

Topics for today's webinar

- Why Accreditation Matters
- Accreditation Principles
- ABET's Global Engagement
- IEEE's Role
- ABET Accreditation Criteria
- Adapting to changes: 2020 Accreditation Cycle



Prof. Ramesh's webinar explaining accreditation, which is more important than ever for engineering education.

the Accreditation Board for Engineering and Technology (ABET) plays a pivotal role in assuring quality in applied and natural sciences,

computing, engineering, and engineering technology.

IEEE is the largest of ABET's 36 member organizations. IEEE's mot-

to, Advancing Technology for Humanity, sets an ambitious goal, one that is highly dependent on a steady flow of professionals (and IEEE Members) with the technical knowledge and skills to achieve the target summarized in the motto and on understanding the societal/legal/economic context in which technology operates. IEEE's involvement in accreditation activities supports its ability to achieve that outcome. Ramesh's presentation covered ABET's global leadership role in accreditation to ensure the quality of engineering education in this dynamic, changing environment. Additionally, there was a discussion of how ABET has adapted to the global challenges of the pandemic by conducting all visits virtually during the 2020–2021 accreditation cycle.

DL Prof. Mercier Gives an Online Lecture for IEEE SSCS Israel Chapter

On 7 July 2020, IEEE Solid-State Circuits Society (SSCS) Distinguished Lecturer (DL) Prof. Patrick Mercier, University of California, San Diego, presented his seminar "Energy-Efficient Communication Technologies for Emerging Internet of Things Applications" online for the SSCS Israel Chapter. Mercier's wide experience and knowledge about wearable, medical, and mobile applications made for an informative talk.

The seminar outlined major challenges related to power reduction requirements in modern wireless systems for Internet of Things (IoT) applications and described several possible solutions to these issues. Specifically, Mercier explored the use of wake-up receivers as a means to reduce the power

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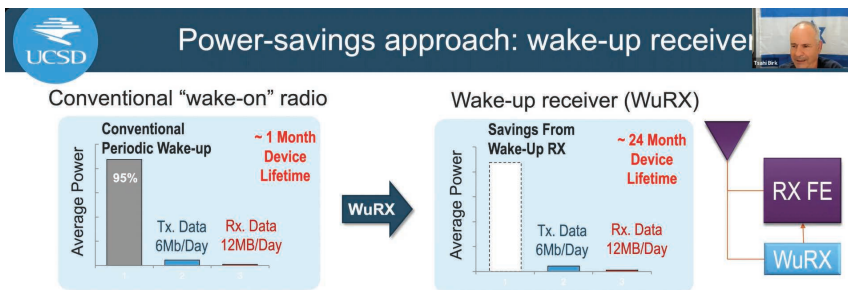
DL Mercier presents an online lecture for the SSCS Israel Chapter.

overhead of between-node synchronization, including a look at a recent design operating at 9 GHz with only nanowatts of power consumption and another that is compatible with Bluetooth and achieves state-of-the-art interference resili-

ency. Then, he discussed a variety of alternative communication schemes that can help reduce the power of communication in Wi-Fi and body area network systems by >1,000× through use of Wi-Fi-compliant backscatter communication



Power requirements for IoT devices produce numerous challenges.



Courtesy of Troy Olsson (DARPA)

Wake-up receiver requirements:

- Low-power (always on)
- Good sensitivity (ideally comparable to main radio for good network coverage)

Low-power WuRXs can greatly extend lifetime in low-average throughput scenarios

Reducing power consumption is increasingly important for next-generation communication systems.

and magnetic human body communication systems, respectively. The seminar concluded with a look at challenges and opportunities facing longer-range IoT communication systems.

The online lecture was hosted and co-organized by the Advanced Circuits Research Center (ACRC), Technion–Israel Institute of Technology, Haifa. More than 100 participants from the semiconductor industry and academia attended this fascinating and inspiring talk, which ended with a vibrant discussion.

—Solon Spiegel,
IEEE SSCS Chapter Israel

—Shahar Kvatinsky,
Associate professor, Technion–Israel
Institute of Technology, and member,
IEEE Circuits and Systems Society
Israel Chapter

—Masha Schuster,
ACRC associate director,
Technion–Israel Institute
of Technology

Prof. Man-Kay Law Delivers SSCS Distinguished Lecture Webinar

The IEEE Solid-State Circuits Society (SSCS) Switzerland Chapter organized a Distinguished Lecture webinar on 26 July 2020 featuring Prof. Man-Kay Law, University of Macau. The Chapter invited Law to discuss the topic of ultralow-power/energy-efficient, high-accuracy CMOS temperature sensors for passive radio-frequency identification (RFID) applications. The event was the Chapter’s first-quarter program and

covered communications circuits, including those for millimeter-wave 5G. An additional lecture was planned for later in the summer.

The Chapter decided to offer this forum because plenty of RFID and sensing activity takes place in Switzerland. The Chapter thanks Daniel Friedman, SSCS Distinguished Lecturer chair, for recognizing the seminar as a Distinguished Lecture within the Society. Long-standing research [2] begun 10 years ago motivated the Chapter to invite Law. The event

took place online via the WebEx service provided by IEEE to local Chapters. The program was advertised via IEEE eNotice [1] within the Switzerland Chapter, and it attracted 19 IEEE Members and four non-members. The presentation has subsequently been shared three times with WebEx attendees.

The talk was divided in two core parts. The first concerned fundamentals of bipolar field-effect transistor-based CMOS temperature sensing. It focused on reviewing basic architectures, nonlinearity,

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