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$390K grant to prepare UD students for Intel jobs

Allison Gens ⁝ 3-3 minutes ⁝ 11/26/2023

DAYTON, Ohio (WDTN) – Ohio will soon be a leader in semiconductor chip production, and the University of Dayton recently received a grant to better prepare students to fill jobs once they open.

From your smartphone to your car to even your microwave, there's a semiconductor chip inside.

"Semiconductor chips have touched every single human in the world," Andrew Sarangan, chair of UD's department of electro-optics and photonics, said.

Intel broke ground last September on it's $20 billion dollar investment in Ohio. The company plans to build two semiconductor chip manufacturing plants, estimated to create 3,000 new high-tech jobs.

"There's a huge demand for these jobs," Sarangan said. "Everyone is scrambling to get the type of training that they need."

University of Dayton students across several departments are getting that training to fill these positions in UD's nanofabrication cleanroom.

"We've populated this lab with all the required to teach and do research in semiconductor manufacturing," Sarangan said.

The lab is about to get a major upgrade thanks to a $390,000 dollar grant from the National Science Foundation. The grant money will be used to replace a 20-year-old lithography machine within the cleanroom.

"The critical step in semiconductor manufacturing is that patterning step making these nanoscale scale features, transistors and resistors and devices that goes on a chip," Sarangan said.

Currently, students have to pattern their designs onto photo masks and ship them out, which could take weeks to get back. The new machine will speed up the process by skipping that step, and allowing students to write the patterns directly on a silicon wafer.

Sarangan said the new machine has already outlived its lifespan. This grant will allow students to continue their education and research on more modern technology instead of in the classroom.

"It's not nearly as effective as bringing the people into the lab so that they can see and touch and have a direct experience on this machine," Sarangan said. "This gives them a significant leg up when they show up at the workplace."

UD is part of two networks of colleges and universities supporting the semiconductor industry's workforce needs, including the Midwest Regional Network to Address National Needs in Semiconductor and Microelectronics and the Intel-funded Ohio-southwest Alliance on Semiconductors and Integrated Scalable Manufacturing.