



William Paterson University **Biological and Chemical Sciences**

Presents Plenary Talk

“Advanced Microtechnologies for Biology and Human Health”

by

Professor David Gracias, PhD

**Department of Chemical and Biomolecular Engineering
Johns Hopkins University, Baltimore, MD 21218, USA**



When: April 22nd, 2023,

Time: 1:00 – 2:00 PM

Where: University Commons Ballroom

Abstract

In the future, it is envisioned that living systems will be integrated with sensors and actuators to enable two-way information transfer. I will describe our research on next generation 3D microstructured materials and devices for interfacing cells, organoids, and humans. These microtechnologies feature three dimensionality, shape-change, biomolecular programmability, mechanical compliance and integrated sensing and actuation of widespread relevance to biomedical engineering, human health, diagnostics, drug delivery and surgery. The technologies leverage ultrathin and biocompatible materials, self-folding and transfer printing processing paradigms and heterogenous and hybrid materials integration. Applications include microinjectors, shell microelectrode arrays, biointerfacing tattoos, programmable soft robots, and single cell manipulation tools.

Speaker's Biography

David Gracias is a Professor at the Johns Hopkins University with a primary appointment in the Whiting School of Engineering and secondary appointments in the Krieger School of Arts and Sciences and School of Medicine. He is also a member of Laboratory for Computational Sensing and Robotics (LCSR), Center for Microphysiological Systems (MPS), Oncology and Sidney Kimmel Comprehensive Cancer Center (SKCCC), He has made pioneering contributions to micro and nanotechnology as described in over 200 technical publications, including several in high impact journals such as *Science*. He is also a prolific inventor and holds 36 issued US patents, with notable inventions on microchip integration, self-folding polyhedra, integrated biosensors and untethered microgrippers. He is an elected Fellow of diverse prestigious international scientific and engineering societies, including AAAS, IEEE, APS, RSC, and AIMBE.

TENTATIVE SCHEDULE OF EVENTS*

8:00 am – 9:00 am	Check - In
9:00 am – 9:30 am	Welcome and Opening Remarks
9:30 am – 11:30 am	Poster Session A
11:30 am – 12:45 pm	LUNCH - Wayne Dining Hall
1:00 pm – 2:00 pm	PLENARY TALK Dr. David Gracias Professor, Chemical and Biomolecular Engineering Johns Hopkins University, Baltimore, MD 21218, USA
2:15 pm – 4:15 pm	Poster Session B
4:15 pm – 4:45 pm	Refreshments
4:45 pm – 5:30 pm	AWARDS CEREMONY

*All events will take place in University Commons Ballroom unless otherwise noted

For More Information and RSVP

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