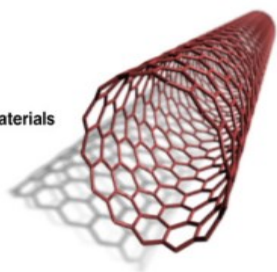


# McGill Chemical Society Seminar Series

McGill Chemistry Student Invited Lecture series

**miam**

mcgill institute for advanced materials



**Zhenan Bao**

## ***Skin-Inspired Organic Electronics***

**Abstract |** Skin is the body's largest organ. It is responsible for the transduction of a vast amount of information. This conformable, stretchable, self-healable and biodegradable material simultaneously collects signals from external stimuli that translate into information such as pressure, pain, and temperature. The development of electronic materials, inspired by the complexity of this organ is a tremendous, unrealized materials challenge. However, the advent of organic-based electronic materials may offer a potential solution to this longstanding problem. Over the past decade, we have developed materials design concepts to add skin-like functions to organic electronic materials without compromising their electronic properties. We developed various soft sensors for continuous measurements, including pressure, strain, shear, temperature, electrophysiological and neurotransmitter sensors. The above sensors and integrated circuits are the foundations for soft bioelectronics and are enabling a broad range of new tools for medical devices, robotics and wearable electronics.

**Bio |** Bao is K.K. Lee Professor of Chemical Engineering, and by courtesy, a Professor of Chemistry and a Professor of Material Science and Engineering at Stanford University. Bao directs the Stanford Wearable Electronics Initiative (eWEAR) and the Taiwan Science and Technology Hub @ Stanford. She is a CZ Biohub investigator since 2022 and an Arc Institute Innovation Investigator since 2023. Prior to joining Stanford in 2004, she was a Distinguished Member of Technical Staff in Bell Labs, Lucent Technologies from 1995-2004. She received her Ph.D. in Chemistry from the University of Chicago in 1995. She has more than 700 refereed publications and over 80 US patents with a Google Scholar H-Index 211 and is one of the world's most highly cited scholars in the fields of chemistry and material science. She is one of the Clarivate Citation Laureates in Chemistry for her pioneering work on skin-inspired electronics.



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**Department of Chemistry**



**May 8th, 2024**  
**1:00 PM-2:30PM**  
**Otto Maass 112**

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