# The 179<sup>th</sup> iCeMS SEMINAR

### Wed 05 Nov 2014 11:00-12:30

## In search of protolife: the advent of synthetic cellularity in chemical systems

Lecturer:

### **Prof Stephen Mann FRS**

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#### Venue: 2nd floor Seminar Room (#A207) iCeMS Main Building, Kyoto University

The design and construction of compartmentalized chemical ensembles for modelling complex biological systems, exploring the origin of life, and advancing future living technologies is attracting considerable interest in a wide range of research communities. In this talk, I will review some recent experiments undertaken in my laboratory that provide steps towards synthetic cellularity using bioinspired chemistry principles and techniques. I will discuss four new protocell models based on; (i) nanoparticle self-assembly (colloidosomes), (ii) interfacial assembly of protein-polymer nanoconjugates (proteinosomes), (iii) micro-droplet formation (coacervation), and hybrids of the above. I will use these new model systems to discuss pathways towards chemical cognition, modulated reactivity and basic cellularity in compartmentalized artificial micro-ensembles.





