

Del Alamo receives SRC 2012 Technical Excellence Award

Massachusetts Institute of Technology

Jesús del Alamo — the Donner Professor, MacVicar Faculty Fellow and professor in the Department of Electrical Engineering and Computer Science — received the Semiconductor Research Corporation 2012 Technical Excellence Award at the TECHON Conference, held Sept. 10-11 in Austin, Texas. The SRC is the world's leading university-research consortium for semiconductors and related technologies. The Technical Excellence Award recognizes researchers who have made key contributions to technologies that significantly enhance the productivity of the semiconductor industry.

TECHON is one of the largest conferences to bring students and semiconductor industry leaders together to discuss progress of new materials and processes created by more than 100 of the top engineering universities in the SRC network. Del Alamo and Andrew Neureuther, professor emeritus from UC Berkeley, were recognized by the SRC as outstanding professors in SRC-supported, chip-related research and education for 2012.

In receiving this award, del Alamo is cited for his Feasibility Study of InGaAs-based Quantum-Well Field-Effect Transistors for Ultra High Speed, Low Power Logic Applications. The SRC press release notes: "Dr. del Alamo's research includes the fabrication of nanometer-scale transistors with world-record high frequency operation, as well as the investigation of the use of III-V compound semiconductors to enable a new generation of deeply scaled transistors for future digital applications."

Del Alamo leads his research program on compound semiconductor transistor technologies for millimeter wave and future logic applications at the MIT Microsystems Technology Laboratories where he is also associate director. For several years, he and his students have been investigating the potential of compound semiconductors made out of elements from columns III and V of the periodic table ("III-Vs") to enable a new class of nanometer-scale transistors for future digital applications. His goal is to extend Moore's law by several generations of technology using III-Vs. Using the same materials, del Alamo's group has also worked toward pushing the state of the art in high-frequency transistors. The InAs High Electron Mobility Transistors his group has developed over the last several years have broken the world record for the highest frequency response of any transistor type fabricated in any material system.

In response to receipt of the SRC Technical Excellence Award, del Alamo said, "I am deeply honored by this recognition that comes from an institution that has done so much to foster progress in semiconductor science and technology. It is a thrill to be part of this community and to work with smart and dedicated students and supporting colleagues in pushing forward the microelectronics revolution. The

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partnerships between university and academia that the SRC creates and nurtures are critical elements of a healthy microelectronics ecosystem.”

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