



# 高安全电池中的金属锂保护



State Key Laboratory  
of Chemical Resource Engineering

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**时 间:** 2019-05-15 (周三) 02:00 PM-04:00 PM

**地 点:** 图书馆中心会议室

**报告内容:**

Li metal is considered as the “Holy Grail” of energy storage systems. The bright prospects give rise to worldwide interests in the metallic Li for the next generation energy storage systems, including highly considered rechargeable metallic Li batteries such as Li-O<sub>2</sub> and Li-sulfur (Li-S) batteries. However, the formation of Li dendrites induced by inhomogeneous distribution of current density on the Li metal anode and the concentration gradient of Li ions at the electrolyte/electrode interface is a crucial issue that hinders the practical demonstration of high-energy-density metallic Li batteries.

In this talk, we review energy chemistry of lithium metal anode in safe batteries. Firstly, the importance and dilemma of Li metal anode issues in lithium-sulfur batteries are underscored, aiming to arouse the attentions to Li metal anode protection. Specific attentions are paid to the surface chemistry of Li metal anode. Next, the proposed strategies to stabilize solid electrolyte interface and protect Li metal anode are included. Finally, a general conclusion and a perspective on the current limitations, as well as recommended future research directions of Li metal anode in rechargeable batteries are presented.

**个人简介:**

张强，清华大学长聘教授，从事能源材料研究，尤其是金属锂、锂硫电池和电催化的研究。曾获得国家自然科学基金杰出青年基金、中组部万人计划青年拔尖人才、英国皇家学会Newton Advanced Fellowship、2017-2018年科睿唯安全球高被引科学家。

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