School of Electrical and Computer Engineering
College of Engineering

Rincón-Mora Wins IEEE Outstanding Engineering Educator Award

The ECE professor was recognized for his outstanding contribution to electrotechnology education and research.

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Georgia Tech School of Electrical and Computer Engineering (ECE) Motorola Solutions Foundation Professor Gabriel Alfonso Rincón-Mora won the IEEE Region 3 Joseph M. Biedenbach Outstanding Engineering Educator Award.

The award recognizes a member of Region 3 who has shared technical and professional abilities through teaching in industry, government, or in an institution of higher learning and in so doing has made an outstanding contribution to the electrotechnology student population.

Rincón-Mora, who is also a Fellow of the National Academy of Inventors, the Institute of Electrical and Electronics Engineers, and the Institution of Engineering and Technology, was selected out of the 24,000 members across Jamaica and the nine U.S. states that make up Region 3.

“I grew up, studied, and worked in Florida and Georgia nearly all my life, dedicating my entire academic and professional career to learning, teaching, developing, and researching analog and power electronics, so receiving this award from IEEE in this region is a very special honor for me,” he said.

This is his second IEEE award in the last few months, having received the **IEEE Atlanta Outstanding Educator Award** in Nov. 2024.
Rincón-Mora has more than 25 years of service at Georgia Tech and the greater Atlanta area. He earned his M.S. in 1994 and Ph.D. in 1996 from Georgia Tech, and was inducted into Georgia Tech's Council of Outstanding Young Engineering Alumni in 2000. He worked for Texas Instruments in 1994–2003, was adjunct professor at ECE in 1999–2001, and has been a full-time professor since 2001.

He is a recognized authority in the semiconductor industry in power supplies and energy harvesting.

Rincón-Mora pioneered the use of positive feedback loops to accelerate the response of low-dropout regulators and hysteretic control to stabilize and accelerate the response of switching power supplies. He developed and mastered techniques for rejecting and suppressing power-supply noise, allowing cell phones, tablets, and laptops power supplies to be more accurate, occupy less space, and consume less energy.

He also developed ground-breaking switched-inductor microchips that draw power from tiny fuel cells, vibrating piezoelectric transducers, and magnetically coupled coils. He pioneered ways of amplifying the power they draw by investing pre-damping energy into the system. He similarly developed photovoltaic and thermoelectric microchip technologies that draw more power from ambient light and heat and consume less energy. With these innovations, wireless microsystems draw more power from biological and ambient sources, so they can perform more functions across longer periods.

Rincón-Mora's current research focuses on the design and development of silicon-based microchips and microsystems that draw and condition power from tiny batteries, fuel cells, magnetically coupled coils, and generators that harness ambient energy from motion, light, temperature, and radiation to supply and sustain mobile, portable, and self-sustaining devices like wireless microsensors for biomedical, consumer, industrial, and military applications.

He will accept the award at the Region 3 Awards Dinner this March in Charlotte, N.C.

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