



NEWS FROM THE BU DEPARTMENT OF BIOMEDICAL ENGINEERING BU.EDU/BME

BU's COVID Response

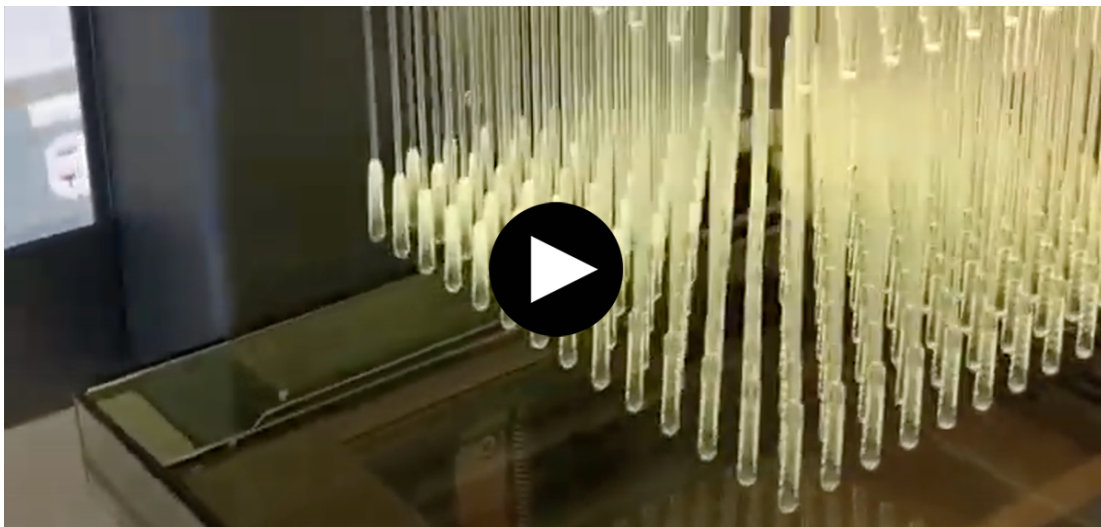


The Story and Science behind BU's Covid-19 Dashboard

A one-of-a-kind system comprising custom software, real-time campus network modeling, contact tracing, and case cluster management.

With the opening of its robust, university-wide coronavirus testing program, Boston University began posting the results on a data-rich public-facing dashboard. From the highly successful program's inception, visitors to the site have been able to instantly see how many tests BU has performed in the past day or the past week, the total number of positive, negative, or invalid cases recorded, the overall percentage of positive cases at BU in comparison to the city of Boston and the commonwealth of Massachusetts, and more. As of 2/26/21, BU's current 7 day average for positive test results is .30%, compared with the state average of 1.8%.

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[VIDEO:](#) Watch 3D-Printed Nasal Swab Prototypes Take Form

Building a better swab to bridge the global shortage

BU BME graduate researcher Jessie Song is making use of 3D printing prototypes of alternative nasopharyngeal swabs, which could help bridge the supply shortage caused by global demands for coronavirus testing.

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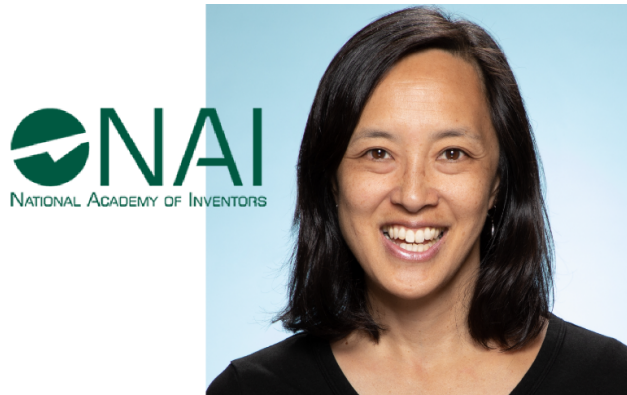
Faculty News



Cathie Klapperich elected AAAS Fellow

The American Association for the Advancement of Science honored **Prof. Catherine Klapperich** with this lifetime distinction for her contributions to the field of biomedical engineering, particularly the development of integrated microsystems for point-of-care diagnosis of disease for global and women's health.

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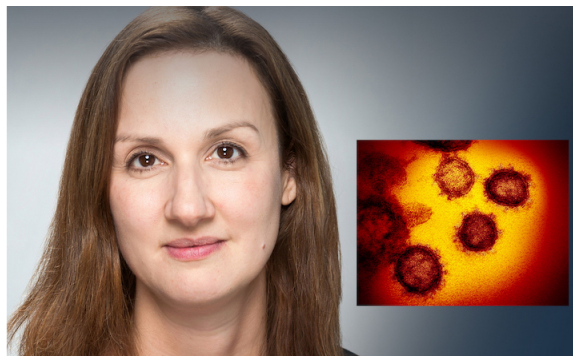
Joyce Wong elected as a fellow of the National Academy of Inventors.

Professor Joyce Wong received the lifetime award for innovation in her lab, including three composition of matter patents that were issued this year, plus several patents pending. The fellowship honors prolific academic inventors nationally for their thought-leadership & discovery. [Read More](#)



Optical Pioneer Jerome Mertz is BU's Innovator of the Year

Professor Jerome Mertz is a prolific inventor whose innovations have made leaps and bounds in microscopy. He holds six issued patents for technologies that have greatly advanced microscopic imaging quality and capabilities, more clearly illuminating the human body for clinicians. [Read More](#)



Klapperich elected to BBJ's Power 50 for 2020

BME vice chair Professor Catherine Klapperich is included in The Boston Business Journal's list honoring the most influential and impactful people in Boston. It recognizes influence, innovation, commitment, and courage has made a an extraordinary difference in 2020. [Read More](#)



Society For Biomaterials honors Joyce Wong

Prof. Joyce Wong received the prestigious 2020 Clemson Award for Basic Research from the Society for Biomaterials. The award acknowledges an original and outstanding contribution to the basic knowledge and understanding of the interaction between materials and tissue.

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Lewis wins a 1907 Trailblazer Award for Research on Sleep and Depression

Assistant Professor Laura Lewis was selected for the inaugural **1907 Research** award, which supports groundbreaking early career research in tackling psychiatric disease and mental illness through neuroscience. One of only three winners worldwide, she will pursue a very novel idea for how neuroinflammation is regulated by sleep.

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Recent BME Publications (*sampling*)

Darren Roblyer - **NATURE COMMUNICATIONS**

Shortwave-infrared meso-patterned imaging enables label-free mapping of tissue water and lipid content

[LINK TO ARTICLE](#)

Hadi Nia - **SCIENCE**

What are the physical hallmarks of cancer?

[LINK TO ARTICLE](#)

David Boas - **SCIENCE ADVANCES**

Single-shot 3D wide-field fluorescence imaging with a Computational Miniature Mesoscope

[LINK TO ARTICLE](#)

Bela Suki - **NATURE COMMUNICATIONS**

Modeling lung perfusion abnormalities to explain early COVID-19 hypoxemia

[LINK TO ARTICLE](#)

Tim O'Shea - **NATURE COMMUNICATIONS**

Foreign body responses in mouse central nervous system mimic natural wound responses and alter biomaterial functions

[LINK TO ARTICLE](#)

Laura Lewis - **eLife**

Blood Flow: Supplying the sleeping brain

[LINK TO ARTICLE](#)

Muhammad Zaman - **HARPER WAVE - 2020 Book**

Biography of Resistance: The Epic Battle Between People and Pathogens

[LINK TO ARTICLE](#)

BME Grant Highlights



Boas Team Wins \$5.9M Grant from the NIH BRAIN Initiative

Professor David Boas and his team have developed a portable, wearable brain imaging system called fNIRS (functional near-infrared spectroscopy). The NIH Brain Research through Advancing Neurotechnologies (BRAIN) Initiative will provide the resources to demonstrate the transition from measuring brain activity in constraint laboratory settings to measuring it in the everyday world.

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Cheng Wins Grant to Continue Breakthrough Imaging Research

Professor Ji-Xin Cheng received a Maximizing Investigator's Research Award (MIRA) for \$2.9 million from the National Institutes of Health (NIH). The award will build on his work to advance two novel imaging techniques that help physicians accurately remove cancerous cells in surgery and quickly test for antibiotic effectiveness.

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WHITEHALL FOUNDATION

SINCE 1937

Economo Receives Whitehall Foundation Grant for Neuroscience Research

Assistant Professor Mike Economo has been awarded a 2021 Whitehall Foundation Grant to investigate the control of movements by subspaces and cell types in the mouse orofacial system. This research may provide novel insights into the multiple functions of cortical neurons, thereby improving our understanding of brain functioning.

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Boston University College of Engineering
Department of Biomedical Engineering

The **Biomedical Engineering Department at Boston University** is among the largest of its kind in the US and is home to [award-winning faculty](#), [exceptional students](#), and numerous research [centers](#) and [laboratories](#) engaged in an array of interdisciplinary biomedical activities. Founded in 1966, today we offer a full suite of [undergraduate and graduate degrees](#), and are consistently ranked among the top BME departments in the nation by *U.S. News & World Report*.

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