



# 高安全电池中的金属锂保护



State Key Laboratory  
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**时 间：**2019-05-22（周三）04:00 PM-05:00 PM

**地 点：**图书馆中心会议室

**报告内容：**

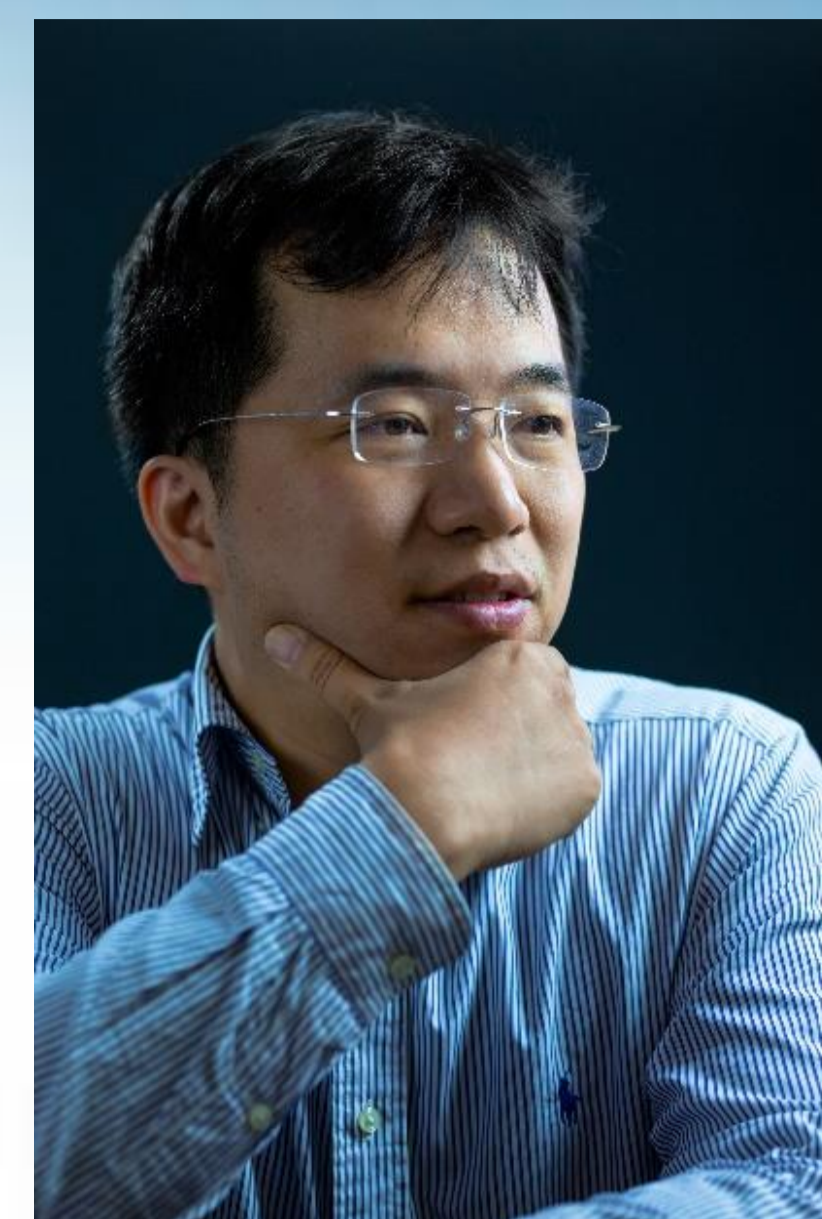
Li metal is considered as the “Holy Grail” of energy storage systems. The bright prospects give rise to worldwide interests in the metallic Li for the next generation energy storage systems, including highly considered rechargeable metallic Li batteries such as Li-O<sub>2</sub> and Li-sulfur (Li-S) batteries. 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：**

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担任国际期刊J Energy Chem编辑、Adv Funct Mater、Adv Mater Interfaces、Matter、EnergyChem、Sci China Mater、Sci China Chem、Philos Trans A等期刊编委。主持国家重点研发计划课题、自然科学基金、教育部博士点基金、北京市科委重点项目等。担任Nature Energy、Nature Nanotech、Nature Catal、Sci. Adv.、JACS、Adv. Mater.、Angew. Chem.等期刊特约审稿人或仲裁人。以第一作者/通讯作者在Adv. Mater., J. Am. Chem. Soc., Angew. Chem. Int. Ed., Nature Commun., Sci. Adv., Chem等发表SCI收录论文200余篇；所发论文引用23000余次，h因子为83，61篇为ESI高引用学术论文。



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