CDADIC
CENTER FOR DESIGN OF ANALOG-DIGITAL INTEGRATED CIRCUITS

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Electronics Center Awarded $1 Million Space Technology Grant

PULLMAN, Wash • The Center for Design of Analog-Digital Integrated Circuits (CDADIC), a university-industry semiconductor research consortium has been awarded a $1 million grant from the U.S. Air Force's Air Force Research Laboratory, Space Vehicles Directorate (AFRL/RV) to help develop nanoscale electronics for a new era of advanced satellite technology.

Faculty and students in CDADIC, headquartered at Washington State University, will spend the next year on research to develop nanoscale circuits for defense and intelligent systems. It is also anticipated that the funding will lead to advancing the next generation of consumer electronics.

"This research will add to the already stellar record of CDADIC's professionals in mixed-signal design," said 2nd Lt. John Demello, AFRL's Space Vehicles Directorate. "The center will focus on research for high-speed interconnects, reconfigurable analog-to-digital converters, and modeling methods that will aid in the nanoscale revolution."

Nanoscale electronics is a field where electronic circuits are designed using devices with dimensions below 100 nanometers or approximately 100 times smaller than a human red blood cell. (One nanometer is a billionth of a meter.) This technology has made it possible to design increasingly smaller cell phones, flat-panel displays, MP3 players, and other miniature electronic devices. For space applications, this technology is critical in reducing launch and design costs of increasingly complex satellites. Nanoelectronics will decrease these costs by greatly reducing the size, weight, and power requirements of next-generation satellites, as well as with many other defense and consumer products.

The grant will also support 20-30 fellowships to graduate and undergraduate U.S. students to work on center research.

"There is an approaching crisis in the number of U.S. citizens being trained in microelectronics," said John Ringo, CDADIC director and professor in WSU's School of Electrical Engineering and Computer Science. "Increasing the number of students in this field is essential to expanding the domestic workforce in an area that has an important impact on our economy."

CDADIC, founded as a National Science Foundation Industry-University Cooperative Research Center in 1989, encompasses a dozen industry partners and four universities: Washington State University (CDADIC headquarters), University of Washington, Oregon State University, and the University of Tennessee at Knoxville. This grant will fund projects at each of the participating universities. Center industry partners, including Boeing, Honeywell, Texas Instruments and other semiconductor companies, will provide valuable feedback to the center's researchers. For more information on the center, visit www.cdadic.org.

CONTACTS:
John Ringo, Director of CDADIC, 509/335-5595, ringo@wsu.edu
Joanne Buteau, Industry-Corporate Relations, CDADIC, 509/335-5379, jbuteau@wsu.edu