

# IEEE CASS Talk 2018

IEEE CASS – SSCS Chile Chapter

**Santiago:** 10 Mayo 2018, 13:00 horas, Campus San Joaquín,  
Sala A5 Ingeniería, PUC

**Valparaiso:** 11 Mayo 2018, 11:30 horas, Sala B221, UTFSM



# CAS

IEEE CIRCUITS AND SYSTEMS SOCIETY



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Energizing and Powering Microsystems

## Abstract

Networked wireless microsensors can not only monitor and manage power consumption in small- and large-scale applications for space, military, medical, agricultural, and consumer markets but also add cost-, energy-, and life-saving intelligence to large infrastructures and tiny devices in remote and difficult-to-reach places. Ultra-small systems, however, cannot store sufficient energy to sustain monitoring, interface, processing, and telemetry functions for long. And replacing or recharging the batteries of hundreds of networked nodes can be labor intensive, expensive, and oftentimes impossible. This is why alternate sources are the subject of ardent research today. Except power densities are low, and in many cases, intermittent, so supplying functional blocks is challenging. Plus, tiny lithium-ion batteries and super capacitors, while power dense, cannot sustain life for extended periods. This talk illustrates how emerging microelectronic systems can draw energy from elusive ambient sources to power tiny wireless sensors.

## Bio

Gabriel A. Rincón-Mora has been Professor at the Georgia Institute of Technology (Georgia Tech) since 2001 and Visiting Professor at National Cheng Kung University in Taiwan since 2011 and was Director of the Georgia Tech Analog Consortium in 2001-2004, Adjunct Professor at Georgia Tech in 1999-2001, and Design Team Leader at Texas Instruments in 1994-2003. He is Fellow of the American National Academy of Inventors (NAI), Fellow of the Institute of Electrical and Electronics Engineers (IEEE), and Fellow of the Institution of Engineering and Technology (IET). His scholarly products include 9 books, 4 book chapters, 42 patents, over 170 articles, over 26 commercial power-chip designs, and over 130 international speaking engagements. He was inducted into Georgia Tech's Council of Outstanding Young Engineering Alumni and named one of "The 100 Most Influential Hispanics" by Hispanic Business magazine. He received the National Hispanic in Technology Award from the Society of Hispanic Professional Engineers (SHPE), Charles E. Perry Visionary Award from Florida International University (FIU), Orgullo Hispano Award and Hispanic Heritage Award from Robins Air Force Base, IEEE Service Award from the IEEE Circuits and Systems Society (CASS), IEEE Certificate of Appreciation from IEEE CASS, and Commendation Certificate from the Lieutenant Governor of California.



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