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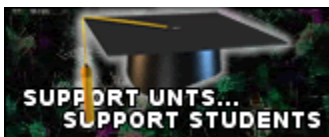
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unt researcher Saraju Mohanty to create smaller, more efficient chips



In five years, charging your laptop or cell phone may take seconds and last for weeks before needing recharged.

Saraju Mohanty, an assistant professor in [computer science and engineering](#) at the University of North Texas, is working to make the production and operation of electronic chips more energy efficient, which would increase battery life, reduce power consumption and lead to lower costs for consumers.

“This could make electronics more affordable, so they can reach more people and more diverse communities,” Mohanty said. “It could also save a lot of energy during production and operation, which would cut our carbon emissions.”

Saraju Mohanty

Mohanty has been instrumental in generating about \$1 million in research funding, including a new, three-year grant from the [National Science Foundation](#) for about \$250,000. He is working with Elias Kougianos, an assistant professor in engineering technology, on the grant, which began Aug. 1. This is Mohanty’s second NSF grant.

The goals of the research are to reduce power consumption of electronics by 70 to 80% within the next five years and to improve the manufacturing yield by 30%. The manufacturing yield refers to the number of viable chips produced in each batch versus the number that must be discarded or sold at a lesser price because of defects.

Both areas could help bring down the cost of electronics, including digital cameras and radios, PDA devices, cell phones and laptops.

Researchers, along with graduate students, will use state-of-the-art computing facilities in the [VLSI Design and CAD Laboratory](#), which Mohanty directs. The facilities at [Discovery Park](#) include high-end servers, several terabytes of storage and hardware simulation tools funded by the National Science Foundation to conduct computer-aided design research into low-power, high-performance chips.



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