

Scott Lee, Ph.D.

Senior Associate | Electrical Engineering & Computer Science
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Professional Profile

With a background in power electronics and power systems, Dr. Lee specializes in the control and modeling of solar + storage systems with an emphasis in real-time hardware-in-the-loop simulation of grid-interactive inverters and utility-scale microgrids. Dr. Lee has experience with a wide range of power systems analysis tools, including simulation suites from ETAP, OPAL-RT, RTDS, and Mathworks, and is knowledgeable in the design and testing of industry-standard distribution automation, protection, and controls systems solutions, and their communication networks. Dr. Lee also has experience in the design, optimization, and troubleshooting of high-efficiency DC-DC converters; system integration and compliance testing of photovoltaic and battery energy storage systems; and identification and correction of distribution system power quality issues.

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Academic Credentials & Professional Honors

Ph.D., Electrical Engineering, University of California, Irvine, 2018

M.S., Electrical Engineering, University of California, Irvine, 2013

B.S., Electrical Engineering, California State University, Fresno, 2008

Academic Appointments

Course Instructor, Power Systems Laboratory, University of California, Irvine, 2018

Prior Experience

Senior Power Systems Engineer, NEXTracker, 2019 - 2020

Research Assistant, UCI Advanced Power and Energy Program, 2013 - 2018

Research Assistant, UCI Power Electronics Laboratory, 2010 - 2013

Electrical Engineer, DST Controls, 2008 - 2009

Professional Affiliations

Institute of Electrical and Electronics Engineers

National Electrical Engineering and Computer Engineering Honor Society, Eta Kappa Nu

Publications

Payne, J., Gu, F., Razeghi, G., Brouwer, J., & Samuelsen, S. Dynamics of high penetration photovoltaic systems in distribution circuits with legacy voltage regulation devices. *International Journal of Electrical Power & Energy Systems*, 124, 106388.

Razeghi, G., Gu, F., Neal, R., & Samuelsen, S. (2018). A generic microgrid controller: Concept, testing, and insights. *Applied Energy*, 229, 660-671.

Gu, F., Brouwer, J., & Samuelsen, S. (2013, September). A study on the impact of high penetration distributed generation inverters on grid operation and stability. In *AIP Conference Proceedings* (Vol. 1556, No. 1, pp. 270-273). American Institute of Physics.

Presentations

F. Gu. The Role of Smart Inverters in Renewable Microgrids. *International Colloquium on Energy Preferred Advanced Power Generation*, Irvine CA, 2015.

F. Gu. Microgrid Global Summit: UCI Microgrid. *World Microgrid Forum*, Irvine CA, 2014.

F. Gu. UCI Microgrid: Dynamic Control and Modeling. *International Colloquium on Energy Preferred Advanced Power Generation*, Irvine, 2014.

F. Gu. A Study on the Impact of High Penetration Distributed Generation Inverters on Grid Operation and Stability. *International Conference on Concentrator Photovoltaic Systems*, Miyazaki Japan, 2013.

F. Gu. Evaluation of High Penetration Photovoltaics on Distribution Circuits. *High Penetration Solar Forum*, San Diego CA, 2013.

F. Gu. The Impact of High Penetration Distributed Generation Inverters on Grid Operation and Stability. *International Colloquium on Energy Preferred Advanced Power Generation*, Irvine CA, 2013.

Additional Education & Training

Minor, Business, California State University, Fresno, 2008

Minor, Mathematics, California State University, Fresno, 2008