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September 13, 2007

[Printable version](#)**NSF grant funds cutting-edge modeling work that could lead to smaller, more powerful electronics**

DENTON (UNT), Texas -- The next generation of cell phones and digital music players will be smaller than what's available now, but will need to have longer battery life. Before those products can be produced, they have to be modeled as part of the design process.

A University of North Texas assistant professor of computer science and engineering has received a three year National Science Foundation grant to study the power and performance of digital systems through computer aided design modeling, or CAD. The research project, titled "A Comprehensive Methodology for Early Power-Performance Estimation of Nano-CMOS Digital Systems," received a total of \$200,000. UNT is the lead institution on this project, with support provided by Texas A&M University.

Dr. Saraju Mohanty says this modeling is vital to develop new battery-powered circuits and systems. "When we model new computer chips in a simulator, we don't know how much power they will need or how they will work with other components," he says. "This research will help us to make quick, accurate estimates for both academic and industrial settings."

Dr. Oscar Garcia, Founding Dean of UNT's College of Engineering says, "Dr. Mohanty's project also includes an educational component where the design software can be used to teach undergraduate and graduate students the design of very large scale integrated, or VLSI, components and systems in a manner that increases the possible complexity and is accomplished in less time. It is a very up-to-date approach welcomed by researchers and industry and puts our students in a very competitive position in this field."

Mohanty, who is also the director of UNT's VLSI Design and CAD laboratory, says this research will be used to develop a new modeling system that will focus on nanoscale transistors - where the nanometer (one billionth of a meter or about 1/75,000th of the width of a human hair), is the standard unit of measurement. He says his research is being closely watched by a variety of industries.

"The research we're doing will be applicable in everything from mobile phones to laptop computers to PDAs to automobiles. All sorts of industries will benefit from this research," Mohanty says.

Mohanty can be reached at (940) 565-3276.

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Latest News

[Head of Turkish National Police begins U.S. tour at UNT Sept. 21](#)

Saraju Mohanty

Saraju Mohanty, assistant professor of computer science and engineering.

Ogul Koksal, the top official in the Turkish National Police will visit UNT Sept. 21 as his first stop on a tour of the United States.

[Classical bassist Edgar Meyer in concert with UNT Symphony Orchestra Oct. 3](#)

Grammy Award-winning musician Edgar Meyer will perform in concert with the University of North Texas Symphony Orchestra on Oct. 3.

[UNT to expand software development partnership with NSF grant](#)

\$10,000 National Science Foundation planning grant will allow the University of North Texas to expand its current partnerships in a net centric software consortium that also involves UTD, UTA and SMU

[UNT names new associate director of the Career Center](#)

Daniel Pascoe Aguilar has been named associate director of the University of North Texas Career Center.

[UNT's enrollment climbs 2.5 percent](#)

University of North Texas enrollment climbed to another all-time high of 34,268 students.

Comments, suggestions, or corrections to: news_service@unt.edu

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