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Educación:

- PhD in Electrical Engineering, Power Systems, Arizona State University (ASU), 2011.
- MSE in Electrical Engineering, Power Systems, ASU, 2005.
- MSE in Industrial Engineering, Manufacturing Processes and Control, ASU, 2003.
- Ingeniero en Electricidad, especialización Industrial, Escuela Superior Politécnica del Litoral (ESPOL), 1999.

Cursos dictados en la ESPOL:

- Laboratorios de Física I, II y III, Electrónica I, II y III, Laboratorios de Electrónica A y B, Laboratorio de Maquinaria Eléctrica, Control de Procesos Industriales, Sistemas Digitales I, Calidad de la Energía y Análisis de Armónicos, Electrónica de Potencia I.
- Tópico de Graduación: “Electrónica de Potencia en Calidad de Energía”.
- Seminarios de Graduación: “Convertidores Estáticos para Fuentes de Energía Renovables”, “Aplicaciones de Electrónica de Potencia en Sistemas de Transmisión y Distribución”.
- Materias de Graduación: “Power Converters for Photovoltaic Generation Systems”, “Solid State Transformers for Smart Grid”, “Switch-Mode Power Supplies.”
- Materia Integradora (Capstone Design): “Design and Control of a Microgrid.”

Investigación:

- “Microgrid Modeling and Control,” ESPOL
- “Solar Blinds,” ESPOL.
- “Impact of High Penetration PV Generation on Distribution System,” ASU.
- “Modeling and Control Design of a Three-stage Solid Stage Transformer,” ASU.
- “Topology Comparison for Solid State Transformer Implementation,” ASU.
- “Distributed Control for a Test-bed Distribution System with Solid State Transformers,” ASU.

Publicaciones:

- Argüello, G.; Cepeda, J.; Echeverría, D.; **Falcones, S.** y Layana, J. “Desafíos en la Implementación de un Laboratorio de Simulación Digital en Tiempo Real de Sistemas Eléctricos de Potencia.” Revista Técnica “energía.” No.12, pp.239-250, Enero 2016.

- **Falcones, S.**; Ayyanar, R.; Xiaolin Mao, "A DC–DC Multiport-Converter-Based Solid-State Transformer Integrating Distributed Generation and Storage," *Power Electronics, IEEE Transactions on*, vol.28, no.5, pp.2192-2203, May 2013.
- Ayyanar, R.; Xiaolin Mao; **Falcones, S.**; Breazeale, L., "A script approach for design of a multi-stage computer controlled power converter," *Telecommunications Energy Conference (INTELEC), 2012 IEEE 34th International*, vol., no., pp.1,3, Sept. 30 2012-Oct. 4 2012.
- **Falcones, S.**; Xiaolin Mao; Ayyanar, R., "Topology comparison for Solid State Transformer implementation," *Power and Energy Society General Meeting, 2010 IEEE* , vol., no., pp.1-8, 25-29 July 2010.
- Xiaolin Mao; **Falcones, S.**; Ayyanar, R., "Energy-based control design for a solid state transformer," *Power and Energy Society General Meeting, 2010 IEEE* , vol., no., pp.1-7, 25-29 July 2010.
- **S. Falcones**, X. Mao, and R. Ayyanar "Simulation of the FREEDM Green Hub with Solid State Transformers and Distributed Control" in *Proc. Future Renewable Electric Energy Distribution Management Annual Conference 2010*, Florida State University, Tallahassee, FL, May 18-20, 2010.
- **Falcones, S.**; Ayyanar, R., "Simple control design for a three-port DC-DC converter based PV system with energy storage," *Applied Power Electronics Conference and Exposition (APEC), 2010 Twenty-Fifth Annual IEEE* , vol., no., pp.2149-2153, 21-25 Feb. 2010.
- **S. Falcones**, R. Ayyanar, "PV System with Energy Storage Based on a Three-Port DC-DC Converter," in *Proc. Future Renewable Electric Energy Distribution Management Annual Conference 2009*, North Carolina State University, Raleigh, NC, May 18-19, 2009.
- **S. Falcones**, X. Mao, R. Ayyanar, "Simulink Block-set for Modeling Distribution Systems with Solid State Transformer," in *Proc. Future Renewable Electric Energy Distribution Management Annual Conference 2009*, North Carolina State University, Raleigh, NC, May 18-19, 2009, pp. 181-184.
- X. Mao, **S. Falcones**, R. Ayyanar, "Energy-Based Control Design for a Solid State Transformer," in *Proc. Future Renewable Electric Energy Distribution Management Annual Conference 2009*, North Carolina State University, Raleigh, NC, May 18-19, 2009, pp. 217-220.
- X. Mao, R. Ayyanar, **S. Falcones**, "A Modular, Interleaved AC-AC Flyback Topology for Solid State Transformer," in *Proc. Future Renewable Electric Energy Distribution Management Annual Conference 2009*, North Carolina State University, Raleigh, NC, May 18-19, 2009, pp. 221-224.

Cargos:

- Coordinador de Carrera, Ingeniería en Electricidad, especialización Potencia, Facultad de Ingeniería en Electricidad y Computación (FIEC), ESPOL.
- Investigador, Laboratorio de Simulación en Tiempo Real, ESPOL.
- Consultor de proyectos, Departamento de Automatización, ALEMINS A.S.A.