

## **Dalton Discussion 10: Applications of Metals in Medicine and Healthcare**

3-5 September 2007

Durham University, UK

### **PROGRAMME**

Monday 3 September 2007

#### **Session 1: Metallo-pharmaceuticals**

Session Chair: Peter Sadler

University of Edinburgh, UK

Keynote 1

#### **The use of transition metal complexes as anti-cancer and anti-HIV agents**

Raymond Wai-Yin Sun, Dik-Lung Ma, Ella Lai-Ming Wong and Chi-Ming Che\*

*University of Hong Kong, Hong Kong*

#### **Pre-association of polynuclear platinum anticancer agents on a protein, human serum albumin. Implications for drug design**

Eva I Montero, Brad T Benedetti, John B Mangrum, Michael J Oehlsen, Yun Qu and Nicholas P Farrell\*

*Virginia Commonwealth University, USA*

#### **Gold(I) chloride adducts of 1,3-bis(di-2-pyridylphosphino)propane: synthesis, structural studies and antitumour activity**

Anthony S Humphreys, Aleksandra Filipovska, Susan J Berners-Price\*, George A Koutantonis, Brian W Skelton and Allan H White

*University of Western Australia, Australia*

#### **Iron-binding properties of plant phenolics and cranberry's bio-effects**

Maolin Guo\*, Carlos Perez, Yibin Wei, Elise Rapoza, Gregory Su, Fadi Bou-Abdallah and N D Chasteen

*University of Massachusetts, USA*

#### **New CO-releasing molecules based on cyclopentadienyliron carbonyls**

David Scapens, Harry Adams, Tony R Johnson, Brian E Mann\*, Philip Sawle, Rehan Aqil, Trevor Perrior and Roberto Motterlini

*University of Sheffield, UK*

Tuesday 4 September 2007

## **Session 2: Imaging, Diagnosis and Labelling**

Session Chair: David Parker  
*Durham University, UK*

Keynote 2

### **Radiometalldrugs in diagnosis and targeted therapy**

Helmut Mäcke\*

*University Hospital Basel, Switzerland*

### **Cu-ATSM: A radiopharmaceutical for the PET imaging of hypoxia**

Amy L Vāvere and Jason S Lewis\*

*Washington University in St Louis, USA*

### **Ru-106 radiolabelling of the antitumor complex, $[(\eta^6\text{- fluorene})\text{Ru}(\text{en})\text{Cl}]\text{PF}_6$**

James D Hoeschele, Abraha Habtemariam\*, Jeanette Muir and Peter J Sadler

*Michigan State University, USA*

### **Synthesis and characterization of a Gd(III) based contrast agent responsive to thiol containing compounds**

Carla Carrera, Giuseppe Digilio\*, Simona Baroni, Daniela Burgio, Simona Consol, Franco Fedeli, Dario Longo, Armando Mortillaro and Silvio Aime

*Universita di Torino, Italy*

### **Designing Zn(II) and Cu(II) derivatives as probes for *in vitro* fluorescence imaging**

Sofia I Pascu\*, Philip A Waghorn, Timothy D Conry, Helen M Betts, Jonathan R Dilworth, Grant C Churchill, Tzveta Pokrovska, Martin Christlieb, Franklin I Aigbirhio and John E Warren

*University of Oxford, UK*

### **How do HYNIC-conjugated peptides bind technetium? Insights from LC-MS and stability studies**

Robert C King, M Bashir-Uddin Surfraz, Stefano C G Biagini, Philip J Blower\* and Stephen J Mather

*King's College London, UK*

### Session 3: Design of new drugs and diagnostic agents

Session Chair: Roberto Motterlini  
*Northwick Park Institute for Medical Research, UK*

Keynote 3

#### **Metal based drugs: from serendipity to design**

Simon P Fricker\*  
*Canada*

#### **Probing key coordination interactions: configurationally restricted metal activated CXCR4 antagonists**

Graeme McRobbie, Gina C Valks, Christopher J Empson, Abid Khan, Jon D Silversides, Christophe Pannecouque, Erik De Clercq, Steven G Fiddy, Adam J Bridgemen, Nigel A Young and Stephen J Archibald\*  
*University of Hull, UK*

#### **Lanthanide containing compounds for therapeutic care in bone resorption disorders**

Cheri A Barta, Kristina Sachs-Barrable, Jessica Jia, Katherine H Thompson, Kishor M Wasan and Chris Orvig\*  
*University of British Columbia, Canada*

#### **Modifications of boronic ester pro-chelators triggered by hydrogen peroxide tune reactivity to inhibit metal-promoted oxidative stress**

Louise K Charkoudian, David M Pham, Ashley M Kwon, Abbey D Vangeloff and Katherine J Franz\*  
*Duke University, USA*

Keynote 4

#### **Targeted $\alpha$ -therapy: past, present, future?**

Martin W Brechbiel\*  
*National Institutes of Health, USA*

#### **The exocyclic functionalisation of bis(thiosemicarbazone) complexes of zinc and copper: the synthesis of monomeric and dimeric species**

Martin Christlieb, Harriet S R Struthers, Paul D Bonnitcho, Andrew R Cowley and Jonathan R Dilworth\*  
*University of Oxford, UK*

Wednesday 5 September 2007

#### **Session 4: Metallotherapeutics : novel mechanisms of action**

Session Chair: Jonathan Rourke  
*University of Warwick, UK*

Keynote 5

##### **Developing new metal based therapeutics: challenges and opportunities**

Trevor W Hambley\*

*University of Sydney, Australia*

##### **Novel platinum(II)-based anticancer complexes and molecular hosts as their drug delivery vehicles**

Nial J Wheate, Robin I Taleb, Anwen M Krause-Heuer, Rebekah L Cook, Shaoyu Wang, Vincent J Higgins and Janice R Aldrich-Wright\*

*University of Western Sydney, Australia*

##### **Tuning the hydrophobicity of ruthenium(II)-arene (RAPTA) drugs to modify uptake, biomolecular interactions and efficacy**

Claudine Scolaro, Adrian B Chaplin, Christian G Hartinger\*, Alberta Bergamo, Moreno Cocchietto, Bernhard K Keppler, Gianni Sava and Paul J Dyson

*École Polytechnique Fédérale de Lausanne, Switzerland*

##### **The influence of phenolic hydroxy substitution on the electron transfer and anti-cancer properties of compounds based on the 2-ferrocenyl-1-phenyl-but-1-ene motif**

Elizabeth Hillard, Pascal Pigeon, Anne Vessières, Christian Amatore, and Gérard Jaouen\*

*Ecole Nationale Supérieure de Chimie de Paris, France*

##### **New group IV complexes as potential anti-tumour drugs**

Olivia R Allen, Andrew L Gott, John A Hartley, Janet M Hartley, Richard J Knox and Patrick C McGowan\*

*University of Leeds, UK*