

## PREETHAM GOLI, PhD

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**CONTACT INFORMATION** 5110 Rockhill Road, FH 560G1 (816) 235-5938  
Kansas City, MO 64110 golip@umkc.edu

**EDUCATION** **University of Houston, Houston, Texas**  
Ph.D., Electrical Engineering, December 2014  
Dissertation: "Design and Controllability of Plug-in Hybrid Electric Vehicle (PHEV) Charging Facilities Integrated with Renewable Energy Resources"  
Advisor: Dr. Wajiha Shireen

**Andhra University, Visakhapatnam, India**  
B.E., Electrical and Electronics Engineering, May 2010  
Thesis: "Optimal Location of Power System Stabilizer in a Multimachine System"

**EXPERIENCE** **Associate Teaching Professor** **UMKC** **Sep 2022 - Present**

- Courses Taught : AC Circuit Theory, Semiconductor Devices, Electronic Circuits, Electrical Machines and Control, Power Systems I, Senior Design, Power Systems II, Power System Protection, Auxiliary Electric System Design, Electric Power Distribution Systems, Power System Transients, Smart Grid and SCADA Systems.
- Research : Distribution System Planning and Operation, Electric Vehicle Grid Integration, Post Disaster Restoration of Critical Infrastructure, Hybrid Power Supply Systems for Mission Critical Applications, Metaheuristic Optimization Techniques, Convex Relaxations Applied to Distribution Systems, Power System Wildfire Mitigation Strategies and Cybersecurity Issues.

**Assistant Teaching Professor** **UMKC** **Sep 2015 - Aug 2022**

- Primary Duties :
  - Teaching undergraduate and graduate courses in electrical engineering.
  - Advising graduate and undergraduate students. Developing new course curriculum.
  - Performing state-of-the-art research in the field of power systems.

**Lecturer** **University of Houston** **Jan 2015 - May 2015**

- Courses Taught : Electrical Machines and Control, Engineering Technology Department
- Primary Duties :
  - Mentoring undergraduate students. Instructing laboratory sessions.
  - Developing term projects on speed control of DC and AC machines.

**Electrical Engineer** **Hunt & Hunt Engineering** **May 2015 - July 2015**

- Designed complete electrical systems for commercial buildings based on NEC, NEMA and IEEE standards.
- Sized grounding conductors, cable trays and conduits. Designed lighting systems and drafting schematics and wiring diagrams.
- Performed load flow studies, short circuit studies and relay coordination using SKM power tools and ETAP.
- Worked with designers in other disciplines to coordinate overall design and technical requirements.

**Teaching Fellow** **University of Houston** **Aug 2014 - Dec 2014**

- Course Title : Electrical Power System Protection and Safety, Engineering Technology Department
- The curriculum covered various kinds of protection, such as line protection, feeder protection, transformer protection, and motor protection, following NEC and ANSI standards.

**Teaching Assistant** **University of Houston** **Aug 2010 - Dec 2014**

- Conducted laboratory sessions for power electronics, polyphase circuits, electrical rotating machines and programmable logic controllers.
- Taught computer software skills such as MATLAB, PSpice, PSCAD, PowerWorld simulator, Versapro and LabVolt Virtual Lab during laboratory sessions.

- Developed laboratory manuals for undergraduate power electronics lab with emphasis on control of power converter circuits using TI's fixed point DSP, TMS320F28035.

## RESEARCH EXPERIENCE

### Ph.D Dissertation Research      University of Houston      Aug 2010 - Dec 2014

- Developed control algorithms using DC bus as the communication parameter to charge PHEVs using solar/wind power. Demonstrated the proposed control strategy using a 1 kW laboratory prototype.
- Developed coordination methods and scheduling algorithms to optimize PHEV charging using distributed renewables in residential distribution networks.
- Investigated the adverse impacts of PHEV charging on the lifetime of distribution transformers. Proposed smart charging techniques to mitigate the impact.
- Installation and setup of state-of-the-art smart grid laboratory funded by the Department of Energy. Designed the laboratory course curriculum for integrating into the existing power engineering program.

## PUBLICATIONS

### Referred Journals

- Goli P, Shireen W, "PV Integrated Smart Charging of PHEVs Based on DC Link Voltage Sensing", Smart Grid, IEEE Transactions on , vol.5, no.3, pp.1421-1428, May 2014
- P Goli, W Shireen, "PV powered smart charging station for PHEVs", Renewable Energy, Volume 66, June 2014, Pages 280-287, ISSN 0960-1481
- Srinivasa Rao Gampa, Suresh Makkena, Preetham Goli & Debapriya Das, "FPA Pareto optimality-based multiobjective approach for capacitor placement and reconductoring of urban distribution systems with solar DG units", International Journal of Ambient Energy, January 2020
- Srinivasa Rao Gampa, Kiran Jasthi, Preetham Goli, D. Das, R.C. Bansal, "Grasshopper optimization algorithm based two stage fuzzy multiobjective approach for optimum sizing and placement of distributed generations, shunt capacitors and electric vehicle charging stations", Journal of Energy Storage, Volume 27, 2020
- Goli, P.; Jasthi, K.; Gampa, S.R.; Das, D.; Shireen, W.; Siano, P.; Guerrero, J.M. "Electric Vehicle Charging Load Allocation at Residential Locations Utilizing the Energy Savings Gained by Optimal Network Reconductoring." Smart Cities 2022, 5, 177-205.
- Gampa Srinivasa Rao, Siva Kumar Mangipudi, Kiran Jasthi, Preetham Goli, D. Das, and Valentina E. Balas. "Pareto optimality based PID controller design for vehicle active suspension system using grasshopper optimization algorithm." Journal of Electrical Systems and Information Technology 9, no. 1 (2022): 1-18.
- Goli, Preetham, Srinivasa Rao Gampa, Nallapaneni Manoj Kumar, Kiran Jasthi, Aivelu M. Parimi, D. Das, Ramesh C. Bansal, Pierluigi Siano, and Josep M. Guerrero. "Strategic planning of distribution network integrated with EV charging stations using fuzzy pareto optimality for performance improvement and grid-side emission reduction benefits." Sustainable Energy, Grids and Networks 36 (2023).
- Goli, Preetham, Srikanth Yelem, Mohammed Alhashem, and Anthony N. Caruso. "Fuel efficiency and economic assessment of a hybrid power supply system for mission critical applications." Frontiers in Energy Research 13 (2025): 1511978.
- Zografopoulos, Ioannis, Ankur Srivastava, Charalambos Konstantinou, Junbo Zhao, Amir Abiri Jahromi, Astha Chawla, Bang Nguyen, Goli Preetham et al. "Cyber-Physical Interdependence for Power System Operation and Control." IEEE Transactions on Smart Grid (2025).
- Goli, Preetham, Srinivasa Rao Gampa, Amarendra Alluri, Balaji Gutta, Kiran Jasthi, and Debapriya Das. "Optimum Sizing of Solar Photovoltaic Panels at Optimum Tilt and Azimuth Angles Using Grey Wolf Optimization Algorithm for Distribution Systems." Inventions 10, no. 5 (2025): 79.

### Book Chapters

- Preetham Goli, Wajiha Shireen, "Control and Management of PV Integrated Charging Facilities for PEVs", Book Chapter. In *Plug-in Electric Vehicles in Smart Grid: Management and Control Strategies*, ed. Sumedha Rajakaruna, Farhad Shahnia, Arindam Ghosh. Springer

### Conference Proceedings

- Preetham G, Shireen W, "Photovoltaic charging station for Plug-In Hybrid Electric Vehicles in a smart grid environment," Innovative Smart Grid Technologies (ISGT), 2012 IEEE PES, vol no., pp.1,8, 16-20 Jan. 2012

- Preetham Goli, Shireen W, “Wind Powered Smart Charging Facility for PHEVs,” Energy Conversion Congress and Exposition (ECCE), 2014 IEEE, vol no., pp.1986,1991, 14-18 Sept. 2014
- Preetham Goli, Wajiha Shireen, “Smart Scheduling of PHEVs in PV Integrated Charging Facilities Based on DC Link Voltage Sensing,” Transportation Electrification Conference and Expo (ITEC), 2015 IEEE, Dearborn, MI, 2015, pp. 1-6.
- Preetham Goli, Wajiha Shireen, “Control of PHEV Charging Facilities Integrated with Small Scale Wind Turbine,” Transportation Electrification Conference and Expo (ITEC), 2015 IEEE, Dearborn, MI, 2015, pp. 1-6.
- P. Goli, M. Umeano, W. Shireen and R. E. Cline, “Laboratory setup to meet the educational needs for the future smart grid workforce,” 2016 IEEE/PES Transmission and Distribution Conference and Exposition (T&D), Dallas, TX, 2016, pp. 1-5.
- Michael Umeano, Preetham Goli and Wajiha Shireen, “Validation and Testing of a Laboratory Scale Microgrid Test bench,” Accepted for publication in 2016 IEEE Power & Energy Society General Meeting (PES)
- S. Das, F. Khan, M. K. Alam and P. Goli, “Detection of aging related IGBT bond-wire lift-off using spread spectrum time domain reflectometry (SSTD),” 2017 IEEE Applied Power Electronics Conference and Exposition (APEC), Tampa, FL, 2017, pp. 789-794.
- R. Shah, P. Goli and W. Shireen, “Adaptive Protection Scheme for a Microgrid with High Levels of Renewable Energy Generation,” 2018 Clemson University Power Systems Conference (PSC), Charleston, SC, USA, 2018, pp. 1-7
- P. Goli, S. Makkena, S. R. Gampa and D. Das, “Fuzzy Ant Colony Optimization Technique for Predefined Performance of Distribution Systems Considering DGs and Shunt Capacitors,” 2019 North American Power Symposium (NAPS), Wichita, KS, USA, 2019, pp. 1-6
- S. Yelem, S. Mahbube and P. Goli, “Designing SMC Boost Converter for DVR Using VSI to Mitigate Voltage Disturbances And Harmonics,” 2021 IEEE Fourth International Conference on DC Microgrids (ICDCM), 2021, pp. 1-6
- P. Goli, S. Yelem, S. Muaddi, S. R. Gampa and W. Shireen, ”Optimal Planning of Smart Charging Facilities using Grey Wolf Optimizer,” 2022 IEEE Texas Power and Energy Conference (TPEC), 2022, pp. 1-6, doi: 10.1109/TPEC54980.2022.9750837.
- Goli Preetham, Srikanth Yelem, Kiran Jasthi, Srinivasa Rao Gampa, and D. Das. “Optimum Placement of Battery Energy Storage Systems and Solar PV Units in Distribution Networks Using Gravitational Search Algorithm,” In Proceedings of the International Conference on Artificial Intelligence Techniques for Electrical Engineering Systems (AITEES 2022), pp. 113-123.
- P. Goli, C. Beard and S. Yelem, “Enhancing Microgrid Resilience Through Power-Communication Interdependency Analysis Using a Multi-Dimensional Markov Chain Model,” 2023 North American Power Symposium (NAPS), Asheville, NC, USA, 2023, pp. 1-5.
- S. Yelem, P. Goli, M. Alhashem and S. R. Gampa, “OpenDSS and Typhoon HIL Co-Simulation for Real-Time Evaluation of a Distribution Network,” 2023 North American Power Symposium (NAPS), Asheville, NC, USA, 2023, pp. 1-6.
- Yelem, Srikanth, Preetham Goli, Waleed Mohammed Alanazi, Mohammed Alhashem, Cory Beard, and Masud H. Chowdhury. “Pareto Optimality Based Zonal Allocation of Distributed Energy Resources Considering Technical and Economic Constraints.” In 2024 IEEE 11th Power India International Conference (PIICON), pp. 1-6. IEEE, 2024.
- Alhashem, Mohammed, Srikanth Yelem, Preetham Goli, and Ahmed M. Hassan. “Detection of IGBT Bond-Wire Lift-off Using Acoustic Pressure Scattering.” In 2024 IEEE 11th Power India International Conference (PIICON), pp. 1-7. IEEE, 2024.
- Goli, Preetham, Srikanth Yelem, Mohammed Alhashem, and Anthony N. Caruso. “Efficiency and Economic Analysis of a Hybrid Power Supply System for Mission Critical Applications.” In 2024 IEEE 11th Power India International Conference (PIICON), pp. 1-6. IEEE, 2024.
- Geethika, V. N. V. S., Supraja NHSV, M. V. V. Narayana, P. L. V. Kranthi, Srinivasa Rao Gampa, Mahesh Babu Basam, and Preetham Goli. “Machine Learning Based Monthly Average Load Profiles Forecasting Approach for Distribution System Planning with Distributed Generations.” In 2024 IEEE Silchar Subsection Conference (SILCON 2024), pp. 1-5. IEEE, 2024.
- Alhashem, Mohammed, Preetham Goli, Srikanth Yelem, Srinivasa Rao Gampa, and Masud H. Chowdhury. “Resilience Driven Distribution Network Planning Through Zonal Based Sizing of Photovoltaic and Battery Storage Systems.” In 2025 IEEE 53rd Photovoltaic Specialists Conference (PVSC), pp. 1665-1669. IEEE, 2025.
- C. Postma, S. Balasubramanian and P. Goli, “Assessing the Impact of Extreme Weather on Power System Reliability,” 2025 57th North American Power Symposium (NAPS), Storrs, CT, USA, 2025, pp. 1-5

**INVITED  
TALKS/POSTERS**

- Graduate Research Conference, Department of Electrical and Computer Engineering, April 26, 2013 (Poster)
- Graduate Research Day, University of Houston, April 25, 2014 (Talk)
- 2021 Southwest Power Pool and Texas Power Outages: Facts and Some Thoughts, Earth and Environmental Sciences, UMKC, March 2021 (Talk)
- Career And Research Opportunities in Power Engineering, GITAM University, India, May, 2023 (Talk)
- Enhancing Distribution Network Resilience Through Zonal Based DER Allocation Using OpenDSS, Faculty Training Program, GITAM University, India, May 6, 2025

**PROFESSIONAL  
ACTIVITIES**

**Department Committees**

- Graduate student mentor, Department of ECE, University of Houston **May 2011 - Dec 2014**
- BSECE Department Program Committee Member, CSEE Dept, UMKC **Aug 2020 - Aug 2022**
- BSECE ABET Accreditation Coordinator, EMS Division, UMKC **Aug 2024 - Present**
- MSEE Department Program Committee Chair, CSEE Dept, UMKC **Aug 2020 - Aug 2022**
- MSEE Admission Officer, EMS Dept, UMKC **Mar 2026 - Present**
- Scholarship Committee Member, SCE, UMKC **Aug 2020 - Aug 2022**

**Service to Professional Societies**

- Member, IEEE Power and Energy Society **Nov 2014 - Present**
- Senior Member, IEEE **April 2024 - Present**
- Co-Chair, UMKC IEEE Chapter, UMKC **Aug 2022 - Present**
- IEEE Task force report lead on cybersecurity education  
Cyber-Physical Interdependence for Power System Operation **Aug 2021 - Present**
- IEEE Task force member and report contributor  
Behind the Meter Distributed Energy Resources **June 2022 - Present**
- Guest Editor, MDPI Electronics **June 2022 - June 2023**
- Guest Editor, MDPI Energies **Nov 2024 - Present**
- Associate Editor, Frontiers in Sustainable Resource Management **Nov 2025 - Present**

**Peer Review Service**

- Journal reviewer, IEEE Transactions on Transportation Electrification **Aug 2014 - Present**
- Journal reviewer, IEEE Transactions on Smart Grid **Aug 2015 - Present**
- Conference paper reviewer, IEEE PES General Meeting **Jan 2015 - Present**
- Journal reviewer, IEEE Transactions on Power Electronics **Dec 2015 - Present**
- Journal reviewer, MDPI Energies **Dec 2016 - Present**
- Journal reviewer, MDPI Electronics **Jan 2017 - Present**
- Journal reviewer, IEEE Transactions on Energy Conversion **Nov 2018 - Present**
- Journal reviewer, IEEE Transactions on Vehicular Technology **Dec 2019 - Present**
- Journal reviewer, IEEE Access **June 2020 - Present**
- Journal reviewer, MDPI Symmetry **April 2021 - Present**
- Journal reviewer, IEEE Internet of Things **Dec 2021 - Present**
- Journal reviewer, Computers and Electrical Engineering **March 2022 - Present**
- Journal reviewer, MDPI Smart Cities **July 2022 - Present**
- Journal reviewer, MDPI Sensors **July 2022 - Present**
- Journal reviewer, Frontiers in Energy Research **Aug 2022 - Present**
- Journal reviewer, MDPI Buildings **July 2023 - Present**
- Journal reviewer, MDPI Mathematics **April 2023 - Present**
- Journal reviewer, IEEE Transactions on Power Systems **April 2024 - Present**
- Journal reviewer, MDPI Applied Sciences **Jan 2025 - Present**
- Journal reviewer, Elsevier Energy Storage **April 2025 - Present**
- Journal reviewer, IEEE Transactions on Industrial Informatics **July 2025 - Present**
- Journal reviewer, Elsevier Sustainable, Energy, Grids and Networks **Nov 2025 - Present**
- Journal reviewer, Applied Energy **Jan 2026 - Present**

**STUDENT  
ADVISING**

**Current Graduate Students**

- Srikanth Yelem, Ph.D. starting date - Spring 2020
- Ameer Alshmoos, Ph.D. starting date - Spring 2022

- Mohammed Alhashem, Ph.D. starting date - Fall 2022
- Zahid Sultan, Ph.D. starting date - Spring 2023
- Chris Postma, Ph.D. starting date - Spring 2022

### Students Graduated at UMKC

- Akhila Charlapally, “Mitigation of Remanence Flux in Power Transformers Using Predetermined Method of De-Energization Coupled with Point of Wave,” M.S., Summer 2017
- Ameer Alshmoos, “Assessment of Overcurrent Relay Coordination in a Microgrid with High PV Penetration Deployment,” M.S., Spring 2018
- Saadaldeen Ali, “Analysis of a Distribution System Integrated with Photovoltaic Charging Facilities,” M.S., Spring 2019
- Waleed Mohammed Alanazi, “Pareto Optimality Based Zonal Allocation of Distributed Energy Resources Considering Technical and Economic Constraints,” M.S., Fall 2024

### Graduate Committee Member at UMKC

- Asim Javed, EE, M.S.
- Tejaswi Dhandu, EE, M.S.
- Michael Lester, CS/EE, Ph.D.
- Matthew Kayrish, EE, Ph.D.
- Manognya Reddy Guduru, EE/Physics, Ph.D.
- Mainul Mamun, CS/CNCS, Ph.D.

### CERTIFICATIONS

- Fundamentals of Engineering - NCEES ID: 14-850-31 **July 2015 - Present**
- UMKC Certification in Online Teaching & Learning **April 2020 - Present**
- Association of College and University Educators (ACUE) Microcredential in Designing Student Centered Courses **July 2021 - Present**
- Typhoon Hardware-in-Loop Specialist Certification **Jan 2022 - Present**
- UMKC CAFE Peer Observer **March 2025 - Present**

### AWARDS

- Scholarship recipient for the year 2011 by American Society of Indian Engineers (ASIE)
- Texas Public Education Grant for international students, University of Houston.
- (CO-Principle Investigator, \$40k, Goli’s share is \$6k) Detection of aging Related IGBT Bond-wire Lift-off using Spread Spectrum Time Domain Reflectometry (SSTDR), University of Missouri Research Board (2016-2017)
- (Principle Investigator, \$11k) Open Educational Resources for Power Systems Engineering, UMKC A&OER (2018-2019)
- (Principle Investigator, \$1000) Open Educational Resources for AC Circuit Theory, UMKC A&OER (2019-2020)
- Good Teaching Award, School of Computing and Engineering, UMKC, 2021
- (Principle Investigator, \$4k) Detection and Mitigation of Cyber Intrusion in an Interconnected Power Grid, UMKC Center for Advanced Faculty Excellence (CAFE) Fellowship
- (Principal Investigator, \$23k) Modeling and Analysis of a Hybrid Power Supply System for Mission Critical Applications, HCI Energy (2022-2023)
- (Principal Investigator, \$10k) Restoration Strategies for Interdependent Power and Communications Networks Using Matrix Exponential Distributions, UMKC Funding for Excellence, 2023
- (Equipment Donation, \$6k) Schweitzer Engineering Laboratories Relay Test System, Schweitzer Engineering Laboratories, 2024
- (Principal Investigator, \$5k) Preparing the Next Generation for OT Security Careers Through Hands-On Learning with PLCs, UMKC Career Bridge, 2025