

THE 8TH ISZB MEETING

ISZB-2024

SCIENTIFIC PROGRAM

Sunday, December 1st

16:00		<i>Registration</i>
18:00		Official Opening <i>Chair Fanis Missirlis, Centro de Investigación y de Estudios Avanzados del IPN - MX</i>
18:10		Welcome address from Local Organizing Committee <i>Elias Aizenman, University of Pittsburgh School of Medicine - US</i>
18:20		Welcome address from Local Authority
18:30		Declaration of Commencement of the 8th ISZB Meeting <i>Cinvestav Director</i>
18:45	O-01	Speciation of metal trace elements in living systems: a synchrotron-based approach <i>Christophe Den Auwer, Université Côte d'Azur - F</i>
19:05	O-02	Conservation of regulatory zinc fluctuations in control of ovarian biology <i>Teresa Woodruff, Michigan State University - US</i>
19:25	O-03	TBD <i>Crysten Blaby-Haas, Lawrence Berkeley National Laboratory - US</i>
19:45	O-04	The zinc receptor GPR39 fortifies epithelial barriers <i>Michal Hershinkel, Ben-Gurion University of the Negev - IL</i>
20:05	O-05	Zinc transporters and human evolution <i>Rubén Vicente, Pompeu Fabra University - ES</i>
20:30		<i>Reception</i>

Monday, December 2nd

07:30		<i>Registration</i>
08:15		<i>Setup posters</i>
08:45		Cell Biology <i>Chair Teresita Padilla-Benavides, Wesleyan University - US</i>
08:50	O-06	Illuminating the cell biology of zinc <i>Amy Palmer, University of Colorado Boulder - US</i>
09:10	O-07	Exploring a role for ZIP6 and ZIP10 in the dissemination of breast cancer cells <i>Georgia Farr, Cardiff University - UK</i>
09:30	O-08	Identifying the role of sodium-myo-inositol transporter 1 in zinc accumulation <i>Sangyong Choi, University of Connecticut - US</i>
09:50	O-09	ALS-linked mutations in zinc metalloproteinase Oma1 impair its activity and impinge on mitochondrial fidelity <i>Oleh Khalimonchuk, University of Nebraska - US</i>
10:10	O-10	ZIP7 controls zinc concentration and redox state in the ER <i>Yuta Amagai, - JP</i>
10:30		<i>Coffee break</i>
11:00		Cancer <i>Chair Kathryn Taylor, Cardiff University - UK</i>

11:05	O-11	Combination treatment with ZIP6 and ZIP10 antibodies inhibits growth and regresses tumours highlighting their preclinical therapeutic potential in breast cancer <i>Samuel Jones, Cardiff University - UK</i>
11:25	O-12	Single nucleotide polymorphisms and Zn transport by ZIP11 shape functional phenotypes of HeLa cells <i>Montserrat Olea-Flores, University of Massachusetts - US</i>
11:45	O-13	Exploring ZIP7 Phosphorylation and Its Role in Zinc-Mediated Activation of Oncogenic Signaling Pathways <i>Ahmed Alzahrani, Umm Al-Qura University - SA</i>
12:05	O-14	Zinc in glioma of long-term surviving patients <i>Emil Rudolf, Hradec Králové Charles University - CZ</i>
12:25	O-15	Title <i>TBA</i>
12:45		<i>Lunch (also: ISZB Board Meeting)</i>
14:15		Biochemistry <i>Chair Wolfgang Maret, King's College London - UK</i>
14:20	O-16	Clustering of Zn/S-species in Ectopic Biominerals at the Biological Interfaces in the Temporomandibular Joint and the Kidney <i>Sunita Ho, University of California San Francisco - US</i>
14:40	O-17	Zinc Fingers and Reactivity: No Longer Innocent Bystanders <i>Sarah Michel, University of Maryland - US</i>
15:00	O-18	Endogenous Zinc Protoporphyrin Formation Critically Contributes to Hemorrhagic Stroke-induced Brain Damage <i>Jim Liu, Stony Brook University - US</i>
15:20	O-19	CryoEM structures of zinc uptake transporters <i>Qun Liu, Brookhaven National Laboratory - US</i>
15:40	O-20	Structural basis of zinc-dependent protein quality control at the ER-Golgi interface <i>Kenji Inaba, Kyushu University - JP</i>
16:00		<i>Coffee break</i>
16:30		Imaging <i>Chair Richard Dyck, University of Calgary - CA</i>
16:35	O-21	Exploring zinc biology with fluorescent probes and chelators: Challenges and Opportunities <i>Christoph Farhni, Georgia Institute of Technology - US</i>
16:55	O-22	Zinc in neuronal synapses - quantitative aspects using high resolution imaging <i>Sivakumar Sambandan, Max Planck Institute for Multidisciplinary Sciences - D</i>
17:15	O-23	A novel FRET-based assay employed to examine the impact of serum albumin and fatty acids on insulin decomplexation <i>Alan Stewart, University of St Andrews - UK</i>
17:35	O-24	TBA <i>WenHong Li, University of Texas - US</i>
17:55	O-25	Next-Generation Genetically Encoded Fluorescent Indicators for Synaptic Zinc <i>Huiwang Ai, University of Virginia - US</i>
18:15		<i>Poster Session</i>
20:30		Past ISZB Presidents' Musings <i>Chair Samantha Pitt, ISZB president, University of St Andrews - UK</i>

Tuesday, December 3rd

08:25		Transporters <i>Chair Toshiyuki Fukada, Tokushima Bunri University - JP</i>
08:30	O-26	Transport mechanism and substrate specificity of ZIP metal transporters <i>Jian Hu, Michigan State University - US</i>
08:50	O-27	The importance of zinc in protein N-glycosylation <i>Taiho Kambe, Kyoto University - JP</i>

09:10	O-28	Physiological roles of ZIP13 in muscle and fat: Analysis of newly generated Zip13-genetically modified mice <i>Ayako Fukunaka, Gunma University - JP</i>
09:30	O-29	Zinc transporters dictate multicellular functions <i>Fudi Wang, Zhejiang University - CN</i>
09:50	O-30	ZIP transporters and T cell function <i>Stefan Feske, New York University - US</i>
10:10		Coffee break
10:35		Neuroscience Chair <i>Elias Aizenman, University of Pittsburgh School of Medicine - US</i>
10:40	O-31	Mitochondrial Zn²⁺ uptake and ischemic neural injury <i>John Weiss, University of California Irvine - US</i>
11:00	O-32	Probing the roles of zinc in axonal transport and tau displacement <i>Yan Qin, University of Denver - US</i>
11:20	O-33	Of Zinc and NMDA Receptors <i>Gabriela Popescu, University at Buffalo - US</i>
11:40	O-34	Zincergic neurons as mediators of cerebral cortical plasticity <i>Richard Dyck, University of Calgary - CA</i>
12:00	O-35	The role of synaptic zinc in neurotransmission and auditory processing <i>Thanos Tzounopoulos, University of Pittsburgh - US</i>
12:20		Coffee break
12:30		ISZB Members Meeting
13:30		Lunch
14:45		Epithelia Chair <i>Michal Hershfinkel, Ben-Gurion University of the Negev - IL</i>
14:50	O-36	Dietary AHR agonists and zinc are conjoined regulators of intestinal epithelium permeability, and control proliferation and differentiation of intestinal stem cells <i>Christer Hogstrand, King's College London - UK</i>
15:10	O-37	Harnessing macrophage-mediated antibacterial zinc toxicity in host-directed therapies <i>Matt Sweet, University of Queensland - AU</i>
15:30	O-38	Zinc deficiency adversely impacts mucus barrier formation in the intestinal tract and lung <i>Maria Maares, Technische Universität Berlin - DE</i>
15:50	O-39	The divergent roles of GPR39 in cardiovascular and metabolic tissues <i>Jiemey Wang, Wayne State University - US</i>
16:10	O-40	Title TBA
16:30		Coffee break
16:55		Nutrition Chair <i>Eduardo Brambila, Benemérita Universidad Autónoma de Puebla - MX</i>
17:00	O-41	The Effects of Increased Non-Intestinal Zinc Losses on Dietary Zinc Requirements for Older Adults and Individuals at Risk for Noncommunicable Diseases <i>Andrew Hall, University of California Davis - US</i>
17:20	O-42	The continuing search for a biomarker indicating zinc nutritional status <i>Chris Frederickson, University of Houston - US</i>
17:40	O-43	The role of zinc in white matter injury and brain development: from cells to humans <i>Christopher Elitt, Boston Childrens Hospital - US</i>
18:00	O-44	Interaction of zinc with macro and micro minerals in livestock models <i>Daniel Brugger, University of Zurich - CH</i>
18:20	O-45	Regulation of Zinc Homeostasis in Rice <i>Luqing Zheng, Nanjing Agricultural University - CN</i>
18:40		Coffee break
18:50		Young Investigator Questions (science or career) Chairs <i>Violeta Aburto-Luna, Benemérita Universidad Autónoma de Puebla – MX</i> <i>Linda Le, University of Calgary - CA</i>
20:00		Evening free

Wednesday, December 4th

07:30 **Chichén Itzá excursion**

18:00 *Evening free*

Thursday, December 5th

08:45 **Physiology**

Chair *Marcia Hiriart, Universidad Nacional Autónoma de México - MX*

08:50 O-46 **Examination of tooth mineral patterns as a record of in utero and childhood exposure**

Dianne Ford, Northumbria University - UK

09:10 O-47 **The story of Ziegler-Huang Syndrome (ZHS), a newly discovered bone marrow failure syndrome 8 (BMFS8) in humans**

Liping Huang, USDA/ARS/Western Human Nutrition Research Center - US

09:30 O-48 **Prophylactic administration of zinc and therapeutic administration of selenium at optimal doses in adult rats prevents long-term cognitive and behavioral sequels following a transient ischemic attack**

Bertha Alicia León Chávez, Benemérita Universidad Autónoma de Puebla - MX

09:50 O-49 **Zinc modulation of MG23 leads to altered cellular calcium responses in cardiac tissue**

Samantha Pitt, University of St Andrews - UK

10:10 O-50 **Seminal zinc regulates mammalian sperm**

Anne Carlson, University of Pittsburgh - US

10:30 *Coffee break*

11:00 **Immunology**

Chair *Lothar Rink, RWTH Aachen University - DE*

11:05 O-51 **Free Zinc: keeping an eye on the bioavailable species**

Hajo Haase, Technical University Berlin - DE

11:25 O-52 **Zinc signal synergize with calcium signals in T cell activation**

Lothar Rink, RWTH Aachen University - DE

11:45 O-53 **ZIP8 Impacts the Gut-Lung Axis and is Required for Macrophage-Mediated Phagolysosomal Removal of Bacteria in the Lung**

Daren Knoell, University of Nebraska - US

12:05 O-54 **Exploring the utility of zinc-ionophores for the treatment of *Acinetobacter baumannii* lung infection**

David De Oliveira, University of Queensland - AU

12:25 O-55 **Variants in the zinc transporter TMEM163 cause a hypomyelinating leukodystrophy**

Guillermo Rodriguez Bey, University of Pittsburgh - US

13:00 *Lunch*

14:15 **Model Organisms**

Chair *Johana Vásquez-Procopio, Instituto Tecnológico del Valle de Oaxaca - MX*

14:20 O-56 **Lysosome remodeling during zinc storage and release in *C. elegans***

Kerry Kornfeld, Washington University in St. Louis - US

14:40 O-57 **ZIP7-mediated Zn²⁺ transport prevents neurodegeneration by enhancing ERAD**

Nishi Rauth, University of California Santa Barbara - US

15:00 O-58 **Comparative functional analyses of ZIPs/ZNTs in the fruit fly and mice**

Bing Zhou, Shenzhen University of Advanced Technology - CN

15:20 O-59 **Evolutionary Conservation of Zinc-Mediated Nutritional Immunity Across Vertebrates and Insects in Host-Pathogen Interactions**

Andrea Battistoni, Tor Vergata University of Rome - IT

15:40 O-60 **Quantitative Inorganic Phenotypes of Sperm and Roles of Zinc in Male Reproductive Health**

Thomas O'Halloran, Michigan State University - US

16:00 *Coffee break*

16:30		Bioinorganic Chemistry <i>Chair Liliana Quintanar, Cinvestav - MX</i>
16:35	O-61	Protein quality control in the bacterial periplasm triggered by zinc starvation <i>Alejandro Vila, Instituto de Biología Molecular y Celular de Rosario - AR</i>
16:55	O-62	TBA <i>Artur Krezel, University of Wrocław - PL</i>
17:15	O-63	Spectroscopic investigations of a bacterial redox sensing Zn protein implicated in biofilm formation <i>Kelly Chacón, Reed College - US</i>
17:35	O-64	Cargo selectivity, metal promiscuity, and translocation mechanism in transmembrane primary-active Zn(II) P-type ATPase pumps <i>Gabriele Meloni, University of Texas at Dallas - US</i>
17:55	O-65	Exploring the link between zinc storage and tryptophan metabolism using 19F NMR and bioinspired proteoliposomes <i>Alessandra Barbanente, Università degli studi di Bari Aldo Moro - IT</i>
18:15		<i>Poster Session</i>
20:30		<i>GALA dinner</i>

Friday, December 6th

08:30		Free morning <i>Suggestion: Beach excursion</i>
16:00		Young Investigators <i>Chairs Violeta Aburto-Luna, Benemérita Universidad Autónoma de Puebla - MX Linda Le, University of Calgary - CA</i>
16:05	O-66	The vertebrate zinc metallochaperone ZNG1 is a critical contributor to host metal homeostasis and infection by <i>Staphylococcus aureus</i> <i>Kyle Enriquez, Vanderbilt University - US</i>
16:25	O-67	Two types of zinc storage granules are differentially distributed along the Malpighian tubules of <i>Drosophila melanogaster</i> <i>Carlos Tejeda Guzmán, Cinvestav - MX</i>
16:45	O-68	Prenatal zinc deficiency combined with postnatal high-fat consumption alters glucose metabolism in <i>Drosophila melanogaster</i> <i>Murtala Bello Abubakar, Sultan Qaboos University - OM</i>
17:05	O-69	Zinc cycle in the Dorsal Cochlear Nucleus <i>Stefania Nordio, Ben-Gurion University of the Negev - IL</i>
17:25	O-70	Zinc chelation prevents ADAM17-mediated cleavage of CSF-1R and improves cortical tissue recovery after mechanical injury <i>Diego Rolando Hernández Espinosa, University of Pittsburgh - US</i>
17:45	O-71	Metallomics ECR award: Zn-dependent transcriptional regulation in bacteria: Role of structure and internal dynamics in the evolution of Zn specific responses <i>Daiana Capdevila, Fundación Instituto Leloir, AR</i>
18:05		<i>Coffee break</i>
18:35		Closing talks <i>Chair Samantha Pitt, ISZB president, University of St Andrews - UK</i>
18:40		Prelude to Chris Frederickson Award <i>Chris Frederickson, University of Houston - US</i>
18:50		Presentation of Chris Frederickson Awardee <i>Samantha Pitt, ISZB president, University of St Andrews - UK</i>
19:00		Chris Frederickson Prize Talk <i>2024 award winner: Prof. Elias Aizenman, University of Pittsburgh School of Medicine - US</i>
20:05		TBA <i>Toshiyuki Fukada, Tokushima Bunri University - JP</i>