SCIENTIFIC PROGRAM

		Sunday, December 1st
16:00		*Registration*
18:00		**Official Opening** Chair *Fanis Missirlis, Centro de Investigación y de Estudios Avanzados - MX*
18:10		**Welcome address from Local Organizing Committee** *Elias Aizenman, University of Pittsburgh School of Medicine - US*
18:20		**Welcome address from Local Authority**
18:30		**Declaration of Commencement of the 8th ISZB Meeting** *Cinvestav's Secretary of Planning Martha Espinosa-Cantellano, Centro de Investigación y de Estudios Avanzados - MX*
18:45	O-01	**Speciation of metal trace elements in living systems: a synchrotron-based approach** *Christophe Den Auwer, Université Côte d'Azur - FR*
19:05	O-02	**Conservation of regulatory zinc fluctuations in control of ovarian biology** *Teresa Woodruff, Michigan State University - US*
19:25	O-03	**Special delivery! Zn chaperones conserved across the tree of life** *Crysten Blaby-Haas, Lawrence Berkeley National Laboratory - US*
19:45	O-04	**A Zinc Sensing Receptor Fortifies Epithelial Barriers** *Michal Hershfinkel, Ben-Gurion University of the Negev - IL*
20:05	O-05	**Zinc transporters and human evolution** *Rubén Vicente, Pompeu Fabra University - ES*
20:30		*Reception*

		Monday, December 2nd
07:30		*Registration*
08:30		*Setup posters*
08:45		**SESSION: *Cell Biology*** Chair *Teresita Padilla-Benavides, Wesleyan University - US*
08:50	O-06	**Illuminating the cell biology of zinc** *Amy Palmer, University of Colorado Boulder - US*
09:10	O-07	**Exploring a role for ZIP6 and ZIP10 in the dissemination of breast cancer cells** *Georgia Farr, Cardiff University - UK*
09:30	O-08	**Identifying the role of sodium-myo-inositol transporter 1 in zinc accumulation** *Sangyong Choi, University of Connecticut - US*
09:50	O-09	**ALS-linked mutations in zinc metalloppetidase Oma1 impair its activity and impinge on mitochondrial fidelity** *Oleh Khalimonchuk, University of Nebraska - US*
10:10	O-10	**ZIP7 controls zinc concentration and redox state in the ER** *Yuta Amagai, Kyushu University - JP*
10:30		*Coffee break*

11:00		**SESSION: Cancer** Chair *Kathryn Taylor, Cardiff University - UK*
11:05	O-11	**Exploring the potential of ZIP transporter targeting agents as novel breast cancer therapeutics** *Samuel Jones, Cardiff University - UK*
11:25	O-12	**Single nucleotide polymorphisms and Zn transport by ZIP11 shape functional phenotypes of HeLa cells** *Monserrat Olea-Flores, University of Massachusetts - US*
11:45	O-13	**Exploring ZIP7 Phosphorylation and Its Role in Zinc-Mediated Activation of Oncogenic Signaling Pathways** *Ahmed Alzahrani, Umm Al-Qura University - SA*
12:05	O-14	**Zinc in glioma of long-term surviving patients - a pilot study** *Emil Rudolf, Hradec Králové Charles University - CZ*
12:30		*Conference Photo*
13:00		*Lunch (also: ISZB Board Meeting)*
14:15		**SESSION: Biochemistry** Chair *Wolfgang Maret, King's College London - UK*
14:20	O-15	**Clustering of Zn/S-species in Ectopic Biominerals at the Biological Interfaces in the Temporomandibular Joint and the Kidney** *Sunita Ho, University of California San Francisco - US*
14:40	O-16	**Zinc Fingers and Reactivity: No Longer Innocent Bystanders** *Sarah Michel, University of Maryland - US*
15:00	O-17	**Endogenous Zinc Protoporphyrin Formation Critically Contributes to Hemorrhagic Stroke-induced Brain Damage** *Ke Jian "Jim" Liu, Stony Brook University - US*
15:20	O-18	**CryoEM structures of zinc uptake transporters** *Qun Liu, Brookhaven National Laboratory - US*
15:40	O-19	**Structural basis of zinc-dependent protein quality control at the ER-Golgi interface** *Kenji Inaba, Kyushu University - JP*
16:00		*Coffee break*
16:30		**SESSION: Imaging** Chair *Richard Dyck, University of Calgary - CA*
16:35	O-20	**Beyond Zinc Chelation: Decoding the role of copper in TPEN-induced biological effects** *Christoph Fahrni, Georgia Institute of Technology - US*
16:55	O-21	**Zinc in neuronal synapses - quantitative aspects using high resolution imaging** *Sivakumar Sambandan, Max Planck Institute for Multidisciplinary Sciences - D*
17:15	O-22	**A novel FRET-based assay employed to examine the impact of serum albumin and fatty acids on insulin decomplexation** *Alan Stewart, University of St Andrews - UK*
17:35	O-23	**Zinc Imaging and Targeting of Pancreatic Islet Beta Cells** *Wen-hong Li, University of Texas - US*
17:55	O-24	**Next-Generation Genetically Encoded Fluorescent Indicators for Synaptic Zinc** *Huiwang Ai, University of Virginia - US*
18:15		*Poster Session*
20:30		**Past ISZB Presidents' Musings** Chair *Samantha Pitt, ISZB president, University of St Andrews - UK*
		Founding ISZB President 2007-2011 *Glen Andrews, Professor Emeritus, The University of Kansas - US*
		ISZB President 2013-2015 *Wolfgang Maret, Kings College London - UK*
		ISZB President 2017-2019 *Kathryn Taylor, University of Cardiff - UK*

		Tuesday, December 3rd
08:25		**SESSION: Transporters** Chair *Toshiyuki Fukada, Tokushima Bunri University - JP*
08:30	O-25	**Transport mechanism and substrate specificity of ZIP metal transporters** *Jian Hu, Michigan State University - US*
08:50	O-26	**The importance of zinc in protein N-glycosylation** *Taiho Kambe, Kyoto University - JP*
09:10	O-27	**Physiological roles of ZIP13 in muscle and fat: Analysis of newly generated Zip13-genetically modified mice** *Ayako Fukunaka, Gunma University - JP*
09:30	O-28	**Zn^{2+} transport through ZIP7 is required for T cell function** *Stefan Feske, New York University - US*
10:00		*Coffee break*
10:30		**SESSION: Neuroscience** Chair *Elias Aizenman, University of Pittsburgh School of Medicine - US*
10:35	O-29	**Mitochondrial Zn^{2+} uptake and ischemic neural injury** *John Weiss, University of California Irvine - US*
10:55	O-30	**Probing the roles of zinc in axonal transport and tau displacement** *Yan Qin, University of Denver - US*
11:15	O-31	**Of Zinc and NMDA Receptors** *Gabriela Popescu, University at Buffalo - US*
11:35	O-32	**Zincergic neurons as mediators of cerebral cortical plasticity** *Richard Dyck, University of Calgary - CA*
11:55	O-33	**Cortical Zinc Plasticity Contributes to the Recovery of Perceptual Hearing Thresholds after Noise Trauma** *Manoj Kumar, University of Pittsburgh - US*
12:15		*Coffee break*
12:30		*ISZB Members Meeting*
13:30		*Lunch*
14:45		**SESSION: Epithelial Barriers and Beyond** Chair *Michal Hershfinkel, Ben-Gurion University of the Negev - IL*
14:50	O-34	**Dietary AHR agonists and zinc are conjoined regulators of intestinal epithelium permeability, and control proliferation and differentiation of intestinal stem cells** *Christer Hogstrand, King's College London - UK*
15:10	O-35	**Zinc deficiency adversely impacts mucus barrier formation in the intestinal tract and lung** *Maria Maares, Technische Universität Berlin - DE*
15:30	O-36	**Harnessing macrophage-mediated antibacterial zinc toxicity in host-directed therapies** *Matthew Sweet, University of Queensland - AU*
15:50	O-37	**Consequences of small molecule chelators mediated changes in blood plasma zinc speciation** *Sirilata Polepalli, University of Warwick - UK*
16:10	O-38	**The divergent roles of GPR39 in cardiovascular and metabolic tissues** *Jiemei Wang, Wayne State University - US*
16:30		*Coffee break*
16:55		**SESSION: Nutrition** Chair *Eduardo Brambila, Benemérita Universidad Autónoma de Puebla - MX*
17:00	O-39	**The Effects of Increased Non-Intestinal Zinc Losses on Dietary Zinc Requirements for Older Adults and Individuals at Risk for Noncommunicable Diseases** *Andrew Hall, University of California Davis - US*
17:20	O-40	**The continuing search for a biomarker indicating zinc nutritional status** *Chris Frederickson, University of Houston - US*

17:40	O-41	**The role of zinc in white matter injury and brain development: from cells to humans** *Christopher Elitt, Boston Childrens Hospital - US*
18:00	O-42	**Regulation of Zinc Homeostasis in Rice** *Luqing Zheng, Nanjing Agricultural University - CN*
18:30		**Young Investigator Questions (science or career)** Chairs *Violeta Aburto-Luna, Benemérita Universidad Autónoma de Puebla – MX* *Linda Le, University of Calgary - CA*
20:00		*Evening free*

Wednesday, December 4th

07:30		**Chichén Itzá excursion**
18:00		*Evening free*

Thursday, December 5th

08:45		**SESSION: Physiology** Chair *Marcia Hiriart, Universidad Nacional Autónoma de México - MX*
08:50	O-43	**Examination of tooth mineral patterns as a record of in utero and childhood exposure** *Dianne Ford, Northumbria University - UK*
09:10	O-44	**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-45	**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-46	**Zinc modulation of MG23 leads to altered cellular calcium responses in cardiac tissue** *Samantha Pitt, University of St Andrews - UK*
10:10	O-47	**Seminal zinc regulates mammalian sperm** *Anne Carlson, University of Pittsburgh - US*
10:30		*Coffee break*
11:00		**SESSION: Immunology** Chair *Lothar Rink, RWTH Aachen University - DE*
11:05	O-48	**Free Zinc: keeping an eye on the bioavailable species** *Hajo Haase, Technical University Berlin - DE*
11:25	O-49	**Zinc signal synergize with calcium signals in T cell activation** *Lothar Rink, RWTH Aachen University - DE*
11:45	O-50	**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-51	**Exploring the utility of zinc-ionophores for the treatment of *Acinetobacter baumanii* lung infection** *David De Oliveira, University of Queensland - AU*
12:25	O-52	**Variants in the zinc transporter TMEM163 cause a hypomyelinating leukodystrophy** *Guillermo Rodriguez Bey, University of Pittsburgh - US*
13:00		*Lunch*

14:15		**SESSION: Model Organisms** Chair *Johana Vásquez-Procopio, Instituto Tecnológico del Valle de Oaxaca - MX*
14:20	O-53	**Discovery of a mitochondrial zinc-specific importer in yeast** Ofir Klein, *Weizmann Institute of Science, Israel*
14:40	O-54	**Lysosome remodeling during zinc storage and release in *C. elegans*** *Kerry Kornfeld, Washington University in St. Louis - US*
15:00	O-55	**Comparative functional analyses of ZIPs/ZNTs in the fruit fly and mice** *Bing Zhou, Shenzhen University of Advanced Technology - CN*
15:20	O-56	**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-57	**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		**SESSION: Bioinorganic Chemistry** Chair *Liliana Quintanar, Cinvestav - MX*
16:35	O-58	**Protein quality control in the bacterial periplasm triggered by zinc starvation** *Alejandro Vila, Instituto de Biología Molecular y Celular de Rosario - AR*
16:55	O-59	**Understanding the Zn^{2+}-dependent formation and stability of CD4/CD8α-Lck complexes crucial in T-cell activation** *Anna Kocyła, University of Wroclaw - PL*
17:15	O-60	**Spectroscopic investigations of a bacterial redox sensing Zn protein implicated in biofilm formation** *Kelly Chacón, Reed College - US*
17:35	O-61	**Cargo selectivity, metal promiscuity, and translocation mechanism in transmembrane primary-active Zn(II) P-type ATPase pumps** *Gabriele Meloni, University of Texas at Dallas - US*
17:55	O-62	**Exploring the link between zinc storage and tryptophan metabolism using ^{19}F NMR and bioinspired proteoliposomes** *Alessandra Barbanente, Università degli studi di Bari Aldo Moro - IT*
18:15		*Poster Session*
19:45		*GALA dinner (please be on time)*

Friday, December 6th

08:30		**Free morning** *Suggestion: Beach excursion*
16:00		**SESSION: Young Investigators** Chairs *Violeta Aburto-Luna, Benemérita Universidad Autónoma de Puebla - MX* *Linda Le, University of Calgary - CA*
16:05	O-63	**The vertebrate zinc metallochaperone ZNG1 is a critical contributor to host metal homeostasis and infection by *Staphylococcus aureus*** *Kyle Enriquez, Vanderbilt University - US*
16:25	O-64	**Two types of zinc storage granules are differentially distributed along the Malpighian tubules of *Drosophila melanogaster*** *Carlos Tejeda Guzmán, Cinvestav - MX*
16:45	O-65	**Prenatal zinc deficiency combined with postnatal high-fat consumption alters glucose metabolism in *Drosophila melanogaster*** *Murtala Bello Abubakar, Sultan Qaboos University - OM*
17:05	O-66	**Zinc cycle in the Dorsal Cochlear Nucleus** *Stefania Nordio, Ben-Gurion University of the Negev - IL*
17:25	O-67	**Zinc chelation prevents ADAM17-mediated cleavage of CSF-1R and improves cortical tissue recovery after mechanical injury** *Diego Rolando Hernández Espinosa, University of Pittsburgh - US*

17:45	O-68	**Metallomics ECR award: Zn-dependent transcriptional regulation in bacteria: Role of structure and internal dynamics in the evolution of Zn specific responses** *Daiana Capdevila, Fundación Instituto Leloir, AR*
18:05		*Coffee break*
18:35		**Closing talks** Chair *Samantha Pitt, ISZB president, University of St Andrews - UK*
18:40		**Prelude to Chris Frederickson Award** *Chris Frederickson, University of Houston - US*
18:50		**Presentation of Chris Frederickson Awardee** *Samantha Pitt, ISZB president, University of St Andrews - UK*
19:00	O-69	**Chris Frederickson Prize Talk** 2024 award winner: *Prof. Elias Aizenman, University of Pittsburgh School of Medicine - US*
20:05	O-70	**Closing remarks: learning from the past, bridging to the future** *Toshiyuki Fukada, Tokushima Bunri University - JP*
20:30		**Closing Ceremony** Chair *Fanis Missirlis, Centro de Investigación y de Estudios Avanzados - MX*

INDEX OF POSTERS

P-19 **Identification of the Zn^{2+} and Ca^{2+} Binding Site on ZnT**
Hila Asraf, *Ben Gurion university, pob 653*

P-20 **ZnR/GPR39 regulates neuronal proliferation, progression and development**
Yahav Ishay, *Ben-Gurion University, David ben gurion Blvd 1*

P-21 **Investigating ferrous and ferric iron interplay in *Drosophila melanogaster***
Jahir Bahena, *Cinvestav, Av Instituto Politécnico Nacional 2508, Mexico City*

P-22 **Elucidating the interaction of the Full-Length Tau with Zn^{2+} and the impact in the aggregation**
Gerardo Juárez, *Cinvestav, Av. Instituto Politecnico Nacional 2508; Mexico City, Mexico*

P-23 **Low pH quenches the zinc-dependent Fluozin-3 fluorescence, leading to confusion regarding the effects of chloroquine on cellular zinc**
Jessica Paulina Campos-Blázquez, *Cinvestav, Av Instituto Politécnico Nacional 2508, San Pedro Zacatenco*

P-24 **Maternal blood zinc concentration during pregnancy and perinatal outcomes in a group of Mexican women**
Johana Vasquez-Procopio, *TecNM/Instituto Tecnológico del Valle de Oaxaca, Ex Hacienda de Nazareno, Santa Cruz Xoxocotlán, Oaxaca*

P-25 **Evidence from *Drosophila* genetics that serotonin modulates systemic zinc homeodynamics**
Oscar A. Núñez-Gaytan, *Dept. of Physiology, Biophysics and Neuroscience, Cinvestav, Av Instituto Politécnico Nacional 2508 Mexico city*

P-26 **The structural and functional landscape of the dancing zinc deliveries**
Xilan Wang, *King's College London, London, UK*

P-27 **Non-invasive in vivo Imaging of beta-Cell Function in the Rodent Pancreas Using a Zinc Responsive Contrast Agent**
Eul Hyun Suh, *The University of North Texas Health Science Center, 3500 Camp Bowie Blvd., Fort Worth, TX 76107*

P-28 **Dissecting antagonistic function of phytic acid on zinc absorption in vitro**
Niamh Rock, *School of Biotechnology, Life Sciences Institute, Dublin City University*

P-29 **Resilience Under Pressure: Exploring The Tolerance Of HaCaT Cells To Elevated Zinc Levels**
Martha Faulkner, *Life Science Institute, Dublin City University*

P-30 **Effect of Kynurenine on Zinc Regulation in Mice**
Raúl Jorge Marrero, *Cinvestav, Av Instituto Politécnico Nacional 2508, Mexico City*

P-31 **Probing zinc in neurobiology: Limitations of ZX1 and advances in mapping the metalloproteome by ICP-MS techniques**
Abigail Hagwood, *Georgia Institute of Technology, Atlanta, GA 30332, USA*

P-32 **The thermodynamic and structural interplay of zinc and copper in the mixed Cu(I)/Zn(II)-MT3 species: New insights into zinc and copper metabolism**
Artur Krężel, *Department of Chemical Biology, Faculty of Biotechnology, University of Wroclaw, Wroclaw, Poland*

P-33 **Zinc Deficiency Enhances Renal Sodium Retention and Hypertension Through Epithelial Sodium Channel (ENaC) Regulation**
Clintoria R. Williams, *Wright State University, Dayton, OH, USA*

P-34 **ZnR/GPR39 controls human iPSCs neuronal maturation**
Stefania Nordio, *Ben Gurion university of the Negev, Beer Sheva*

P-35 **Iron metabolism in the pathogenesis of diseases**
Kuanyu Li, *Medical School, Nanjing University, 22 Hankou Road, Nanjing, China*