

EML WEBINAR

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WEDNESDAY, 22 APRIL 2020

7 AM CALIFORNIA, 10 AM BOSTON

3 PM LONDON, 10 PM BEIJING



JOHN ROGERS

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ENABLING IDEAS IN THE MECHANICS OF BIO-INTEGRATED ELECTRONIC SYSTEMS —FROM COVID-19 PATIENTS TO ENGINEERED MINI-BRAINS

Recent global events are reshaping the geopolitical and socio-economic landscape in ways that will likely alter academic research priorities for at least a generation – simply because long-term solutions to the underlying societal challenges will only occur through innovative technologies and advanced medicines, as life-saving diagnostics, digital biosensors, deep learning algorithms, therapeutics and preventatives. This talk will outline aspects of mechanical science and engineering that intersect strongly with essential unmet needs in this broader context, specifically in the form of bio-integrated systems for human health and for research on living organisms. The first part will focus on foundational ideas for skin-like wireless electronic devices, up to the latest developments that support their current deployments on various subject populations, including COVID-19 patients, physicians and nurses – both locally within the medical complex here in Chicago and globally in clinics across lower and middle income countries in Africa and Central America. The second part of the talk will introduce emerging concepts in mechanically assembled 3D mesoscale frameworks for fundamental studies of brain disorders and regenerative medicine through the use of cortical organoids – sometimes referred to as mini-brains. This webinar will prominently feature our most recent work, performed or published over the last 3 months.

Professor Rogers is the world's foremost trailblazer in the rapidly advancing field of bio-integrated electronics. His work bridges mechanics and chemistry, and transcends the boundary between science, engineering, and medicine.

Host: Professor Jimmy Hsia, Nanyang Technological University

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