

INTERFACING ELECTROLYTES IN BATTERIES

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Electrolytes support the reversible operation of batteries. Ideally they should remain inert chemically and electrochemically during the cell reactions, but the aggressive chemistries used in today's batteries exclude any possibility that such inertness is thermodynamic. Hence enters the Solid-Electrolyte-Interphases (SEI). SEI play critical role in ensuring that modern batteries operate with long life and decent energy and power densities. Understanding how it works, what it consists of and how to manipulate it constitutes a key knowledge for developing materials and chemistries for the next generation batteries. In this work we will explore the history and state of the art about SEI. New advances of aqueous SEI will also be discussed.



Kang Xu

ARL Fellow and Team Leader

US Army Research Lab

SPEAKER BIO

Kang Xu is an ARL Fellow and a team leader at US Army Research Lab. His research focuses on electrolyte materials and fundamental chemistries of interfaces. His work has been recognized by multiple awards both within and outside of Department of Defense. He has published over 150 papers, written/edited 3 chapters/books, and currently holds 21 issued U. S. patents. Among these he is best known in the field for the two comprehensive reviews (Chemical Reviews 2004 and 2014), which were regarded as desk-references. His publications have received 12,000+ citations with an h-index of 59.

Contact Professor Yan Yao at yyao4@central.uh.edu if you would like to arrange for a time to meet with Dr. Xu.

UNIVERSITY of HOUSTON

CULLEN COLLEGE of ENGINEERING
Department of Electrical & Computer Engineering