About the Contributors

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**Harry Efstathiadis**, Ph.D., is an Associate Professor at the College of Nanoscale Science & Engineering (CNSE) at the University at Albany – State University of New York (SUNY). Over the past 15+ years Dr. Efstathiadis’ research has focused on science and technology of photovoltaics, thermoelectrics, thin film development, nanostructures, and devices. He is experienced in characterization of thin film surfaces, interfaces, and optical, electrical, and chemical properties of materials by optical-, electron-, ion-, and x-ray spectroscopies and electrical measurements. The last 10+ years, he has worked and interacted with several industrial partners. His work objectives were to enable technology and commercialization acceleration through research, development, integration, deployment of emerging nanoscale innovations in renewable energy related applications. Dr. Efstathiadis worked with the industrial partners funded this work to scale up the developed research activities and to transfer part of these R&D activities to from university laboratories into the market place through the development of commercial products by the industrial partners. Dr. Efstathiadis research is focused in thin film process development of nc-Si, a-Si:H, poly-Si, and Cu(In, Ga)Se2 using vacuum and non-vacuum deposition methods, vacuum deposition system design, chemical bath deposition of ZnS and CdS, and deposition of metal contacts, multilayer structures, antireflective and barrier layers such as oxides and nitrides on glass and flexible metal substrates. His expertise includes CIGS- and Si-based PV device fabrication and testing.

**Salahuddin Qazi** received his PhD in Electrical Engineering from the University of Technology, Loughborough, England, and his BS in Electronic Engineering from the University College of Wales, Bangor, United Kingdom. He is currently a full Professor in the School of Information Systems and Engineering Technology at the State University of New York Institute of Technology, Utica, New York. Dr. Qazi has been a chair and coordinator of several programs including electrical engineering technology, photonics, and graduate programs in advanced technology, which he helped to develop. He has worked, conducted research, and taught in the United Kingdom and the Middle East before coming to the United
States. Dr. Qazi won several research awards and grants to conduct research and has published several articles and book chapters in the area of fiber-doped amplifiers, wireless security, optical wireless communications, and microelectromechanical system (MEMS)-based wireless and optical communications.

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Shamsa Anwar is a Lecturer in the Division of Mathematics & Natural Sciences at the Altoona College of The Pennsylvania State University. In addition, since 2010, she has been serving as a Visiting Professor in the College of Engineering at Shanghai Normal University, Shanghai, China. Previously, she served as a Visiting Professor in the IUT, Bethune, France, during May-June 2001 and 2002.

Eyad Baksh just graduated from the Department of Engineering and Technology Management at Portland State University in Portland Oregon with a Master’s degree.

Radian Belu is Assistant Professor within the Engineering Technology (ET) program - Drexel University, Philadelphia, USA. He is holding the second position as Research Assistant Professor at Desert Research Institute – Renewable Energy Center, Reno, Nevada. Before joining to the Drexel University, Dr. Belu hold faculty and research positions at universities and research institutes in Romania, Canada, and United States. He also worked for several years in industry as a project manager and senior consultant. He has taught and developed undergraduate and graduate courses in electrical engineering, power systems, renewable energy, control and power electronics, electric machines, instrumentation, radar and remote sensing, numerical methods and data analysis, atmosphere physics, and physics. His research interests included power system stability and analysis, microgrid and distributed generation control, protection and power electronics, renewable energy system analysis, assessment and design, electric machines for wind energy conversion, radar and remote sensing, wave and turbulence simulation, measurement and modeling, numerical modeling, electromagnetic compatibility, and engineering education. During his career, Dr. Belu published several papers in referred journals and in conference proceedings in his areas of the research interests. He has also been PI or Co-PI for various research projects in United States and abroad in power systems analysis and protection, load and energy demand forecasting and analysis, renewable energy analysis, assessment and design, turbulence and wave propagation, radar and remote sensing, instrumentation, atmosphere physics, electromagnetic compatibility, and engineering education.

Ganesh Bora is currently an Assistant Professor and the Interim Director of Bio-imaging and Sensing Center at North Dakota State University, Fargo, North Dakota. Dr. Bora specializes in agricultural energy, precision technology, and controlled environment in agriculture. He is the North Dakota representative in USDA Committee NCERA 101: Controlled Environment Technology and Use. Dr. Bora received his PhD in Biological and Agricultural Engineering from Kansas State University, Manhattan, Kansas. He has been engaged in research, teaching, and service for more than 20 years. He served Principal Investigator in several projects and published in reputed journals. Dr. Ganesh Bora earlier worked in India and Thailand.
Gavin Buxton is an Assistant Professor of Physics in the Science Department at Robert Morris University. He gained his undergraduate and Doctoral degrees at Sheffield Hallam University, England before completing post-Doctoral research in the Chemical Engineering Department at the University of Pittsburgh and the Chemistry Department at Durham University, England. He was also a Visiting Assistant Professor in the Physics Department at Case Western Reserve University, prior to joining Robert Morris University in 2009. His research involves using computer simulations to solve complex physical problems, and includes polymer nanocomposites, solar cells, drug delivery, and computational biology. He teaches a wide range of physics classes, including courses on alternative energy, environmental science, and the physics of the human body.

Tugrul U Daim is an Associate Professor at Portland State University Portland Oregon. His research and consulting focuses on management of technologies. He has a PhD in Systems Science: Engineering Management.

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Ahmed Elgafy is an Assistant Professor at the School of Dynamic Systems at the College of Engineering and Applied Science at the University of Cincinnati. Prior joining UC; he worked at the University of Dayton Research Institute with the Carbon Research Group. Elgafy has worked on sponsored grants from the US Air Force Materials Laboratory, the Wright Brothers Institute, General Electric, and National Institute of Occupational Safety and Health. His research activities are focused on the areas of thermo/fluid and nanotechnology sciences to develop advanced materials and nanocomposites for thermal management and energy conversion/storage systems. As a result of his research activities he has published 32 papers. Dr. Elgafy taught more than “30” different courses at the upper and lower college levels that cover the spectrum of energy and engineering mechanics sciences along with numerical methods. Additionally, he has established and taught variety of courses; “Introduction to Nanotechnology,” “Fundamentals and Applications of Solar Energy,” and “Renewable Energy Systems.” Dr. Elgafy is the ABET coordinator for MET Program at UC and he has served as the faculty advisor for student tribunal.

Patrick Favier is an Associate Professor of Electrical Engineering at the University of Artois, France. His areas of expertise include electrical drives, power electronics, and renewable energy systems. He studied at University of Lille, France, during 1984-1988 and earned a Ph. D in Electrical Engineering. His current research focus is renewable energy systems and technologies. Since 1984, he has been teach-
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Adam A. Filios received the B.Sc. degree in Physics from the University of Athens, Greece, in 1991, and the M.S.E and Ph.D. degrees in Electrical Engineering from the University of North Carolina at Charlotte, in 1994 and 1999, respectively. He served as a tenure-track Assistant Professor of Engineering at Johnson C. Smith University in North Carolina for two academic years (1998 – 2000), where he taught engineering courses and conducted research in optoelectronic devices. In 2000 he joined Corning’s Photonics Research and Test Center in Somerset NJ, as a senior research scientist, and worked in the research and development of novel nanoscale optoelectronic devices, optical communication systems and optical fibers. From 2002 to 2006 he was a senior researcher with Nanodynamics Inc., in New York, where he worked on wide-bandgap materials, silicon photonics, and nanoscale integrated systems. Currently he is an Associate Professor at Farmingdale State College (SUNY). His research interests include nanoscale optoelectronic devices, silicon photonics, photovoltaics, and fiber optic communications. He is a member of the Institute of Electrical and Electronics Engineers (IEEE) and past member of the American Physical Society (APS), the Optical Society of America (OSA), and the Materials Research Society (MRS).

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Nirag Kadakia is currently working at the College of Nanoscale Science and Engineering at the State University of New York in Albany as part of the SUNY Albany Ion Beam Laboratory. He investigates broadband absorption enhancement of thin crystalline silicon-based photovoltaics using embedded noble metal nanoparticles. Along with his colleagues, he has succeeding in fabricating Ag nanospheres in crystalline silicon substrates using ion implantation-based techniques, while demonstration of enhanced photoresponse is still underway. He is also in collaboration with colleagues investigating embedded metal nanoparticles for other applications including ferromagnetic semiconductors and silicon-based waveguides. His prior work includes implantation-based surface modification for antireflective silicon substrates.

Qiong Li is a PhD student in Mechanical Engineering Technology in the College of Technology at Purdue University. Her specialty is on next generation mechatronics. She has worked on testing and mathematic modeling and simulating for ultrasonic motor, two-Wheeled Self-balancing scooter (Taichi scooter) building, testing and control, simulating and modeling research for product lifecycle management.

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About the Contributors

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