

# 学 术 报 告

**Prof. Lynden A. Archer**

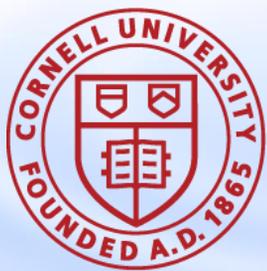
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Lynden Archer is the William C. Hoey Director and Professor of Chemical and Biomolecular Engineering at Cornell. His research focuses on transport properties of polymers and polymer/particle hybrids, and their applications for electrochemical energy storage. Archer received his Ph.D. in chemical engineering from Stanford University in 1993 and the bachelor of science degree in chemical engineering (polymer science) from the University of Southern California in 1989. He is a fellow of the American Physical Society and his work has been recognized with various awards, including the AIChE Nanoscale Science and Engineering Forum award, the National Science Foundation Award for Special Creativity, the James & Mary Tien Excellence in Teaching Award, and the American Institute of Chemical Engineer's MAC Centennial Engineer award.

## ***Electrodeposition of Metals in Nanostructured Electrolytes: Transport Phenomena and Stability***

Electrodeposition is used in various manufacturing processes for creating metal, colloid, and polymer coatings on conductive electrode substrates. The process also plays an important role in electrochemical storage technologies based on batteries, where it must be carefully managed to facilitate stable and safe operations at low operating temperatures, high rates and over many cycles of charge and discharge. A successful electrodeposition processes requires fast transport of charged species (e.g. ions, particles, polymers) in an electrolyte and stable redox reactions and transport at the electrolyte/electrode interface at which the deposition occurs. This talk considers the stability of electrodeposition of metals on planar electrodes with an emphasis on its role in enabling next-generation secondary batteries based on lithium and sodium metal anodes. Such batteries promise substantial improvements in electrochemical energy storage over today's state-of-the-art lithium ion technology and are under active investigation worldwide.



时间：3月25日 11:00 am

地点：玉泉-邵科馆 117

邀请人：陆盈盈

化学工程与生物工程学院

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