Education

Dayton university receives $390k to streamline chip production

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UNIVERSITY OF DAYTON

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A grant award from the National Science Foundation is going to aid a Dayton-area university in streamlining the creation of semiconductor chips. Benefits of the award will impact researchers, faculty and students across several departments.

The University of Dayton was awarded a $390,000 grant that will enable UD to purchase equipment to create semiconductor chips and devices in hours, rather than weeks, and at a significantly lower cost.

"With this direct-write laser beam lithography system, our researchers, faculty and students can quickly turn around their designs in our nanofabrication cleanroom," said Andrew Sarangan, project leader and chair of UD's department of electro-optics and photonics. "This will be very attractive for students interested in our new undergraduate minor in semiconductor manufacturing."

In addition to UD's department of electro-optics and photonics, researchers, faculty and students in UD departments of electrical and computer engineering, engineering management and systems technology, physics and biology will use the equipment.

Last September, 14 UD faculty and staff in six labs became part of the Intel-funded Ohio-southwest Alliance on Semiconductors and Integrated Scalable Manufacturing to help develop a workforce for Ohio's semiconductor industry needs.

As part of this initiative, the university will receive funding over a three-year period to lead the materials science and engineering part of the network and develop training modules integrated into UD undergraduate courses. The university will contribute to the alliance's other thematic areas as well, including supporting microelectronics, manufacturing systems, and semiconductor supply chain security and sustainability.

This past summer, with $353,000 from the National Science Foundation, UD provided the next generation of researchers working on semiconductor materials and electronic and photonic devices a 10-week session where they received hands-on training and conducted research in the UD Nanofab Lab. The students' work also supported research at the Air Force Research Laboratory at Wright-Patterson Air Force Base.

UD is the third-largest university in the Dayton region with roughly 12,000 students, according to DBJ research.