Dr. Ch.Ravi Kumar, B.Tech (EEE), M.Tech (Control Systems), Ph.D (Power Systems)

Assistant Professor

Department of EEE

Dr YSR ANU College of Engineering & Technology

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Academic Qualifications:

Ph. D – Power Systems, "**Intelligent and fractional order based Load frequency controllers for Multi area Power Systems",** ANU, 2017.

M. Tech – Control Systems, JNTU Anantapur, Andhra Pradesh, India, 2003-2005.

B.Tech - Electrical & Electronics Engineering, Akula SreeRamulu Engineering College,Tanuku, Andhra Pradesh, India, 1999-2003.

Experience:

1. Assistant Professor, Department of Electrical & Electronics Engineering, ANU College of Engineering and Technology, Acharya Nagarjuna University, Guntur, 01/09/2009 to till date

2. Assistant Professor, Department of Electrical & Electronics Engineering, SRKR Engineerng College, Bhimavaram, A.P., India, 02-12-2004 TO 31-08-2009

Subjects Handled in the Department:

For U.G	:	Electrical Machines-I
		Electrical Machines-II
		Network Theory
		Control Systems
		Microprocessors and Micro controllers
		EMF theory
		Computer Architecture and Organization
		Basic Electrical and Electronics Engineering
		Electrical Technology
		Digital Control Systems

For P.G	:	Modern Control Theory
		AI Techniques

Labs Handled	:	Electrical Machines I
		Electrical Machines-II
		Control Systems
		Electrical Technology
		MPMC Lab
		Networks lab

Research Interests:

Power System Operation and Control, Fractional order controllers, Optimization techniques, Power Quality, Micro grid, Electrical Vehicles.

Research Activities:

1. No of Patents	: 02
2. No of journal papers published	: 30
3. No of conference papers presented	: 08
4. No. of workshops , FDP's Organized/attended	: 05/ 10

Patents:

1. Ch Ravi Kumar, G.Veeranna, et al.2022 "Automatic fault diagnosis of BLDC motors by motor current data using machine learning" Indian Patent, 202241022833 A . Sanctioned Date 13/05/2022.
2. Ch Ravi Kumar, K.Maheswara Rao et al.2022 "Microgrid line loss abnormality management under grid environment" Indian Patent, 202241040266 A . Sanctioned Date 22/07/2022

Journals:

1. Majahar Hussain Mahammad, Ch.Ravi Kumar " A Novel Meta Heuristic Algorithm based Optimized Load Frequency Controller" Indonesian Journal of Electrical Engineering and Computer Science, Vol. 28, No.1,September,2022, pp. ISSN: 2502-4752.
2. Majahar HussainMahammad Chekka Ravi Kumar, "A Novel 2DOF Fractional Controller for Wind-Solar Integrated Power System," Indones. J. Electr. Eng. informatics, vol. 10, no. 3, 2022.
3. Majahar HussainMahammad Chekka Ravi Kumar, "Comparison of Metaheuristic Techniques for Optimization of a Novel Controller in Hybrid AC/DC Microgrid," International Journal of Applied Power Engineering, vol. 12, no. 1, 2023 **(In Review)**

4. G.Tejaswi, Dr.Ch.Ravi Kumar, " Design and Investigation of Maximum Power Point Tracking for Hybrid Renewable Energy Sources by Cuckoo Search Algorithm " International Journal of Integrated Engineering.

5. G.Tejaswi,S.Ramesh Kumar,Ch.Ravi Kumar," Integration of Power Grid Associated Wind, Fuel Cell & Solar Energy Systems Implementing Fuzzy MPPT Technique", Indian Journal of Natural Sciences, 2022.

6. Kuthadi, K.K., Sridhar, N.D. & Kumar, C.H.R. Optimal placement of FACTs devices for enhancing of transmission system performance using whale optimization algorithm. Int J Interact Des Manuf (2022). https://doi.org/10.1007/s12008-022-00917-x

7. Ravi Kumar, Kuthadi, K.K., " Optimal Placement of IPFC Device for Enhancing Transmission System Performance Using WIPSO", 3rd Electric Power and Renewable Energy, 2022.

8. Kuthadi, K.K., Sridhar, N.D. & Kumar, C.H.R. Soft Computing Applications in Modern Power and Energy Systems. Springer Nature Singapore Pte Ltd (2022).

9. Ch.Ravi Kumar, Kiran Kumar Kuthadi, ND. Sridhar, "Application of Optimization Algorithms to Enhance the Transmission System Performance Using Thyristor Controlled Series Capacitor", J. Inst. Eng. India Ser. B(Springer) (2021). https://doi.org/10.1007/s40031-021- 00650-1.

10. Karimulla Syed Mohammad, Ch.Ravi Kumar, "Power Monitoring in Autonomous DC Micro Grid Connected with SPV Modules", Jour of adv research in dynamical & control systems, vol. 12, Issue-02, 2020. DOI: 10.5373/JARDCS/V12I2/S20201259

11. Kiran Kumar Vadlamudi, Ch.Ravi Kumar , , "Efficient Home Energy Management System based on Power mode shifting", Jour of adv research in dynamical & control systems, vol. 12, Issue-02, 2020. DOI: 10.5373/JARDCS/V12I2/S20201260.

12. Ch.Ravi Kumar, G. Tejaswi, S. Ramesh Kumar,, "Modified Multilevel Inverter fed from Fuel Cell and Wind Energy System", Jour of adv research in dynamical & control systems, vol. 12, Issue-02, 2020. DOI: 10.5373/JARDCS/V12I2/S20201247

13. Majahar Hussain Mahammad, Ch.Ravi Kumar , "Implementation of Set Point Weighted Two Degree ofFreedom (TDOF) PID Controller for a Hybrid Interconnected System to improve Load Frequency Control", Jour of adv research in dynamical & control systems, vol. 12, Issue-02, 2020. DOI: 10.5373/JARDCS/V12I2/S20201255.

14. Ch.Ravi Kumar, Kiran Kumar Kuthadi, ND. Sridhar, "Voltage Stability Index Based Optimal Placement of SVC in Power System Network Using Weight Improved PSO", Jour of adv research in dynamical & control systems, vol. 12, Issue-02, 2020. DOI: 10.5373/JARDCS/V12I2/S20201248.

15. M Dhanunjaya Naidu, Ch.Ravi Kumar, "Analysis and Control of Shunt Active Power Filter by Use of PQ and DQ Theories", International Journal Of Innovative Research In Technology (IJIRT), Volume-6 Issue-4, September 2019.

16. N Arjuna Rao, Ch.Ravi Kumar, "Speed Control of Brushless Dc Motor by Using PID and Fuzzy Logic Controller", International Journal Of Innovative Research In Technology (IJIRT), Volume-6 Issue-4, September 2019.

17. J C Srinu, Ch.Ravi Kumar, "A Fuzzy Based STATCOM Control Scheme is used in Wind Energy Generation Interface to Grid for Improving the Power Quality", International Journal of Innovative Research In Technology (IJIRT), Volume-6 Issue-4, September 2019.

18. Ch.Ravi Kumar, G. Tejaswi, S. Ramesh Kumar, "PV-FC Systems Fed Multilevel Inverter by Employing PI Controller" International Journal of Innovative Technology

and Exploring Engineering (IJITEE) ISSN: 2278-3075, Volume-9 Issue-1, November 2019.

19. Ch.Ravi Kumar, Kiran Kumar Kuthadi, ND. Sridhar, "WIPSO, PSO and GA Techniques to Locate UPFC Effectively in Power System to Improve Voltage Stability and Reduce Losses", International Journal of Recent Technology and Engineering (IJRTE), Volume-8 Issue-2, July 2019, DOI: 10.35940/ijrte.B2048.078219.

20. Kiran Kumar Vadlamudi, Ch.Ravi Kumar , , "An enhanced methodology on Internet of Things with cloud in smart electrical systems", International Journal of Recent Technology and Engineering, vol.8, Issue-3, 2018.

21. Ch.Ravi Kumar, P.V.Ramana Rao 'Fractional Order Automatic Generation Controller For A Multi Area Interconnected System Using Evolutionary Algorithms' International Journal of Applied Engineering Research, ISSN 0973-4562, January 2016.

22. Pd Srinivas, Vasadi Srinivasa Rao, Ch Ravi Kumar, "Particle Swarm Optimization Based LFC of Two Area Interconnected Power System" International Journal of Scientific Engineering and Technology Research, Volume.04, IssueNo.56, December-2015, Pages: 12092-12100.

23. C. R. Kumar and P. V. R. Rao, "PSO based fractional order automatic generation controller for a three area interconnected system," 2015 International Conference on Electrical, Electronics, Signals, Communication and Optimization (EESCO), 2015, pp. 1-6, doi: 10.1109/EESCO.2015.7253682.

24. C. R. Kumar and P. V. R. Rao,"Cat Swarm Optimization Based Fractional Order Automatic Generation Controller for A Multi Area Interconnected System"9th Asia IEEE International Conference on Mathematical modelling and Computer Simulation,2015.

25. Vasadi Srinivasa Rao, Pd Srinivas, , Ch Ravi Kumar, "Load Frequency Control (LFC) of Three Area Interconnected Power System using Adaptive Neuro Fuzzy Interface System" International Journal of Scientific Engineering and Technology Research, Volume.04, IssueNo.43,October-2015, Pages: 9782-9788.

26. Kamal Md Saleh,Ch Ravi Kumar, "An ANFIS Based Control Strategy to Improve Performance of Shunt Active Power Filter for Renewable Power Generation Systems" International Journal of Scientific Engineering and Technology Research, Volume.04, IssueNo.26, July-2015, Pages: 4994-5002.

27. Ch.Ravi Kumar, Dr.P.V.Ramana Rao 'PSO based fractional order automatic generation controller for two area interconnected system' International Journal of Electrical Engineering Technology (IJEET) volume5, issue9, pp. 17-28,September - 2014. ISSN Print: 0976-6545, ISSN online: 0976-6553.

28. Mothiram Bhukya, Bolisetti Naveen, Ch.Ravi Kumar 'Fuzzy Based Power Flow Control In Grid Connected Microgrid Consisting Of Pv-Pemfc Hybrid System' i-managers Journal on Circuits and Systems, vol-2 no.1 Feb-2014

29. Ch.Ravi Kumar, Dr.P.V.Ramana Rao 'Automatic Generation Control of Three area Interconnected Power System using Hybrid Neuro Fuzzy Controller' International Journal of Electrical Engineering Research & Applications (IJEERA) volume1, issue4, Sep- 2013

30. Ch.Ravi Kumar, Dr.P.V.Ramana Rao 'Application Of Hybrid Neuro Fuzzy Controller For Automatic Generation Control Of Three Area Power System Considering Parametric Uncertainties' International Journal of Electrical Engineering Technology

(IJEET) volume4, issue5, pp. 104-114, September- October 2013. ISSN Print: 0976-6545, ISSN online: 0976-6553.

Conferences:

1. Ch.Ravi Kumar, P.V.Ramana Rao 'PSO based Fractional order Automatic Generation Controller for three area inter connected System ' IEEE International Conference on Electrical, Electronics, Signals, Communication and Optimization (EESCO) – 2015.

2. Ch.Ravi Kumar, P.V.Ramana Rao 'Cat Swarm Optimization Based Fractional Order Automatic Generation Controller for A Multi Area Interconnected System' 9th Asia IEEE International Conference on Mathematical modelling and Computer Simulation -2015.

3. Kiran Kumar Kuthadi, ND. Sridhar, CH. Ravi Kumar, "Optimal Placement of IPFC Device for Enhancing Transmission System Performance Using WIPSO" Soft Computing Applications in Modern Power and Energy Systems. Lecture Notes in Electrical Engineering, vol 975. Feb 2023. https://doi.org/10.1007/978-981-19-8353-5_1

4. Majahar HussainMahammad Chekka Ravi Kumar " A novel controller tuned with IWD algorithm proposed for load frequency control in Hybrid AC/DC microgrid "; 2nd International Conference on Emerging Trends in Multi-Disciplinary Research "(ETMDR-2021).

5. Majahar HussainMahammad Chekka Ravi Kumar "Load frequency control of Interconnected power system using 2DOF-PID controller optimized with particle swarm optimization algorithm"; International Symposium on " Advances in Computational Intelligence for Power Systems-(ACIPS-2022).

Workshops and FDPs attended:

1. Modern Trends In Power Systems" 1st and 2nd June 2005, Bhimavaram, S.R.K.R Engineering College.

2. "Power System Automation Through SCADA & GIS" from 4th to 16th June 2007 at Aurora's Engineering College, Bhongir, Nalgonda Sponsored by AICTE, New Delhi

3. "Power System Operation & Computer System Functions In Grid Management" on 27th October 2007 at Gudlavalleru Engineering College, Gudlavalleru.

4. "Emerging Trends in Electromechanical Energy Conversion" during 5th – 9th May, 2008 at GMR Institute of Technology, Rajam , Sponsored by AICTE.

5. "Faculty Awareness camp on Entrepreneurship" during 10th – 12th May 2008 at GMR Institute of Technology, Rajam , Sponsored by NSTEDB-DST.

6. "Neural Network & Fuzzy Logic Applications to Power System Deregulation" during 2nd – 14th June
   2008 at National Institute of Technology, Warangal, Sponsored by MHRD.

7. " National Workshop on Environmental impact of Bio Medical Waste and its disposal" on 25th March 2010 at Vasireddy Venkatadri Institute Of Technology, Nambur.

8. "Hands On Evolutionary Algorithms Using Matlab" during 10th – 12th September 2015 at P.V.P. Siddhartha Institute of Technology, Kanuru, Vijayawada.

9. "Recent Advances In Power Systems" during 18th -19th December 2015 at Acharya Nagarjuna University Sponsored By UGC.