, I have been associated with some laboratory work either in industry or in educational institution. Few of them are modification/conversion of conventional lathe machine to automatic type with the aid of hydraulic and pneumatic systems (1998). Provided design implementation of union joint in rear axle assembly for Heavy Motor Vehicles (HMs) trucks at M/S Automotive Axles Pvt. Ltd. Mysore (2000).</p> <p>During my Ph. D. work, my R & D contributions have played a vital role in the area of wind energy as;</p> <ol style="list-style-type: none"> 1. Noise effect and its impact on nearby dwellings due to the operation of wind turbines. 2. Methods/parameters for identifying the suitable rating wind turbines for different geographical locations. 3. Method of evaluation of economic indices for the installed wind turbines to support investors. 4. Identifying various parameters which supports in the evaluation of an index called Cluster Performance Index |

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| Professional Details Total experience: 21.5 years (Teaching:15, Industry:6.5) | |
| <p><u>TEACHING EXPERIENCE:-</u></p> <p><u>Sept. 2017 till date:-</u> Professor, Department of Mechanical Engineering, GM Institute of Technology, Davangere, India</p> <p><u>Sept. 2013 to Sept. 2017:-</u> Associate Professor, Department of Mechanical</p> | 15 |

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| <p>Engineering, GM Institute of Technology, Davangere, India.</p> <p><u>Sept.2011-Sept.2013:-</u> Assistant Professor, Department of Mechanical Engineering, GM Institute of Technology, Davangere,</p> <p><u>Sept. 2009-Sept. 2011:-</u>Senior Lecturer, Department of Mechanical Engineering, GM Institute of Technology, Davangere.</p> <p><u>Aug. 2004-Sept. 2009:-</u>Lecturer, Department of Mechanical Engineering, GM Institute of Technology, Davangere, India.</p> | |
| <p><u>INDUSTRIAL EXPERIENCE:-</u></p> <p>Worked directly on the shop floor for six and a half years;</p> <ul style="list-style-type: none"> ➤ Worked as Trainee engineer and engineer for Two and half years (1995 December to 1998 June) at M/S Warsaw Engineers Pvt. Ltd. (Bangalore). And involved in the fabrication and erection work of trusses, beams, and columns. ➤ Worked as shift engineer on shop floor for one and half year (1998 July to January 2000) at M/S Maini Technology Center (an ancestor unit of Reva Electrical Car Manufacturing Company). I am also involved in reconditioning and maintenance of SPM's. I have designed and implemented complete conversion of conventional lathe to automated lathe for the product called RB Valve. ➤ Worked as shift and tool room engineer at M/S Automotive Axles Pvt. Ltd., Mysore for a period of two years (from 2000 to 2002). Looking after the developmental activities of modifying the union joint of the axle housing assembly. | 6.5 |

Academic / Research Publications

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| 1 | <p><u>A) ARTICLES PUBLISHED IN EDITED BOOK</u></p> <ol style="list-style-type: none"> 1. Dr. Rajakumar D.G, Dr. Nagesha N., “Performance Evaluation of Wind Farm Clusters –A Methodological Approach”, (2017), A Chapter published in the Edited Book titled “Renewable Energy Systems”, Published by Nova Science Publishers USA, ISBN:978-1-53610-441-7 (e-Book) 2. Dr. Rajakumar D.G, Dr. Nagesha N., “Problems and Prospects of Wind Energy Systems: Investors Perspective”, <i>Smart Energy Magazine</i>, Vol. 1, Issue 4, | |
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Aug/Sept. 2014, ISSN 2348-5027, pp 48-52.

3. Rajakumar D.G., S. Shivaprasad, and S. Mutalik, (2011), "**Conversion of Energy from Process Waste in Distilleries**", *Energy Conversion and Management*, (2010), Edited by, Tirkey and Shukla, Published by Narosa Book Publishing House, New Delhi, India. ISBN No. 978-81-8487-078-7.

B) RESEARCH PAPERS AND ARTICLES PUBLISHED

International Journal

1. Dr. Rajakumar D.G, Dr. Nagesha N., and Dr. Mallikarjune Gowda M.C., (2017), "Performance Evaluation of Wind Farm Clusters- A Methodological Approach", Chapter No.6 Published in the Book Titled as *Renewable Energy Research, Development, and Policies*, Published by Nova Science Publishers, New York, ISBN: 978-1-53610-441-7 (e-book)
2. Manjunath G.B, Bharath K.N, Ganesh D.B, Rajkumar D.G, Shivaprakash P, and Harsha H.M, (2016), "ANOVA and Response Surface Methodology for the Optimization of Fracture Toughness Parameters on Jute Fabric-Epoxy Composites using SENB Specimens", *International Journal of Materials today Proceedings*, published by Elsevier, Vol. 4, Issue 10, pp 11285-11291. Access on <https://www.sciencedirect.com/science/article/pii/S2214785317317832?np=y>
3. Dr. Rajakumar D.G, and Dr. Mallikarjune Gowda M.C., (2016), "Reasons for Wind Turbine Generator Failures: A Multicriteria Approach for Sustainable Power Production", *Journal of Renewables, Wind, Water, and Solar*, 3:9, 016-020, DOI: 10.1186/s40807-016-0029-1.
4. Dr. Rajakumar D.G., Sanjeev Kulkarni H., Anil T.R., (2016), "Renewable Energy Growth in India: A Multi-Criteria Model

**National
Journal,
International
Journal,
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and
International
Conference**

to Evaluate and Rank Renewable Energy Sources Applicable to Decentralized Energy Generation for Mini-Grids”, *Journal of Sustainable Energy Engineering*, Vol. 3, Issue 3, pp. 221-237. DOI:<http://dx.doi.org/10.7569/JSEE.2015.629514>.

5. Dr. Rajakumar D.G., Sanjeev Kulkarni H., Anil T.R., (2016), “Wind Energy Development in India a Methodology for Evaluating Performance of Wind Farm Clusters”, *Journal of Renewable Energy*, Vol. 1, Issue 3, pp. 1-11. DOI:<http://dx.doi.org/10.1155/2016/6769405>.
6. Dr. Rajakumar D.G, and Dr. Mallikarjune Gowda M.C., (2015), “Environmental Impact of Noise Generated due to Operation of Wind Turbines- A Case Study”, *Asian Journal of Engineering and Technology*, Vol. 3, Issue 4, pp 310-315, ISSN: 2321-2462.
7. Rajakumar D.G, and Nagesha N, (2013), “Estimating Wind Mill Cluster Performance: A Multi Criteria Approach”, *Journal of Sustainable Manufacturing and Renewable Energy (JSMRE)*, Vol. 2, Issue 1-2, pp. 1-12, ISSN:2153-6821, Nova Science Publishers Inc., USA.
8. Rajakumar D.G, and Nagesha N, (2012), “Sustainability through Renewable Energy: Economic and Environmental Analysis of Wind Farms in Karnataka”, *International Journal of Emerging Technology and Advanced Engineering*, Vol. 2, Issue 3, pp-396-402.
9. Rajakumar D.G, and Nagesha N, (2012), “Economics of Wind Power: A Case Study of a Wind Farm in Karnataka”, *Journal of Engineering, Science & Management Education*, Vol. 4, Issue 4, pp-323-327.
10. Rajakumar D.G, and Nagesha N, (2011), “Sustainability through Renewable Energy: Economic and Environmental

Analysis of A Wind Farm”, *International journal of Environmental sciences-The Ecoscan*, Vol. 5, Issue 1&2, pp-39-42.

11. Rajakumar D.G, S.Shivaprasad, and S. Mutalik, (2011), “Conversion of Energy from Process Waste in Distilleries-A Case Study”, *Journal of Experimental Techniques*, Vol. 35, Issue 6, pp-1-5, DOI: 10.1111/j.1747-1567.2010.00654.x

Papers Published in Proceedings of the International Conferences:-

1. Amit Kumar, and Dr. Rajakumar D.G., (2017), “A Review on the Biomass Energy Resources and Conversion Technology in India”, Published in Institute for Engineering Research and Publication, organized by PES College of Engineering, Mandya, 21st -22nd April 2017.
2. Manjunath G.B, Bharath K.N, Ganesh D.B, Rajkumar D.G, Shivaprakash P, and Harsha H.M, “ANOVA and Response Surface Methodology for the Optimization of Fracture Toughness Parameters on Jute Fabric-Epoxy Composites using SENB Specimens”, International Conference on Advanced Materials, Manufacturing, Management and Thermal Sciences (AMMMT-2016), held at SIT Tumkuru, between 23rd – 24th September 2016.
3. Dr. Rajakumar D.G., and Dr. Mallikarjune Gowda M.C., “Economic Analysis of Wind Energy Technology by Entrepreneurs: A Case Study using Empirical Data”, *International Conference on Transnational Entrepreneurs and International SMEs in Emerging Economics: Drivers and Strategies (TE-Conference-2015)*, held at Indian Institute of Management, Bangalore (IIM-B), Bangalore, between May 20-22, 2015.
4. Dr. Rajakumar D.G., and Dr. Mallikarjune Gowda M.C.,

“Environmental Impact of Noise Generated Due to Operation of Wind Turbines- A case Study”, *2nd International Conference on Emerging Trends in Technology and Applied Sciences (ICETTAS-2015)*, held at SAINTGITS College of Engineering, Department of Mechanical Engineering, Kottayam, Kerala between 30th April, 1st, 2nd May 2015.

5. Rajakumar D.G., and Mallikarjune Gowda M.C., “Prioritization of Barriers Faced by Independent Power Producers in Wind Power Industry- A Multi-Criteria Approach”, *3rd International Conference on Data Analysis, Business Analytics and Intelligence (ICADABAI-2013)*, held at Indian Institute of Management (IIM-A), Ahmadabad, from 13-14th of April 2013.
6. Rajakumar D.G., N.Nagesha, and Dr. P. Balachandra, “Multi-Criteria Ranking of Barriers in Wind Energy Farms: An Empirical Study”, *International conference on Consortium of Students in Management Research (COSMAR 2012)*, Department of Management Studies, Indian Institute of Science (IISc), Bangalore, between 17-18th November 2012.
7. Rajakumar D.G. and N. Nagesha, “Comparison of Wind Mill Cluster Performance: A Multi Criteria Approach”, *Indo-Danish International Conference on Wind Energy: Materials, Engineering and policies, (WEMEP 2012)*, Dept of Mech. Engg. BITS PILANI, and Department of Wind Energy, Technical University of Denmark. Held at BITS PILANI Campus Hyderabad between 22-23rd of November 2012.
8. Rajakumar D.G. and N. Nagesha, (2011), “Wind Energy Technology: Economic and Environmental Analysis Using Empirical Data”, *Proceedings in the International Conference on Thermal Energy and Environment*

(INCOTEE 2011), Dept of Mechanical Engg. Kalasalingam University, March 24-26, 2011, pp- 131-137.

9. Rajakumar D.G. and N. Nagesha, (2011), "Economics of Wind Power: A Case Study of a Wind Farm in Karnataka", *Proceedings in the 2nd International Conference on Wind Energy: Trends and Issues (WETI 2011)*, National Institute of Technical Teachers' Training and Research, Bhopal, October 12-14, 2011, pp- 122-125.
10. Rajakumar D.G. and N. Nagesha, (2011), "Sustainability Through Renewable Energy: Economic and Environmental Analysis of Wind Farms in Karnataka", *Proceedings in the 3rd International Conference on Advances in Energy Research (ICAER 2011)*, Dept of Energy Science and Engg, Indian Institute of Technology Bombay, December 09 -11, 2011, pp- 38-43.
11. Rajakumar D.G. and N. Nagesha, (2011), "Application of Analytic Hierarchy Process for Prioritizing Barriers in the Implementation of Wind Energy Technologies", *Proceedings of the International Conference on Renewable Energy Technologies (iCORET 2011)*, Dept of Electrical & Electronics Engg, and School of Energy, PSG College of Technology, Coimbatore, December 15-17, 2011, pp- 136-141.
12. Rajakumar D.G. and N. Nagesha, (2010), "Diffusion of Renewable Energy Technologies in India: A Policy Analysis of Wind Energy", *Proceedings in the 1st International Conference on Advances in Energy Conversion Technologies (ICAECT 2010)*, Dept of Electrical & Electronics Engg, Manipal Institute of Technology, Manipal University, Jan 07 -10, 2010, pp- 361-365.

Papers published in Proceedings of the National Conference:-

1. Dr. Rajakumar D.G and Chethana B.M., (2018), "Diffusion of Renewable Energy Technologies in India: A Policy Analysis of Wind Energy", Journal of Engineering Research and Application", 1,2, 36-42, ISSN:2248-9622.
4. Muruli A.S., Dr. Rajakumar D.G., "Performance and Emission Characteristics Study of Diesel Engine using Diesel,Waste Cooking Oil and Ethanol Blends", International Journal of Engineering Research in Mechanical and Civil Engineering, Special Issue National Conference on Advances in Civil and Mechanical Engineering (NCACME 17), ISSN (Online) 2456-1290, pp 115-122.
2. Amit Kumar, and Dr. Rajakumar D.G., (2017), "Review on Fuel Cell Technology", Published as special issue in International Journal of Research and Advanced Development, organized by GMIT Davangere, 8th -9th September 2017.
3. Amit Kumar, and Dr. Rajakumar D.G., (2017), "A Review on the Biomass Energy Resources and Conversion Technology in India", Published as special issue in Journal of Institute for Engineering Research and Publication, organized by PESIT, Mandya, 21st-22nd April 2017.
4. Dr.Rajakumar D.G., (2017), "Impact of Accreditation on the Quality of Engineering Colleges", National Conference on Impact of Assessment and Accreditation on Higher Professional Institutes (A2HPI), organized by KIT's College of Engg. & Shivaji University, Kolhapur, during 13th-14th January 2017.
5. Rajakumar D.G and N. Nagesha, (2001), "Problems and

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| | Prospects of Renewable Energy Systems: An Overview of Three Wind Mill Clusters”, <i>Proceedings of the National Conference on Advances in Production and Manufacturing Process (AMMP 2001)</i> , Dept of Studies in Mechanical Engg, University BDT College of Engg. Davangere, 05-06, October 2001. | |
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Awards / Achievements

RESEARCH PUBLICATIONS:

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| Books Published | ----- 01 |
| Papers in International Journals | ----- 10 |
| Papers in National Journals/Edited Books | ----- 03 |
| Papers in International Conferences | ----- 11 |
| Papers in National Conferences | ----- 06 |
| Chapter published in the Edited Book | <u>----- 03</u> |
| Total Publications = 34 | |

MAJOR PROFESSIONAL ACTIVITIES/SPECIAL ACHIEVEMENTS

Designed and fabricated indigenous type Vertical Axis Wind Turbine (VAWT) for smaller power generation applications (especially for Domestic application).

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REVIEWER FOR:

- 1) Journal of Environmental Progress & Sustainable Energy, since 4 years(2012 on wards)
- 2) Journal of Energy Conversion & Management (Journal published by- Elsevier), since 1 year
- 3) Reviewer for the International conference on *Transnational Entrepreneurs and International SMEs in Emerging Economics: Drivers and Strategies (TE-Conference-2015)*, held at Indian Institute of Management, Bangalore (IIM-B), Bangalore, from May 20-22, 2015.
- 3) Journal of The Institution of Engineers (India): Series “C”, Published by Springer open source.

AWARDS

1. Received certificate of appreciation from “**The Institution of Engineers (India)**”, for reviewing the articles for the ***Journal of The Institution of Engineers (India): Series C***, during December 21, 2017.

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| | <p>2. Received an “Outstanding Reviewer Certificate”, from Elsevier Publisher for reviewing the articles for the <i>Journal of Energy Conversion and Management</i>, during October 2016.</p> <p>3. Best consolation award for the paper titled “Economics of Wind Power: A Case Study of A Wind Farm in Karnataka”, held at NITTTR, Bhopal in the 2nd International Conference on Wind Energy Trends and Issues 2011 (WETI-2011).</p> |
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Workshops / Seminars / Conference organized / Conducted

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| 1 | Organized two day “NBA Boot Camp” in view of documentation process for NBA accreditation work on 21 st -22 nd October 2018 at GMIT, Davangere. |
| 2 | Organized two day hands on training workshop on OBE and OBA related to NBA process for all the teaching staff members of GMIT between 11 th - 12 th November 2016. |
| 3 | Organized two day workshop on Entrepreneurship Development Programme on SOLAR POWER GENERATION OPPORTUNITIES for Diploma students of Civil & Mechanical Engineering, between 18 th -19 th March 2016 at GMIT Davangere. |
| 4 | Organized two day hands on training workshop on NBA process for all the teaching staff members of GMIT between 19 th - 20 th January 2016. |

Workshops / Seminars / Conference attended

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| 1 | Participated as Jury member for the National on Advances in Civil & Mechanical Engineering (NCACME 2017), Held at GSIT, Karwar between 10 th & 11 th of February 2017. |
| 2 | Attended One Day Workshop on “Solar Photovoltaics and Micro-grid”, organized by Divecha Centre for Climate Change, IISc Bangalore and FluxGen Engineering Technologies Pvt. Ltd., Bangalore on 21 st March 2016. |
| 3 | Attended Two Days National Workshop on “Accreditation Process for Technical Institutions”, organized by JSS Academy of Technical Education, Bangalore between 26 th & 27 th August 2016 |
| 4 | Attended One Day Workshop on “Plagiarism Issues and Essential Tools for Research Write-ups”, organized by Jain Institute of Technology, Davangere, on 18 th April 2015 |
| 5 | Attended One Week Training Programme on “Solar Photovoltaic Grid Connected Power Plants”, organized by National Training Center for Solar Technology (NTCST), KPCL, Bangalore, and MNRE, New Delhi, from 23 rd to 28 th June 2014. |
| 6 | Attended Two Days Workshop on “Teaching Methodology in Turbomachine”, organized by Sambram Institute of Technology, and FOSAMECH Pvt. Ltd., Bangalore, between 26 th & 27 th September 2013. |
| 7 | Participated in a Two-Week ISTE Workshop on “Engineering Mechanics”, |

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| 8 | <p>conducted by IIT Bombay in coordination with National Mission on Education through ICT (MHRD), between 26th November to 06th December 2013.</p> <p>Participated in a Two-Week ISTE Workshop on “Engineering Thermodynamics”, conducted by IIT Bombay in coordination with National Mission on Education through ICT (MHRD), between 11th to 21st December 2012.</p> |
| 9 | <p>Attended Two Days International Workshop on “Challenges and Prospects in Power Generation Systems Using Biomass”, organized by VIT University, Vellore, Tamil Nadu between 27th to 28th July 2012.</p> |
| 10 | <p>Attended One Day Workshop on “Energy Management in the New Millennium: Role of Renewable Energy & Energy Efficiency (EMREEE)”, organized by Dr. T.Thimmaiah Institute of Technology, Kolar, on 26th February 2010.</p> |
| 11 | <p>Attended Five Days National Level Workshop on “Biofuel Conversion Technologies-Research Directions”, organized by Jawaharlal Nehru National College of Engineering, Shivamogga, between 15th to 19th December 2008.</p> |
| 12 | <p>Attended Two Week STTP Programme on “Impact of Energy Generation and Conservation on Environment”, Organized by NITK, Surathkal with MHRD New Delhi, between 21st July to 01st August 2008.</p> |

University responsibilities

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| 1 | <p>Deputy Chief Superintendent for B.E., M.B.A., M.Tech. Theory examinations conducted by the University.</p> <p>Worked as Special Squad Chairman for VTU Theory/Practical Examinations.</p> |
| 2 | <p>Worked/Working as paper setter for many courses in the stream of Mechanical Engg.,</p> |
| 3 | <p>Working as External Examiner for UG/PG Examinations at BVB CET, Hubballi. & at SIT Tumakuru.</p> |

New Technology / Information learnt / exposed

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| 1 | <p>Manufacturing process of Solar Cells, Process planning in making the solar modules, The concept of Engineering, Procurement, and Construction (EPC) related to Solar Roof Top Photo Voltaic (SRTPV) Systems.</p> |
| 2 | <p>Concept of Green Energy System like, the importance of Heat Pumps, Energy Plantation, Waste Heat Recovery Systems, Techno-Economic & Social-Environmental concepts, etc.</p> |
| 3 | <p>Model making mechanisms related to Turbomachines and their accessories, Automotive, etc.</p> |
| 4 | <p>Various models used in the analysis of Renewable Energy Technologies (RETs).</p> |

Details of Academic e-Contents prepared / used

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| 1 | <p>Information related to model making on Turbines, working of Automotive components, etc</p> |
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| 2 | Used various web resources in support of information related to course preparation. |
| 3 | Used in support of working principles of various renewable energy systems. |
| 4 | Undergone Online Training conducted by IIT-Bombay, related to Pedagogical initiatives for Innovative Teaching & Learning methods. |

Membership details

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| LMISTE | LM43060 |
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Personal Details

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| Gender | Male |
| Date of Birth | 25-031973 |
| Email | rajakumardg@gmit.ac.in |
| Contact detail | Professor & Dean (Non-Conventional Energy), Department of Mechanical Engineering GMIT, Davangere-06 |