

# 8<sup>th</sup> Meeting of Zinc-UK

4-5<sup>th</sup> July 2013

Rowett Institute of Nutrition and Health, University of Aberdeen AB21 9SB, UK

## Final Program

### Thursday 4<sup>th</sup> July 2013

- 09.00-10.00 **Registration and Coffee/Tea** (Strathcona Hall). Posters onto boards.  
10.00-10.10 **Welcome and Housekeeping Announcements** (Strathcona Lecture Theatre)  
10.10-10.30 **COST Grant Success** (Imre/Mike/Nicky, Strathcona Lecture Theatre)

#### Session 1 Bioanalytical Methods in Zinc Biology

Strathcona Lecture Theatre, Chair: Mike Watkinson, *QMUL, London, UK*;  
Co-chair: Jörg Feldmann, *University of Aberdeen, Aberdeen, UK*

- 10.30 – 10.55 **Keynote: David Salt**, *University of Aberdeen, Aberdeen, UK*  
High-resolution genome-wide scan of the yeast ionome
- 10.55-11.15 **Dagmar Urgast**, *University of Aberdeen, Aberdeen, UK*  
Studying zinc kinetics on a microscale by using stable isotope tracers and isotope ratio imaging
- 11.15-11.35 **Raimund Wahlen**, *Agilent Technologies, Stockport, UK*  
The use of novel ICP-MS technology, including high-performance collision/reaction cells and MS/MS configurations for metallo-protein analysis applications
- 11.35-11.55 **Hajo Haase**, *RWTH Aachen University Hospital, Aachen, Germany*  
Application of low molecular weight fluorescent probes for investigating a potential signalling function of free Zn<sup>2+</sup> in bacteria
- 11.55-12.15 **Mike Watkinson**, *Queen Mary University of London, London, UK*  
Small Molecule Fluorescent Zinc Sensors Capable of Targeting Biological Space
- 12.15-12.35 **Bettina Platt**, *University of Aberdeen, Aberdeen, UK*  
A novel zinc-dependent PET tracer with diagnostic potential in Alzheimer's disease

#### Poster Session

**Chairs & Judges:** Nicky Lowe, *UCLAN, Preston, UK*; Alan Stewart, *St. Andrews University, St. Andrews, UK*; Claudia Blindauer, *University of Warwick, Warwick, UK*; In-Sook Kwun, *Andong National University, Andong, South Korea*.

- 12.35-13.00 **Rapid Fire** (Poster talks, maximum 2 slides, Strathcona Lecture Theatre)  
13.00-14.00 **Lunch, Poster and Sponsor Displays** (Strathcona Hall and Entrance Hall)

#### Session 2 Biomedical Roles of Zinc: Zinc Signalling

Strathcona Lecture Theatre, Chair: Wolfgang Maret, *KCL, London, UK*;  
Co-chair: Kathy Taylor, *Cardiff University, Cardiff, UK*

- 14.00-14.25 **Keynote: Guy Rutter**, *Imperial College London, London, UK*  
Zinc and Insulin Secretion
- 14.25-14.45 **Elisa Bellomo**, *King's College London, London, UK*  
PTP1B inhibition by zinc: the key to zinc involvement in insulin signalling?
- 14.45-15.10 **Highlight: Kathy Taylor**, *Cardiff University, Cardiff, UK*  
Zinc channel ZIP6 triggers cell detachment
- 15.10-15.30 **Eduardo Oliver**, *Imperial College London, London, UK*  
Role of zinc and zinc transporters in hypoxia-induced pulmonary hypertension
- 15.30-15.50 **Christer Hogstrand**, *King's College London, London, UK*  
Genomics in brain of juvenile female mice reveals disruption of zinc signalling following oral exposure to environmental organic pollutants

15.50-16.10 **Group Photo then Coffee/Tea (Strathcona Hall)**

### Session 3 **Biomedical Roles of Zinc: Zinc Absorption and Homeostasis**

Strathcona Lecture Theatre, Chair: John Beattie, *RINH, Aberdeen, UK*

16.10-16.35 **Special Guest Speaker: Michael Hambidge**, *University of Colorado, Denver, USA*  
Translational research linking basic evidence of the regulation of zinc absorption by the gut to both zinc absorption during the reproductive cycle and to that of poor mothers and children in the developing world

16.35-16.55 **Joy Hardyman**, *University of Newcastle, Newcastle, UK*  
DNA methylation of the zinc transcriptional regulatory element and its potential contribution to zinc dyshomeostasis in ageing

16.55-17.05 **Poster Prize Awards** (Books and *Biometal* sub. from Springer, Book from RSC)

### Social Event **Buffet Dinner**

Strathcona Hall

18.15-18.45 **University of Aberdeen Pipers (Loud!)** (Strathcona Entrance Hall)

18.30-19.00 **Pre-dinner drinks and whisky tasting** (Strathcona Hall)

19.00-21.00 **Hog Roast Buffet in the Aberdonian evening sunshine...**

20.00-21.00 **Accordion Music from Scotland**

## Friday 5<sup>th</sup> July 2013

08.30-09.00 **Coffee/Tea (Strathcona Hall)**

### Session 4 **Biomedical Roles of Zinc: Zinc Molecular Physiology**

Strathcona Lecture Theatre, Chair: Imre Lengyel, *UCL, London, UK*;

Co-chair: Irina Koritchneva, *UJF, Grenoble, France*

09.00-09.25 **Keynote: Lothar Rink**, *RWTH Aachen University Hospital, Aachen, Germany*  
Zinc Homeostasis as a gatekeeper of the immune response

09.25-09.45 **Kate Mertens**, *University of Aberdeen, Aberdeen, UK*  
Zinc in inflammation and sepsis

09.45-10.05 **Graeme Nixon**, *University of Aberdeen, Aberdeen, UK*  
Zinc deficiency and blood vessel function: potential links to cardiovascular disease

10.05-10.25 **Samantha Pitt**, *University of St. Andrews, St. Andrews, UK*  
Cytosolic Zn<sup>2+</sup> modulates cardiac ryanodine receptor-mediated Ca<sup>2+</sup>-release

10.25-10.45 **Imre Lengyel**, *Institute of Ophthalmology, University College London, London, UK*  
Zinc in age-related macular degeneration: an update

10.45-11.05 **Agnete Larsen**, *Aarhus University, Aarhus, Denmark*  
Metallothionein expression in the human brain

11.05-11.25 **Peter Kille**, *Cardiff University, Cardiff, UK*  
Zinc Nanoparticle toxicology: Making an entrance by the back door

11.25-11.30 **Closing Comments**

### Social Event **Sightseeing/Distillery Tour**

Bus departs outside Strathcona House (collect luggage and packed lunch)

11.50-17.40 **Tour visits Glenfiddich Distillery and Balvenie Castle in Dufftown**  
Itinerary: Rowett → Dufftown → Airport → Rowett/Hotels  
Separate return to Aberdeen airport/Dyce train station at 16.30 for earlybirds

## Posters (in alphabetical order)

<b>Pauline Chabosseau</b>	Measuring endoplasmic reticulum and intramitochondrial Zn <sup>2+</sup> concentrations with genetically-encoded FRET sensors (eCALWYs)
<b>Alfred Hirner</b>	Zinc distribution in human breast carcinomas measured by LA-ICPMS
<b>In-Sook Kwun</b>	Zn deficiency promotes calcification in vascular smooth muscle cells, independently of ALP activity and in part by Pit1 up-regulation
<b>Thirayost Nimmanon</b>	Investigation of the mechanisms of ZIP transporter phosphorylation
<b>Rasmus Olesen</b>	Zinc-transporter expression in fetal liver
<b>Valentina Reffatto</b>	The effect of zinc on the differentiation of primary human retinal pigment epithelial cells
<b>Marisol Warthon-Medina</b>	Long term impact of zinc and micronutrient supplementation during infancy, on the growth, cognitive and social-emotional development in Peruvian pre-school children.