



# INSTITUTE FOR NANO-ENGINEERED SYSTEMS

WINTER 2022

## A FORCE FOR REPRODUCIBLE SCIENCE

The UW Biofabrication Center is partnering with Agilent Technologies in pursuit of automated, reproducible research.

LEARN MORE



### [NanoES faculty among world's most influential researchers](#)

UW professors David Baker, David Cobden, David Veessler and Xiaodong Xu make Web of Science's 2021 list of Highly Cited Researchers.

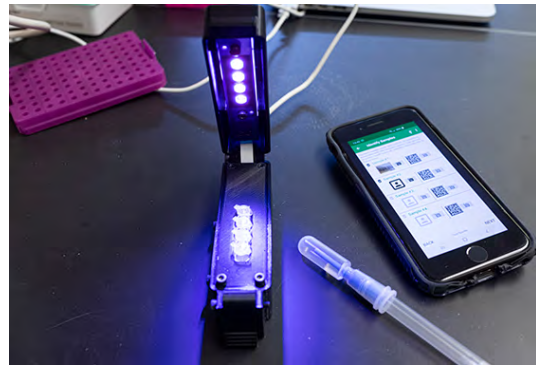
## RESEARCH HIGHLIGHTS

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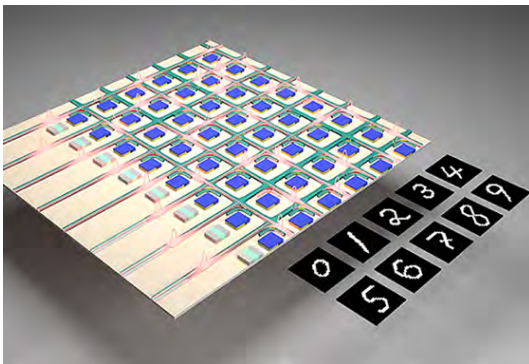
### [UW researchers developing miniaturized imaging device to treat heart attack, stroke](#)

An interdisciplinary research team, led by Electrical and Computer Engineering Professor [Arka Majumdar](#), was awarded \$3.6 million in funding from the National Science Foundation to use meta-optics to develop a dramatically smaller endoscope that can image previously inaccessible areas of the heart and brain.



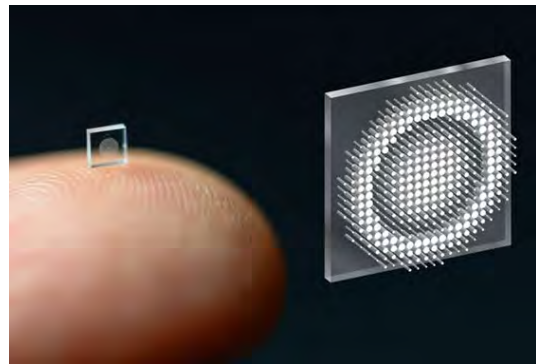
### [Fast, cheap test can detect COVID-19 virus' genome without need for PCR](#)

Bioengineering Professor [Barry Lutz](#) and his research team have developed a new test for COVID-19 that combines the speed of over-the-counter antigen tests with the accuracy of PCR tests that are processed in medical labs and hospitals.



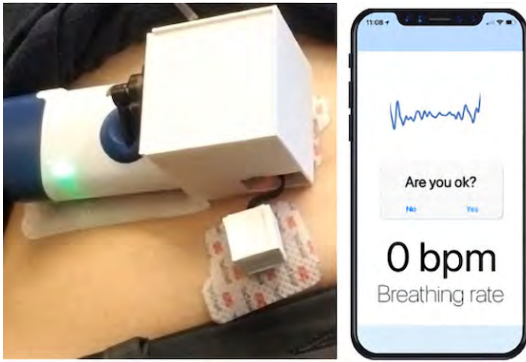
### [Harnessing noise in optical computing for AI](#)

Researchers in the lab of ECE Professor [Mo Li](#) have developed a way to use stray photons generated by optical computing lasers ("noise") to help enhance the creativity of artificial intelligence and potentially reduce the environmental impacts of AI and machine learning.



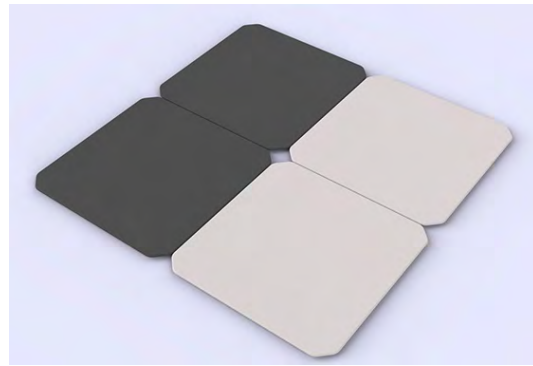
### [Researchers shrink camera to the size of a salt grain](#)

Researchers at the UW and Princeton University have developed an ultracompact camera that relies on metasurfaces, fabricated at the [Washington Nanofabrication Facility](#), to produce full-color images on par with a conventional camera lens 500,000 times larger in volume.



### **Wearable device can detect and reverse opioid overdose**

UW researchers, including Allen School Professor [Vikram Iyer](#), developed a prototype device that can recognize respiration patterns and administer naloxone, a potential antidote.



### **Nanotechnology startup Somalytics aims to detect eye and body movement using sensors embedded in paper**

The company has developed ultrathin, flexible sensors built from tiny carbon nanotubes.

## CONGRATULATIONS

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### **Mo Li named 2021 Optica Fellow**

Li is recognized for contributions to nanophotonics, optomechanics and integrated acousto-optics.



### **Arka Majumdar named iCANX young scientist**

This annual award recognizes a select group of young scientists who have made outstanding contributions on a global scale in frontier fields like microelectronics, information technology, new materials, biomedicine, intelligent manufacturing, Internet of Things, and artificial intelligence.

# WASHINGTON NANOFABRICATION FACILITY

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## **Northwest Nanotechnology Infrastructure announces seed grant**

Select recipients will receive grants of up to \$10k for work to be conducted in the Washington Nanofabrication Facility or the Molecular Analysis Facility at UW. Open to new academic users. Apply by March 1, 2022.

## RECENT PUBLICATIONS

[IMPDH1 retinal variants control filament architecture to tune allosteric regulation](#)

*Nature Structural & Molecular Biology*

[Neural nano-optics for high-quality thin lens imaging](#)

*Nature*

[Iron oxide nanoparticle targeted chemo- immunotherapy for triple negative breast cancer](#)

*Materials Today*

[Harnessing optoelectronic noises in a photonic generative network](#)

*Science Advances*

[Functional liquid metal nanoparticles: Synthesis and applications](#)

*Materials Advances*



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