# THEO MURPHY INTERNATIONAL SCIENTIFIC MEETING

**Heterotic computing: exploiting hybrid computational devices**

The Royal Society at Chicheley Hall: Home of the Kavli Royal Society International Centre, Buckinghamshire

Organised by Dr Viv Kendon, Professor Susan Stepney and Dr Angelika Sebald

Thursday 7 - Friday 8 November 2013

<table>
<thead>
<tr>
<th>DAY 1</th>
<th>DAY 2</th>
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</thead>
</table>
| **Session 1: Physics/quantum computing:** some hybrid examples  
Chair: Tony Hey CBE FREng | **Session 2: Biological/natural computing: challenges and inspiration**  
Chair: Ottoline Leyser CBE FRS |
| **Session 3: Chemical/material computing: diverse substrates**  
Chair: Malcolm Levitt FRS | **Session 4: Hybrid/heterotic computing: framework and future**  
Chair: Tony Hoare FREng FRS |
| 09.00 Welcome by Royal Society & lead organiser | 09.00 Chemical computing with Belousov-Zhabotinsky Reaction  
Jerzy Górecki |
| 09.05 Quantum and classical resources in measurement-based quantum computation  
Janet Anders | 13.30 Heterotic computing  
Susan Stepney |
| 09.30 Discussion | 14.00 Discussion |
| 09.45 Hybrid quantum computers: a “one for all and all for one” approach with superconductors and spin ensembles  
Klaus Mølmer | 09.45 Spatial computing: a unifying approach to computational materials  
Jacob Beal |
| 10.15 Discussion | 14.15 Theoretical frameworks  
Samson Abramsky FRS |
| 10.30 Coffee | 15.00 Tea |
| 11.00 NMR classical computation  
Matthias Bechmann | 11.00 Towards the assembly and programming of chemical computers  
Lee Cronin |
| 11.30 Discussion | 11.30 Discussion |
| 11.45 Theory and practice of molecular computing with DNA  
Damien Woods | 15.30 Panel discussion and summary |
| 12.15 Discussion | 15.30  |
| 12.30 LUNCH  
CLOSE | 17.00 LUNCH  
CLOSE |