EnerHarv 2018 International Workshop to Be Held in May

Following the surge of interest in energy harvesting within the power electronics community, the Power Sources Manufacturers Association (PSMA) Energy Harvesting Committee has organized EnerHarv 2018. This May 2018 international energy-harvesting workshop aims to enable industry and academic leaders to learn, share, collaborate, and demonstrate on topics in energy harvesting at the material device and system integration level.

Since its reorganization over the past 18 months, the PSMA Energy Harvesting Committee has increased its membership, from seven to 32 members, with representation by industry and academic organizations from the United States, Europe, and Asia. These members have experience with semiconductor devices, sensors, storage devices, transducers, power electronics, and system and service providers.

There is an interest in both the power supply and Internet of Things (IoT) industries to learn more about energy harvesting and understand its potential and constraints in real-world applications. The need to replace batteries in ultralow-power IoT devices has become a major technical, cost, and logistical issue that is significantly impeding the potential growth in this sector. However, this presents a major opportunity for the power electronics community to develop and introduce new generations of ultralow-power devices with embedded energy-scavenging capability.

The international workshop will follow the very successful format used at the PSMA Energy Harvesting Industry Session at the Applied Power Electronics Conference and Exposition 2017 and the San Francisco Bay Area Council IEEE Power Electronics Society Chapter full-day energy-harvesting workshop held in Santa Clara, California on 20 April 2017. To enable broader, deeper coverage and engage a wider audience, the event will span two days, giving participants ample time to network, learn, and hopefully develop collaborative partnerships.

The workshop will also feature dedicated demonstrations from many top-tier parts and systems vendors to allow participants to view the technologies (e.g., hardware, visualization and simulation tools, and so on) in operation and interact directly with the developers. While the primary topic will be the IoT, other applications will be considered based on the presentation material and demonstrations collated as well as suggestions from workshop participants. The workshop will demonstrate examples of successful energy-harvesting products already created via synergies between the energy-harvesting source and the end application developers. Our key message of the workshop is to promote existing and emerging technologies that, if properly guided and integrated, will create energy-harvesting solutions into a broad range of applications.

The targeted workshop audience ranges from potential adopters of energy harvesting for IoT devices for specific applications (e.g., building management, medical technologies, assisted living, environmental, conditional monitoring of equipment, systems, and power supplies), to industrial and academic developers of materials and devices (active and passive), and to systems integrators and installers of IoT solutions.

Mike Hayes, PSMA Energy Harvesting Technical Committee chair, will cochair the event, which will be hosted at Tyndall National Institute in Cork, Ireland. Tyndall is a major leading European Union epicenter for...
industry-funded research in energy harvesting and related IoT technologies. Brian Zahnstecher, principal of the consulting firm PowerRox, San Jose, California, will cochair the workshop, leveraging both his PSMA Energy Harvesting Committee experience as well as his experiences running similar workshops nationally for the IEEE Power Electronics Society.

For more information about the workshop or for those interested in organizing, guiding, or participating in the workshop, please contact Mike Hayes at Michael.hayes@tyndall.ie or Brian Zahnstecher at bz@powerrox.com.

About the Authors

Mike Hayes (Michael.hayes@tyndall.ie) received his M.Eng.Sc. degree in engineering (planar magnetics) from University College Cork in 1993. He is currently a senior program manager for information and communication technologies and energy efficiency at Tyndall National Institute, Ireland. He is the vice president of the Power Sources Manufacturers Association (PSMA) board of directors and co-founder of the PSMA Energy Harvesting Committee in 2015, chairing its energy-harvesting industry session at the Applied Power Electronics Conference and contributing to the PSMA technology road map, both in 2017. He has been a member of technical committees for various international conferences and workshops, including the 2015 European Center for Power Electronics Conference, the International Workshop on Power Supply on Chip in 2014 and 2016, and the 2017 IEEE International Workshop on Integrated Power Packaging.

Brian Zahnstecher (bz@powerrox.com) received his B.S. and M.S. degrees in engineering from the Worcester Polytechnic Institute, Massachusetts. He is the chair of the Section, regional, and worldwide award-winning San Francisco Bay Area Chapter of the IEEE Power Electronics Society. He sits on the Power Sources Manufacturers Association board of directors and is the principal of PowerRox, where he focuses on power design, integration, system applications, origional equipment manufacturer for market penetration, and private seminars for power electronics. He has successfully handled assignments in system design/architecting, a-c-dc front-end power, electromagnetic compatibility/electromagnetic interference design/debug, embedded solutions, processor power, and digital power solutions for a variety of clients. He has been a regular contributor to the industry as an invited speaker, author, workshop participant, session host, roundtable moderator, and volunteer. He is a Senior Member of the IEEE.