

International Society for the ISZB meeting, in collaboration with Zinc-Net (COST Action TD1304)

June 18-22, 2017

UCLan Campus, Pyla, Cyprus

Draft Programme



Day 1 – Sunday June 18th

14:00-18:00	REGISTRATION	10:00 – 12:00 Zinc- Net Management Committee meeting
		14:00-16:00 Zinc Net Celebration Symposium Keynote to be confirmed
18:00	Opening ceremony	
18:30 – 19:30	Keynote lecture (1) Glen K. Andrews “Founders of our Field”	
19:30-21:30	Welcome reception with buffet supper	

Day 2- Monday June 19th

9:00-10:00	Keynote Lecture (2) Hidenori Ichijo "The roles and molecular mechanisms of SOD1-mediated stress responses in zinc-deficiency and ALS"	
10:00-10:30	Coffee Break	
10:30-12:00	<p>Symposium 1 Zinc and Infectious Diseases <i>Chair: Matt Sweet/Mark Walker</i></p> <p>Duncan Wilson : Counteracting nutritional immunity: adaptation of fungal pathogens to zinc restriction' Jennifer Cavet: 'Battling against nutritional immunity: Zinc homeostasis in Listeria' Matt Sweet: Utilization of zinc by innate immune cells for antimicrobial responses against Gram-negative bacteria Mark Walker: The role of zinc in group A streptococcal pathogenesis</p>	<p>Symposium 2 Physiological functions of zinc <i>Chair: Leigh Ackland and Shannon Kelleher</i></p> <p>Shannon Kelleher: Got milk? ZnT2 and secretory function in the mammary gland Fanis Missirilis: How zinc storage works in a whole animal: what do we know? Mark Myers: ZIP7, zinc flux and insulin signaling Irina Koritcheva: Zn permeability through TRPM7 and regulation by growth factor in cancer cells</p>
12:00-13:30	Lunch	
13:30-15:30	<p>Symposium 3 Zinc transporters and signaling in physiology and diseases; New Winds from East and West <i>Chair: Toshiyuki Fukada & Taiho Kambe</i></p> <p>Laxmi Sunuwar: ZnR/GPR39 reduces intestinal fluid secretion Wakana Ohashi: Role of zinc transporter SLC39A7/ZIP7 in intestinal homeostatic self-renewal Bum-Ho Bin: Zinc transporters in skin development and homeostasis Ayako Fukunaka : Zinc transporter ZIP13 controls beige adipocyte biogenesis and energy expenditure Carlos Tejeda-Guzmán: Zinc Granules in the Malpighian Tubules of Drosophila Weijiang He: Ratiometric Tracking of labile Zn²⁺ fluctuation in living system</p>	<p>Symposium 4 New Zinc Discoveries from Cell Fate to New Technologies <i>Chair: Kathy Taylor and Diane Ford</i></p> <p>Dianne Ford: Perturbations in zinc-regulated transcription in senescent cells Kathy Taylor: Targetting zinc transporters to stop cell division Jian Hu: Structural insights into function of the extracellular domain of ZIP4 Tine Thingholm: Quantitative phosphoproteomics: investigating the role of zinc in cell signaling Sandra Pereira de Carvalho: Transport kinetics of ZnT8 variants in health and disease</p>
15:30-16:00	Coffee Break	
16:00-18:00	<p>Symposium 5 Molecular Zinc Signaling in Health and Disease <i>Chair : Elias Aizenman</i></p> <p>Samantha Pitt: Dysregulated zinc may lead to 'leaky' calcium channels in heart failure Christer Hogstrand: Dietary environmental contaminants cause disruption of zinc and calcium homeostasis in the brain Paul Rosenberg: Activation of a zinc-potassium channel pathway following optic nerve injury promotes neuronal death and blocks regeneration Bing Zhou: Zinc absorption and excretion in the model organism fruit fly Elias Aizenman: Zinc-induced calcium release regulates neuronal potassium channel localization</p>	<p>Symposium 6 Zinc-Net Symposium : Zinc Proteins: Folding, Structure and Function <i>Chair: Cláudio M. Gomes & Claudia Blindauer</i></p> <p>Cláudio M. Gomes: Zinc as a modulator of protein folding and supramolecular assembly Robert E. Dempksi: Structure and Function of Zinc transporters Antonio Rosato: The zinc Proteome Stewart N Loh: Zinc as a modulator of folding and misfolding of p53 Ashley Ian Bush: Zinc and amyloid beta aggregation Claudia A. Blindauer: Metal-specific folding and folding-mediated discrimination in metallothioneins</p>
18:00-19:30	Poster discussion session 1 (with wine/beer)	

Day 3- Tuesday June 20th

9:00-10:00	Key note lecture (3) Stephen Lippard "Zinc Probes"	
10:00-10:30	Coffee break	
10:30-12:30	<p>Symposium 7 Zinc-Net Symposium : Zinc and immunity Chair: Lothar Rink</p> <p>Kavitha Subramanian Vignesh: Interleukin-4 regulates zinc homeostasis to weaken macrophage antifungal defenses Lothar Rink: Zinc and T cell functions Inga Wessels: The role of zinc in inflammatory diseases Hajo Haase: Total and free serum zinc levels during sepsis Daren L. Knoll: Cadmium-induced attenuation of macrophage immune function in smoking-induced lung disease Robert E. Black: Zinc deficiency and risk of infectious diseases in children</p>	<p>Symposium 8 Free Zinc? What is the nature of cellular exchangeable zinc and why should we care Chair: Wojciech Bal</p> <p>Wolfgang Maret: How do human cells sense imbalances of free zinc pools? Artur Krezel: How proteins match Zn(II) affinity with their function? Relations between thermodynamics and free zinc status Wojciech Bal: Small molecule zinc complexes: an alternative to free zinc concept Wojciech Goch: Zinc and glutamate neurotransmission modelled in real time and shape of the synaptic cleft</p>
12:30-14:00	Lunch	
14:00 – 15:30	<p>Symposium 9 Zinc-Net Symposium: The impact of short-term research exchange missions on advancing the field of zinc in biology. Chair: Nicola Lowe & Philipp Gerber</p> <p>Vojtech Adam and Jorge Molina López: Zinc and metallothionein – Bioelectrochemical Sensing of Pathological and Pathophysiological States Antje Biesemeier and Francesco Piacenza: Measuring Zinc in Nano-vesicles by Analytical Electron Microscopy Imre Lengyel and Robert Tripon: Expression of the brain specific TPPP/p25 protein in retinal neurons is stimulated by oral zinc supplementation Andreas Grabrucker and Joana S. Cristóvão: Investigation of the role of the zinc-binding pro-inflammatory S100B protein in Alzheimer's disease related neuronal protein aggregation</p>	<p>Symposium 10 Symposium proposal: Role of zinc transporters in mammals: from physiology to pathophysiology Chair: Belma Turan & A. Ruchan Akar</p> <p>Taiho Kambe: How are zinc-requiring ectoenzymes activated by zinc transporters in the secretory pathway. Tolunay Beker Aydemir: Function of the zinc transporter ZIP14 in hepatic glucose metabolism. Tewfik Soulimane: Investigation the structure and function of zinc transporters lacking the cytoplasmic domain. Belma Turan and Erkan Tuncay: Characterization of localization and function of zinc transporter ZIP7 in the heart.</p>
15:30-16:00	Coffee break	
Depart 16:00 Return by 22:00	Leave for Cultural Excursion (to be confirmed but may be a museum with time to explore a local town and have dinner)	

Day 4- Wednesday June 21st

8:30-9:30		
9:30-11:30	<p>Symposium 11 Zinc-based therapeutics – Translating zinc biology <i>Chair: Paul Adlard and Scott Ayton</i></p> <p>Paul Adlard: Zn chaperones in health and disease Scott Ayton: Zn in Huntington’s disease Stewart Loh: Zn ionophores and cancer Ashenafi Betri: Zn in the cardiovascular system David Whitfield: Zinc and synapses in dementia Andreas Grabrucker: Zinc deficiency in autism spectrum disorders Jorge Busciglio: Disruption of Zn neuromodulation by Abeta oligomers</p>	<p>Symposium 12 The role of zinc in metabolic disease <i>Chair: Janet C King</i></p> <p>Liping Huang: Zinc transporters and their influence on carbohydrate and lipid metabolism. Janet C King: Small Changes in Dietary Zinc Modulate Lipid Metabolism and Biomarkers of Metabolic Health. John Beattie: Zinc, inflammation, and atherosclerosis CD Tran. CSIRO: Zinc, intestinal permeability, and risk of metabolic disease</p>
11:00-11:30	Coffee break	
11:30-13:30	Symposium 13 Selected graduate-student present. (10+5 min)	
13:30-16:00	Lunch	
16:00-17:30	<p>Symposium 14 HOT Topics in Zinc Biology <i>Chair: Michal Hershfinkel</i></p> <p>Fabrice Chimienti: Zinc signals and imaging: application to stem cell-induced beta cells and dedifferentiation of mature beta cells. John Weiss: Zinc signals in acute hippocampal ischemia and differential vulnerabilities of CA3 vs CA1 pyramidal neurons Noam Levaot: Zinc regulates bone growth Larry Benowitz: Synaptic zinc dyshomeostasis suppresses cell survival and axon regeneration in the primary visual pathway</p>	<p>Symposium 15 Hot topics in Biophysics <i>Chair: Wolfgang Maret</i></p> <p>Maarten Merckx: Protein engineering of Zn sensors and switches Christoph Fahrni: Illuminating the Redistribution Dynamics of Zinc During Cell Proliferation and Embryonic Development Yifat Miller: How zinc ions affect the molecular mechanisms of self-assembly of amyloids? Eric O. Long: Zinc-induced polymerization of killer-cell Ig-like receptor promotes its inhibitory function at cytotoxic immunological synapses</p>
17:30-19:30	Poster discussion session (with wine/beer)	

Day 5-Thursday June 22nd

9:00-10:30	<p>Symposium 16 Not just zinc; the moonlighting jobs of zinc transporters <i>Chair: Christer Hogstrand</i></p> <p>Peter Thomas: The androgen receptor role of Zip9 Gerold Schmitt-Ulms:The ZIP/prion protein relationship Karin Tuschl: Zinc transporters, and Mn disease of liver and brain Arie Moran: Two in one: ZnT-1 regulates Zn efflux and Calcium influx</p>	<p>Symposium 17 New insight into neurozinc signaling from Korea and Japan <i>Chair: Atsushi Takeda</i></p> <p>Youichirou Higashi: Brain zinc modulates microglial activation phenotype Haruna Tamano: LTP and memory are lost by extracellular Zn²⁺ influx: its relationship to aging Sang Won Suh: Zinc transporter 3 gene deletion alters hippocampal neurogenesis in mice Atsushi Takeda: Extracellular Zn²⁺ plays a key role for β-amyloid-induced cognitive decline</p>
10:30-11:00	Coffee break	
11:00-12:30	<p>Symposium 18 Function and Regulation of Zinc transporters <i>Chair: Israel Sekler</i></p> <p>Dax Fu: Time-resolved biophysical approaches to flow zinc transport Yehuda Assaraf: Elucidating how zinc transport proteins heterodimerize in cells Yang-Hee Kim: Molecular basis of cation specificity for Zip family proteins Kirill I Kiselyov: Lysosomal zinc sink</p>	<p>Symposium 19 Zinc-Net Symposium: Staple crops biofortification with zinc <i>Chair: Fernando Lidon and Nicola Lowe</i></p> <p>Key note: Ismail Cakmak: Agronomic biofortification of food crops with zinc, iodine and selenium Benvindo Maçãs : Bread wheat biofortification – genetic breeding approach. Fernando Lidon: Triticum aestivum biofortification with zinc - implications at a nutritional level.</p>
12:30-14:00	Lunch	
14:00-15:30	ISZB Business meeting	
19:00-Midnight	Gala Dinner at the Fort in Larnaca/ Prize giving /Fredrickson Prize, meeting close	

