

Dynamic Ion-Electron Coupling at the Solid-Liquid Interface

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Venue: N23-1004b

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Hosted by: Prof. Pengzhan SUN

Abstract

Ions and electrons, while physically distinct, both serve as fundamental carriers of energy and information. Their interactions at solid-liquid interfaces exhibit rich spatiotemporal dynamics. Harnessing the dynamic ion-electron coupling, we have developed a range of devices for energy conversion and bio-inspired information processing. These include systems that leverage dynamic ion distributions for water-mediated energy conversion, as well as ion-electron hybrid artificial neurons that demonstrate broadband operation and sensory functions.

Biography

Prof. Jun YIN obtained his Ph.D. degree from Nanjing University of Aeronautics and Astronautics (NUAA) in 2016, following which he worked in the University of Manchester as a research associate for three years. Then, he joined in NUAA in 2019 as a Full Professor. His work has focused on the interface interaction for novel mechanical, energy and information devices. He has published over 80 papers with more than 10 Nature series, with total citations over 8,000 and an h-index of 40 (Google Scholar).