by John J. Shea

IEEE PELS Raleigh Chapter Hosts Distinguished Lecture on High-Efficiency Wireless Power Transfer Systems

On 2 March 2018, the Raleigh, North Carolina IEEE Power Electronics Society (PELS) Chapter hosted a Distinguished Lecture by Prof. H.J. Chiu from the National Taiwan University of Science and Technology at North Carolina State University (NCSU), Raleigh, on the topic of "High-Efficiency Wireless Power Transfer Systems (WPTs)." The event was made possible by an invitation from the IEEE PELS Student Chapter at Virginia Tech, Blacksburg. This collaboration with a nearby university gave many others in the region a chance to learn about Prof. Chui's work (Figure 1). Before beginning his lecture, Prof. Chiu was given a tour of the NCSU Future Renewable Electric Energy Delivery and Management Center Lab, a systems engineering research center that is chartered with modernizing the power grid.

FIG 1 Prof. H.J. Chiu of the National Taiwan University of Science and Technology presenting his Distinguished Lecture to Chapter members. (Photo courtesy of Matt Horrer.)

Prof. Chiu's presentation focused on new designs for wireless power charging circuits. With an increasing number of portable electronics devices using WPT technology, Prof. Chiu described the WPT circuit his students used to win the International Future Energy Challenge. Other topics covered more advanced wireless topologies for electric vehicle charging, including dynamic charging for moving vehicle application. There were interesting discussions on coil design as well as explanations for why certain power electronic topography designs were chosen.

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by I. Gerald Christopher Raj

IEEE PELS PSNA College of Engineering and Technology Student Chapter Is Lighting Villages

The IEEE Power Electronics Society (PELS) Student Chapter at the PSNA College of Engineering and Technology, Dindigul, Tamil Nadu, India, organized a one-day workshop on 25 January 2018. Approximately 62 participants enrolled in the "Hands-On Training on Solar Lamp" workshop. Pankaj Dixit, founder, Liter of Lights, India; Prof. V. Rajasekaran, head of the Department of Electrical and Electronic Engineering (EEE); Prof. K. Mahadevan, an EEE professor; Prof. S. Muthukumaran, Student Branch Counselor and

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EEE professor; and Prof. I. Gerald Christopher Raj, Chapter faculty advisor and an EEE assistant professor, started the event, which was followed by lectures, a video presentation, and live activities for the remainder of the day. The students were particularly interested in the practical sessions designed to develop skills on solar lamp installation.

The Chapter, along with the IEEE Madras Section and Liter of Lights, Bangalore, India, arranged a project of assembling and installing 50 solar lamps in the remote villages of the Sirumalai Hills. Sirumalai is a region of 60,000 acres situated 16 mi from Dindigul and 282 mi from Chennai, Tamil Nadu, India. Sirumalai is a dense forest region with an altitude of 1,600 m above sea level. Only 50% of the villages are electrified, and many are remote, without electricity or proper roads. The work was an initiative to provide light to underserved villages without electricity through alternate sources.

FIG 1 IEEE PELS student members with Sirumalai Hills residents after erecting a solar lamp near a house. (Photo courtesy of PELS of PSNACET Student Chapter.)

PELS

Pankaj Dixit, Prof. S. Muthukumaran and Prof. I. Gerald Christopher Raj, and 15 student volunteers from various IEEE Sections gathered over the course of three days to assemble and install the solar lamps with the help of local Sirumalai community members. With the help of local residents, the student volunteers were active in assembling parts after dusk and fitting the solar lamps during the daytime (Figure 1). This work helped the students to garner practical knowledge while contributing to the community. Teachers and student volunteers worked together to give local communities an extra boost of confidence and new skills. The students brought awareness to the people about solar lamp usage and how to respond in case of faults. Fitting these solar lamps was a great boon to this rural community, and residents were very happy to receive these lights, which greatly help the young people to study after dusk.