ANJU GUPTA

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➢ **Professor**, Department of Electrical
Engineering, J.C. Bose University of Science and Technology,
YMCA, Faridabad (Haryana)-121006

➢ **Teaching Experience: 25 Years**

QUALIFICATIONS:

➢ Third topper of state in Senior Secondary Examination.

➢ B. Tech (Electrical) N.I.T. Kurukshetra (Gold Medalist) in 1997.

Secured 76.6% marks and was **Gold Medalist** in B.Tech.

State Scholarship holder for consecutive four years in B.Tech.

College scholarship holder for securing first position in semester examination

➢ M. Tech (Control Systems) N.I.T Kurukshetra in 1999.

Secured 78% marks and was **Topper of branch**.

➢ Ph.D in Electrical Engineering in 2014 from MDU, Rohtak

Title of thesis" Optimal Location of FACTS devices using AI tools".

TEACHING EXPERIENCE:

➢ **MAY 2019 - PRESENT:** Professor, JCB UST, YMCA, Faridabad, India

o **Courses taught**

▪ **UG(B.Tech) level**: Fuzzy Control Systems, Power System Dynamics, Control System Engineering, Circuit Theory, Basic Electrical Engineering, Electrical Measurement and Instrumentation

▪ **PG(M.Tech) level:** Power System Dynamics, Stochastic Control, AI Techniques in power Systems including Artificial Neural Network and Genetic algorithm, Python

o **Projects Supervision at B. Tech and M. Tech level**:

UG projects (Major): 10 (Completed), 02(under Process),

PG Major Projects: 15(Completed)

1. Comparison of PID and fuzzy controller for speed control of brushless DC motor using MATLAB SIMULINK.
2. Short term load for casting using Artificial Intelligence.
3. Performance analysis of Grid connected solid oxide fuel cell system and implementation of low-cost inverter for domestic fuel cell applications.
4. Automatic irrigation system using Lab view.
5. A study of adaptive wavelet technique for speckle noise removal.
6. Comparative analysis of PID controller using tuning methods.
7. Modelling and simulation of 6 pulse static synchronous compensator for voltage stability of power system.
8. Design of optimal self-tuning PID controller based on low power consumption for a serve fan cooling system.
9. Modelling and simulation of D-Statcom for voltage Quality improvement.

o **Supervision of Ph. D Scholars:** 03(Under Process)

Uma Yadav, "Performance Improvement of Grid Tied three phase SPPS (Solar Photovoltaic power System)".

Shipra Aggarwal, "Robust Control of DC Micro grids".

- ❖ **JAN 2007-MAY 2019**: Associate Professor, JCB UST, YMCA, Faridabad, India
- ➢ **DEC 2000 - Dec 2006:** Assistant Professor at Institute of Technology and Management (ITM), Gurugram, India
- ➢ **JULY 1999-DEC 2000:** Lecturer at Jind Institute of Engineering and Technology, Jind, India
- ➢ **JAN 1999-JULY 1999:** Lecturer at N.I.T, Kurukshetra, India

ADMINISTRATIVE EXPERIENCE:

- ➢ Worked as active member of women welfare cell since 2012.
  Actively participated and organized various women empowerment and gender sensitization programs and resolved sexual harassment cases.
- ➢ Worked as Chairperson of ICC (Internal Complaint Committee) from Oct 2016-March 2020.
  - Conducted various gender sensitization programs such as expert lectures, workshops for women empowerment.
  - Actively involved in creating awareness among Girls about gender equality and their rights.

- Organised various health and yoga camps for mental and physical health of girl students.
- Organised various skill development programs for girl students of university.

➢ Worked as Centre Superintendent in University Examination in 2016, 2017, 2018 and 2019.
➢ Worked as member central purchase committee of university for three years.
➢ Working as Chairperson, Department of Electrical Engg.in since May 2022.
➢ Working as Vice President of Staff Club in the University since 2022.
➢ Woking as chairperson of Purchase committee, Community college, YMCA
➢ Working as member of Department Promotion Committee.

MAJOR RESERACH INTERESTS:

➢ Flexible AC Transmission Systems

➢ AI Techniques

➢ Power system dynamics

➢ Control techniques

PROFESSIONAL ACHIEVEMENTS:

1. Keynote Speaker on the topic, "**Artificial Intelligence Techniques**" in IETE Sponsored One Day Workshop for Electronics and Electrical Engineers on latest trends" Sept. 2019 at UEM.

2. Member of Interview panel for selection of Assistant Professors in Haryana by State Govt.

3. Chairman of Interview Committee for the Assistant Professors for community college courses (B.Voc in Electrical) 2018.

4. Reviewer of various prestigious International Journals like Information System modelling and design,

5. Reviewer of various IEEE conferences

6. Speaker of webinar on "**Gender myths and leadership opportunities: Post covid 19 lockdown**" on 28th June 2020 organised by J.C. Bose UST, YMCA, Faridabad.

7. Keynote Speaker of IETE sponsored webinar on" **Applications of AI and Machine Learning in Engg**." On 14th July 2020 organised by University of Engineering and Management, Jaipur.

8. Speaker of SDP on "**Basic Computer skills and ICT tools**" organised by J.C. BOSE university of Science and Technology, YMCA, Faridabad from 10th to 14th July 2020.

9. Convener of webinar on "**Artificial Intelligence, Machine Learning and Robotics: A paradigm for new Generation**" on 19th June 2020 organised by Electrical Engg. Department, J.C. Bose UST, YMCA, Faridabad

10. Convener of webinar on "**Building Motivation and Nurturing Opportunities: Post COVID -19 Lockdown**" organised by Electrical Engg. Department, J.C. Bose UST, YMCA, Faridabad on 20th June 2020©

11. Convener of webinar on" **Industry 4.0**: **Thinking with Thing Worx platform for IIOT"** organised by Electrical Engg. Department, J.C. Bose UST, YMCA, Faridabad on 22nd June 2020.

12. Worked as one of the panelist for interview of Professors in Electrical Engg.at Central University Haryana, Mahendergarh.

PUBLICATIONS:

A. INTERNATIONALJOURNALS:

- Jain, S., Ahuja, R.K., Gupta, A. *et al.* Hybrid intelligent h-AFSA-ANN controller for the SPV-BESS-DG-based DC microgrid integrated system. *Electr Eng* (2024). https://doi.org/10.1007/s00202-023-02130-9.

- Uma Yadav, Anju Gupta, Rajesh Ahuja, " A Novel PRESH Controller Design for Three Phase Grid Tied SPPS," Energy Reports, Volume 8, Supplement 1, April 2022, Pages 1-8, DOI: 10.1016/j.egyr.2021.11.173

- Yadav, U., Gupta, A. & Ahuja, R. Experimental validation of novel PRESH controller for TPSPPS. *Electr Eng* **106**, 1805–1814 (2024), https://doi.org/10.1007/s00202-022-01551-2

- Uma Yadav, Anju Gupta, Rajesh Ahuja , "Harmonic Mitigation In Grid-Tied TPSPPS Via Novel PRESH Controller," International Journal of Mathematical Models and Methods in Applied Sciences, **E-ISSN: 1998-0140,Volume 15, 2021, Pages:** 233-238,DOI: 10.46300/9101.2021.15.30

- Yadav, U., Gupta, A. & Ahuja, R, "Analysis of High Performance Two Stage CPG Interfaced with GTSPPS," *Electr Eng* **106**, 1825–1839 (2024). https://doi.org/10.1007/s00202-022-01611-7

- Anju Gupta, Mohan," Modelling and Simulation of DFIG Based Wind Energy Conversion System", Caribbean Journal of Science, ISSN: 0008-6452, Volume 53, ISSUE 2 (MAY - AUG), 2019.

- Rajender Kumar Tayal, Sudhir Kumar, Vikram Singh, Anju Gupta & Deepa Ujjawal, Experimental Investigation and Evaluation of Joint Strength of A356/Mg Bimetallic Fabricated Using Compound Casting Process," International Journal of metal casting, ISSN 1939-5981, Dec 2018,https://doi.org/10.1007/s40962-018-0288-2.

- Subhash Sharma, Anju Gupta, Uma Yadav, DK Bhalla, "Simulation of Grid Connected Solar Power System and Harmonic Reduction" Journal of Power Electronics and Devices, Volume 4, Issue 2, 2018.

- Anju Gupta, P.R.Sharma, "Optimal location of SVC for dynamic stability enhancement based on Eigen value," Electrical and Electronics Engineering: An International Journal (ELELIJ) vol 3, No 1, February 2014.

- Anju Gupta, P.R. Sharma, "Application of GA for Optimal Location of FACTS Devices for Steady State Voltage Stability Enhancement of Power System," International Journal of Intelligent systems and Applications, PP.69-75, 03,Feb 2014,DOI: 10.5815/ijisa.2014.03.07.

- Anju Gupta, P.R. Sharma, "Static and Transient Voltage Stability Assessment of Power System by Proper Placement of UPFC with POD Controller," WSEAS Trans. of Power Systems, Issue 4, Vol 8, October 2013, pp 197-206

- Anju Gupta, P.R. Sharma, "Fuzzy Based Multi-Objective Evolutionary Algorithm for optimal location of FACTS Devices in a Power System," International Review of Modeling and Simulation, Volume 6 issue 4, August 2013.

B. INTERNATIONAL AND NATIONAL CONFERENCES:

- Gupta, A.; Sharma, P.R., "Optimal Location of FACTS devices for voltage stability Using Line Indicators," IEEE Fifth Power India Conference, Murthal, Dec 2012, pp-1-5.

- Gupta, A.; Sharma, P.R, "Static and Transient Stability Enhancement of Power system by optimally placing UPFC (Unified Power Flow Controller)," IEEE Third International Conference on Advanced Computing and Communication Technologies (ACCT), Rohtak, April 2013, pp 121-125.

- Gupta, A.; Sharma, P.R," Fuzzy logic based Auxiliary Controller for Damping Low frequency Oscillations in a Multi-Machine System," IEEE Conference, Confluence 2013,4th international conference, Amity University Noida, 26- 27 Sept, 2013.pp 87-91.

- Anju Gupta, P.R.Sharma, "Optimal Location Of FACTS devices for transient stability enhancement based on Critical Clearing Time(CCT), "proc. International Conference

on advanced computing and communication Technologies, ACCT, Rohtak, April 2014,pp532

- ❖ Anju Gupta, P.R.Sharma, "Static Voltage Stability Enhancement by optimally placing FACTS devices Using Genetic Algorithm", Paper presented in IEEE conference in Allahabad, ICCCCM-2013, 3-4 august 2013.

- ❖ Anju Gupta, P.R.Sharma, "Optimal Placement of Flexible Alternating Current System (FACTS) Devices for Static Voltage stability Enhancement," International conference on Electrical Engineering and Computer Science, Chandigarh, June 2012,pp16-20

- ❖ Lalit Negi, Preeti Ranga, Anju Gupta, Neetu Gupta," Security System using Finger Print Based Authentication," Recent Trends in Science, Engineering, Information Technology & Management, Echelon Institute of Technology, Faridabad, April 2017.

- ❖ Uma Yadav, Anju Gupta, H. K. Rai, D. K. Bhalla," Mitigation of Harmonic Current in Grid-Connected Solar Power System", Recent Advances in Mechanical Engineering, ITME, Oct 2019, pp 605-610.

- ❖ U Yadav, A Gupta, R Ahuja," Robust control design procedure and simulation of PRES controller having PLL in Grid Tied Converter", IEEE 3rd International Seminar on Research of Information technology and Intelligent System, Dec. 2020(ISRITI) YOGYAKARTA – INDONESIA

- ❖ U Yadav, A Gupta, "Current Harmonic Mitigation in Grid Tied Solar Photo-Voltaic System via PRES," 5[th]IEEE International Conference on recent advances and innovation engineering, Dec. 2020(ICRAIE-2020), **DOI:**10.1109/ICRAIE51050.2020.9358290.

- ❖ U Yadav, A Gupta, R Ahuja, "Comparison Analysis of Conventional RCC and Novel PRESH Controller in Three Phase GTSPPS," IEEE ICECIE'2021, DOI:10.1109/ICECIE52348.2021.9664745

- ❖ Uma Yadav, Anju Gupta, Rajesh Kr. Ahuja "Robust Control Design and Analysis of Constant Power Generation interfaced with three phase SPPS," International Conference & Exposition on Modern Energy and Power Systems, ISBN: 978-625-00-0214-8, pp 71-75,2021

- ❖ Uma Yadav, Anju Gupta, Rajesh Kr. Ahuja, "Design Algorithm and Analysis on BP of PRESH (PRES+RESH) Controller Interfaced with three phase GTC," ICMEPS-2021, ISBN: 978-625-00-0214-8, pp 64-70.

- ❖ Shipra Jain, Rajesh Kr. Ahuja, Anju Gupta, " Control Structure of DC Microgrid", RDCAPE 2023 12th-13th Oct 2023.

- ❖ Shipra Jain, Rajesh Kr. Ahuja, Anju Gupta, " An approach for the supervision and management of power for the solar photovoltaic and BESS based DC microgrid based integrated system," 2023, CCPIS 2023,2[nd] -3rd sept.2023.

LECTURE NOTES:

- ❖ Uma Yadav, Anju Gupta, Rajesh Kr. Ahuja, "Bode Plot Analysis of PRES and Novel PRESH controller interfaced with three phase GTSPPS,"
  Co**mmunications** in **Computer and Information Science** series, 978-3- 031-10524-1,2022.
- ❖ Uma Yadav, Anju Gupta, Rajesh Kr. Ahuja," THD Reduction Comparison of Three Phase SPPS via Conventional RC and Novel PRESH Controller,"
  Communications in **Computer and Information Science** series, 978-3-031-10524-1,2022.

C. WEBINARS/WORKSHOPS/FDP ATTENDED:

i.   Two weeks course on, "Digital Transformation and Teaching learning Process", April 6th -22nd 2020 organised by NPIU.

ii. Six days Webinar series on *"PLC programming and HMI Development",* 28th May-12th June 2020, organised by Electrical Engg. Department J.C. BOSE UST, YMCA, Faridabad.

iii. One-week international webinar on, "Industry 4.0: Artificial Intelligence and Related Technology,"6th -10th July 2020 organised by Deptt. of Electronics and Communication Engg. Integral University, Lucknow.

iv. Two days' Workshop on, "Covid-19 outbreak Prediction, Forecasting, Data Analysis & Data Visualization with Python", from 11th-12th July 2020 organised by Edux Labs.

v.   One week SDP on, "Basic Computer Skills and ICT Tools", from 10th -14th July 2020, organised by Electrical Engg. Department, J.C. Bose, UST, YMCA, Faridabad.

vi. One-week STC on, "Smart grid: Operation & planning with renewable energy Sources and FACTS", from 29th July-02nd August 2020 organised by Electrical Engg. Deptt. N.I.T, Kurukshetra.

vii. Workshop on, "Basics of Machine Learning", on 27th April organised by CREATES, IISER Bhopal.

viii. Professional Development Training (PDT) for National Project Implementation Unit (NPIU) from 27th -31st May 2019, organised by IIM, Indore.

ix. Workshop Under TEQIP-III on *"Hands on Training on Design and Fabrication of PCB"*, 18th -24th July 2019 organised by Electrical Engg Department JCBOSE UST, YMCA Faridabad.

x. FDP on "*Intelligent Management of Renewable Energy Techniques" 18th-23rd Jan 2018 conducted by* Electrical Engg Department J.C.BOSE UST, YMCA Faridabad.

xi. FDP on "Real time Data Acquisition and analysis using Lab View" from 8th-12th May 2017 organised by Electrical Engg Department JCBOSE UST, YMCA, Faridabad.

xii. One day workshop on" Women Health Awareness and Depression" organized by Department of Electronics Engg in collaboration with Rotary club Faridabad, April 2017.

xiii. Workshop on **"*Automation: PLC and SCADA*"**, 17th -21st Jan 2017 organised by Electrical Engg Department JCBOSE UST, YMCA Faridabad.

xiv. AICTE approved Short Term Course on "Environment, development and Sustainability" conducted by Centre for Clean technologies and Sustainable Development from 04th-08th July 2016.

xv. Workshop on, **"*MATLAB and SIMULINK Fundamentals,*"** 18th-22nd July 2016, conducted in association with Design Pvt Ltd and Maths work at J C BOSE UST, YMCA Faridabad.

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