

**51<sup>st</sup> ESBOC Symposium**  
***Chemical Synthetic Biology: Self-assembly, Encapsulation and Delivery***  
Friday May 19 – Sunday May 21 2017  
Gregynog Hall, Newtown, Powys, UK

**Friday 19<sup>th</sup> May**

14.15                      Tea

15.00                      **Dek Woolfson**  
*Introduction*

**Session I: Biomolecular design and assembly**

15.05-15.45              Plenary lecture, *Andrew Turberfield, Oxford, UK*  
“Programming molecular systems with DNA”

15.50-16.10              *Dwaipayan Chakrabarti, Birmingham, UK*  
“Hierarchical self-assembly of colloidal magnetic particles into reconfigurable shells”

16.15-16.45              Flash poster presentations

17.00                      Tea

17.30-18.10              Plenary lecture, *Roman Jerala, Ljubljana, Slovenia*  
“Design of molecular origami structures and folding pathways”

18.15-18.35              *Arun Shivalingam, Oxford, UK*  
“Designer DNA Backbones: Generating polymerase-compatible linkages via chemical ligation”

19.00                      Dinner

20.30-21.20              Plenary lecture, *Prof Don Hilvert, ETH, Switzerland*  
“Supercharged protein containers”

## Saturday 20<sup>th</sup> May

07.45 Breakfast

### Session II: Engaging the membrane

09.00-09.40 Plenary lecture, *Alexander Kros, Leiden, NL*  
TBA

09.45-10.05 *Ziyi Yu, Cambridge, UK*  
“Droplet-based microfluidic platforms for supramolecular encapsulation”

10.15 Coffee

11.00-11.40 Plenary lecture, *Paul Verkade, Bristol, UK*  
“Synthetic Biology meets Cell Biology”

11.45-12.05 *Matt Lee, Kent, UK*  
“Scaffolding by design: utilising coiled-coil technology to engineer an intracellular bacterial scaffold”

12.10-12.30 *Jo Galloway, Bristol, UK*  
“Silicification of Self-assembled Peptide Cages (SAGEs) reveals the morphology of the peptide network nanostructure”

12.35 Symposium photo and lunch

16.30 Tea

### Session III: Bacterial microcompartments and enzyme factories

17.00-17.40 Plenary lecture, *Martin Warren, Kent, UK*  
“Bacterial cell engineering - from membranes to protein scaffolds”

17.45-18.35 Cedric Hassall lecture  
*Cheryl Kerfeld, Michigan and LBL, USA*  
“Structural and functional insights for engineering bacterial microcompartments”

18.45 Reception

19.15 Dinner

21.00 View posters

## Sunday 21<sup>st</sup> May

7.45 Breakfast

### Session IV: Towards applications

- 9.00-9.40 Plenary lecture, *Anna Peacock, Birmingham, UK*  
“Coiled coils as new ligands for lanthanide ions – exploring their use in MRI and beyond...”
- 9.45-10.05 *Michael Prentice, Cork, Ireland*  
“Bacterial microcompartment-directed polyphosphate kinase promotes stable polyphosphate accumulation in *E. coli*”
- 10.10-10.30 *Yohei Yamauchi, Bristol, UK*  
“HATRIC-based ligand receptor capture technology for decoding ligand (virus)-receptor interactions”
- 10.35 Coffee
- 11.05-11.25 *Caroline Morris, Bristol, UK*  
“Exploring the potential of self-assembling peptide cages (SAGEs) as vaccine delivery platforms”
- 11.30-12.10 Plenary lecture, *James Reed, John Innes Centre, Norwich*  
“Engineering triterpene diversity in *Nicotiana benthamiana* through transient expression”
- 12.15 Closing remarks
- 12.30 Lunch and departure