



学术报告



State Key Laboratory
of Chemical Resource Engineering

Magnetic nanocomposites for artefact conservation: the case of Tudor warship the Mary Rose

报告人: Dr. Serena Corr (*Nanoscale* 副主编)

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地点: 综合楼114



报告人简介:

2002年本科毕业于英国Trinity College Dublin大学化学系, 2007年获Trinity College Dublin大学化学博士学位。格拉斯哥大学(University of Glasgow)副教授, 荣获爱尔兰皇家学会年轻化学家奖、University of Kent大学杰出教师奖。任*Nanoscale*副主编、EPSRC能源战略顾问。目前的研究方向是智能磁性材料等纳米材料的制备、表征及分析应用。已在*Nature Mater.*等国际知名期刊发表SCI收录论文40余篇, SCI收录刊物引用2500多次, H-因子20。在*Inorg. Chem.*和*Chem. Commun.*等知名期刊发表多篇封面文章或者热点文章。

代表性文章如下:

1. H. El-Shinawi, G. W. Paterson, D. MacLaren, E. J. Cussen & **S. A. Corr**. *J. Mater. Chem. A*, 2017, **5**, 319.
2. J. Vidal Laveda, V. Chandhok, C. A. Murray, G. W. Paterson & **S. A. Corr**. *Chem. Commun.*, 2016, **52**, 9028. ***Emerging investigator issue***
3. T. E. Ashton, J. Vidal Laveda, D. A. MacLaren, P. J. Baker, A. Porch, M. O. Jones and **S. A. Corr**. *J. Mater. Chem. A*, 2014, **2**, 6238. ***Emerging investigator issue***
4. P. Barpanda, M. Ati, B.C. Melot, G. Rousse, J-N. Chotard, M-L. Doublet, M.T. Sougrati, **S. A. Corr**, J-C. Jumas & J-M. Tarascon. *Nature Mater.*, 2011, **10**, 772. ***Top 1% cited paper***
5. **S. A. Corr**, D. P. Shoemaker, E. S. Toberer and R. Seshadri. *J. Mater. Chem.*, 2010, **20**, 1413. ***Feature article and front cover***

报告内容简介:

Our group is developing a series of new smart magnetic nanocomposites based on iron oxide nanoparticles which will be used to target and completely remove such harmful entities from the waterlogged wooden hull of the *Mary Rose*. The treatment has been designed to prevent any disruptive interference to the artefacts and the targeted nature of the treatment is through both surface chemistry considerations and the magnetic nature of the core nanoparticle. In this talk, I will describe our latest results on the design of these nanocomposites, their synthesis using new microwave-assisted routes and our initial studies on samples taken from the *Mary Rose*. I will also briefly describe our recent total scattering tomography experiments on *Mary Rose* wood samples which allow us to study the structures of species lodged in the wood in unprecedented detail.

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