INSTITUTE FOR NANO-ENGINEERED SYSTEMS

UW nanotechnology infrastructure gets a boost from the National Science Foundation

UW and Oregon State University received a five-year, $5 million grant as part of the NSF's National Nanotechnology Coordinated Infrastructure program.

ANNOUNCEMENT

QUANTUM RESEARCH AT UW

UW receives NSF funds for investment in an interdisciplinary quantum future

The National Science Foundation awarded UW $3 million to establish a Research Traineeship for graduate students in quantum information science and technology. UW associate professor of physics and electrical & computer engineering Kai-Mei Fu will serve as director for the new traineeship.

NanoES faculty receive NSF award to increase capacity of quantum computing systems

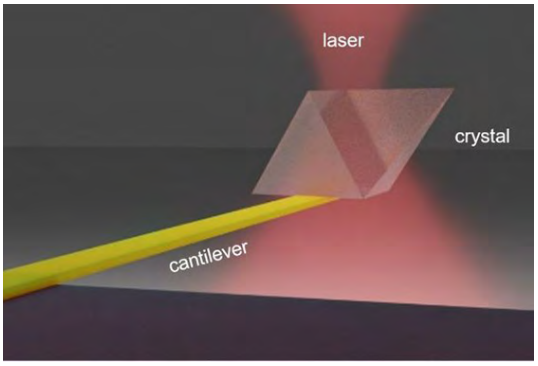
A team led by UW Electrical & Computer Engineering professors Mo Li, Arka Majumdar and Karl Böhringer, was selected to participate in the NSF's Convergence Accelerator, a new initiative to accelerate use-inspired research addressing societal challenges. The team will be working to increase the capacity of quantum computing systems to retain and process information.

TRACKING THE SPREAD OF COVID-19

[Meeting the need for COVID-19 test kits: Pivoting from Seattle Flu Study and developing new rapid tests]

Bioengineering professor Barry Lutz, in partnership with Dr. Matthew Thompson, a UW professor of family medicine and global health, is pioneering at-home test kits for the Seattle Coronavirus Assessment Network to respond to the COVID-19 pandemic.

RESEARCH HIGHLIGHTS



Laser allows solid-state refrigeration of a semiconductor material

A team led by Materials Science & Engineering Professor Peter Pauzauskie reported the use of an infrared laser to cool a solid semiconductor by at least 20 degrees C, or 36 F, below room temperature.

Nature Communications

Moving beyond Moore: Reconfigurable silicon photonics get a boost via new non-volatile memory material

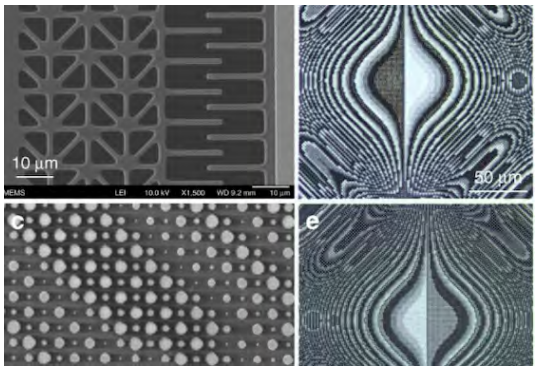
ECE professor Arka Majumdar's research lab has solved a major problem in integrated optical information processing and communication using new phase-change materials.

Advanced Materials

All together now: Experiments with twisted 2D materials catch electrons behaving collectively

A UW-led team, including Materials Science & Engineering Professor Xiaodong Xu, reports that carefully constructed stacks of graphene — a 2D form of carbon — can exhibit highly correlated electron properties.

Nature Physics



Development of miniature lenses with adjustable focus make for more compact optical systems

NanoES director and ECE professor Karl Böhringer's lab, in collaboration with the Majumdar lab, has utilized metalens and microelectromechanical system (MEMS) technologies to create thin, compact lenses with the potential to transform everything from microscopy to cameras, sensors and displays.

Microsystems & Nanoengineering

AWARDS

Inaugural CoMotion Director's Award goes to UW researchers assessing the persistence of potentially infectious aerosols in medical facilities

A multi-disciplinary team led by Igor Novosselov, an associate research professor in mechanical engineering, was awarded $25,000 to develop low-cost sensor networks for hospital operating rooms capable of mapping out the spatial and temporal distribution of long-lived aerosols that may contain SARS-CoV-2 or other infectious agents.

Pioneering materials scientist James De Yoreo receives Distinguished Scientist Fellow award

James De Yoreo, a Pacific Northwest National Laboratory Battelle Fellow and co-director of the PNNL-UW Northwest Institute for Materials Physics, Chemistry, and Technology, was awarded $1 million in research funding from the Department of Energy in recognition of his significant contributions to our understanding of interfacial processes underlying natural phenomena and technological applications.

WASHINGTON NANOFABRICATION FACILITY

User spotlight: Zheyi Han creates miniaturized optical systems for 3D imaging and biomedical diagnostics

Electrical and computer engineering Ph.D. candidate Zheyi Han describes her research integrating micro-electromechanical systems into compact optical systems and shares her hopes of joining an industrial research lab after graduation.