



# 学术报告



State Key Laboratory  
of Chemical Resource Engineering

**报告名称：基于二维材料和有机材料的  
镁离子电池**

**报告人：姚彦 副教授**

**时间：2017-6-21（周三）上午10:00**

**地点：图书馆多功能厅**



## 报告人简介：

**Yan Yao** is Associate Professor of Electrical Engineering and Materials Science at the University of Houston. He received his B.S. and M.S. in Materials Science from Fudan University in China in 2000 and 2003, and a Ph.D. degree in Materials Science and Engineering from UCLA in 2008. He worked with Yi Cui as a postdoc at Stanford University from 2010 to 2012. Prof. Yao joined the University of Houston as an assistant professor in 2012 and was promoted to associate professor in 2017. His main research interests include materials and devices for energy conversion and storage. Prof. Yao received the Robert A. Welch Professorship in 2012, the Young Investigator Award from the Office of Naval Research (ONR) in 2013, the Ralph E. Powe Junior Faculty Enhancement Award from Oak Ridge Associated University in 2013, the Teaching Excellence Award from the College of Engineering in 2016, and the Scialog Fellow from the Research Corporation in 2017.

## 报告内容：

镁离子电池由于镁负极在循环沉积过程无枝晶的特点在低成本和安全的能源存储领域有巨大的应用前景。此次报告首先对我们课题组的工作做一个简单概述，包括水系电池、全固态电池和镁离子电池。然后通过两个方面详细描述镁离子电池的最新进展。

(1) 改变二维材料载体层间距和嵌入离子 ( $MgCl^+$ ) 的材料设计提高镁离子正极材料的性能 (*Nano Letter* 2015, *Nature Comm*, 2017)

(2) 基于有机材料的水系镁离子电池和其他长循环寿命的水系电池 (*Nature Materials* 2017)。

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