For more information, please contact the Program Manager (vonwerde@purdue.edu)
This short course will introduce students to the materials and devices for sustainable energy conversion and storage. The following topics will be included: (1) nanomaterials for energy; (2) solar, thermal and wind energy (materials and devices for conversion); (3) batteries, flow cells, hybrid systems (materials and devices for energy storage); and (4) materials and devices for efficient hydrocarbon fuel utilization. Students will develop an understanding of the critical role that materials engineering and device fabrication play in addressing global energy needs. They will familiarize themselves with trends and breakthroughs in energy research for addressing specific needs in solar, thermal and wind power generation as well as electrification of transportation.

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Materials and Devices for Sustainable Energy Conversion and Storage
July 13-24 $400.00 Registration
Dr. Ernesto Marinero
20-50 students

Contact: vonwerde@purdue.edu

Dr. Ernesto E. Marinero
Professor of Materials Engineering and Electrical and Computer Engineering, Purdue University
Ernesto E. Marinero joined Purdue University in 2013 after a successful research career in Silicon Valley. His research group focuses on the synthesis, characterization and device applications of nanoscale materials for energy storage/ conversion, spintronics and biosensors. Marinero’s research experience in fundamental and applied science has been gained through appointments at the Max Planck Institute in Göttingen, Germany; Stanford University; the IBM Almaden Research Center; and the Hitachi San Jose Research Center, both in California. His multi-disciplinary research experience spans diverse fields including Chemical Physics, Materials Science, Nanotechnology, Magnetism and Sensor Device Physics and Fabrication. The outcome of his research is documented in 143 refereed journal publications, 5 books, a portfolio of granted patents: USA (60), Asia (32) and Europe (12). He is a Fellow of the American Physical Society (APS) and the current chair of the APS Group on Energy Research and Applications.