

Curriculum –vitae



Dr. K. Uma Rao, Ph.D, PGDIM
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Profile in brief

- Doctorate in Power Engineering from Indian Institute of Science.
- 32 years of UG and PG teaching in Electrical, Electronics and Management.
- 7 Awards of excellence
- Technical publications : Journals – 41; International Conferences – 100; National conferences – 21; Technical articles – 4; Other articles -3.
- 11 technical books published by TMH, IK International, Wiley India and Pearson
- 2 e-books for VTU's pilot project on animated learning material for electrical machines, via Moodle.
- Subject expert for Analog Electronics, Power System Analysis, Computer techniques in power systems and VHDL, under the EDUcation through SATellite (EDUSAT) program of VisvesvaryaTechnological University.
- Subject expert for Signals and Systems for supportive content development for NPTEL.
- Guided 10 students for PhD
- Well acquainted with accreditation norms of technical institutions.
- Acted as BOE member for VTU in EEE and ECE. BOE member of MSRIT, BVB BMS and BOS member of NIE.

- Certified energy auditor, Bureau of Energy Efficiency, Central Govt. of India
- Expert technical resource person in the areas of FACTS, Reactive power management, Power Quality and Smart grids at CPRI, Bengaluru and PSTI, Bengaluru
- Certification for blended learning and ICT from IIT Mumbai
- Extensively involved in teachers training, soft skill for students and teachers, conducting workshops in self development .
- Core team member for training research scholars in VTU
- Was part of the team for training in pedagogy of teaching, when IUCEE (Indo-US Collaboration for Engineering Education) was started.
- Execom Member of IEEE Power and Energy Society, Bengaluru section

Personal Profile

Date of birth : 10th March 1963

Nationality : Indian

Academic Profile

From	To	Institution	Exam/Degree	Area of work
2002	2004	Indira Gandhi Open University, New Delhi	PGDiP	Operations Management
1993	1996	Indian Institute of Science Bangalore	Ph.D	Power Engineering Thesis : Power System Stability Evaluation and Control Using Energy Functions and FACTS Controllers. Supervisor : Prof. K.R. Padiyar
1985	1987	University Visvesvaraya College of Engineering, Bangalore	M.E. (Power Systems)	First Class Distinction University First Rank
1980	1984	University Visvesvaraya College of Engineering, Bangalore	B.E. , Electrical Engineering	First Class University First Rank

Membership of Professional Institutions / Societies

- 1) Life Member of Indian Society of Technical Education LM 3244, Mar 1989
- 2) Life Member of Institution of Engineers (I) Ltd. M104946/6 Oct 1991
- 3) Fellow of IETE – F208753 Jan 2009
- 4) Senior Member IEEE – 90586356(Joint secretary PES Bangalore section for 2014, 2015)
- 5) Senior member ACEEE - M1143

Professional Profile

- **Present position**: Professor, Department of Electrical & Electronics Engineering, RVCE, Mysore Road, RV Vidyaniketan, Bangalore – 560059.
- **Previous Appointments**

From	To	Employer	Position held
Aug 2012	Date	RV College of Engineering	Professor, Department of Electrical Engineering
Nov 2007	Aug 2012	RNS Institute of Technology	Dean Academics, faculty of engineering and HOD ECE.
May 2005	Nov 2007	RNS Institute of Technology	HOD EEE
May 2003	May 2005	GayatriVidyaParishad CollegeofEngineering, Visakhapatnam, Andhra Pradesh, India	Professor and Head, Department of Electrical and Electronics Engineering.
August 1998	May 2003	AndhraUniversity, Visakhapatnam, Andhra Pradesh, India	Associate Professor, Department of Electrical and Electronics Engineering
May 1990	August 1998	AndhraUniversity, Visakhapatnam, Andhra Pradesh, India	Assistant Professor, Department of Electrical and Electronics Engineering.
August 1987	May 1990	Gandhi Institute of Technology & Management, Visakhapatnam Andhra Pradesh, India	Lecturer, Department of Electrical and Electronics Engineering

Books Published

1. Adaptation Author of Indian Adapted Edition of “ **Schaum’s Outline Series on Power Systems**”, Published by Tata McGraw Hill. 2005, 4th edition, 2009, ISBN 9780070593671
2. Adaptation Author of Indian Adapted Edition of “**Schaum’s Outline Series on Electric Circuits**”, 2010, 4th edition, 2010, ISBN : 9780070151437
3. “**Computer Techniques and Models in Power System Analysis**”, published by I. K. International Pvt. Ltd., 1st edition, 2007, ISBN – 9788189866402; 2nd edition, 2014
4. “**Signals and Systems**”, published by I.K. International Pvt. Ltd. , 1st edition, 2008. ISBN- 9788189866891
5. **The 8051 Microcontroller & MSP 430 – architecture, programming and applications** –Published by Elsevier India, . 2012, ISBN – 9789381269459
6. “**Basic Electrical Engineering**”, published by Pearson- Sanguine, 1st edition, 2010, ISBN –9788131755952; 2nd edition, 2014.
7. “**Artificial Intelligence and Artificial Neural Networks**”, published by Pearson Sanguine, 1st edition, 2010, ISBN-97881317596538
8. “**Digital Signal Processors : Architecture , programming and Applications**”, published by Pearson – Sanguine , 1st edition, 2011, ISBN – 9788131766668.
9. “**Power System Operation and Control**” , published by Wiley India Ltd, 1st edition, 2012, ISBN- 9788126534418.
10. “ **Elements of Electrical Engineering**”, published by I.K. International Pvt. Ltd. , 2015. ISBN- 9789384588212
11. “**Basic Electronics**”, published by I.K. International Pvt. Ltd. , 2015. ISBN- 9789384588205
12. “ **Transmission and Distribution**”, by Prism Book house, 2017, ISBN 9789386506016

Ph.Ds Guided

<u>Sl.No</u>	<u>Name of Candidate</u>	<u>Title of the thesis</u>
1.	Dr. A. Jayalaxmi	Application of FACTS Controllers for power quality improvement (JNTU)
2.	Dr.P.Meena	Fast detection of algorithms for PQ detection and application of DSP for mitigation (VTU)
3.	Dr.S. Pradeepa	Power quality improvement with the application of power converters. (VTU)
4.	Dr. Abha Tripathi	Model following control for TCSC to improve stability of the system (VTU)
5.	Dr. LK Sudha	Synthesis, Characterization and electromechanical studies of selective polymer nano ceramic composites (JNTU)

6.	Dr. S. Sridhar	Wireless approach for condition monitoring of Induction motors using signature analysis (VTU)
7.	Dr. A. Pavan Kumar	Tie-line frequency bias control in PV-wind hybrid systems (BITS, Pilani, Hyd)
8.	Dr. Nittala Ramachandra	Interline power flow controller for power quality improvement(BITS, Pilani, Hyd)
9.	Dr.V.Prema	Predictive models for power management of hybrid microgrids(VTU)
10.	Dr. Vetrivel	Artificial Intelligence based optimal location of FACTS devices in restructured power systems (Annamalai University)
11.	Dr. Vijaya Margaret	Models for load forecasting and demand reponse (Christ University)
12.	Dr. Amit Closepet	Strategies to Manage Power Outages and Optimize Energy Cost for Developing Countries through Supply and Demand Side Management

Patents Applied

- Filed patent on “A field control-hybrid system”
- Filed patent on “ A system and its method for minimizing voltage regulation

List of Publications

International Journals

Total Number of Publication – 54

2020

1. K. Uma Rao, Prema V and K.N. Subramanya, “Plickers: An ICT Tool for Formative Assessment and Feedback”, Journal of Engineering Education Transformations, DOI: 10.16920/jeet/2020/v33i0/150163, Vol 33, Jan 2020.

2019

1. Sushmita Sarkar, K. Uma Rao, Prema V, Jayant Bhargav, Shourya T.R , “Novel Modular LS-SVM Based Regression Model for Prediction of Solar Power”, International Journal of Engineering Sciences and Management - A Multidisciplinary Journal of VTU 2019; Vol: 1, No: 1, pp: 01-07.

2018

1. Nittala Ramachandra, Alivelu M. Pirimi and K. Uma Rao, “ Experimental prototype model of IDVR for bidirectional voltage compensation”, International Journal of Power Electronics and Drive Systems (Scopus indexed) Vol 9, No 1., March 2018, pp 297-304
2. Nittala Ramachandra, Alivelu M. Pirimi and K. Uma Rao, “ A real time implementation of IDVR for improvement of power quality”, International Journal of Power Electronics , Inderscience (Scopus Indexed – In Press)
3. A.V. Pavan Kumar, Alivelu M. Parimi, K. Uma Rao , “ Tie-line frequency bias control of two area PV-wind hybrid power system for micro grid application”, UPB Scientific Bulletin Series C, Electrical Engineering and Computer Science (Scopus indexed), Vol 80, Issue 1, pp 217-230, 2018, ISSN 2286-3540.
4. Amit S Closepet. and K Uma Rao, “Load Scheduling and Solar Based Energy Cost Optimization For Consumers In Developing Countries”, International Journal Of Engineering Sciences & Research Technology. Vol.1, ISSN: 2277-9655, pp 102-108, Feb 2018,
5. Amit S Closepet. and K Uma Rao, “ Limited Supply, Load Scheduling and Solar Energy Combined Cost Optimization for Consumers in Developing Countries”, International Journal of Engineering and Techniques. Vol.1, ISSN: 2395-1303. Pp 241-248, Feb 2018
6. Nittala Ramachandra, Alivelu M. Pirimi and K. Uma Rao , “ Experimental Prototype Model of IDVR for Bidirectional Voltage Compensation”, International Journal of Power Electronics and Drive System (IJPEDS) Vol. 9, No. 1, March 2018, pp. 297~304 ISSN: 2088-8694, DOI: 10.11591/ijped.s.v9n1.pp297-304
7. V.Prema and K. Uma Rao , “Interactive Graphical User Interface (GUI) for Wind Speed Prediction Using Wavelet and Artificial Neural Network”, Journal of The Institution of Engineers (India): Series B Electrical, Electronics & Telecommunication and Computer Engineering ISSN 2250-2106 J. Inst. Eng. India Ser. B DOI 10.1007/s40031-018-0339-3, May 2018, Published by Springer

2017

1. K. Uma Rao, V.Prema , “Personalized assignments to address skills in a heterogeneous classroom: A case study of a course on ‘Smart grid technologies”, Journal of Engineering Education Transformation, Vol 30, Issue 119,pp 258-264.
2. K. Uma Rao, Chaitra A Reddy, G Chaitanya Lakshmi, Vaishnavi G, “Efficiency Enhancement of the Solar Cells through Subwavelength Scaled Biomimiced Moth Eye Patterning using Lumerical Solutions “, Elsevier Materials Today: Proceedings 4 (2017) 10407–10411
3. Nittala Ramachandra, Alivelu M. Pirimi and K. Uma Rao, “ Application of PST source based DC link restoration for IDVR, “ International Journal of Electrical and Computer Engineering , Vol 10, No 3. , pp 1103-1111, June 2017
4. A.V. Pavan Kumar, Alivelu M. Parimi, K. Uma Rao, “ Performance analysis of PLC controlled PV-wind hybrid power system for DC load with real time data”, Journal of Electrical and Electronics Engineering, Vol 10, No 1, pp 15-20, May 2017, ISSN 2067-2128.

5. Fuzzy Logic Based Optimization For Load Scheduling To Manage Grid Outages In Developing Countries, Amit S Closepet. and K Uma Rao. International Journal of Engineering and Technology, Vol 9, Issue 3, ISSN : 2319-8613, pp 1561-1569, 2017

2016

1. K. Vetrivel, S. Ganapathy, and K. Uma Rao, PSO based Congestion Management in Deregulated Power Systems using Optimal Allocation of TCSC”, International Journal of Innovation and Scientific Research, ISSN 2351-8014 Vol. 25 No. 1, Jun. 2016, pp. 67-77
2. K. Uma Rao, Prema V., “An Innovative Multi-Disciplinary Active Learning Task Towards OBE-A Case Study”, Journal of Engineering Education Transformations, Special Issue 2016, DOI: <http://dx.doi.org/10.16920/jeet%2F2016%2Fv0i0%2F856776>.
3. Sridhar., K. Uma Rao, Harish. K., Raksha Umesh, “Simultaneous Detection of Broken Rotor Bar Fault and PQ disturbances in the Supply to Induction Motor Using Neuro-Fuzzy Logic”, International Journal of Innovative Research in Science, Engineering and Technology, Vol-5, Issue-4, April 2016, pp 1333-1341.
4. Sridhar. S, K. Uma Rao and Sukrutha Jade, “Detection and Classification of Power Quality Disturbances in the Supply to Induction Motor Using Wavelet Transform and Neural Networks”, Balkan Journal Of Electrical & Computer Engineering, DOI: 10.17694/bajece.62699, March 2016, pp 37-45.
5. K Uma Rao, Prabhasa K, Mohammed Moiz, Sanjith P Hemagiri, MahaboobBasha T, “An Efficient Power Management Scheme for Making Indian Grids Smart”, International Journal of Electrical Electronics & Computer Science Engineering Special Issue - NEWS 2016 | E-ISSN : 2348-2273 | P-ISSN : 2454-1222.
6. Vijaya Margaret and K. Uma Rao “Smart Load Shedding Using GA And ACO in a smart grid environment, Journal of Electrical Engineering, Romania, Volume 16, Edition 4, pp 47-53.
7. K. Uma Rao, V.Prema , “Personalized assignments to address skills in a heterogeneous classroom: A case study of a course on ‘Smart grid technologies’”, Journal of Engineering Education Transformation, Vol 30, Issue 119, pp 258-264.
8. AV Pavan Kumar, Alivelu Pirimi, K. Uma Rao, “ Discrete PLL based LFC for wind turbines”, International Journal of Power Electronics and Drive Systems, Vol 7, Issue 4, Dec 2016, pp 1320-1329.
9. Nittala Ramachandra, Alivelu M. Pirimi and K. Uma Rao, “ A real time application of IDVR for improvement of power quality”, International Journal of Control theory and applications, Vol 10, Issue 16, 2017, pp 95-102.

2015

1. AbhaTripathi, K. Uma Rao, L. Venkatesha , “Effective damping control with TCSC using dynamic inversion technique”, International Journal of Electrical Engineering, Turkey, Vol 21, No 2, pp 67-74, Jan 2015.
2. V. Margaret, K. Uma Rao and G.G. Ganeshprasad, “Intelligent Load Shedding Using AntColony Algorithm in Smart GridEnvironment”, Springer India 2015, Lecture Notes in Electrical Engineering 326, DOI 10.1007/978-81-322-2119-7_112, pp 1149-1162
3. Prema.V., K. Uma Rao, “Application of Curve Fitting and Surface Fitting Tools for High Leverage Points and Outliers of Wind Speed Prediction “International Journal of Science and Research (IJSR) ISSN (Online): 2319-7064, Vol4, Issue 4, pp: 2585-2588, April 2015.
4. Prema.V., K. Uma Rao , “Development of statistical time series models for solar power prediction”, Renewable Energy , Elsevier, pp 100-109, March 2015.
5. Amit S. Closepet, K. Uma Rao, “Supply Side Management for Cost optimization in Developing Countries Suffering with Power Outage “, Journal of Power and Energy Engineering, 3, 319-325 <http://dx.doi.org/10.4236/jpee.2015.34043>
6. Prema.V , K. Uma Rao, “Time series decomposition model for accurate wind speed forecast” , Springer , Renewables : Wind, Water and Solar, Vol 2, Issue 1, <http://www.springer.com/-/0/AVESpMJt2brxj7RSeAZI>
7. V.Prema, K. Uma Rao, “Application of Hybrid Neuro-Wavelet Models for Effective Prediction of Wind Speed” Springer lecture notes on Intelligent Systems Technologies and Applications”, edited by Berretti, S. and Thampi, S.M. and Srivastava, P.R., “Volume 1, pages 345-354, Year 2015, Springer International Publishing, ISBN 9783319230368, url: <https://books.google.co.in/books?id=D111CgAAQBAJ>
8. Anupama Prakash, Uma Rao K, SoumyaSaxena and Sushmita T Rayabagi, “Challenges in manufacturing and end-of-life recycling or disposal of solar PV panels”, IOSR Journal of Electrical and Electronics Engineering (IOSR-JEEE)
e-ISSN: 2278-1676,p-ISSN: 2320-3331, Volume 10, Issue 4 Ver. III (July – Aug. 2015), PP 81-87
9. Sridhar. S, K. Uma Rao , Sukrutha Jade “Identification of Rotor Bar Fault in Induction Motor in Presence of PQ Disturbances Using FFT-DWT Based Integrated Neural Network”, International Electrical Engineering Journal (IEEJ), Vol. 6 (2015) No.11, pp. 2074-2082,ISSN 2078-2365, pp 2074-2084.

2014

1. Sudha L.K., Sukumar Roy and **K. Uma Rao**, "Evaluation of Activation Energy profiles of nanostructured alumina polycarbonate composite insulation materials", *International Journal of Materials, Mechanics and Manufacturing*,

Vol 2, No 1, Feb 2014, pp 96-100, ISSN 1793-8198, DOI 10.7763/IJMMM.2014.V2.108

2. Arjun M., K. Uma Rao and Deshpande R.A., “ Wind energy conversion system for rural application”, The Journal of CPRI, Vol 10, No 1, March 2014, pp 175-182.
3. Arjun M., K. Uma Rao, A.B. Raju, " Voltage and current control strategy for grid connected WECS employing two and three level voltage source converters" , Renewable Energy and Power Quality Journal, ISSN 2172-038 X, No.12, , pp 1-6, April 2014
4. A. V. Pavan Kumar, Alivelu M. Parimi , K. Uma Rao, "A Comparative Study of Model Based Design of PV cell in MATLAB/Simulink/Simscape ", International Journal of Advanced Trends in Computer Science and Engineering, Vol. 3 , No.1, Pages : 37 - 42 ,, ISSN 2278-3091, April 2014
5. Abha Tripathi, K. Uma Rao, L. Venkatesha, “Excitation control of synchronous machine using dynamic inversion control”, ACEEE, Journal of recent trends in engineering and technology, Vol 11, 446-455, June 2014.
6. Sudha L.K., Sukumar Roy and **K. Uma Rao**, “ Capacitance and glass transition temperature of Nano Structured Alumina Polycarbonate Composites”, Journal of Applied Mechanics and Materials, Trans Tech Publications, Switzerland, Vol 446-447 (2014), pp 73-78. DOI : 10.4028/www.scientific.net/AMM.446-447.73

2013

1. S. Pradeepa, **K. Uma Rao**, RavishankarDikshit, “Development of a robust constant current source for a current source inverter”, *International Journal of Engineering Research and Development*, vol 5, Jan 2013, pp 7-13. E-ISSN 2278-0671
2. P. Meena, **K. Uma Rao**, RavishankarDeekshit, ” Performance of system functions as effective simulation tool for implementation of customized algorithms”, *IOSR Journal of Electrical and Electronics Engineering (IOSR-JEEE)* Volume 4, Issue 6 (Mar. - Apr. 2013), PP 31-37, e-ISSN: 2278-1676
3. P. Meena, **K. Uma Rao**, RavishankarDeekshit, “Detection and classification of short duration disturbances”, *Proceedings of the IASTED International Conference Power and Energy Systems (AsiaPES 2013)* April 10 - 12, 2013 Phuket, Thailand, PP 270-275, DOI: 10.2316/P.2013.800-120.
4. Shanthakumari K, Meena P, **Uma Rao K**, Prema V, “ Modeling, parametric estimation and testing of a low power PV panel”, *International Journal on Energy*

Conversion (IRECON) , Praise Worthy Prize Publication, Vol 1, No 4, July 2013, pp 196-202, ISSN 2281-5295.

5. K. Uma Rao and Anupama Prakash, "Transition of Indian Women in Engineering Domains –Opportunities and Challenges", *International Journal of Current Engineering & Technology*, ISSN 2277-4106, pp 65-70.(special issue, Sept 2013)
6. Akshay Kumar Shastry, Sanjay Anand, V. Chaitra, K. Uma Rao, D.R. Akshay , "Sonar validation for SLAM", *International Journal of Innovation, Management and Technology*, Vol 4, No 5, pp 498-501; DOI: 10.7763/IJIMT.2013.V4.450 October 2013
7. B. S. MeghaParameshwari, B. S. Madhurya, and K. Uma Rao , "A Cost Effective Prototype for Electrooculogram for Effective Eye Tracking " *International Journal of Innovation, Management and Technology*, Vol 4, No 5, October 2013, pp 494-497; DOI: 10.7763/IJIMT.2013.V4.449

1996-2012

1. K.R. Padiyar, M.K. Geeta and **K. Uma Rao**, "A Novel Power Flow Controller for Controlled Series Compensation", *IEE proceedings on AC & DC Power Transmission*, London, May, 1996.
2. K.R. Padiyar and **K. Uma Rao**, "Discrete Control of Series Compensation for stability improvement in Power Systems", *International Journal of Electrical Power and Energy Systems*, Vol 19, No.5 PP 311-319, 1997, DOI -10.1016/S0142-0615(96)00056-7.
3. K.R. Padiyar and **K. Uma Rao**, "Modelling and Control of Unified Power Flow Controller for Transient Stability", *International Journal of Electrical Power and Energy Systems*, Vol 21 (1999) 1-11., DOI -10.1016/S0142-0615(98)00028-3.
4. A. Jayalaxmi, G. Tulasi Ram Das and **K. Uma Rao**, "Role of PI and fuzzy controllers in UPQC", *ARPN (Asian research publishing network) Journal of Engineering and Applied Sciences.*, Vol 2, pp 1-10, April 2007. ISSN 1819-6608
5. P. Meena, **K. Uma Rao** and RavishankarDikshit, "A simple method for real-time detection of voltage sags and swells in practical loads", *European Power Electronics Journal* , Vol. 21 , No 3 , September 2011, pp 33-40.
6. S.Sridhar, **K. Uma Rao** and AkshayD.R. "Intelligent monitoring of induction motor for fault detection and analysis", *IntJrn of Electrical and Electronics Engineering*, Vol 14, Issue 1, pp 47-54, 2011, ISSN - 0974-2042.
7. P. Meena, **K. Uma Rao** and RavishankarDikshit , "Frequency measurement and tracking algorithm for integrated grids", *Electrical Power systems and computers*,

LNEE 99, Springer-verlag 2011, pp 201-212. On-line ISBN- 978-3-642-21747-0; Print ISBN- 978-3-642-21747-3.

8. P. Meena, **K. Uma Rao** and RavishankarDikshit,“A simple algorithm for fast detection and quantification of voltage deviations using space vectors”, *International Journal of Engineering Sciences and Management*, Vol-1, Issue -11, July-Dec 2011, pp 88-98.
9. P. Meena, **K. Uma Rao** and RavishankarDikshit,“A simple method for real-time detection of voltage sags and their mitigation using a dynamic voltage restorer”,*European Association for the development of renewable energies, Environment and Power Quality*, March 2012.
10. Channaveer P. Malad&**K. Uma Rao**, “Simulation of a buck-boost single phase voltage source inverter for distribution generation systems”,*International Journal of Modern Engineering Research (IJMER)*, Vol.2, Issue.5, Sep.-Oct. 2012 pp-3628-3632 ISSN: 2249-6645

Book Chapters

1. Prema.V and K. Uma Rao, “ Application of Hybrid Neuro-Wavelet Models for Effective Prediction of Wind Speed”, *Intelligent Systems Technologies and Applications*, Volume 1, pages 345-354, Year 2015, Springer International Publishing, ISBN 9783319230368.
2. Vijaya Margaret and K. Uma Rao , “Intelligent Load Shedding Using Ant Colony Algorithm in Smart Grid Environment.”, *Springer Lecture notes in Electrical Engineering*, Vol 326, 2015, ISBN 978-81-322-2119-7

International Conferences

Total Number of papers : 107

2020

1. K. Uma Rao, Prema V and K. N. Subramanya, “Design of an Effective Flipped Classroom Session for Enhanced Learning Outcome”, *International conference on Transformations in Engineering Education*, Anurag Institution, Hyderabad, Jan 7th – 8th .
2. K. Uma Rao, Prema V and K. N. Subramanya, “Plickers : An ICT tool for formative assessment and feedback”, *International conference on Transformations in Engineering Education*, Anurag Institution, Hyderabad, Jan 7th – 8th .

2019

1. R.Venkatswamy , K. Uma Rao and P. Meena, “ Deformation Diagnostic Methods for Transformer Winding through System Identification”, *2019 International Conference*

- on “Data Science and Communication”; 01 - 02 March, 2019 , CHRIST (Deemed to be University), Bangalore, (INDIA)
2. R.Venkatswamy, K. Uma Rao and P. Meena, “ Development of Internet of Things Platform and Its Application in Remote monitoring and Control of Transformer Operation”, 16th International Conference on Remote Engineering and Virtual Instrumentation (REV2019), 03–06 February 2019, pp 369-388, B.M.S.College of Engineering, Bengaluru, India
 3. Sushmita Sarkar and K. Uma Rao , “Signature Analysis of Electrical Faults in Standalone PV Systems with Storage”, 3rd IEEE International conference on Recent Developments in Control automation and Power Engineering(RDCAPE-2019), Amity university, Oct 10-11, 2019.
 4. Jyothi R, K. Uma Rao and R. Jayapal, “Automatic Fault Diagnosis System for Voltage Source Inverter Driven Induction Motor, 3rd IEEE International conference on Recent Developments in Control automation and Power Engineering(RDCAPE-2019), Amity university, Oct 10-11, 2019.
 5. Sushmita Sarkar, K.Uma Rao, Jayanth Bhargav, Shrikesh Sheshaprasad, Anirudh Sharma CA , “ IoT Based Wireless Sensor Network (WSN) for Condition Monitoring of Low Power Rooftop PV Panels , 2019 IEEE 4th International Conference on Condition Assessment Techniques in Electrical Systems (CATCON) , IIT Chennai, 21st -23rd, Nov, 2019
 6. R Venkataswamy, K Uma Rao and P Meena , “Internet of Things based Metaheuristic Reliability Centered Maintenance of Distribution Transformers”, International Conference on Sustainable and Green Technology, Bangkok, 11-14 Dec, 2019.

2018

1. Jayanth Bhargav, Shourya T R, Arti Anantharaman, Chinmay C, K Uma Rao, Girish Rao Salanke, “ Parametrics for the choice of Embedded Systems and Control Algorithms for Application Specific Robot Designs”, Proceedings of the Second International Conference on Inventive Systems and Control (ICISC 2018) IEEE Xplore Compliant - Part Number:CFP18J06-ART, ISBN:978-1-5386-0807-4; DVD Part Number:CFP18J06DVD, ISBN:978-1-5386-0806-7
2. Prema V. and K. Uma Rao, “Integrated Intelligent Power Management Strategy (IIPMS) to optimize green energy usage in standalone microgrid”, Proceedings of the National Power Systems Conference (NPSC) - 2018, December 14-16, NIT Tiruchirappalli, India.
3. Raja Vidya, Uma Rao.K, poster on “The Future of Wireless Power Transfer to Charge EVs”, Second National Power Engineering Research Scholars Feb 24 -25, 2018 at IIT Chennai.

4. Raja Vidya, Uma Rao K, poster on “IoT Application for Vehicle Management and Infrastructure Design to Promote Electric Vehicles”, Workshop on 'Battery Technologies and Electric Mobility' March 08 - 09, 2018 at HP Green R&D Centre, HPCL, Bengaluru

2017

1. Uma Rao K, V.Prema , “Personalized assignments to address skills in a heterogeneous classroom: A case study of a course on ‘Smart grid technologies”, International Conference in Transformations in Engineering Education (ICTIEE2017), Vardhaman College of Engineering, Hyderabad, Jan 5-7 , 2017.
2. Justin Jose, Margaret V., and Uma Rao K, “Impact of various demand response contracts on short term load forecasting in smart grid using SVR optimized by GA,” Proc. of International Conference on Innovations in 191 Power and Advanced Computing Technologies (iPACT2017), Vellore, Tamilnadu, 21- 22 April, 2017.

2016

1. Praveen. M. and K. Uma Rao, “Speed Control of an Inverter Driven Induction Motor by Bus-Clamping SVPW”, 2016 Biennial International Conference on Power and Energy Systems:Towards Sustainable Energy (PESTSE), Amritha School of Engineering, Bengaluru. 978-1-4673-6658-8/16/ ©2016 IEEE
2. Aravind Bhat, K. Uma Rao, Praveen P.K. and B.K. Singh, “Multiple Output Forward DC-DC Converter with Regenerative Snubber for Space Application”, 2016 Biennial International Conference on Power and Energy Systems:Towards Sustainable Energy (PESTSE), Amritha School of Engineering, Bengaluru. . 978-1-4673-6658-8/16/ ©2016 IEEE
3. Aravind Bhat, K. Uma Rao, Praveen P.K. and B.K. Singh, “ Multiple Output Forward DC-DC Converter with Mag-amp Post Regulators and Voltage Feedforward Control for Space Application”, 2016 Biennial International Conference on Power and Energy Systems:Towards Sustainable Energy (PESTSE), Amritha School of Engineering, Bengaluru. . 978-1-4673-6658-8/16/ ©2016 IEEE
4. K. Uma Rao, Chaitra A Reddy, G. Chaitanya Lakshmi, VaishnaviG,”Efficiency Enhancement Of The Solar Cells Through Subwavelength Scaled Biomimiced Moth Eye Patterning Using Lumerical Solutions”, International Conference on recent trends in engineering and material sciences , ICEMS-2016, March 17-19, 2016, Jaipur National University, Jaipur, India
5. Sudha L.K., Sukumar Roy, K. Uma Rao,” Effect of nano fillers on the dielectric properties of nano structured amorphous alumina modified polycarbonate composites”, International Conference on recent trends in engineering and material sciences , ICEMS-2016, March 17-19, 2016, Jaipur National University, Jaipur, India

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12. **K. Uma Rao** & Babita Jain, "Expert System Development for fault diagnosis to improve Power System Reliability", *National Conference on Recent Trends in Reliability & Power Systems*, RGM College of Engineering, Nandyal, October 2003.
13. P. Paul Clee & **K. Uma Rao**, "Microprocessor based Static Var Compensator Control", *National Conference on Recent Trends in Reliability & Power System*, RGM College of Engineering, Nandyal, October 2003.
14. A. Jaya Laxmi, G. Tulasi Ram Das, **K. Uma Rao**, "Design, Control and Simulation of Unified Power Flow Controller", *National Conference on Emerging Trends in Power System Operation and Control* at Gayathri Vidhya Parishad College of Engineering, VIZAG during December 2003.
15. A. Jaya Laxmi, G. Tulasi Ram Das, **K. Uma Rao**, "Control Strategy of Unified Power Flow Controller", *National Conference on Digital Convergence for Quality Education* conducted by Computer Society of India at Guru Nanak Engineering College, Hyderabad during December 2003.
16. A. Jaya Laxmi, G. Tulasi Ram Das, **K. Uma Rao**, "Power Quality improvement using Active Power Quality Conditioner", *Recent Advances in Electrical Engineering (EAR-2004)*, Department of Electrical Engineering, JNTU College of Engineering, Anantapur on 4th December 2004.
17. A. Jaya Laxmi, G. Tulasi Ram Das, **K. Uma Rao**, "Adaptive Unified Power Flow Controller for improvement of Transient Stability performance", *Twelfth National Power Systems Conference (NPSC 2004)* held at IIT, Chennai, during 27-30 December 2004.
18. A. Jaya Laxmi, G. Tulasi Ram Das, **K. Uma Rao**, "Analysis & Simulation of Unified Power Quality Conditioner with various control strategies", *68th Annual Meeting of Institution of Engineers (Khairatabad)* on 29th October 2005.
19. A. Jaya Laxmi, G. Tulasi Ram Das, **K. Uma Rao**, "Design and control strategy of Dynamic Voltage Restorer", *Recent Advances in Electrical Engineering, Department of Electrical Engineering*, JNTU College of Engineering, Anantapur on 10th December 2005.

Articles

1. "Solar Power : The bridge to future rural electrification", *Electrical India (Elecrama 2014 sp issue)*, Vol 54, No 1, Jan 2014, pp 81-89.
2. "Lighting systems and their effect on power quality", *Electrical India*, Sept 2015, pp 40-42.

Others

1. K. Uma Rao and R.Umesh "*Search for excellence in Engineering Education and Training*", IEE VSP Local Centre, 1997 Engineers Day, pp-13, 14.
2. K.Uma Rao, "*Integration of multiple dimensions for Quality Improvement of Technical Institutions*", ISTE Annual Convention and National Seminar on "Human Values in Technical Education", Bhubaneswar, Dec. 2001
3. K. Uma Rao "*A.H. Maslow's Need Hierarchy Applied to Technical Institutions*", The Indian Journal of Technical Education, Vol 25, No 4, Oct-Dec 2002, pp 87-91.

Invited Talks In The Last Three Years

2019

1. Power quality issues, FACTS applications, Rectifier, Inverter and Power conditioning systems in RE integration PSTI Nov 2nd
2. AC and DC distribution systems, "JNTUH – FDP on power systems from 23-27 sept. Talk on 26th.
3. "Research Methodology", at Don Bosco Institute of Technology, July 19-21.
4. "Literature review and planning for research", at Dayanand Sagar Academy of technology and management, Feb 23rd.
5. "Impact of harmonics on power grid", Narayanamma Institute of Technology and Science", 10th Oct.
6. "Neural Networks and Fuzzy Logic", training at FDP, Osmania University, 20th and 21st, Nov.

2018

1. Power Quality, Active filters and Reactive power management, Jan 14th and 15th, Hotel Shangri La, For senior engineers from Abudhabi Distribution Company.
2. Modern power electronics drives, future and trends, 16th Jan, FDP at BNMIT, Bangalore.
3. Introduction to Neural Networks and their applications in Electrical Engg, NMAMIT, Nitte, Feb 2nd.
4. Power quality and Harmonic mitigation, 1st Feb, for engineers from utility, PSTI, Bangalore.
5. Basics of power systems, 3rd July, PSTI, Bangalore
6. Time Management, 18th August, RG Orchid Hotel, IEEEComSoc meeting.
7. Forecasting Techniques, 18th Dec, FDP on recent trends in power systems, SJCE Mysore.

2017

1. DC in distribution systems and LVDC microgrid, Siddhartha Institute of Technology, Tumkur, Jan 10th.
2. PQ issues with renewable sources and Mitigation of PQ problems, 24th Feb, CPRI, Bangalore.
3. Gender sensitivity, Feb 27th, Govt Science College, Bangalore
4. PQ issues with renewable energy, Aug 18th, PSTI, Bangalore
5. Women in Power Engineering , Nov 8th, Asia Pacific Power and Energy Conference
6. Fuzzy logic controllers , 22nd Nov, Bijapur
7. Graphic user interface in MATLAB , Bijapur
8. Fuzzy logic and Artificial Neural Network applications to power systems, MIT, 29th and 30th Nov.