

## Poster Session 1: Tuesday, July 16, 4:30—6:30 PM

- P101-0073** ***In Vitro* Buccal Membrane Absorption (IVBMA) Model for Tobacco Constituent Testing: Membrane Integrity Assays.** Margaret Kraeling<sup>1</sup>, Rebecca Justiniano<sup>1</sup>, Cory Vaught<sup>1</sup>, Dana Lauterstein<sup>2</sup>, Juan Crespo-Barreto<sup>2</sup>, Robert Sprando<sup>1</sup>, Roxana Weil<sup>2</sup>, Raymond Yeager<sup>2</sup>, Jeffrey Yourick<sup>1</sup>. <sup>1</sup>US FDA/CFSAN, Center for Food Safety and Applied Nutrition, Office of Applied Research and Safety Assessment, Laurel, MD, The United States of America. <sup>2</sup>US FDA, Center for Tobacco Products, Office of Science, White Oak, MD, The United States of America
- P102-0162** **The Interchangeability of *In Vitro* Key Event–Based Skin Sensitization Assays—Impact on Defined Approaches.** Donna Macmillan<sup>1</sup>, Martyn Chilton<sup>1</sup>. <sup>1</sup>Lhasa Limited, Granary Wharf House, Leeds, United Kingdom
- P103-0219** **Transcriptional Profiling of Cytochrome P450 Genes in Adult Liver and in Whole Embryo Fry of Zebrafish in Some Developmental Stages.** Hiroki Teraoka<sup>1</sup>, Natsumi Yamashita<sup>1</sup>, Yusuke Kawai<sup>2</sup>, Shuangyi Zhang<sup>1</sup>, Takio Kitazawa<sup>1</sup>, Akira Kubota<sup>2</sup>. <sup>1</sup>Rakuno Gakuen University, School of Veterinary Medicine, Ebetsu, Japan. <sup>2</sup>Obihiro University of Agriculture and Veterinary Medicine, Department of Veterinary Medicine, Obihiro, Japan
- P104-0253** **Evaluation of Skin Barrier Protection Effect of *Lactobacillus rhamnosus* GG Using <sup>3</sup>D Reconstructed Skin Model.** Ye-On Jung<sup>1</sup>, Kyung-Min Lim<sup>1</sup>, Haengdueng Jeong<sup>2</sup>, Yejin Cho<sup>2</sup>, Kitaek Nam<sup>2</sup>. <sup>1</sup>Ewha Womans University, College of Pharmacy, Seoul, The Republic of Korea. <sup>2</sup>Yonsei University, College of Medicine, Seodaemungu, The Republic of Korea
- P105-0274** **Using *C. elegans* for Predictive Oral Toxicity Assessments.** Piper Hunt<sup>1</sup>, Robert Sprando<sup>1</sup>. <sup>1</sup>US FDA/CFSAN, Center for Food Safety and Applied Nutrition, Office of Applied Research and Safety Assessment, Division of Toxicology, Laurel, MD, The United States of America
- P106-0353** **Cytotoxicity Differences of Troglitazone on HepG2 and CD133 Liver Cancer Stem Cells.** Quanjun Wang<sup>1</sup>. <sup>1</sup>Beijing Institute of Pharmacology and Toxicology, Beijing Institute of Pharmacology and Toxicology, Beijing, China
- P107-0367** **Novel Deep Learning Methodology to Enable Drug-Induced Abnormality Detection Using Cultured Neurons on Microelectrode Arrays.** Norimasa Miyamoto<sup>1</sup>, Atsuko Ojima<sup>2</sup>, Tetsuo Kitamura<sup>3</sup>, Tomoharu Osada<sup>4</sup>, Ikuro Suzuki<sup>5</sup>, Takashi Yoshinaga<sup>1</sup>. <sup>1</sup>Eisai Co., Ltd., Global Cardiovascular Assessment, Tsukuba, Japan. <sup>2</sup>TechnoPro R&D, Company, TechnoPro, Inc., Tsukuba Branch, Tsuchiura, Japan. <sup>3</sup>LSI Medience Corporation, Safety Assessment Department, Nonclinical Research Center, Kamisu, Japan. <sup>4</sup>LSI Medience Corporation, Advanced Medical Business Development Department, Chiyoda, Japan. <sup>5</sup>Tohoku Institute of Technology, Department of Electronics, Sendai, Japan
- P108-0369** **Tris(1,3-Dichloro-2-Propyl) Phosphate Exposure during Early Development Alters the Normal Trajectory of Zebrafish Embryogenesis.** Subham Dasgupta<sup>1</sup>, Vanessa Cheng<sup>1</sup>, Sara Frie Vliet<sup>1</sup>, Constance Mitchell<sup>1</sup>, David Volz<sup>1</sup>. <sup>1</sup>University of California Riverside, Environmental Sciences, Riverside, CA, The United States of America
- P109-0373** **A  $\beta$ -Galactosidase-Expressing *E. coli* Culture as an Alternative Test to Identify Skin Sensitizers and Nonsensitizers.** Mahesh Nepal<sup>1</sup>, Dong Ho Cha<sup>1</sup>, Geon Ho Kim<sup>1</sup>, Mi Jeong Kang<sup>1</sup>, Doo Hyun Nam<sup>1</sup>, Tae Cheon Jeong<sup>1</sup>. <sup>1</sup>Yeungnam University, Pharmacy, Gyeongsan, The Republic of Korea
- P110-0381** **A Simple *In Chemico* Method for Testing Skin-Sensitizing Potential of Chemicals Using Small Endogenous Molecules.** Mahesh Nepal<sup>1</sup>, Dong Ho Cha<sup>1</sup>, Geon Ho Kim<sup>1</sup>, Mi Jeong Kang<sup>1</sup>, Tae Cheon Jeong<sup>1</sup>. <sup>1</sup>Yeungnam University, Pharmacy, Gyeongsan, The Republic of Korea
- P111-0382** **PM<sub>2.5</sub> Induced Adverse Effect on Life Span of *Caenorhabditis elegans*.** Guojun Li<sup>1</sup>, Wenjing Zhang<sup>1</sup>, Zinan Li<sup>1</sup>, Nan Zhang<sup>1</sup>, Haiming Jing<sup>1</sup>, Shan Gao<sup>1</sup>, Junyu Ning<sup>1</sup>. <sup>1</sup>Beijing Center for Disease Prevention and Control/Beijing Research Center for Preventive Medicine/Beijing Key Laboratory of Diagnostic and Traceability Technologies for Food Poisoning, Beijing, China
- P112-0409** **Effects of Cyanobacterial Bloom Metabolites on NSC Survival and Differentiation *In Vitro*.** Barbara Kubickova<sup>1</sup>, Marie Smutna<sup>1</sup>, Dasa Bohaciakova<sup>2</sup>, Klara Hilscherova<sup>1</sup>. <sup>1</sup>Masaryk University, Research Centre for Toxic Compounds in the Environment, Brno, The Czech Republic. <sup>2</sup>Masaryk University, Department of Histology and Embryology, Brno, The Czech Republic
- P113-0432** **Effects of Electrical Stimulation on Human iPSC-CMs Responses to Cardiac Ion Channel Blockers.** Li Pang<sup>1</sup>, Feng Wei<sup>1</sup>, Norman Stockbridge<sup>2</sup>. <sup>1</sup>US FDA/NCTR, Division of Systems Biology, Jefferson, AR, The United States of America. <sup>2</sup>US FDA/CDER, Division of Cardiovascular and Renal Products, Office of New Drugs I, Silver Spring, MD, The United States of America

- P114-0445** mRNA-Sequencing Identifies Liver as a Potential Target Organ for Triphenyl Phosphate in Embryonic Zebrafish. Aalekhya Reddam<sup>1</sup>, Constance Mitchell<sup>1</sup>, Subham Dasgupta<sup>1</sup>, David Volz<sup>1</sup>. <sup>1</sup>University of California Riverside, Department of Environmental Sciences, Riverside, CA, The United States of America
- P115-0503** Inhibitory Effect of Acremonidin E on Melanogenesis Using B16F10 Melanoma Cells and Pigmented. <sup>3</sup>D Human Skin Model. Kyuri Kim<sup>1</sup>, Hanseul Park<sup>1</sup>, Kyung-Min Lim<sup>1</sup>. <sup>1</sup>Ewha Womans University, College of Pharmacy, Seoul, The Republic of Korea
- P116-0508** Employment of Cytological Assessment of Skin Irritancy for. <sup>3</sup>D Reconstructed Human Epidermis Model. Jee-Hyun Hwang<sup>1</sup>, Kyung-Min Lim<sup>1</sup>, Kitaek Nam<sup>2</sup>. <sup>1</sup>Ewha Womans University, College of Pharmacy, Seoul, The Republic of Korea. <sup>2</sup>Yonsei University, College of Medicine, Seodaemungu, The Republic of Korea
- P117-0519** Altered Lipid Profiles in the Skin and Liver of db/db Mice. Minjeong Kim<sup>1</sup>, Kyung-Min Lim<sup>1</sup>. <sup>1</sup>Ewha Womans University, College of Pharmacy, Seoul, The Republic of Korea
- P118-0528** Establishment of a GFP Reporter THP-1 Cell Line under the Control of Endogenous Interleukin-8 Promoter. Akira Aoki<sup>1</sup>, Ryoya Kawai<sup>1</sup>, Yoshinori Okamoto<sup>1</sup>, Koji Ueda<sup>1</sup>, Takashi Isobe<sup>2</sup>, Susumu Ohkawara<sup>2</sup>, Nobumitsu Hanioka<sup>2</sup>, Toshiko Tanaka-Kagawa<sup>2</sup>, Hideto Jinno<sup>1</sup>. <sup>1</sup>Meijo University, Faculty of Pharmacy, Nagoya, Japan. <sup>2</sup>Yokohama University of Pharmacy, Department of Kampo Pharmacy and Health Pharmacy, Yokohama, Japan
- P119-0538** Predictive Capacity of Combined Methods for Tiered Approach on Evaluation of Eye Irritation. Jy Kim<sup>1</sup>, HyeLyun Jeon<sup>1</sup>, AhRang Cho<sup>1</sup>, Joohwan Kim<sup>1</sup>, KyungYuk Ko<sup>1</sup>, JungSun Yi<sup>1</sup>, Hak Kim<sup>1</sup>, TaeSung Kim<sup>1</sup>, KiSook Park<sup>1</sup>. <sup>1</sup>National Institute of Food and Drug Safety Evaluation, Toxicological Screening and Testing Division, Cheongju, The Republic of Korea
- P120-0629** Multigenerational Epigenetic Effect of Deoxynivalenol in *Caenorhabditis elegans*. Lili Tang<sup>1</sup>, Jia-Sheng Wang<sup>1</sup>. <sup>1</sup>University of Georgia, Environmental Health Science, Athens, GA, The United States of America
- P121-0632** Documenting International Acute Systemic Toxicity Testing Requirements to Facilitate Increased Acceptance of Nonanimal Approaches. Esther Haugabrooks<sup>1</sup>, Kristie Sullivan<sup>2</sup>. <sup>1</sup>Physicians Committee for Responsible Medicine, Research & Regulatory Affairs, Washington, DC, The United States of America. <sup>2</sup>Physicians Committee for Responsible Medicine, Research and Regulatory Affairs, Washington, DC, The United States of America
- P122-0642** Aberrant Activation of Peroxisome Proliferator-Activated Receptor  $\gamma$  (PPAR $\gamma$ ) Disrupts Dorsoventral Patterning during Early Zebrafish Embryogenesis. Vanessa Cheng<sup>1</sup>, Aalekhya Reddam<sup>1</sup>, Subham Dasgupta<sup>1</sup>, David Volz<sup>1</sup>. <sup>1</sup>University of California Riverside, Department of Environmental Sciences, Riverside, CA, The United States of America
- P123-0654** Toxic Effects of Six Essential Oils on the Biological Model *Caenorhabditis elegans*. Leonor Cervantes-Ceballos<sup>1</sup>, Liset Mallarino-Miranda<sup>2</sup>, Lesly Tejeda-Benitez<sup>3</sup>, Harold Gomez Estrada<sup>4</sup>, Nayelhi Sarmiento Beleño<sup>4</sup>. <sup>1</sup>Universidad de Cartagena, Facultad de Ciencias Farmacéuticas, Cartagena, Colombia. <sup>2</sup>Universidad de Cartagena, Facultad de Ingeniería, Cartagena, Colombia. <sup>3</sup>Universidad de Cartagena, Facultad de Ingeniería, Cartagena, Colombia. <sup>4</sup>Universidad de Cartagena, Facultad de Ciencias Farmaceuticas, Cartagena, Colombia
- P124-0658** Modernizing Biocompatibility Testing: Replacing Animal Tests through the United States Food and Drug Administration (US FDA) Center for Devices and Radiological Health (CDRH) Medical Devices Development Tools (MDDT) Program. Jeffrey Brown<sup>1</sup>. <sup>1</sup>PETA International Science Consortium Ltd., London, United Kingdom
- P125-0664** Elucidating Gene-by-Environment Interactions Associated with Differential Susceptibility to Chemical Exposure: Abamectin as a Case Study. Jane LaDu<sup>1</sup>, Michelle Balik-Meisner<sup>2</sup>, Elizabeth Scholl<sup>2</sup>, Lisa Truong<sup>1</sup>, David Reif<sup>2</sup>, Robert Tanguay<sup>1</sup>. <sup>1</sup>Oregon State University, Environmental and Molecular Toxicology, Corvallis, OR, The United States of America. <sup>2</sup>NC State University, Bioinformatics Research Center and Departments of Statistics and Biological Sciences, Raleigh, NC, The United States of America
- P126-0675** Identification and Characterization of Long Non-coding RNAs in *Caenorhabditis elegans* Exposed to Mixture of Aflatoxin B<sub>1</sub> and Fumonisin B<sub>1</sub>. Kathy Xue<sup>1</sup>, Lili Tang<sup>1</sup>, Jia-Sheng Wang<sup>1</sup>. <sup>1</sup>University of Georgia, Environmental Health Sciences, Athens, GA, The United States of America
- P127-0683** Statistical Analysis of Me-Too Validation Study on Alternative Test Method for Eye Irritation, MCTT HCE. Song E Lim<sup>1</sup>, Kyung-Min Lim<sup>1</sup>, SeungJin Bae<sup>2</sup>. <sup>1</sup>Ewha Womans University, College of Pharmacy, Seoul, The Republic of Korea. <sup>2</sup>Ewha Womans University, College of Pharmacy, Seoul, The Republic of Korea

- P128-0722** **Pioneering Better Science to Advance the 3Rs in Acute Toxicity Testing.** Nikki Gellatly<sup>1</sup>, Natalie Burden<sup>1</sup>, Helen Prior<sup>1</sup>, Fiona Sewell<sup>1</sup>. <sup>1</sup>*National Centre for the Replacement, Refinement and Reduction of Animals in Research (NC3Rs), Toxicology and Regulatory Sciences, London, United Kingdom*
- P129-0753** **A Simple Spectrophotometric Test to Identify Skin Sensitizers and Nonsensitizers *In Chemico*.** Dong Ho Cha<sup>1</sup>, Mahesh Nepal<sup>1</sup>, Geon Ho Kim<sup>1</sup>, Mi Jeong Kang<sup>1</sup>, Tae Cheon Jeong<sup>1</sup>. <sup>1</sup>*Yeungnam University, Pharmacy, Gyeongsan, The Republic of Korea*
- P130-0808** **Evaluation of Photo-Ocular Irritancy of Phloxine B on SIRC Cells and 3D Reconstructed Human Cornea Model.** Miri Lee<sup>1</sup>, Minju Kim<sup>1</sup>, Soyeon Kim<sup>1</sup>, Kyung-Min Lim<sup>1</sup>. <sup>1</sup>*Ewha Womans University, College of Pharmacy, Seoul, The Republic of Korea*
- P131-0953** **Network Analysis of MCF-7 and Human Breast Cancer Tissues.** Alexandra Maertens<sup>1</sup>, Vy Tran<sup>1</sup>, Thomas Hartung<sup>1</sup>. <sup>1</sup>*Johns Hopkins Bloomberg School of Public Health, Environmental Health and Engineering, Baltimore, MD, The United States of America*
- P132-0052** ***In Silico* Prediction of Severe Cutaneous Adverse Drug Reactions Using the Japanese Adverse Drug Event Report Database.** Kaori Ambe<sup>1</sup>, Kazuyuki Ohya<sup>1</sup>, Masahiro Tohkin<sup>1</sup>. <sup>1</sup>*Nagoya City University, Graduate School of Pharmaceutical Sciences, Nagoya, Japan*
- P134-0103** **Congener-Specific Half-Lives of Polychlorinated Biphenyls: A Systematic Review of the Literature.** Geniece Lehmann<sup>1</sup>, Dustin Kapraun<sup>2</sup>, Laura Carlson<sup>1</sup>, Cara Henning<sup>3</sup>, Joanne Trgovcich<sup>3</sup>, Paul Schlosser<sup>2</sup>. <sup>1</sup>*US EPA/NCEA, National Center for Environmental Assessment, Research Triangle Park, NC, The United States of America.* <sup>2</sup>*US EPA/NCEA, National Center for Environmental Assessment, Washington, DC, The United States of America.* <sup>3</sup>*ICF International Inc., Durham, NC, The United States of America*
- P135-0178** ***In Silico* Models for the Predicting of the Repeated-Dose Toxicity Based on HESS Database.** Tatsuya Ochibe<sup>1</sup>, Kaori Ambe<sup>1</sup>, Masahiro Tohkin<sup>1</sup>. <sup>1</sup>*Nagoya City University, Graduate School of Pharmaceutical Sciences, Nagoya, Japan*
- P136-0188** **Responses to the US FDA Standard for Exchange of Nonclinical Data (SEND) and Establishment of Global SEND Alliance (G-SEND).** Takayuki Anzai<sup>1</sup>, Micheal Wasco<sup>2</sup>, Shinichi Horikawa<sup>3</sup>, Reo Anzai<sup>4</sup>, Dai Nakae<sup>5</sup>. <sup>1</sup>*Showa University School of Medicine, Shinagawa, Japan.* <sup>2</sup>*PDS Life Sciences, SEND Team, Mt. Arlington, NJ, The United States of America.* <sup>3</sup>*Ina Research Inc., SEND Group, Ina-shi, Japan.* <sup>4</sup>*Keio University, Faculty of Environment and Information Studies, Fujisawa, Japan.* <sup>5</sup>*Tokyo University of Agriculture, Department of Nutritional Science and Food Safety, Faculty of Applied Biosciences, Setagaya, Japan*
- P137-0548** **Cross Talks among PPARα, SREBP, and ER Signaling Pathways in the Side Effect of Valproic Acid.** Yayoi Natsume-Kitatani<sup>1</sup>, Ken-ichi Aisaki<sup>2</sup>, Satoshi Kitajima<sup>2</sup>, Samik Ghosh<sup>3,4</sup>, Hiroaki Kitano<sup>3</sup>, Kenji Mizuguchi<sup>1</sup>, Jun Kanno<sup>6</sup>. <sup>1</sup>*National Institutes of Biomedical Innovation, Health and Nutrition, Laboratory of Bioinformatics, Ibaraki, Japan.* <sup>2</sup>*National Institute of Health Sciences, Division of Cellular & Molecular Toxicology, Biological Safety Research Center, Kawasaki, Japan.* <sup>3</sup>*The Systems Biology Institute, Shinagawa, Japan.* <sup>4</sup>*SBX Corporation, Shinagawa, Japan.* <sup>5</sup>*Okinawa Institute of Science and Technology Garuda School, Kunigami-gun, Japan* <sup>6</sup>*Japan Bioassay Research Center, Japan Organization of Occupational Health and Safety, Hadano, Japan*
- P138-0553** **Environmental Chemicals and Alterations in Telomere Maintenance as a Factor in Human Diseases: Toxicogenomic Data Mining.** Danijela Đukić-Ćosić<sup>1</sup>, Katarina Baralić<sup>1</sup>, Katarina Živančević<sup>1</sup>, Dragana Javorac<sup>1</sup>, Jelena Kotur-Stevuljević<sup>1</sup>, Evica Antonijević<sup>1</sup>, Biljana Antonijević<sup>1</sup>, Vesna Matović<sup>1</sup>. <sup>1</sup>*University of Belgrade Faculty of Pharmacy, Department of Toxicology "Akademik Danilo Soldatović", Belgrade, Serbia*
- P139-0579** **In Search of Important TiO<sub>2</sub> NPs Characteristics That Determine Exposure and Toxicity.** Janeck J. Scott-Fordsmand<sup>1</sup>, Mónica Amorim<sup>2</sup>. <sup>1</sup>*Aarhus Universit, Bioscience, Silkeborg, Denmark.* <sup>2</sup>*University of Aveiro, Department of Biology & CESAM, Aveiro, Portugal*
- P140-0606** **NTP High-Level Summary Data Collections in the Chemical Effects in Biological Systems (CEBS) Database.** Ellie Sheridan<sup>1</sup>, Jamie Moose<sup>1</sup>, Ying Liu<sup>1</sup>, Cari Martini<sup>1</sup>, Isabel Lea<sup>1</sup>, Jennifer Fostel<sup>2</sup>. <sup>1</sup>*ASRC Federal Vistrionix, Morrisville, NC, The United States of America.* <sup>2</sup>*NIEHS, Department of the National Toxicology Program (NTP), Research Triangle Park, NC, The United States of America*
- P141-0611** **Development of Hepatotoxicity Prediction Model Using *In Vitro* Assay Data of Themolecular Key Events.** Takashi Yamada<sup>1</sup>, Koji Jojima<sup>1,2</sup>, Akihiko Hirose<sup>3</sup>. <sup>1</sup>*National Institute of Health Sciences, Division of Risk Assessment, Kawasaki,*

Japan. <sup>2</sup>Osaka University, Department of Pharmaceutical Sciences, Suita, Japan. <sup>3</sup>National Institute of Health Sciences, Division of Risk Assessment, Kawasaki, Japan

- P142-0635** **Connecting Mechanistic Annotations of Expert Rule–Based Bacterial Mutagenicity Alerts with Statistically Mined Alerts for Assisting ICH M7 Expert Review.** Suman Chakravarti<sup>1</sup>, Roustem Saiakhov<sup>1</sup>. <sup>1</sup>MultiCASE Inc, Beachwood, OH, The United States of America
- P143-0738** **Are the Available Aquatic Toxicity Prediction Models Suitable for Dyes?** Gisela Umbuzeiro<sup>1,2</sup>, Anjaina Albuquerque<sup>1</sup>, Francine Vacchi<sup>3</sup>, Xinyi Sui<sup>2</sup>, Malgorzata Szymczyk<sup>2</sup>, Reza Aalizadeh<sup>4</sup>, Peter Von der Ohe<sup>5</sup>, Nikolaos Thomaidis<sup>4</sup>, Nelson Vinueza<sup>2</sup>, Harold Freeman<sup>2</sup>. <sup>1</sup>University of Campinas - UNICAMP, School of Technology, Limeira, Brazil. <sup>2</sup>NC State University, Wilson College of Textiles, Raleigh, NC, The United States of America. <sup>3</sup>University of Campinas - UNICAMP, Biology Institute, Campinas, Brazil. <sup>4</sup>National and Kapodistrian University of Athens, Department of Chemistry, Athens, Greece. <sup>5</sup>Amalex Environmental Solutions, Leipzig, Germany
- P144-0748** **Network Analysis of FDA Adverse Event Reporting System Database to Discover Drug-Drug Associations.** Wen Zou<sup>1</sup>, Weizhong Zhao<sup>2</sup>, Joeseoph Tinning<sup>3</sup>, Heshu Duggirala<sup>4</sup>, Richard Forshee<sup>5</sup>, Taxiarchis Botsis<sup>6</sup>, Henry Francis<sup>3</sup>, Huixiao Hong<sup>2</sup>, Weida Tong<sup>2</sup>, Ana Szarfman<sup>3</sup>, Yi-Ting Hwang<sup>7</sup>. <sup>1</sup>US FDA/NCTR, Division of Bioinformatics and Biostatistics, Jefferson, AR, The United States of America. <sup>2</sup>US FDA/NCTR, Jefferson, AR, The United States of America. <sup>3</sup>US FDA/CDER, Silver Spring, MD, The United States of America. <sup>4</sup>US FDA Center for Veterinary Medicine, Rockville, MD, The United States of America. <sup>5</sup>US FDA/CBER, Silver Spring, MD, The United States of America <sup>6</sup>Johns Hopkins University School of Medicine, The Sidney Kimmel Comprehensive Cancer Center, Baltimore, MD, The United States of America <sup>7</sup>National Taipei University, Department of Statistics, Taipei, Taiwan
- P145-0768** **Setting the Basis for the Mutagenicity Assessment of New Dyes—Application to the Max Weaver Dye Library.** Gisela Umbuzeiro<sup>1,2</sup>, Daniel Morales<sup>1</sup>, Francine Vacchi<sup>3</sup>, Anjaina Albuquerque<sup>1</sup>, Xinyi Sui<sup>2</sup>, Antonio Oliveira<sup>4</sup>, Crina Heghes<sup>5</sup>, Robert Foster<sup>5</sup>, Rachel Tennant<sup>5</sup>, Nelson Vinueza<sup>2</sup>, Harold Freeman<sup>2</sup>. <sup>1</sup>University of Campinas UNICAMP, School of Technology, Limeira, Brazil. <sup>2</sup>NC State University, Wilson College of Textiles, Raleigh, NC, The United States of America. <sup>3</sup>University of Campinas UNICAMP, Biology Institute, Campinas, Brazil. <sup>4</sup>University of São Paulo, Department of Clinical and Toxicological Analysis, Faculty of Pharmaceutical Sciences, São Paulo, Brazil. <sup>5</sup>Lhasa Limited, Granary Wharf House, Leeds, United Kingdom
- P146-0772** **Assessing Model Selection Criteria during the Application of Benchmark Dose Method to Quantal Response Data: Japanese Perspectives.** Keita Yoshi<sup>1</sup>, Hiroshi Nishiura<sup>1</sup>, Kaoru Inoue<sup>2</sup>, Akihiko Hirose<sup>2</sup>. <sup>1</sup>Hokkaido University, Graduate School of Medicine, Sapporo, Japan. <sup>2</sup>National Institute of Health Sciences, Division of Medicinal Safety Science, Kawasaki, Japan
- P147-0873** **A Method for Health Guidance Values Extrapolation across Exposure Durations.** Ram Siwakoti<sup>1</sup>, Eugene Demchuk<sup>2</sup>. <sup>1</sup>CDC/ATSDR, Division of Toxicology and Human Health Sciences, Atlanta, GA, The United States of America. <sup>2</sup>CDC/ATSDR, Centers for Disease Control and Prevention (CDC), Atlanta, GA, The United States of America
- P148-0946** **Use of *In Vitro* and Physiologically Based Kinetic (PBK) Models to Support Human Risk Assessment.** Rozaini Binti Abdullah / Medic<sup>1</sup>. <sup>1</sup>Universiti Putra Malaysia, Department of Environmental and Occupational Health, Serdang, Malaysia
- P149-0094** **Fish Sex Ratio for Endocrine Disruptor Identification, Classification, Testing, and Risk Assessment.** Zhichao Dang<sup>1</sup>, Aude Kienzler<sup>2</sup>. <sup>1</sup>RIVM, Bilthoven, The Netherlands. <sup>2</sup>European Commission Joint Research Centre, Ispra, Italy
- P150-0218** **Investigating the Interaction between Drug-Induced Oxidative Stress and an Environmental Oestrogen Using Transgenic Zebrafish Models: Potential of Mixture Effects.** Rebekah Boreham<sup>1</sup>, Malcolm Hetheridge<sup>1</sup>, Jonathon Ball<sup>1</sup>, Stewart Owen<sup>2</sup>, Charles Tyler<sup>1</sup>. <sup>1</sup>University of Exeter, Biosciences, Exeter, United Kingdom. <sup>2</sup>AstraZeneca, Global Environment, Macclesfield, United Kingdom
- P151-0235** **Zearalenone Inhibits the Chemotaxis of T Cells by Influencing Cell Adhesion and Migration.** Jianchun Bian<sup>1,2</sup>, Guodong Cai<sup>1,2</sup>, Hui Zou<sup>1,2</sup>, Jiaqiao Zhu<sup>1,2</sup>, Zongping Liu<sup>1,2</sup>. <sup>1</sup>Yangzhou University College of Veterinary Medicine, Yangzhou, China. <sup>2</sup>Jiangsu Co-innovation Center for Prevention and Control of Important Animal Infectious Diseases and Zoonoses, Yangzhou, China
- P152-0238** **The Environmental Health Science Aspects of the Reenvisioning of the (US) National Library of Medicine’s Toxicology and Environmental Health Resources.** Pertti Hakkinen<sup>1</sup>. <sup>1</sup>National Institutes of Health, National Library of Medicine, Bethesda, MD, The United States of America

- P153-0315** **Physiological and Behavioral Effects of Exposure to the Antidepressant Amitriptyline on Zebrafish Early Life Stages.** Sophie Gould<sup>1</sup>, Matthew Winter<sup>1</sup>, Malcolm Hetheridge<sup>1</sup>, Charles Tyler<sup>1</sup>. <sup>1</sup>University of Exeter, College of Life and Environmental Sciences, Exeter, United Kingdom
- P154-0346** **Cytotoxicity of Surface Water from Akala-Olu Swamp, Ahoada-West, Rivers State, Nigeria.** Ijeoma Vincent-Akpu<sup>1</sup>, Miracle Osho<sup>2</sup>, Bolaji Babatunde<sup>3</sup>. <sup>1</sup>University of Port Harcourt, Department of Animal & Environmental Biology, Port Harcourt, Nigeria. <sup>2</sup>University of Port Harcourt, Department of Animal & Environmental Biology, Port Harcourt, Nigeria. <sup>3</sup>University of Port Harcourt, Department of Animal & Environmental Biology, Port Harcourt, Nigeria
- P155-0356** **Neurotoxicity of Aluminum Oxide Nanoparticles and the Mechanism in Dopamine Neurons Injury Involving p53-Related Pathways.** Bencheng Lin<sup>1</sup>, Huanliang Liu<sup>1</sup>, Xiaohua Liu<sup>1</sup>, Tie Han<sup>1</sup>, Zhuge Xi<sup>1</sup>. <sup>1</sup>Tianjin Institute of Environmental and Operational Medicine, Tianjin Institute of Environmental and Operational Medicine, Tianjin, China
- P156-0404** **Investigating Glucocorticoid Drug Effects on Embryo-Larval Development in Zebrafish (*Danio rerio*).** Charles Hamilton<sup>1</sup>, Matthew Winter<sup>1</sup>, Luigi Margiotta-Casaluci<sup>2</sup>, Stewart Owen<sup>3</sup>, Charles Tyler<sup>1</sup>. <sup>1</sup>University of Exeter, Biosciences, Exeter, United Kingdom. <sup>2</sup>Brunel University London, Institute of Environment, Health and Societies, London, United Kingdom. <sup>3</sup>AstraZeneca, Global Environment, Macclesfield, United Kingdom
- P157-0427** **Transcriptomic Analysis Identifies Cellular and Molecular Events Involved in Male-to-Female Sex Reversal in *Xenopus laevis*.** Yuanyuan Li<sup>1</sup>, Yanping Shen<sup>2</sup>, Jinbo Li<sup>2</sup>, Zhanfen Qin<sup>2</sup>. <sup>1</sup>Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences, State Key Laboratory of Environmental Chemistry and Ecotoxicology, Beijing, China. <sup>2</sup>Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences, State Key Laboratory of Environmental Chemistry and Ecotoxicology, Beijing, China
- P158-0447** **Health Is More Than Skin Deep: The Functional Relationship between the Skin Microbiome, Chemical Exposures, and Amphibian Health.** Kurt Gust<sup>1</sup>, Karl Indest<sup>2</sup>, Carina Jung<sup>1</sup>, Guilherme Lotufo<sup>1</sup>, Lyle Burgoon<sup>1</sup>, Steven Everman<sup>3</sup>, Qing Ji<sup>3</sup>, Natalie Barker<sup>3</sup>. <sup>1</sup>US Army Engineer Research and Development Center, Environmental Laboratory, Vicksburg, MS, The United States of America. <sup>2</sup>US Army Engineer Research and Development Center, Environmental Laboratory, Vicksburg, MS, The United States of America. <sup>3</sup>Bennett Aerospace, Cary, NC, The United States of America
- P159-0483** **Evaluation of the Capacity of Adsorption of the Cigarette Butts to Reduce the Toxicity Produced by Hydrocarbons Present in Waters.** Liset Mallarino-Miranda<sup>1</sup>, Docente Lesly Tejada Benitez<sup>2</sup>, Fidelina Canabal Colon<sup>3</sup>. <sup>1</sup>Univeridad de Cartagena, Bolivar, Cartagena, Colombia. <sup>2</sup>Universidad de Cartagena, Bolivar, Cartagena, Colombia. <sup>3</sup>Universidad de Cartagena, Facultad de Ingeniería, Cartagena, Colombia
- P160-0540** **Seasonal Variation in Heavy Metal Contamination in Soil Samples and Selected Water Holes of Old Oyo National Park, Southwest, Nigeria.** Adetuga Cosmas<sup>1</sup>, Afusat Jubril<sup>2</sup>, Abosede Omonona<sup>3</sup>. <sup>1</sup>University of Ibadan, Department of Wildlife and Ecotourism Management, Ibadan, Nigeria. <sup>2</sup>University of Ibadan, Department of Veterinary Pathology, Ibadan, Nigeria. <sup>3</sup>University of Ibadan, Department of Wildlife and Ecotourism Management, Ibadan, Nigeria
- P161-0547** **Differential Proteomic Profile, Morphological, and Tissue Alterations in Zebrafish Embryos Exposed to Water Accommodated Fraction (WAF) and Chemically Enhanced WAF (CEWAF) of Crude Oil and Dispersant.** Carlos Gonzalez<sup>1</sup>, Alejandro Briseño<sup>1</sup>, Monica Améndola<sup>1</sup>, Irma García<sup>1</sup>, Juan Vega<sup>1</sup>, Richard Loria<sup>1</sup>, Rossanna Canul<sup>1</sup>. <sup>1</sup>Center for Research and Advanced Studies of the National Polytechnic Institute, Department of Marine Resources, Merida, Mexico
- P162-0608** **2,4-Dichlorophenoxyacetic Acid Containing Herbicide Impairs Essential Visually Guided Behaviors of Larval Fish.** Gavin Dehner<sup>1</sup>, William Karasov<sup>2</sup>, Marc Wolman<sup>1</sup>. <sup>1</sup>University of Wisconsin–Madison, Integrative Biology, Madison, WI, The United States of America. <sup>2</sup>University of Wisconsin–Madison, Forest and Wildlife Ecology, Madison, WI, The United States of America
- P163-0672** **Effect of Atrazine Exposure on Testicular Toxicity in Quails.** Jinlong Li<sup>1,2,3</sup>, Lei Qin<sup>1,4</sup>. <sup>1</sup>Northeast Agricultural University, College of Veterinary Medicine, Harbin, China. <sup>2</sup>Northeast Agricultural University, Key Laboratory of the Provincial Education Department of Heilongjiang for Common Animal Disease Prevention and Treatment, Harbin, China. <sup>3</sup>Northeast Agricultural University, Heilongjiang Key Laboratory for Laboratory Animals and Comparative Medicine, Harbin, China. <sup>4</sup>Qiqihar Medical University, Laboratory animal center, Qiqihar, China
- P164-0762** **The Thyroid-Disrupting Effects of Bisphenol S via Thyroid Receptor  $\beta$  Revealed by *In Vitro*, *In Vivo*, and *In Silico* Study.** Liping Lu<sup>1</sup>, Shulin Zhuang<sup>2</sup>. <sup>1</sup>Zhejiang University College of Environmental and Resource Sciences, Hangzhou, China. <sup>2</sup>Zhejiang University College of Environmental and Resource Sciences, Hangzhou, China

- P165-0784** **Bioconcentration and Exposure Assessment of Polyaromatic Hydrocarbons in *Tilapia guineensis* and *Clarias gariepinus* in Rivers and Dams in Lagos, Nigeria.** Jemilat Bello<sup>1</sup>, Omoniyi Yemitan<sup>2</sup>. <sup>1</sup>Lagos State University College of Medicine, Department of Pharmacology, Therapeutics and Toxicology, Ikeja, Nigeria. <sup>2</sup>Lagos State University College of Medicine, Pharmacology, Therapeutics and Toxicology, Ikeja, Nigeria
- P166-0820** **Ozonation Alters Zebrafish (*Danio rerio*) Embryotoxicity of Pharmaceuticals Found in Sewage Effluents.** Johannes Pohl<sup>1</sup>, Lutz Ahrens<sup>2</sup>, Gunnar Carlsson<sup>1</sup>, Oksana Golovko<sup>2</sup>, Leif Norrgren<sup>1</sup>, Jana Weiss<sup>3</sup>, Stefan Örn<sup>1</sup>, Anders Glynn<sup>1</sup>. <sup>1</sup>Swedish University of Agricultural Sciences, Department of Biomedical Sciences and veterinary Public Health, Uppsala, Sweden. <sup>2</sup>Swedish University of Agricultural Sciences, Department of Aquatic Sciences and Assessment, Uppsala, Sweden. <sup>3</sup>Stockholm University, Department of Environmental Science and Analytical Chemistry, Stockholm, Sweden
- P167-0006** **Impact of Nitrates and Nitrites in Drinking Water in a Rural Community in Transylvania, Romania.** Barbara Okeke<sup>1</sup>, Anca Gurzau<sup>2,3</sup>. <sup>1</sup>University of Iowa, Human Toxicology, Iowa City, IA, The United States of America. <sup>2</sup>Environmental Health Center, Cluj-Napoca, Romania. <sup>3</sup>Babeş-Bolyai University, Cluj School Of Public Health, Cluj, Romania
- P168-0067** **Venomous Snake Bites in Morocco: Results of a Nationwide Study.** Faïçal El Hattimy<sup>1</sup>, Hinde Hami<sup>1</sup>, Fouad Chafiq<sup>2</sup>, Abdelrhani Mokhtari<sup>1</sup>, Abdelmajid Soulaymani<sup>1</sup>, Rachida Soulaymani-Bencheikh<sup>2</sup>. <sup>1</sup>PPR-B-Mokhtari-FS-UIT-Kénitra, Laboratory of Genetics and Biometry, Faculty of Science, Ibn Tofail University, Kenitra, Morocco. <sup>2</sup>Moroccan Poison Control Center, Rabat, Morocco
- P169-0069** **Acute Chloroquine Poisoning in Mali: Results of a Nationwide Study.** Hinde Hami<sup>1</sup>, Tidiane Diallo<sup>2</sup>, Ababacar Maïga<sup>2</sup>, Abdelrhani Mokhtari<sup>1</sup>, Rachida Soulaymani-Bencheikh<sup>3</sup>, Abdelmajid Soulaymani<sup>1</sup>. <sup>1</sup>Laboratory of Genetics and Biometry, Faculty of Science, Ibn Tofail University, Kenitra, Morocco. <sup>2</sup>Faculty of Medicine, Pharmacy and Odonto-Stomatology, University of Bamako, Bamako, Mali. <sup>3</sup>Moroccan Poison Control Center, Rabat, Morocco
- P170-0070** **Drug Poisoning: An Exploratory Study.** Soumaïa Hmimou<sup>1</sup>, Hinde Hami<sup>1</sup>, Ahlam Meftah<sup>2</sup>, Abdelmajid Soulaymani<sup>1</sup>, Abdelrhani Mokhtari<sup>1</sup>, Naima Rhalem<sup>2</sup>, Rachida Soulaymani-Bencheikh<sup>2</sup>. <sup>1</sup>PPR-B-Mokhtari-FS-UIT-Kénitra, Laboratory of Genetics and Biometry, Faculty of Science, Ibn Tofail University, Kenitra, Morocco. <sup>2</sup>Moroccan Poison Control Center, Rabat, Morocco
- P171-0112** **A Retrospective Survey of Marine Envenomations and Poisonings as Managed Telephonically by a Poisons Center in South Africa, Over a 20-Year Period.** Carine Carine<sup>1</sup>, Daniël Van Hoving<sup>2</sup>, Cherylynn Wium<sup>1</sup>, Catharina Du Plessis<sup>1</sup>, Helmuth Reuter<sup>1</sup>, Gert Muller<sup>1</sup>. <sup>1</sup>Stellenbosch University, Clinical Pharmacology, Cape Town, South Africa. <sup>2</sup>Stellenbosch University, Emergency Medicine, Cape Town, South Africa
- P172-0120** **Impact of Timing of Arsenic Exposure on DNA Methylation and Arsenic-Associated Skin Carcinogenesis.** Xuefeng Ren<sup>1</sup>, Xiaojuan Liu<sup>2</sup>, Xushen Chen<sup>1</sup>, Jie Wang<sup>1</sup>, Zhiyao Liu<sup>2</sup>. <sup>1</sup>State University of New York at Buffalo, Epidemiology and Environmental health, Buffalo, NY, The United States of America. <sup>2</sup>Inner Mongolia Medical University, Hohhot, China
- P173-0130** **A Retrospective Review of Potassium Permanganate Exposures Reported to a Poisons Control Center in South Africa.** Carine Carine<sup>1</sup>, Cherylynn Wium<sup>1</sup>, Catharina Du Plessis<sup>1</sup>, Cindy Stephen<sup>2</sup>. <sup>1</sup>Stellenbosch University, Clinical Pharmacology, Cape Town, South Africa. <sup>2</sup>University of Cape Town, Paediatrics and Child Health, Cape Town, South Africa
- P174-0140** **Heavy Metal Concentrations in Chinese Folk Medicines for Treating Epilepsy in Children in Rural China, and Their Prescription by Village Doctors: A Cross-Sectional Survey.** Ruixue Huang<sup>1</sup>, Yao Zhou<sup>2</sup>. <sup>1</sup>Central South University, Changsha, China. <sup>2</sup>Yao Shou, school of public health, central south university, Changsha, China
- P175-0192** **Opioid Prescribing Patterns in Hawaii—2015 through 2017.** Alvin Bronstein<sup>1</sup>, Edward Mersereau<sup>2</sup>, Dan Spyker<sup>3</sup>, Mark Ryan<sup>4</sup>. <sup>1</sup>Emergency Medical Services Injury Prevention System Branch, Hawaii Department of Health, Honolulu, HI, The United States of America. <sup>2</sup>DOH, Hawaii Department of Health, Honolulu, HI, The United States of America. <sup>3</sup>Emergency Medicine, Emergency Medicine, Oregon Health & Science University, Portland, OR, The United States of America. <sup>4</sup>Louisiana Poison Center, Shreveport, LA, The United States of America
- P176-0198** **Alteration of DNA Methylation by Transplacental PCB Exposure in Human.** Chisato Mori<sup>1</sup>, Akifumi Eguchi<sup>1</sup>, Shino Jotaki<sup>1</sup>, Hiromi Tanabe<sup>1</sup>, Masahiro Watanabe<sup>1</sup>, Hidenobu Miyaso<sup>2</sup>, Emiko Todaka<sup>1</sup>, Kenichi Sakurai<sup>1</sup>. <sup>1</sup>Chiba University, Center for Preventive Medical Sciences, Chiba, Japan. <sup>2</sup>Tokyo Medical University, Department of Anatomy, Tokyo, Japan
- P177-0229** **Organophosphate Pesticide Exposures and Diabetes among US Adults: Findings from the National Health and Nutrition Examination Survey, 2007–2008.** Parisa Karimi<sup>1</sup>, Samuel Simmens<sup>2</sup>, George Gray<sup>1</sup>, Melissa Perry<sup>1</sup>. <sup>1</sup>Milken Institute School of Public Health, George Washington University, Department of Environmental and Occupational Health, Washington, DC,

*The United States of America. <sup>2</sup>Milken Institute School of Public Health, George Washington University, Department of Epidemiology and Biostatistics, Washington, DC, The United States of America*

- P178-0260** **Epidemiological Association between Multiple Chemical Sensitivity and Birth by Caesarean Section: A Nationwide Case-Control Study.** Kentaro Watai<sup>1</sup>, Yuma Fukutomi<sup>1</sup>, Hiroaki Hayashi<sup>1</sup>, Norihiro Fujita<sup>1</sup>, Kisako Nagayama<sup>1</sup>, Maki Iwata<sup>1</sup>, Yuto Nakamura<sup>1</sup>, Yuto Hamada<sup>1</sup>, Kai Ryu<sup>1</sup>, Yasuhiro Tomita<sup>1</sup>, Yosuke Kamide<sup>1</sup>, Kiyoshi Sekiya<sup>1</sup>, Akio Mori<sup>1</sup>, Masami Taniguchi<sup>1</sup>. <sup>1</sup>*National Hospital Organization Sagami Hospital, Clinical Research Center for Allergy and Rheumatology, Sagami Hospital, Japan*
- P179-0323** **Multidisciplinary Approach in the Diagnosis and Treatment of Necrotizing Spider Bites.** Franca Davanzo<sup>1</sup>, Anna Celentano<sup>1</sup>, Marcello Ferruzzi<sup>1</sup>, Fabio Garuti<sup>1</sup>, Rossella Giacomello<sup>1</sup>, Giovanni Sesana<sup>1</sup>, Paolo Pantini<sup>2</sup>, Gianluca Basso<sup>1</sup>, Alberto Volonterio<sup>1</sup>, Andrea Bellone<sup>1</sup>. <sup>1</sup>*Niguarda Great Metropolitan Hospital, Milan, Italy. <sup>2</sup>Civic Museum of Natural Sciences, Museo Scienze di Bergamo, Bergamo, Italy*
- P180-0325** **A Systematic Review of the Public Health Burden of E-waste Exposure in Africa.** Cajetan Ilo<sup>1</sup>, Orish Ebere Orisakwe<sup>2</sup>. <sup>1</sup>*Nnamdi Azikiwe University, Department of Pharmacology, Nnewi, Nigeria. <sup>2</sup>University of Port Harcourt, Experimental Pharmacology & Toxicology, Port Harcourt, Nigeria*
- P181-0395** **Associate Metabolome/Lipidome of Taiwanese Children with Environmental Exposure of Perfluoroalkyl Substances and Phthalates.** Ching-yu Lin<sup>1</sup>, Zhi-Yi Du<sup>2</sup>, Wei-Chen Tseng<sup>1</sup>, Pau-Chung Chen<sup>3</sup>. <sup>1</sup>*National Taiwan University, Institute of Environmental Health, Taipei, Taiwan. <sup>2</sup>National Taiwan University, Institute of Environmental Health, Taipei, Taiwan. <sup>3</sup>National Taiwan University, Institute of Occupational Medicine and Industrial Hygiene, Taipei, Taiwan*
- P182-0400** **The Aftermath of Flood: Diversity of Fungal Toxic Metabolites in House Dust in Croatia.** Daniela Jaksic<sup>1</sup>, Domagoj Kifer<sup>1</sup>, Michael Sulyok<sup>2</sup>, Bojan Šarkanj<sup>3</sup>, Maja Šegvić Klarić<sup>1</sup>. <sup>1</sup>*University of Zagreb, Zagreb, Croatia. <sup>2</sup>University of Natural Resources and Life Sciences, Center for Analytical Chemistry, Department of Agrobiotechnology (IFA-Tulln), Vienna, Austria. <sup>3</sup>Josip Juraj Strossmayer University of Osijek, Faculty of Food Technology, Department of Applied Chemistry and Ecology, Osijek, Croatia*
- P183-0416** **PI3K/AKT Pathway–Mediated Cyclin D1 Expression Participates in Low Dose Arsenic-Induced Transformation in Human Hepatocyte L-02.** Qun Lou<sup>1</sup>, Yan-mei Yang<sup>1</sup>, Mei-chen Zhang<sup>1</sup>, Yan-hui Gao<sup>1</sup>, Fan-shuo Yin<sup>1</sup>, Hua-zhu Yan<sup>1</sup>, Bing-yang Li<sup>1</sup>, Fuxun Chen<sup>1</sup>. <sup>1</sup>*Center for Endemic Disease Control, Chinese Center for Disease Control and Prevention, Harbin Medical University Harbin, Harbin, China.*
- P184-0557** **Impact of Tobacco Use and Environmental Tobacco Smoke Exposure in Perinatal Outcomes in a Portuguese Population.** Ana Inês Silva<sup>1</sup>, Alexandra Camelo<sup>1</sup>, Joana Madureira<sup>1,2</sup>, Ana Teresa Reis<sup>1,2</sup>, Fernando Barbosa Jr<sup>3</sup>, João Paulo Teixeira<sup>1,2</sup>, Carla Costa<sup>1,2</sup>. <sup>1</sup>*National Institute of Health, Environmental Health Department, Porto, Portugal. <sup>2</sup>EPIUnit, Instituto de Saúde Pública, Universidade do Porto, Porto, Portugal. <sup>3</sup>School of Pharmaceutical Sciences of Ribeirão Preto, University of São Paulo, São Paulo, Brazil*
- P185-0610** **FDALabel Database: Enabling Insights from US FDA Drug Labeling to Advancement of Adverse Drug Reaction Study.** Hong Fang<sup>1</sup>, LeiHong Wu<sup>2</sup>, Taylor Ingle<sup>1</sup>, Zhichao Liu<sup>2</sup>, Shraddha Thakkar<sup>2</sup>, Joshua Xu<sup>2</sup>, Weida Tong<sup>2</sup>. <sup>1</sup>*US FDA/NCTR, Office of Scientific Coordination, Jefferson, AR, The United States of America. <sup>2</sup>US FDA/NCTR, Division of Bioinformatics and Biostatistics, Jefferson, AR, The United States of America*
- P186-0838** **Scoping Environmental Chemical Exposures Associated with Parkinson’s Disease: An Evidence Map.** Windy Boyd<sup>1</sup>, Ana Antonic-Baker<sup>2</sup>, Nisha Sipes<sup>1</sup>, Vickie Walker<sup>1</sup>, Courtney Skuce<sup>3</sup>, Kristina Thayer<sup>4</sup>, Andrew Rooney<sup>1</sup>. <sup>1</sup>*NIEHS/NTP, Division of the National Toxicology Program, Research Triangle Park, NC, The United States of America. <sup>2</sup>Monash University, Department of Neuroscience, Melbourne, Australia. <sup>3</sup>ICF International Inc., Durham, NC, The United States of America. <sup>4</sup>US EPA, Integrated Risk Information System Division, Research Triangle Park, NC, The United States of America*
- P187-0901** **PI3K/AKT Pathway-Mediated Cyclin D1 Expression Participates in Low Dose Arsenic-Induced Transformation in Human Hepatocyte L-02.** Qun Lou<sup>1</sup>, Mei-chen Zhang<sup>1</sup>, Fanshuo Yin<sup>1</sup>, Hua-zhu Yan<sup>1</sup>, Bingyang Li<sup>1</sup>, Fuxun Chen<sup>1</sup>, Yanhui Gao<sup>1</sup>, Yan-mei Yang<sup>1</sup>. <sup>1</sup>*Center for Endemic Disease Control, Chinese Center for Disease Control and Prevention, Harbin, China*
- P188-0059** **Effect of Octyl-phenol and Bisphenol A on Cardiomyocytes Differentiation of Mouse Embryonic Stem Cells.** Jae-Hwan Lee<sup>1</sup>, Dinh Nam Tran<sup>1</sup>, Bo-Hui Jeon<sup>1</sup>, Eui-Man Jung<sup>1</sup>, Eui-Bae Jeung<sup>1</sup>. <sup>1</sup>*Chungbuk National University, College of Veterinary Medicine, Cheongju, The Republic of Korea*
- P189-0090** **Status of Urinary Metals/Metalloids of School-Age Children in Xuyi, Jiangsu Province, China.** Ying Du<sup>1</sup>, Chao Zhao<sup>1</sup>, Yang Xie<sup>2</sup>, Ying Zhang<sup>1</sup>, Hu Zhang<sup>1</sup>, Ran Liu<sup>1</sup>, Yuepu Pu<sup>1</sup>, Lihong Yin<sup>1</sup>. <sup>1</sup>*Southeast University, Key Laboratory of Environmental*

Medicine Engineering, Ministry of Education, School of Public Health, Nanjing, China. <sup>2</sup>Xuyi Center for Disease Prevention and Control, Xuyi, China

- P190-0127** **Research on the Effects of Heart Injury in Rats Induced by Short Wave Radiation.** Jing Zhang<sup>1</sup>, Ping Xu<sup>1</sup>, Hui Wang<sup>1</sup>, Chao Yu.<sup>2</sup>, Wei Yao<sup>3</sup>, Ji Dong<sup>2</sup>, Yu Wang<sup>2</sup>, Li Zhao<sup>1</sup>, Ruiyun Peng<sup>1</sup>. <sup>1</sup>Beijing Institute of Radiation Medicine, the third research room, Beijing, China. <sup>2</sup>Beijing Institute of Radiation Medicine, the third research room, Beijing, China. <sup>3</sup>Beijing Institute of Radiation Medicine, the third research room, Beijing, China
- P191-0293** **Knowledge Awareness and Practice Regarding Arsenicosis among the Community Health Care Providers of Bangladesh.** Mobin UL Islam<sup>1</sup>. <sup>1</sup>Shaheed Ziaur Rahman Medical College, FORENSIC MEDICINE, Bogra, Bangladesh
- P192-0331** **Effect of Low-Dose of Ethanol on Zebrafish Embryogenesis.** Neelakshi Kar<sup>1</sup>, Jayesh Bellare<sup>1</sup>. <sup>1</sup>Indian Institute of Technology, Bombay, Department of Chemical Engineering, Mumbai, India
- P193-0451** **Home-Based and Informal Jewelry Production Increases the Working Families' Exposure to Cadmium.** Fernanda Salles<sup>1</sup>, Ana Paula Ferreira<sup>1</sup>, Bruna Freire<sup>2</sup>, Allan Oliveira<sup>1</sup>, Bruno Batista<sup>2</sup>, Kelly Olympio<sup>1</sup>. <sup>1</sup>University of São Paulo School of Public Health, Environmental Health, São Paulo, Brazil. <sup>2</sup>Federal University of ABC, Center for Natural and Human Sciences, Santo Andre, Brazil
- P194-0462** **Brazilian Preschool Children Attending Day Care Centers Located Near Chemicals Hot Spots and in High Vehicle Traffic Density Sites Present High Blood Lead Levels.** Allan Oliveira<sup>1</sup>, Eric Costa<sup>2</sup>, Kelly Olympio<sup>1</sup>. <sup>1</sup>University of São Paulo School of Public Health, Environmental Health, São Paulo, Brazil. <sup>2</sup>Federal University of ABC, UFABC, Risk Management Laboratory (LabGRis), São Paulo, Brazil
- P195-0511** **Integrated Risk Assessment of Seven Carcinogenic Metals through Oral, Dermal, and Inhalation.** Changwoo Yu<sup>1</sup>, Hoonjeong Kwon<sup>1,2</sup>. <sup>1</sup>Seoul National University, Department of Food and Nutrition, Seoul, The Republic of Korea. <sup>2</sup>Seoul National University, Department of Food and Nutrition, and Research Institute of Human Ecology, Seoul, The Republic of Korea
- P196-0638** **Tableware Plastic Utensils Supposed to Be Used for Children and Sold in the Brazilian Commerce Present High Lead and Cadmium Concentrations.** Isabelle Leroux<sup>1</sup>, Elizeu Pereira<sup>1</sup>, Kelly Olympio<sup>1</sup>. <sup>1</sup>University of São Paulo School of Public Health, Department of Environmental Health, São Paulo, Brazil
- P197-0649** **Assessment of Renal Toxicity and Biochemical Effects of Detergent-Processed Cassava on Wistar Rats (*Rattus norvegicus*).** Gloria Oghobase<sup>1</sup>, Titilayo Aladesanmi<sup>1</sup>, Rufus Akomolafe<sup>2</sup>. <sup>1</sup>Obafemi Awolowo University, Institute of Ecology and Environmental Studies, Ile-Ife, Nigeria. <sup>2</sup>Obafemi Awolowo University, Physiological Sciences, Ile-Ife, Nigeria
- P198-0693** ***In Vivo* Toxicity Assessment of Metal Contaminated Wind Blown Particulate Matter from Abandoned Uranium Mines Surrounding Arizona and New Mexico American Indian Reservations.** Jessica Begay<sup>1</sup>, Yoselin Ordonez<sup>1</sup>, Selita Lucas<sup>1</sup>, Bethany Sanchez<sup>1</sup>, Abigail Wheeler<sup>1</sup>, Floyd Baldwin, Jr.<sup>2</sup>, Katherine Zychowski<sup>1</sup>, Guy Herbert<sup>1</sup>, Chris Shuey<sup>3</sup>, Jack Harkema<sup>4</sup>, James Wagner<sup>4</sup>, Masako Morishita<sup>4</sup>, Barry Bleske<sup>1</sup>, Matthew Campen<sup>1</sup>. <sup>1</sup>University of New Mexico, College of Pharmacy, Albuquerque, NM, The United States of America. <sup>2</sup>Dine College, Tsailie, AZ, The United States of America. <sup>3</sup>University of New Mexico, Southwest Research and Information Center, Albuquerque, NM, The United States of America. <sup>4</sup>Michigan State University, East Lansing, MI, The United States of America
- P199-0708** **Organ-Specific Changes in Gene Expression in Microminipigs following a Single Exposure to a Mixture of Perfluoroalkyl Acids (PFAAs).** Akiko Sakuma<sup>1</sup>, Haruyo Wasada-Ochi<sup>2</sup>, Miyako Yoshioka<sup>3</sup>, Noriko Yamanaka<sup>3</sup>, Mitsutaka Ikezawa<sup>3</sup>, Keerthi S. Guruge<sup>3</sup>. <sup>1</sup>Miyagi Prefectural Sendai Livestock Hygiene Service Center, Sendai, Japan. <sup>2</sup>Kumamoto Prefectural Central Livestock Hygiene Service Center, Kumamoto, Japan. <sup>3</sup>National Institute of Animal Health, NARO, Tsukuba, Japan
- P200-0774** **Toxicological Effects of Donepezilo, Eutebrol, and Medazepam on *Caenorhabditis elegans*.** Liset Mallarino-Miranda<sup>1</sup>, Mario Alvear-Alayon<sup>2</sup>, Barbara Arroyo-Salgado<sup>1</sup>. <sup>1</sup>Universidad de Cartagena, Biomedical, Toxicological and Environmental Sciences Group, Cartagena, Colombia. <sup>2</sup>Universidad de Cartagena, Development and Use of Biomass Research Group, Cartagena, Colombia
- P201-0853** **Are Al, Cd, and Pb Contents in Tofu a Risk?** Carmen Rubio-Arméndariz<sup>1</sup>, Soraya Paz<sup>1</sup>, Arturo Hardisson<sup>1</sup>, Ángel Gutiérrez<sup>1</sup>, Dailos González<sup>1</sup>. <sup>1</sup>Universidad de La Laguna, Toxicology Department, La Laguna, Spain
- P202-0884** **Mitochondrial DNA as Quantitative Tools for Evaluating RT-PCR for Cell Therapy.** Young-Woo Cho<sup>1</sup>, Ji-Ho Ryu<sup>1</sup>, Soo-Han Lee<sup>1</sup>. <sup>1</sup>Osong Medical Innovation Foundation, New Drug Development Center, Cheongju-si, The Republic of Korea



- P203-0894** **Are Canned Food Containers Safe? Exposure to Nine Bisphenol Analogues in a Duplicate Diet Study.** Neus González<sup>1</sup>, Sara Cunha<sup>2</sup>, José Fernandes<sup>2</sup>, Montse Marqués<sup>1</sup>, José Luis Domingo<sup>1</sup>, Martí Nadal<sup>1</sup>. <sup>1</sup>Universitat Rovira i Virgili - Institut d'Investigació Sanitària Pere Virgili, Laboratory of Toxicology and Environmental Health, School of Medicine, Reus, Spain. <sup>2</sup>LAQV-REQUIMTE, Universidade do Porto, Department of Bromatology, Porto, Portugal
- P204-0925** **Reproducibility of Collision Cross Section Measurements with Ion Mobility Mass Spectrometry-Mass Spectrometry.** Noor Aly<sup>1</sup>, Luo Yu-Syuan<sup>1</sup>, Alina Roman-Hubers<sup>1</sup>, Ivan Rusyn<sup>1</sup>, Weihsueh Chiu<sup>1</sup>, Yina Liu<sup>1</sup>, Xueyun Zheng<sup>1</sup>, Erin Baker<sup>2</sup>. <sup>1</sup>Texas A&M University, College Station, TX, The United States of America. <sup>2</sup>NC State University, Chemistry, Raleigh, NC, The United States of America
- P205-0941** **Migration Test for Seven Phthalates from Paper Cups.** Jun Sang Yu<sup>1</sup>, Young Seok Ji<sup>1</sup>, Jeong Hoon Park<sup>1</sup>, Eun Gyu Lee<sup>1</sup>, Hye Hyun Yoo<sup>1</sup>. <sup>1</sup>Hanyang University, College of Pharmacy, Ansan, The Republic of Korea
- P206-0035** **7,10-epoxy Octadeca 7,9-dienoic Acid as a Synergistic Antibacterial Agent against Multidrug-Resistant *Staphylococcus aureus*.** Hak-Ryul Kim<sup>1</sup>, Ji-Sun Moon<sup>1</sup>, Yeon-Jung Lee<sup>1</sup>. <sup>1</sup>Kyungpook National University, School of Food Science and Biotechnology, Daegu, The Republic of Korea
- P207-0043** **4-methylimidazole Induces Skin Aging through Sirtuin 6 Activation.** Yu-ting Hsiao<sup>1</sup>, Shing-Hwa Liu<sup>2</sup>, Chiung-Jung Wen<sup>3</sup>, Jui-Zhi Loh<sup>2</sup>, Chen-Ning Chang<sup>1</sup>, Wan-Ru Liao<sup>1</sup>, Kuo-Ching Wen<sup>4</sup>, Hsiu-Mei Chiang Chiang<sup>4</sup>, Chen-Yuan Chiu<sup>1</sup>. <sup>1</sup>Institute of Food Safety and Health, National Taiwan University, Taipei, Taiwan. <sup>2</sup>Institute of Toxicology, National Taiwan University, Taipei, Taiwan. <sup>3</sup>National Taiwan University Hospital Department of Geriatrics and Gerontology, Taipei, Taiwan. <sup>4</sup>China Medical University Department of Cosmeceutics, Taipei, Taiwan
- P208-0044** **4-methylimidazole, a Maillard Reaction Intermediate in Caramel Colors, Promotes Breast Cancer Stemness Characteristics via Activation of RAGE/SIRT6 Axis.** Chen-Ning Chang<sup>1</sup>, Shing-Hwa Liu<sup>2</sup>, Wan-Ru Liao<sup>1</sup>, Yu-ting Hsiao<sup>1</sup>, Chiung-Jung Wen<sup>3</sup>, Jui-Zhi Loh<sup>2</sup>, Chen-Yuan Chiu<sup>1</sup>. <sup>1</sup>Institute of Food Safety and Health, National Taiwan University, Taipei, Taiwan. <sup>2</sup>Institute of Toxicology, National Taiwan University, Taipei, Taiwan. <sup>3</sup>National Taiwan University Hospital Department of Geriatrics and Gerontology, Taipei, Taiwan
- P209-0045** **The Esculent Dose of 4-methylimidazole, a Caramel Coloring Ingredient, Promotes Cancer Stemness Characteristics via SIRT6 Activation in Osteosarcoma Cells and Chondrosarcoma Cells.** Wan-Ru Liao<sup>1</sup>, Shing-Hwa Liu<sup>2</sup>, Chiung-Jung Wen<sup>3</sup>, Yu-ting Hsiao<sup>1</sup>, Chen-Ning Chang<sup>1</sup>, Jui-Zhi Loh<sup>2</sup>, Chen-Yuan Chiu<sup>1</sup>. <sup>1</sup>Institute of Food Safety and Health, National Taiwan University, Taipei, Taiwan. <sup>2</sup>Institute of Toxicology, National Taiwan University, Taipei, Taiwan. <sup>3</sup>National Taiwan University Hospital Department of Geriatrics and Gerontology, Taipei, Taiwan
- P210-0135** **Toxin Enterosorbents for Inclusion in Food and Water during Emergencies and Natural Disasters.** Meichen Wang<sup>1</sup>, Sara Hearon<sup>1</sup>, Timothy Phillips<sup>1</sup>. <sup>1</sup>Texas A&M University, Veterinary Integrative Biosciences, College Station, TX, The United States of America
- P211-0159** **Pancreatic Toxicity Induced by Excess Selenoprotein P.** Yoshiro Saito<sup>1,2</sup>. <sup>1</sup>Tohoku University, Graduate School of Pharmaceutical Sciences, Sendai, Japan. <sup>2</sup>Doshisha University, Faculty of Life and Medical Sciences, Kyotanabe, Japan
- P212-0195** **Shikonin Augments Hyperthermia-Induced Apoptosis through Enhancement of Oxidative Stress.** Zheng-Guo Cui<sup>1</sup>, Yu-Jie Jin<sup>1</sup>, S. A. Zakki<sup>1</sup>, Lu Sun<sup>1</sup>, Meng-Ling Li<sup>1</sup>, Qian-Wen Feng<sup>1</sup>, Hidekuni Inadera<sup>1</sup>. <sup>1</sup>University of Toyama, Department of Public Health, Graduate School of Medicine and Pharmaceutical Sciences, Toyama, Japan
- P213-0236** **Estimation on Safety of Newly Developed Sugar Substitute, Maltobionic Acid, through Gastrointestinal Dynamics by Prolonged Feeding in Mice.** Kenichi Tanabe<sup>1</sup>, Asuka Okuda<sup>1</sup>, Ken Fukami<sup>2</sup>, Sadako Nakamura<sup>3</sup>, Tsuneyuki Oku<sup>3</sup>. <sup>1</sup>Nagoya Women's University, Nagoya, Japan. <sup>2</sup>San-ei Surochemical Co., Ltd., Chita-City, Japan. <sup>3</sup>Jumonji University, Institute of International Nutrition and Health, Niza, Japan.
- P214-0243** **Elucidation of the Molecular Mechanisms Underlying Proapoptotic Effect of Trans-fatty Acid in Response to DNA Damage.** Miki Takahashi<sup>1</sup>, Yusuke Hirata<sup>1</sup>, Saki Suzuki<sup>1</sup>, Ryosuke Matsui<sup>1</sup>, Takuya Noguchi<sup>1</sup>, Atsushi Matsuzawa<sup>1</sup>. <sup>1</sup>Tohoku University Graduate School of Pharmaceutical Sciences Laboratory of Health Chemistry, Sendai, Japan
- P215-0272** **Research on Toxicological Characterization of Marine Biotoxins in New Zealand.** Jeanne Nicolas<sup>1</sup>, Sarah Finch<sup>2</sup>. <sup>1</sup>Ministry for Primary Industries, Science & Risk Assessment Directorate, Wellington, New Zealand. <sup>2</sup>AgResearch Limited, Ruakura Research Centre, Hamilton, New Zealand
- P216-0288** **Safety and Efficacy Assessment of Novel Blood Glucose Regulation Supplement: SugarOut.** Zoe Tse<sup>1</sup>, Liao Po-Lin<sup>2</sup>, George Hsiao<sup>3</sup>, Yu-Wen Cheng<sup>4</sup>. <sup>1</sup>Taipei Medical University, School of Pharmacy, College of Pharmacy, Taipei, Taiwan. <sup>2</sup>National

Yang-Ming University Institute of Food Safety and Health Risk Assessment, School of Pharmaceutical Sciences, Taipei, Taiwan. <sup>3</sup>Taipei Medical University, Department of Pharmacology, School of Medicine, College of Medicine, Taipei, Taiwan. <sup>4</sup>Taipei Medical University, School of Pharmacy, College of Pharmacy, Taipei, Taiwan

- P217-0296** Potential Health Risk from Heavy Metals via Consumption of Leafy Vegetables in the Vicinity of Warri Refining and Petrochemical Company, Delta State, Nigeria. Kingsley Patrick-Iwuanyanwu<sup>1</sup>, Uchenna Nwokeji<sup>2</sup>. <sup>1</sup>University of Port Harcourt, Biochemistry (Toxicology Unit), Port Harcourt, Nigeria. <sup>2</sup>Madonna University, Biochemistry, Elele, Nigeria
- P218-0300** Heavy Metals Contamination and Potential Human Health Risk via Consumption of Vegetables from Selected Communities in ONELGA, Rivers State, Nigeria. Kingsley Patrick-Iwuanyanwu<sup>1</sup>, Ahiakwo Ogbo<sup>1</sup>. <sup>1</sup>University of Port Harcourt, Biochemistry, Port Harcourt, Nigeria
- P219-0308** Nutrition and Toxicity Relationship: Which Is Responsible?. Nazih Ramadan<sup>1</sup>. <sup>1</sup>Cairo University, Cairo, Egypt
- P220-0319** Development of a Sensitive ELISA and Rapid Immunochromatographic Strip for Detecting Chloramphenicol in Milk. Shih-Wei Wu<sup>1</sup>, Feng-Yih Yu<sup>2</sup>. <sup>1</sup>Chung Shan Medical University, Graduate Institute of Medicine, Taichung, Taiwan. <sup>2</sup>Chung Shan Medical University, Biomedical Sciences, Taichung, Taiwan
- P221-0320** Disruption of Brain and Vascular Development by Ochratoxin A in Zebrafish Embryos. Ting-Shuan Wu<sup>1</sup>, Yu-Ting Lin<sup>1</sup>, Biing-Hui Liu<sup>1</sup>. <sup>1</sup>National Taiwan University, Graduate Institute of Toxicology, Taipei, Taiwan
- P222-0332** Identification of Compound Causing Yellow Bone Discoloration Following *alpha*-Glycosyl Isoquercitrin Exposure. Jeffrey Davis<sup>1</sup>, Mihoko Koyanagi<sup>2</sup>, Robert Maronpot<sup>3</sup>, Leslie Recio<sup>1</sup>, Shim-mo Hayashi<sup>2</sup>. <sup>1</sup>Integrated Laboratory Systems, Inc., Research Triangle Park, NC, The United States of America. <sup>2</sup>San-Ei Gen F.F.I., Inc., Toyonaka, Japan. <sup>3</sup>Maronpot Consulting, LLC, Raleigh, NC, The United States of America
- P223-0350** Effects of Excessive Ingestion of 1, 5-Anhydroglucitol on Growth and Metabolism in Rats, and the Suppression of Blood Glucose Elevation through Inhibitory Effect on Disaccharidases. Tsuneyuki Oku<sup>1</sup>, Tanabe Kenichi<sup>2</sup>, Akemi Miyahara<sup>3</sup>, Yuko Yamasaki<sup>4</sup>, Kazuhiro Yoshinaga<sup>5</sup>, Sadako Nakamura<sup>4</sup>. <sup>1</sup>Jumonji University, Institute of Niiza, Japan. <sup>2</sup>Nagoya Women's University, Department of Food Science and Nutrition, Nagoya, Japan. <sup>3</sup>University of Nagasaki, Department of Nursing and Nutrition, Nagayo, Japan. <sup>4</sup>Jumonji University, Institute of International Nutrition and Health, Niza, Japan. <sup>5</sup>SUNUS Co. Ltd., Institute of Food, Kagoshima, Japan
- P224-0403** Protective Effect of Honokiol against Oxidative Stress-Induced DNA Damage and Apoptosis of C2C12 Myoblasts. Yung Hyun Choi<sup>1</sup>. <sup>1</sup>Dong-eui University College of Korean Medicine, Department of Biochemistry, Busan, The Republic of Korea
- P225-0418** Effects of Newly Developed Dietary Fiber Materials on Gastrointestinal Morphology and Function by Consecutive Feeding in Rats. Sadako Nakamura<sup>1</sup>, Yuri Kintaka<sup>1</sup>, Kenichi Tanabe<sup>2</sup>, Toshiyuki Nakayama<sup>3</sup>, Sanae Osada<sup>4</sup>, Tsuneyuki Oku<sup>1</sup>. <sup>1</sup>Jumonji University, Institute of International Nutrition and Health, Niza, Japan. <sup>2</sup>Nagoya Women's University, Department of Food Science and Nutrition, Nagoya, Japan. <sup>3</sup>University of Occupational and Environmental Health, Department of Pathology, Kitakyushu-City, Japan. <sup>4</sup>Junior College, Kagawa Education Institute of Nutrition, Department of Food and Nutrition, Tushima-Ku, Japan
- P226-0440** Influence of Heating Temperature on the Toxicity of Olive and Coconut Oil on *Caenorhabditis elegans*. Marcela Lopez<sup>1</sup>, Liset Mallarino-Miranda<sup>1</sup>, Lesly Tejada-Benitez<sup>1</sup>. <sup>1</sup>Universidad de Cartagena, Facultad de Ingenieria, Cartagena, Colombia
- P227-0455** Ethanol Suppresses *In Vitro* Osteoblastogenesis, Chondrogenesis, and Chondrocyte Function via Different Sources of Reactive Oxidative Species. James Watt<sup>1</sup>, Kyle Meredith<sup>1</sup>, Martin Ronis<sup>1</sup>. <sup>1</sup>Louisiana State University Health Sciences Center, Pharmacology and Experimental Therapeutics, New Orleans, LA, The United States of America
- P228-0457** Molecular Characterization and Evaluation of Aflatoxin Production Potentials of Fungi Isolated from Animal Feedlots Kept for Food Production. Stephen Abiola Akinola<sup>1</sup>, Collins Ateba<sup>1</sup>, Mulunda Mwanza<sup>2</sup>. <sup>1</sup>North-West University South Africa, Department of Microbiology, Mmabatho, South Africa. <sup>2</sup>North-West University South Africa, Department of Animal Health, Mmabatho, South Africa
- P229-0520** Acrolein Levels following Dietary Exposure and in Stroke Patients. Tse-Wen Wang<sup>1</sup>, Tsung-Yun Liu<sup>1</sup>, Hsiang-Tsui Wang<sup>2</sup>, Han-Hsing Tsou<sup>3</sup>. <sup>1</sup>National Yang-Ming University Institute of Food Safety and Health Risk Assessment, School of Pharmaceutical Sciences, Taipei, Taiwan. <sup>2</sup>National Yang-Ming University, Department of Pharmacology, Taipei, Taiwan. <sup>3</sup>National Yang-Ming University Institute of Environmental and Occupational Health Sciences, Institute of Environmental and Occupational Health Sciences, Taipei, Taiwan

- P230-0575** **Green Synthesis, Characterization, and Potential Biological Application of Silver Nanoparticles by Using Leaves Extract of *Acmella oleracea*.** Sweta Bhardwaj<sup>1</sup>. <sup>1</sup>Rayat Bahra University, Department of Chemistry University School of Sciences, Mohali, India
- P231-0615** **Food Grade Titanium Dioxide Diet Reduces Hematocrit and Increases Lymphocyte Count and Phagocytic Cells in Mice Serum.** Carolina Rodríguez Ibarra<sup>1</sup>, Yolanda Chirino<sup>2</sup>, Norma Laura Delgado Buenrostro<sup>1</sup>. <sup>1</sup>Laboratorio de Carcinogenesis y Toxicología, Unidad de Biomedicina, UBIMED, UNAM., Tlalnepantla de Baz, Mexico. <sup>2</sup>Laboratorio de Carcinogenesis y Toxicología, Unidad de Biomedicina, Facultad de Estudios Superiores Iztacala, Universidad Nacional Autónoma de México, Tlalnepantla de Baz, Mexico
- P232-0647** **Modulation of Gut Microbiome and Metabolome by Carcinogenic Mycotoxin, Aflatoxin B<sub>1</sub>, in F344 Rats .** Jia-Sheng Wang<sup>1</sup>, Jun Zhou<sup>1</sup>, Kathy Xue<sup>1</sup>, Lili Tang<sup>1</sup>. <sup>1</sup>University of Georgia, Environmental Health Science, Athens, GA, The United States of America
- P233-0736** **Inhibition of Neurotoxicity of the *Spirulina maxima* Extract from Ultrasonic Pretreatment.** Hyeon Lee<sup>1</sup>, Woon Choi<sup>2</sup>, Do Kang<sup>3</sup>. <sup>1</sup>Hyeon Y. Lee, Food Science and Engineering, Cheongju, The Republic of Korea. <sup>2</sup>Woon Y. Choi, Medical Materials Engineering, Chuncheon, The Republic of Korea. <sup>3</sup>Jeju Research Center Marine Science Laboratory, Marine Science Lab., Jeju, The Republic of Korea
- P234-0785** **Histopathological and Toxicological Effects of Long-Term Consumption of Energy Drinks on Some Organs of Wistar Rats.** Toyin Sherifat Ojediran<sup>1</sup>, Ishiaq Omotosho<sup>2</sup>. <sup>1</sup>University College Hospital, Department of Histopathology, Ibadan, Nigeria. <sup>2</sup>University of Ibadan, Department of Chemical Pathology, Ibadan, Nigeria
- P235-0799** **Ginsenoside Rg3, an Active Ingredient of Ginseng, Can Induce Hemolysis-Dependent Phosphatidylserine Exposure and Thrombosis.** Yiyang Bian<sup>1</sup>, Jin-Ho Chung<sup>1</sup>, Byung Hoon Lee<sup>1</sup>. <sup>1</sup>Seoul National University, College of Pharmacy and Research Institute of Pharmaceutical Sciences, Seoul, The Republic of Korea
- P236-0830** **Daily Intake of Iodine of Adult Residents in the Coastal Fishery Area in Iwate Prefecture, Japan.** Keiko Chiba<sup>1</sup>, Hideyuki Sawatari<sup>2</sup>, Haruo Nakatsuka<sup>3</sup>, Takao Watanabe<sup>4</sup>. <sup>1</sup>Iwate Prefectural University, Research and Regional Cooperation Head Office, Takizawa, Japan. <sup>2</sup>Miyagi University of Education, Faculty of Education, Sendai, Japan. <sup>3</sup>Kanazawa Gakuin College, Kanazawa, Japan. <sup>4</sup>Tohoku Bunkyo College, Faculty of Human Science, Yamagata, Japan
- P237-0848** **Sugar Substitutes Increase the Lipid Storage in *Caenorhabditis elegans*.** Barbara Arroyo-Salgado<sup>1</sup>, Maria C. García-Espiñeira<sup>1</sup>, Lesly Tejada-Benitez<sup>1</sup>. <sup>1</sup>University of Cartagena, Biotoxam Research Group, Cartagena, Colombia
- P238-0896** **Docosahexaenoic Acid (DHA)–Derived Oxylipins Are Decreased in the Heart by Dietary Exposure to <sup>2</sup>-monochloro-1,3-propanediol.** Lucien Cayer<sup>1</sup>, Jennifer Roberts<sup>2</sup>, Don Caldwell<sup>2</sup>, Jayadev Raju<sup>2</sup>, Harold Aukema<sup>1</sup>. <sup>1</sup>University of Manitoba, Food and Human Nutritional Sciences, Winnipeg, Canada. <sup>2</sup>Health Canada, Bureau of Chemical Safety, Ottawa, Canada
- P239-0897** **Effects of Ochratoxin A and Aristolochic Acid on the Kidney in Diabetic Animal Model.** Hyun Jung Lee<sup>1</sup>, Felicia Wu<sup>2</sup>, Dojin Ryu<sup>1</sup>. <sup>1</sup>University of Idaho, School of Food Science, Moscow, ID, The United States of America. <sup>2</sup>Michigan State University, Department of Agricultural, Food, and Resource Economics, East Lansing, MI, The United States of America
- P240-0899** **The Role of Oxidative Stress in the Ochratoxin A–Mediated Toxicity in Liver and Kidney Cell Lines.** Hyun Jung Lee<sup>1</sup>, Enrique García-Pérez. <sup>2</sup>, Dojin Ryu<sup>1</sup>. <sup>1</sup>University of Idaho, School of Food Science, Moscow, ID, The United States of America. <sup>2</sup>Washington State University, School of Food Science, Pullman, WA, The United States of America
- P241-0958** **Effect of Silicon-Rich Water Intake on the Thymocyte Apoptosis and Peritoneal Inflammation of Rats with Chronic Low Levels of Aluminum Ingestion.** Zoran Radovanovic<sup>1</sup>, Boris Djindjic<sup>2</sup>. <sup>1</sup>Faculty of Medicine, University of Niš, Serbia, Institute of Radiology, Nis, Serbia. <sup>2</sup>Faculty of Medicine, University of Niš, Serbia, Institute of Pathophysiology, Nis, Serbia
- P243-0050** **HER2 and Src Co-regulate and Mediate Proliferation, Migration, and Transformation by Multiple Downstream Signaling Pathways in Arsenite-Treated Human Uroepithelial Cells.** Shuhua Xi<sup>1</sup>, Qing Zhou<sup>1</sup>. <sup>1</sup>China Medical University, School of Public Health, Shenyang, China
- P244-0102** **Persulfide and Polysulfide Species in Plants to Detoxify Methylmercury.** Yumi Abiko<sup>1</sup>, Yusuke Katayama<sup>2</sup>, Yoshito Kumagai<sup>1</sup>. <sup>1</sup>University of Tsukuba Environmental Biology Laboratory, Faculty of Medicine, Tsukuba, Japan. <sup>2</sup>University of Tsukuba, Master's Program in Medical Sciences, Tsukuba, Japan

- P245-0117** **lncRNA Expression Profiling and Its Relationship with DNA Damage in Cr(VI)-Treated 16HBE Cells.** Guiping Hu<sup>1</sup>, Guang Jia<sup>1</sup>. <sup>1</sup>*Peking University, Department of Occupational and Environmental Health Sciences, Beijing, China*
- P246-0118** **Search for Splicing Factors That Maintain Normal Splicing of Human Arsenic (+3 Oxidation State) Methyltransferase (AS3MT) mRNA.** Daigo Sumi<sup>1</sup>, Seiichiro Himeno<sup>1</sup>. <sup>1</sup>*Tokushima Bunri University, Faculty of Pharmaceutical Sciences, Tokushima, Japan*
- P247-0136** **Induction Mechanism of TNF- $\alpha$  Expression by Methylmercury in Microglial BV-2 Cells.** Takayuki Hoshi<sup>1</sup>, Takashi Toyama<sup>1</sup>, Akira Naganuma<sup>1</sup>, Gi-Wook Hwang<sup>1</sup>. <sup>1</sup>*Tohoku University, Graduate School of Pharmaceutical Sciences, Sendai, Japan*
- P248-0138** **Elucidation of the Mechanisms Involved in Methylmercury Toxicity Enhancement Shown by the Novel Transcription Factor tmRT1.** Takashi Toyama<sup>1</sup>, Katsuhiro Osaki<sup>1</sup>, Gi-Wook Hwang<sup>1</sup>, Akira Naganuma<sup>1</sup>. <sup>1</sup>*Tohoku University, Graduate School of Pharmaceutical Sciences, Sendai, Japan*
- P249-0144** **Limit Values for Metals: Do We Need Interspecies Extrapolation Factors?.** Dirk Pallapies<sup>1</sup>, Peter Welge<sup>1</sup>, Thomas Bruening<sup>1</sup>. <sup>1</sup>*Institute for Prevention and Occupational Medicine of the German Social Accident Insurance (IPA) Institute of the Ruhr-Universitaet Bochum, Bochum, Germany*
- P250-0154** **Altered Differentiation of Mouse Stem Cells after Chronic Low-Level Arsenic Exposure.** Benjamin McMichael<sup>1</sup>, Sarah Coleman<sup>1</sup>, Lisa Bain<sup>1</sup>. <sup>1</sup>*Clemson University, Department of Biological Sciences, Clemson, SC, The United States of America*
- P251-0157** **BIRC Family Gene Expression Changes by Toxic Metal(loid)s in Neuroblastoma, Kidney, and Hepatic Cells.** Jin-Yong Lee<sup>1</sup>, Maki Tokumoto<sup>1</sup>, Masahiko Satoh<sup>1</sup>. <sup>1</sup>*Aichi Gakuin University, School of Pharmacy, Nagoya, Japan*
- P252-0160** **New Findings on the Genes Involved in Cadmium Toxicity in Human Proximal Tubular Cells.** Masahiko Satoh<sup>1</sup>, Jin-Yong Lee<sup>1</sup>, Maki Tokumoto<sup>1</sup>. <sup>1</sup>*Aichi Gakuin University, School of Pharmacy, Nagoya, Japan*
- P253-0175** **Potential Adverse Effect of Low Cadmium Intake to Lactation Load against Bone Metabolism and Renal Function of Mother Rat.** Hisayoshi Ohta<sup>1</sup>, Kenichi Ohba<sup>2</sup>. <sup>1</sup>*Kitasato University, Graduate School of Medical Sciences, Department of Environmental, Occupational Health and Toxicology, Sagamihara, Japan.* <sup>2</sup>*Kitasato University School of Allied Health Sciences, Department of Environmental, Occupational Health and Toxicology, Sagamihara, Japan*
- P254-0189** **Cadmium Induces Autophagy and Blocks Autophagosome Fusion with Lysosomes in AML12 Cells.** Hui Zou<sup>1,2</sup>, Tao Wang<sup>1</sup>, Jiaqiao Zhu<sup>1,2</sup>, Yan Yuan<sup>1,2</sup>, Jianhong Gu<sup>1,2</sup>, Jianchun Bian<sup>1,2</sup>, Zongping Liu<sup>1,2</sup>. <sup>1</sup>*Yangzhou University College of Veterinary Medicine, Yangzhou, China.* <sup>2</sup>*Jiangsu Co-innovation Center for Prevention and Control of Important Animal Infectious Diseases and Zoonoses, Yangzhou, China*
- P255-0206** **Drinking Water Treatment Using Cucumber Peel Immobilized on Sodium Alginate: Multi-ion Biosorption of Arsenic and Heavy Metals.** Risha Singh<sup>1</sup>, Rhonda Rosengren<sup>1</sup>, Candace Martin<sup>2</sup>. <sup>1</sup>*University of Otago, Dunedin, New Zealand.* <sup>2</sup>*University of Otago, Dunedin, New Zealand*
- P256-0283** **Arsenite Exerts Cytotoxic Effect through Inhibition of Synthesis of Ribose-5-Phosphate in Human Acute Monocytic Leukemia THP-1 Cells.** Tsutomu Takahashi<sup>1</sup>, Tsuyoshi Nakano<sup>1</sup>, Yasuyuki Fujiwara<sup>1</sup>. <sup>1</sup>*Tokyo University of Pharmacy and Life Sciences, School of Pharmacy, Hachioji, Japan*
- P257-0284** **Analysis of Various Renal Injury Biomarkers Using *In Vitro* Evaluation System.** Hitomi Fujishiro<sup>1</sup>, Seiichiro Himeno<sup>1</sup>. <sup>1</sup>*Tokushima Bunri University, Faculty of Pharmaceutical Sciences, Tokushima, Japan*
- P258-0304** **Sodium Arsenite Inhibits Tissue Plasminogen Activator Release from Cultured Human Vascular Endothelial EA.hy926 Cells.** Yasuyuki Fujiwara<sup>1</sup>, Tsuyoshi Nakano<sup>1</sup>, Tsutomu Takahashi<sup>1</sup>, Yayoi Tsuneoka<sup>1</sup>, Yo Shinoda<sup>1</sup>, Chika Yamamoto<sup>2</sup>, Toshiyuki Kaji<sup>3</sup>. <sup>1</sup>*Tokyo University of Pharmacy and Life Sciences, School of Pharmacy, Hachioji, Japan.* <sup>2</sup>*Toho University, Faculty of Pharmaceutical Sciences, Funabashi, Japan.* <sup>3</sup>*Tokyo University of Science, Faculty of Pharmaceutical Sciences, Noda, Japan*
- P259-0327** **Protective Effect of Aqueous Leaf Extract of *Costus afer* (Ker Gawl) on Testicular Injuries Induced by Low Dose Heavy Metal Mixture (Lead, Cadmium, and Mercury) in Wistar Albino Rats.** Brilliance Anyanwu<sup>1</sup>, Anthonet Ezejiofor<sup>2</sup>, Ify Nwaogazie<sup>3</sup>, Orish Ebere Orisakwe<sup>4</sup>. <sup>1</sup>*University of Port Harcourt, World Bank Africa Centre of Excellence in Oilfield Chemicals Research, Port Harcourt, Nigeria.* <sup>2</sup>*University of Port Harcourt, World Bank Africa Centre of Excellence in Public Health and Department of Experimental Pharmacology & Toxicology Toxicology., Port Harcourt, Nigeria.* <sup>3</sup>*University of Port*

Harcourt, Civil and Environmental Engineering, Port Harcourt, Nigeria. <sup>4</sup>University of Port Harcourt, World Bank Africa Center of Excellence in Public Health and Toxicology. *Experimental Pharmacology & Toxicology*, Port Harcourt, Nigeria

- P260-0374** **Biological and Toxicological Significance of Selenocyanate as a Selenium Metabolite.** Yasumitsu Ogra<sup>1</sup>, Yasumi Anan<sup>2</sup>. <sup>1</sup>Chiba University, Graduate School of Pharmaceutical Sciences, Chiba, Japan. <sup>2</sup>Showa Pharmaceutical University, Machida, Japan
- P261-0391** **Mercury Reduces Adipocyte Size and Impairs Lipid and Glucose Metabolism in White Adipose Tissue of Rats.** Marta Migue<sup>1</sup>, Danize Rizzetti<sup>2</sup>, Patricia Corrales<sup>3</sup>, Janaina Piagette<sup>2</sup>, Jose Uranga<sup>4</sup>, Gema Medina-Gomez<sup>5</sup>, Franck Peçanha<sup>6</sup>, Dalton Vassallo<sup>7</sup>, Giulia Wiggers<sup>2</sup>. <sup>1</sup>Spanish National Research Council, INSTITUTE OF FOOD SCIENCE RESEARCH, Madrid, Spain. <sup>2</sup>Universidade Federal do Pampa, Cardiovascular Physiology Laboratory, Uruguaiiana, Brazil. <sup>3</sup>Universidad Rey Juan Carlos, Department of Basic Health Sciences, Alcorcón, Spain. <sup>4</sup>Universidad Rey Juan Carlos, Histology Laboratory, Alcorcon, Spain. <sup>5</sup>Universidad Rey Juan Carlos, <sup>5</sup>Department of Basic Health Sciences, Alcorcon, Spain <sup>6</sup>Universidade Federal do Pampa, Cardiovascular Physiology Laboratory, Uruguaiiana, Brazil <sup>7</sup>Cardiac Electromechanical and Vascular Reactivity Laboratory, Universidade Federal do Espírito Santo, Vitória, Brazil
- P262-0406** **Inhibition of Uptake of Iron by Chronic Exposure to Cadmium.** Maki Tokumoto<sup>1</sup>, Jin-Yong Lee<sup>1</sup>, Yasuyuki Fujiwara<sup>2</sup>, Masahiko Satoh<sup>1</sup>. <sup>1</sup>Aichi Gakuin University, School of Pharmacy, Nagoya, Japan. <sup>2</sup>Tokyo University of Pharmacy and Life Sciences, School of Pharmacy, Hachioji, Japan
- P263-0442** **Arsenic Exposure, Gut Microbiome and Human Health.** Samendra Sherchan<sup>1,2</sup>. <sup>1</sup>Tulane University, GEHS, New Orleans, LA, The United States of America. <sup>2</sup>Tribhuvan University, Environmental Science, Kathmandu, Nepal
- P264-0482** **Distribution, Metabolism, and Excretion of Arsenolipids in Mice after Oral Administration.** Yayoi Kobayashi<sup>1</sup>, Noriyuki Suzuki<sup>2</sup>, Yasumitsu Ogra<sup>2</sup>, Seishiro Hirano<sup>1</sup>. <sup>1</sup>National Institute for Environmental Studies, Centre for Health and Environmental Risk Research, Tsukuba, Japan. <sup>2</sup>Chiba University, Graduate School of Pharmaceutical Sciences, Chiba, Japan
- P265-0489** **Cadmium Induces Not Only Apoptotic and Necrotic Cell Death but also Necroptotic Cell Death in Human Aortic Endothelial Cells.** Yayoi Tsuneoka<sup>1</sup>, Tsuyoshi Nakano<sup>1</sup>, Tsutomu Takahashi<sup>1</sup>, Yo Shinoda<sup>1</sup>, Yasuyuki Fujiwara<sup>1</sup>. <sup>1</sup>Tokyo University of Pharmacy and Life Sciences, School of Pharmacy, Hachioji, Japan
- P266-0522** **Development of Fluorescent Probe for Hydrogen Selenide, Important Selenium Metabolic Intermediate.** Noriyuki Suzuki<sup>1</sup>, Arata Shinohara<sup>1</sup>, Haruka Kimura<sup>1</sup>, Yasumitsu Ogra<sup>1</sup>. <sup>1</sup>Chiba University, Graduate School of Pharmaceutical Sciences, Chiba, Japan
- P267-0589** **The Effects of Whole Life, Low-Dose Cadmium Exposure on High Fat Diet-Induced Metabolic Disease and Its Modulation by Zinc.** Jamie Young<sup>1</sup>, Bin Zhou<sup>2</sup>, Zhou Li<sup>3</sup>, Lu Cai<sup>2</sup>. <sup>1</sup>University of Louisville, Pharmacology and Toxicology, Louisville, KY, The United States of America. <sup>2</sup>University of Louisville School of Medicine, Pediatric Research Institute, Louisville, KY, The United States of America. <sup>3</sup>University of Louisville School of Medicine, Pediatric Research Intitute, Louisville, KY, The United States of America
- P268-0605** **An Alginate-Yeast-Biocomposite System (AY-BY) for the Simultaneous Biosorption of Cadmium, Lead, and Arsenate from Aqueous Solutions.** Silvia Carolina Moreno Rivas<sup>1</sup>, Jose Andre-i Sarabia Sainz<sup>2</sup>, Jaqueline García Hernández<sup>3</sup>, Luz Vázquez Moreno<sup>1</sup>, Alma Rosa Islas Rubio<sup>4</sup>, Gabriela Ramos Clamont Montfort<sup>1</sup>. <sup>1</sup>Centro de Investigación en Alimentación y Desarrollo, A.C., Ciencia de los Alimentos, Hermosillo, Mexico. <sup>2</sup>Universidad de Sonora, Departamento de Investigación en Física, Hermosillo, Mexico. <sup>3</sup>Centro de Investigación en Alimentación y Desarrollo, A.C., Unidad Guaymas, Aseguramiento de Calidad y Aprovechamiento Sustentable de Recursos Naturales, Guaymas, Mexico. <sup>4</sup>Centro de Investigación en Alimentación y Desarrollo, A.C., Tecnología de Alimentos de Origen Vegetal, Hermosillo, Mexico
- P269-0662** **Manifestation of Endocrine-Disrupting and Other Effects of Metals in Pregnant Women.** James Gomes<sup>1</sup>, Premkumari Kumarathasan<sup>2</sup>. <sup>1</sup>University of Ottawa, Interdisciplinary School of Health Sciences, Ottawa, Canada. <sup>2</sup>Health Canada, Mechanistic Studies Division, Ottawa, Canada
- P270-0676** **Cadmium Induced Nephrotoxicity via Modulating the Mitochondrial Unfolded Protein Response and Nrf2 Mediated Antioxidant Defense.** Jing Ge<sup>1</sup>, Cong Zhang<sup>1</sup>, Jinlong Li<sup>1,2,3</sup>. <sup>1</sup>Northeast Agricultural University, College of Veterinary Medicine, Harbin, China. <sup>2</sup>Northeast Agricultural University, Key Laboratory of the Provincial Education Department of Heilongjiang for Common Animal Disease Prevention and Treatment, Harbin, China. <sup>3</sup>Northeast Agricultural University, Heilongjiang Key Laboratory for Laboratory Animals and Comparative Medicine, Harbin, China

- P271-0682** **Total Antioxidant Capacity, Total Plasma Peroxides, and Oxidative Stress Indices as Markers of Lead and Cadmium Exposure Toxicity in Auto Technicians in Nigeria.** Ishiaq Omotosho<sup>1</sup>, Ayokunnumi Osunbunmi<sup>2</sup>. <sup>1</sup>University of Ibadan, Chemical Pathology, Ibadan, Nigeria. <sup>2</sup>University College Hospital, Chemical Pathology, Ibadan, Nigeria
- P272-0766** **Effects of an Egg White Hydrolysate on the Development of Hypertension and Vascular Dysfunction after Aluminum Exposure in Rats.** Marta Garcés Rimón<sup>1</sup>, Caroline Silveira Martinez<sup>2</sup>, Alyne Escobar<sup>3</sup>, Janaina Piagette<sup>4</sup>, Dalton Vassallo<sup>5</sup>, Franck Peçanha<sup>6</sup>, Marta Miguel<sup>7</sup>, Giulia Wiggers<sup>8</sup>. <sup>1</sup>Universidad Francisco de Vitoria Food Biotechnology Research Group, Food Biotechnology Research Group, Madrid, Spain. <sup>2</sup>Universidade Federal do Pampa, Uruguaiiana, Brazil. <sup>3</sup>Universidade Federal do Pampa, Uruguaiiana, Brazil. <sup>4</sup>Universidade Federal do Pampa, Uruguaiiana, Brazil. <sup>5</sup>Universidade Federal do Espírito Santo, Marechal Campos, Vitória, Brazil <sup>6</sup>Frank M. Peçanha, Uruguaiiana, Brazil <sup>7</sup>Instituto de Investigación en Ciencias de la Alimentación, Madrid, Spain <sup>8</sup>Universidade Federal do Pampa, Uruguaiiana, Brazil
- P273-0782** **Involvement of Metallothionein-III in Mercury-Induced Chemokine Gene Expression.** Minoru Yoshida<sup>1</sup>, Jin-Yong Lee<sup>2</sup>, Maki Tokumoto<sup>2</sup>, Masahiko Satoh<sup>2</sup>. <sup>1</sup>Hachinohe Gakuin University, Faculty of Health and Medical Care, Hachinohe, Japan. <sup>2</sup>Aichi Gakuin University, School of Pharmacy, Nagoya, Japan
- P274-0867** **Dietary Intake of Trace Elements for a Population Highly Exposed to Canned Food.** Montse Marquès<sup>1</sup>, Neus González<sup>1</sup>, José Luis Domingo<sup>1</sup>, Martí Nadal<sup>1</sup>. <sup>1</sup>URV-IISPV, Laboratory of Toxicology and Environmental Health, School of Medicine, Reus, Spain
- P275-0872** **Do Dysregulated Cellular Energetics Play a Role in Hexavalent Chromium-Induced Human Lung Carcinogenesis?.** James Wise<sup>1</sup>, Lei Wang<sup>1</sup>, Michael Alstott<sup>1</sup>, Ntube Ngalame<sup>1</sup>, John Andrew<sup>1</sup>, Zhuo Zhang<sup>1</sup>, Xianglin Shi<sup>1</sup>. <sup>1</sup>University of Kentucky, Lexington, KY, The United States of America.
- P276-0959** **Slc30a10-Deficient Mice, a Model of Inherited Manganese Excess, Develop Hcpidin Deficiency and Increased Manganese Absorption.** Courtney Mercadante<sup>1</sup>, Milan Prajapati<sup>1</sup>, Heather Conboy<sup>1</sup>, Thomas Bartnikas<sup>1</sup>. <sup>1</sup>Brown University, Pathology and Laboratory Medicine, Providence, RI, The United States of America
- P277-0245** **Phytoremediation and Mutual Toxicological Effects of Nickel (Ni<sup>2+</sup>) and Cadmium (Cd<sup>2+</sup>) in Coexistence with Zinc Oxide Nanoparticles Using Sorghum (*S. bicolor*) and Alfalfa (*M. sativa*).** Alonso Andres Doria Manzur<sup>1</sup>, Daniela Vargas Vasquez<sup>1</sup>, Yuliana Hernandez Montalvo<sup>1</sup>, Lesly Tejeda-Benitez<sup>1</sup>. <sup>1</sup>Universidad de Cartagena, Facultad de Ingeniería, Cartagena, Colombia
- P278-0377** **Cigarette Smoke Extract Produces Superoxide in Aqueous Solution by Reacting with Bicarbonate.** Haerin Jeong<sup>1</sup>, Jung-Min Park<sup>1</sup>, Yoon-Seok Seo<sup>1</sup>, Moo-Yeol Lee<sup>1</sup>. <sup>1</sup>Dongguk University College of Pharmacy, Toxicology, Goyang, The Republic of Korea
- P279-0441** **An Integrated Approach to Evaluate the Environmental Impact of Mixtures of Herbicide Formulations Using Zebrafish Embryonic Stages.** Gessyca Costa<sup>1</sup>, Lara Brito<sup>1</sup>, Laís Rodrigues<sup>1</sup>, Thais Santos<sup>1</sup>, Marize Valadares<sup>1</sup>, Gisele Oliveira<sup>1</sup>. <sup>1</sup>Federal University of Goiás, Faculty of Pharmacy, Goiânia, Brazil
- P280-0550** **Toxicogenomics Analysis of Phthalates and Bisphenol A Mixture: Lung Cancer.** Katarina Baralić<sup>1</sup>, Katarina Živančević<sup>1</sup>, Marijana Ćurčić<sup>1</sup>, Zorica Bulat<sup>1</sup>, Aleksandra Buha Đorđević<sup>1</sup>, Vesna Matović<sup>1</sup>, Dragana Jovanović<sup>2</sup>, Danijela Đukić-Čosić<sup>1</sup>. <sup>1</sup>University of Belgrade Faculty of Pharmacy, Department of Toxicology "Akademik Danilo Soldatović", Belgrade, Serbia. <sup>2</sup>Institute of Public Health of Serbia, Dr Subotića - Starijeg. <sup>5</sup>, Belgrade, Serbia
- P281-0636** **Rat Liver and Kidney Post-mitochondrial Dysfunction by Addition of Chronic Mixed-Metal Intoxication and Hepatorenal Wellness Mediated by Phenolic Components from *Croton zambiscus* Leaves.** Akintunde Jacob<sup>1</sup>, Seun Ayeni<sup>2</sup>, Modupe Adeoye<sup>3</sup>, Abideen Shittu<sup>4</sup>. <sup>1</sup>Federal University of Agriculture, Abeokuta, Biochemistry, Abeokuta, Nigeria. <sup>2</sup>Kwara State University, Biochemistry, Malete, Nigeria. <sup>3</sup>Kwara State University, Biochemistry, Malete, Nigeria. <sup>4</sup>Kwara State University, Biochemistry, Malete, Nigeria
- P282-0666** **Application of Generalized Concentration Addition to Predict Mixture Effects of Glucocorticoid Receptor Ligands.** Rosemarie de la Rosa<sup>1</sup>, Thomas Webster<sup>2</sup>, Jennifer Schlezinger<sup>2</sup>, Martyn Smith<sup>1</sup>. <sup>1</sup>University of California Berkeley, School of Public Health, Division of Environmental Health Sciences, Berkeley, CA, The United States of America. <sup>2</sup>Boston University, School of Public Health, Department of Environmental Health, Boston, MA, The United States of America
- P283-0678** **Sex-Dependent Effect of a Cocktail of 13 Chemicals on Reproductive System in Rats.** Anca Docea<sup>1</sup>, Konstantinos Nikolouzakis Taxiarchis<sup>2</sup>, Daniela Calina<sup>3</sup>, Alexandra Kalogeraki<sup>4</sup>, Polychronis Stivaktakis<sup>5</sup>, Ovidiu Zlatian<sup>6</sup>, Aristidis Tsatsakis<sup>5</sup>. <sup>1</sup>University of Medicine and Pharmacy of Craiova, Department of Toxicology, Craiova, Romania. <sup>2</sup>University of Crete Medical School, Laboratory of Anatomy-Histology-Embryology, Heraklion, Greece. <sup>3</sup>University of Medicine and Pharmacy of Craiova, Clinical Pharmacy, Craiova, Romania. <sup>4</sup>University of Crete Medical School, Department of Pathology-Cytopathology,

Heraklion, Greece. <sup>5</sup>University of Crete Medical School, Laboratory of Toxicology, Heraklion, Greece <sup>6</sup>University of Medicine and Pharmacy of Craiova, Department of Microbiology, Craiova, Romania

- P284-0701** **Low Dose Relative Potency Factors for Non-parallel Dose-Response Curves.** Thomas Webster<sup>1</sup>, Jennifer Schlezinger<sup>1</sup>. <sup>1</sup>Boston University School of Public Health, Dept Environmental Health, Boston, MA, The United States of America
- P285-0015** **Pulmonary Toxicity of Organomodified Nanoclay along Its Life Cycle: Integrated Exposure and *In Vitro/In Vivo* Approaches.** Todd Stueckle<sup>1</sup>, Alixandra Wagner<sup>2</sup>, Jake Jensen<sup>1</sup>, Aliakbar Afshari<sup>1</sup>, Eun Lee<sup>1</sup>, Jiwoon Kwon<sup>3</sup>, Jayme Coyle<sup>1</sup>, Raymond Derk<sup>1</sup>, Sherri Friend<sup>1</sup>, Sushant Agarwhal<sup>2</sup>, Rakesh Gupta<sup>2</sup>, Cerasela Dinu<sup>2</sup>. <sup>1</sup>NIOSH, Allergy and Clinical Immunology Branch, Morgantown, WV, The United States of America. <sup>2</sup>West Virginia University, Biomedical and Chemical Engineering, Morgantown, WV, The United States of America. <sup>3</sup>KOSHA, Ulsan, The Republic of Korea
- P286-0075** **The Dispersion State of Carbon Nanomaterials Affects Cellular Responses.** Hisao Haniu<sup>1</sup>, Chika Kuroda<sup>1</sup>, Katsuya Ueda<sup>1</sup>, Yoshikazu Matsuda<sup>2</sup>, Naoto Saito<sup>1</sup>. <sup>1</sup>Shinshu University, Institute for Biomedical Sciences, Matsumoto, Japan. <sup>2</sup>Nihon Pharmaceutical University, Clinical Pharmacology Educational Center, Ina-machi, Japan
- P287-0078** **Enhanced SIRT1 Protein via JNK Pathway in Silica Nanoparticle-Induced Pulmonary Damage.** Gang Chen<sup>1</sup>, Zhao Xinyuan<sup>1</sup>, Wu Yifan<sup>1</sup>. <sup>1</sup>Nantong University, Department of Occupational Medicine and Environmental Toxicology, Nantong, China
- P288-0164** **Comparing. 3D-Lung Cell Models in an Aerosol Exposure System with BaSO<sub>4</sub> Nanoparticles.** Berit Schumann<sup>1</sup>, Felix Glahn<sup>1</sup>, Merve Bacanlı<sup>2</sup>, Diana Schneider<sup>1</sup>, Tina Röder<sup>1</sup>, Patrick Mai<sup>3</sup>, Andreas Schober<sup>3</sup>, Heidi Foth<sup>1</sup>. <sup>1</sup>Martin-Luther-University, Institute of Environmental Toxicology, Halle (Saale), Germany. <sup>2</sup>Hacettepe University, Department of Pharmaceutical Toxicology, Ankara, Turkey. <sup>3</sup>Technische Universität Ilmenau, Nano-biosystem Technology, Ilmenau, Germany
- P289-0203** **Reproductive Toxicity of Combusted Diesel Additive Containing Nano-ceria: *In Vitro* Approach.** Martina Cotena<sup>1,2</sup>, Melanie Auffan<sup>2</sup>, Virginie Tassistro<sup>1</sup>, Jerome Rose<sup>2</sup>, Jeanne Perrin<sup>1,3</sup>. <sup>1</sup>Faculty of Medicine, Aix Marseille Université, Equipe Biomarqueurs, Environnement, Santé - Institut Méditerranéen de Biodiversité et d'Ecologie UMR 7263, IRD. <sup>2</sup>37, Biomarkers, environment and health, Marseille, France. <sup>3</sup>European Centre Research And Teaching In Geosciences of environment, ED-Environnement Durable, Marseille, France. <sup>4</sup>AP-HM La Conception, Centre Clinico-Biologique d'Assistance Médicale à la Procréation - CECOS., Marseille, France
- P290-0205** **Comparative Mouse Lung Injury by Nickel Nanoparticles with Differential Surface Modification.** Yiqun Mo<sup>1</sup>, Yue Zhang<sup>1</sup>, Qunwei Zhang<sup>1</sup>. <sup>1</sup>University of Louisville, Department of Environmental and Occupational Health Sciences, Louisville, KY, The United States of America
- P291-0208** **Amorphous Silica Nanoparticles Would Worsen Their Hepatic Damage through the Acquired Immune System.** Shun-ichi Eto<sup>1,2</sup>, Kazuma Higashisaka<sup>1,3</sup>, Aoi Koshida<sup>1</sup>, Kenta Sato<sup>1</sup>, Mao Ogura<sup>1</sup>, Hirofumi Tsujino<sup>1</sup>, Kazuya Nagano<sup>1,3</sup>, Yasuo Tsutsumi<sup>1,3,4</sup>. <sup>1</sup>Osaka University Graduate School of Pharmaceutical Sciences, Suita, Japan. <sup>2</sup>Osaka University Interdisciplinary Program for Biomedical Sciences, Suita, Japan. <sup>3</sup>Osaka University Graduate School of Medicine, Suita, Japan. <sup>4</sup>Osaka University Global Center for Biomedical Engineering and Informatics, Suita, Japan
- P292-0231** **Differential Nanoceria Distribution and Effects in Th1- and Th2-Prone Mice.** Robert Yokel<sup>1</sup>, Michael Tseng<sup>2</sup>, D. Allan Butterfield<sup>1</sup>, Matthew Hancock<sup>1</sup>, Eric Grulke<sup>1</sup>, Jason Unrine<sup>1</sup>, Uschi Graham<sup>1,3</sup>. <sup>1</sup>University of Kentucky, Lexington, KY, The United States of America. <sup>2</sup>University of Louisville, Louisville, KY, The United States of America. <sup>3</sup>CDC, NIOSH, Cincinnati, OH, The United States of America
- P293-0234** **Remodeling of the Cytoskeleton and Generation of Vacuoles-Like Structures Caused by Tin Dioxide Nanoparticles in Murine Macrophages.** Octavio Ispanixtlahuatl-Meráz<sup>1,2</sup>, Norma Delgado-Buenrostro<sup>1</sup>, Alejandro Déciga-Alcaráz<sup>1,2</sup>, Edgar López-Villegas<sup>3</sup>, Damaris Ilhuicatz-Alvarado<sup>4</sup>, Leticia Moreno-Fierros<sup>4</sup>, Yolanda Chirino<sup>1</sup>. <sup>1</sup>Laboratorio de Carcinogénesis y Toxicología, Unidad de Biomedicina, Facultad de Estudios Superiores Iztacala, Universidad Nacional Autónoma de México, Tlalnepantla de Baz, Mexico. <sup>2</sup>Programa de Doctorado en Ciencias Biomédicas, Universidad Nacional Autónoma de México, Coyoacán, Mexico. <sup>3</sup>Escuela Nacional de Ciencias Biológicas, Instituto Politécnico Nacional, Departamento de Graduados e Investigación en Alimentos, Departamento de Ingeniería Bioquímica, Miguel Hidalgo, Mexico. <sup>4</sup>Laboratorio de Inmunidad en Mucosas, Unidad de Biomedicina, Facultad de Estudios Superiores Iztacala, Universidad Nacional Autónoma de México, Tlalnepantla de Baz, Mexico
- P294-0263** **Nanoparticle Interactions with the Mitochondrial Genome in Primary Human Bronchial Epithelial Cells.** Ryan Snyder<sup>1</sup>, Kirsten Verhein<sup>1</sup>, Heather Vellers<sup>1</sup>, Adam Burkholder<sup>1</sup>, Stavros Garantziotis<sup>1</sup>, Steven Kleeberger<sup>1</sup>. <sup>1</sup>NIEHS, DIR, Durham, NC, The United States of America

- P295-0289** **Repeated-Dose 28-Day and 90-Day Oral Toxicity of Titanium Dioxide Nanoparticles in Rats.** Min Beom Heo<sup>1</sup>, Minjeong Kwak<sup>1</sup>, Tae Geol Lee<sup>1</sup>. <sup>1</sup>*Korea Research Institute of Standards and Science, Center for Nano-Bio Measurement, Daejeon, The Republic of Korea*
- P296-0305** **Effects of Nanoparticle Core on Cellular Activities under the Controlled Shape, Size, and Surface Chemistries.** Bing Yan<sup>1</sup>. <sup>1</sup>*Shandong University, School of Environmental Science and Technology, Jinan, China*
- P297-0307** **Effects of Antioxidant and Inhibitor of  $\gamma$ -Glutamylcysteine Synthetase on Acute Toxicity of Silver Nanoparticles Intraperitoneally Administered in BALB/c Mice.** Young-Man Cho<sup>1</sup>, Jun-ichi Akagi<sup>1</sup>, Yasuko Mizuta<sup>1</sup>, Tetsuya Ide<sup>1</sup>, Takeshi Toyoda<sup>1</sup>, Kumiko Ogawa<sup>1</sup>. <sup>1</sup>*National Institute of Health Sciences, Division of Pathology, Kawasaki, Japan*
- P298-0317** **The Effects of Exogenous Nanoparticles on Neurological Disorders and Evaluation of Its Induction Mechanism Based on ADMET Analysis.** Kazuma Higashisaka<sup>1,2</sup>, Junpei Kasahara<sup>2</sup>, Miyuki Sakurai<sup>2</sup>, Shun-ichi Eto<sup>2,3</sup>, Hirofumi Tsujino<sup>2</sup>, Kazuya Nagano<sup>2</sup>, Hiroshi Matsumoto<sup>4</sup>, Yasuo Tsutsumi<sup>2,4</sup>. <sup>1</sup>*Osaka University, Graduate School of Medicine, Suita, Japan.* <sup>2</sup>*Osaka University, Graduated School of Pharmaceutical Sciences, Suita, Japan.* <sup>3</sup>*Osaka University, Interdisciplinary Program for Biomedical Sciences, Suita, Japan.* <sup>4</sup>*Osaka University, Global Center for Medical Engineering and Informatics, Suita, Japan*
- P299-0321** **High Resolution Melt (HRM) in RT-qPCR to Detect the Presence of Gold Nanoparticles (AuNPs) in RNA/DNA Samples.** Natasha Sanabria<sup>1</sup>, Charlene Andraos<sup>2</sup>, Mary Gulumian<sup>2</sup>. <sup>1</sup>*National Institute for Occupational Health, Toxicology and Biochemistry, Johannesburg, South Africa.* <sup>2</sup>*National Institute for Occupational Health, Toxicology & Biochemistry, Johannesburg, South Africa*
- P300-0361** **Development and Evaluation of Analysis System for the Simultaneous Quantification and Physical Property Analyses of Nanoparticles in Biological Samples Using Single Particle Inductively Coupled Plasma-Mass Spectrometry.** Kazuya Nagano<sup>1</sup>, Takuya Ishizaka<sup>1</sup>, Ikkei Tasaki<sup>1</sup>, Tao Hong<sup>1</sup>, Kazuo Harada<sup>1,2</sup>, Kazumasa Hirata<sup>1</sup>, Shigeru Saito<sup>3,4</sup>, Hirofumi Tsujino<sup>1</sup>, Kazuma Higashisaka<sup>1,2</sup>, Yasuo Tsutsumi<sup>1,2,5</sup>. <sup>1</sup>*Osaka University, Graduate School of Pharmaceutical Sciences, Suita, Japan.* <sup>2</sup>*Osaka University, Graduate School of Medicine, Suita, Japan.* <sup>3</sup>*University of Toyama, Graduate School of Medicine and Pharmaceutical Science, Toyama, Japan.* <sup>4</sup>*University of Toyama, Toyama University Hospital, Toyama, Japan.* <sup>5</sup>*Osaka University, Global Center for Medical Engineering and Informatics, Suita, Japan*
- P301-0378** **Titanium Dioxide Nanoparticles Disrupted Cytoskeletons and Autophagy in Germ Cell Lines and Disturbed Glucose Homeostasis in Pregnant Rats.** Yankai Xia<sup>1</sup>, Zhilei Mao<sup>1</sup>, Yuqing Zhang<sup>1</sup>, Yaqi Li<sup>1</sup>, Bo Xu<sup>1</sup>, Xiumei Han<sup>1</sup>. <sup>1</sup>*Nanjing Medical University, School of Public Health, Nanjing, China*
- P302-0393** **Ubiquitin C-Terminal Hydrolase L1 Mitigates Neurotoxicity Induced by Zinc Oxide Particles through Regulation of NF- $\kappa$ B Signaling.** Tie Han<sup>1</sup>, Lei Tian<sup>1</sup>, Hu Yang<sup>1</sup>, Jie Han<sup>1</sup>, Zhen Fang<sup>1</sup>, Xiaohua Liu<sup>1</sup>. <sup>1</sup>*Tianjin Institute of Environmental and Operational Medicine, Department of Toxicology, Tianjin, China*
- P303-0411** **Zebrafish, a Multi-Endpoint Approach for Nanoecotoxicology: Does Shape Matter?.** Tarryn Lee Botha<sup>1</sup>, Victor Wepener<sup>1</sup>. <sup>1</sup>*North-West University, Water Research Group; Unit for Environmental Sciences and Management, Potchefstroom, South Africa*
- P304-0448** **Naked Fe<sub>3</sub>O<sub>4</sub> Magnetic Nanoparticles Are Internalized by Rat Brain Microvascular Endothelial Cells by Endocytosis Causing Toxic Effects.** Claudia Escudero-Lourdes<sup>1</sup>, Lorena Garate-Velez<sup>2</sup>, Daniela Salado-Leza<sup>1</sup>, José Rodríguez-Lopez<sup>2</sup>. <sup>1</sup>*Universidad Autónoma de San Luis Potosí, Facultad de Ciencias Químicas, Laboratorio de Inmunotoxicología, San Luis Potosí, Mexico.* <sup>2</sup>*Instituto Potosino de Investigación Científica y Tecnológica, Laboratorio de Nanoestructuras para Aplicaciones Ambientales y Biomedicas, San Luis Potosí, Mexico*
- P305-0504** **Biological Responses of Human Lymphatic Endothelial Cells to Carbon Nanomaterials.** Mahoko Sano<sup>1</sup>, Hisao Haniu<sup>1</sup>, Katsuya Ueda<sup>1</sup>, Chika Kuroda<sup>1</sup>, Kaoru Aoki<sup>2</sup>, Naoto Saito<sup>1</sup>. <sup>1</sup>*Shinshu University, Institute for Biomedical Sciences, Matsumoto, Japan.* <sup>2</sup>*Shinshu University, Physical Therapy Division, School of Health Sciences, Matsumoto, Japan*
- P306-0523** **Evaluation of Metal Nanoparticles on Skin Sensitization.** Seonghyun Kim<sup>1</sup>, Donghan Lee<sup>1</sup>, Hyun-gyung Gu<sup>1</sup>, Jin Hee Lee<sup>1</sup>, Jun-young Yang<sup>1</sup>, Hyun-kyoung Kim<sup>1</sup>, Ji Hyun Seok<sup>1</sup>, Jong Kwon Lee<sup>1</sup>. <sup>1</sup>*Ministry of Food and Drug Safety, Cheongju-si, The Republic of Korea*
- P307-0542** **Short- and Long-Term Administration of Synthetic Amorphous Silica (NM-203) Nanoparticle and Histopathological Effects on Rat Spleen.** Roberta Tassinari<sup>1</sup>, Laura Narciso<sup>1</sup>, Sabrina Tait<sup>1</sup>, Mauro Valeri<sup>2</sup>, Andrea Martinelli<sup>3</sup>, Francesca Maranghi<sup>1</sup>. <sup>1</sup>*Istituto Superiore di Sanità, Center for Gender-Specific Medicine, Rome, Italy.* <sup>2</sup>*Istituto Superiore di Sanità, Experimental Animal Welfare, Rome, Italy.* <sup>3</sup>*Istituto Superiore di Sanità, Experimental Animal Welfare, Rome, Italy*



- P308-0543** **Improved Aerosol Generation Method and Newly Designed Whole Body Rodent Inhalation Apparatus for the Testing of Nanomaterials in Human-Relevant Exposure Scenario.** Yuhji Taquahashi<sup>1</sup>, Satoshi Yokota<sup>1</sup>, Koichi Morita<sup>1</sup>, Masaki Tsuji<sup>1</sup>, Akihiko Hirose<sup>2</sup>, Jun Kanno<sup>2,3</sup>. <sup>1</sup>National Institute of Health Sciences, Division of Cellular and Molecular Toxicology, BSRC, Kawasaki, Japan. <sup>2</sup>National Institute of Health Sciences, Division of Risk Assessment, BSRC, Kawasaki, Japan. <sup>3</sup>Japan Bioassay Research Center, Japan Organization of Occupational Health and Safety, Hadano, Japan
- P309-0555** **MPA-Capped CdTe Quantum Dots Exposure Causes Toxic Effects in BV2 Cells via MyD88-Dependent Toll-Like Receptor Pathway and NLRP3 Inflammasome Activation.** Xue Liang<sup>1,2</sup>, Tianshu Wu<sup>1,2</sup>, Meng Tang<sup>1,2</sup>. <sup>1</sup>Southeast University, Key Laboratory of Environmental Medicine Engineering, Ministry of Education, School of Public Health, Nanjing, China. <sup>2</sup>Southeast University, Jiangsu Key Laboratory for Biomaterials and Devices, Nanjing, China
- P310-0556** **Effect of Carbon Nanotubes on Atherosclerosis Progression in Animal and Culture Models of Atherosclerosis.** Sahoko Ichihara<sup>1</sup>, Yuka Suzuki<sup>2</sup>, Kiyora Izuoka<sup>2</sup>, Akihiko Ikegami<sup>1</sup>, Cai Zong<sup>3</sup>, Gaku Ichihara<sup>3</sup>. <sup>1</sup>Jichi Medical University, Department of Environmental and Preventive Medicine, Shimotsuke, Japan. <sup>2</sup>Mie University, Graduate School of Regional Innovation Studies, Tsu, Japan. <sup>3</sup>Tokyo University of Science, Department of Occupational and Environmental Health, Noda, Japan
- P311-0582** **Effects of Pharyngeal Aspiration Exposure to Multi-Walled Carbon Nanotubes on Pulmonary Inflammation in Mice.** Gaku Ichihara<sup>1</sup>, Yuka Suzuki<sup>2</sup>, Wenting Wu<sup>2</sup>, Kiyora Izuoka<sup>2</sup>, Sahoko Ichihara<sup>3</sup>. <sup>1</sup>Tokyo University of Science, Department of Occupational and Environmental Health, Noda, Japan. <sup>2</sup>Mie University, Graduate School of Regional Innovation Studies, Tsu, Japan. <sup>3</sup>Jichi Medical University, Department of Environmental and Preventive Medicine, Shimotsuke, Japan
- P312-0621** **Leveraging the Developmental Zebrafish to Evaluate the Hazard Potential of Metal Oxide Nanomaterials.** Kimberly Diane Hayward<sup>1</sup>, Lisa Truong<sup>1</sup>, Michael Simonich<sup>1</sup>, Robert Tanguay<sup>1</sup>. <sup>1</sup>Oregon State University, Department of Environmental and Molecular Toxicology, Corvallis, OR, The United States of America
- P313-0644** **Silicon Dioxide and Titanium Dioxide Nanoparticles Induce Cytoskeleton Disruption and Inhibit Cell Migration.** Alejandro Déciga-Alcaráz<sup>1</sup>, Norma Delgado-Buenrostro<sup>1</sup>, Jose O. Flores-Flores<sup>1</sup>, Adriana Ganem-Rondero<sup>1</sup>, Yesennia Sánchez-Pérez<sup>2</sup>, Claudia M. García-Cuéllar<sup>2</sup>, Yolanda Chirino<sup>1</sup>. <sup>1</sup>Universidad Nacional Autónoma de México, Estado de México, Mexico. <sup>2</sup>Instituto Nacional de Cancerología, Subdirección de Investigación Básica, Ciudad de México, Mexico.
- P314-0646** **Relating Nano-metal Oxide Physicochemical Properties to Developmental Toxicity: An Approach to Safer Nanomaterial Design.** Claudia Santillan<sup>1</sup>, Sabrina Edwards<sup>1</sup>, Michael Simonich<sup>1</sup>, Lisa Truong<sup>1</sup>, Robert Tanguay<sup>1</sup>. <sup>1</sup>Oregon State University, Department of Environmental and Molecular Toxicology, Corvallis, OR, The United States of America
- P315-0705** **Zinc Oxide and Silver but Not Titanium Dioxide Nanoparticles Induce Innate and Adaptive Immune Response in THP-1 Macrophages.** Hani El-Nezami<sup>1</sup>, Wing Lam Poon<sup>2</sup>, Piia Karisola<sup>3</sup>, Harri Alenius<sup>4</sup>. <sup>1</sup>The University of Hong Kong, School of Biological Sciences, Hong Kong, Hong Kong. <sup>2</sup>The University of Hong Kong, School of Biological Sciences, Hong Kong, China. <sup>3</sup>University of Helsinki, Medicum, Bacteriology and immunology, Helsinki, Finland. <sup>4</sup>Karolinska Institutet, Institute of Environmental Medicine, Stockholm, Sweden
- P316-0735** **Molecular Signature of Asthma-Enhanced Sensitivity to Aerosols of Pristine and Carboxylated CuO Nanoparticles, Identified in 3D Cell Models.** Ingeborg Kooter<sup>1</sup>, Marit Ilves<sup>2</sup>, Mariska Gröllers-Mulderij<sup>1</sup>, Evert Duistermaat<sup>3</sup>, Peter Tromp<sup>1</sup>, Frieke Kuper<sup>1</sup>, Pia Kinaret<sup>4, 5</sup>, Kai Savolainen<sup>6</sup>, Dario Greco<sup>4, 5</sup>, Piia Karisola<sup>2</sup>, Joseph Ndika<sup>2</sup>, Harri Alenius<sup>2, 7</sup>. <sup>1</sup>Netherlands Organisation for Applied Scientific Research, Utrecht, The Netherlands. <sup>2</sup>University of Helsinki, Department of Bacteriology and Immunology, Medicum, Helsinki, Finland. <sup>3</sup>Triskelion B.V., Zeist, The Netherlands. <sup>4</sup>University of Tampere, Faculty of Medicine and Life Sciences, Tampere, Finland. <sup>5</sup>University of Helsinki, Institute of Biotechnology, Helsinki, Finland. <sup>6</sup>Finnish Institute of Occupational Health, Helsinki, Finland. <sup>7</sup>Karolinska Institutet, Institute of Environmental Medicine, Stockholm, Sweden
- P317-0742** **(Un-)Supervised Learning Methods Predict and Characterize the Association between Nanomaterial-Induced Inflammatory Markers and Pathological Outcomes in the Lungs.** Naveena Yanamala<sup>1,2</sup>, Ishika Desai<sup>1,3</sup>, William Miller<sup>4</sup>, Vamsi Kodali<sup>1</sup>, Girija Syamlal<sup>4</sup>, Jenny Roberts<sup>1</sup>, Aaron Erdely<sup>1</sup>. <sup>1</sup>NIOSH, HELD, Morgantown, WV, The United States of America. <sup>2</sup>Carnegie Mellon University, Institute for Software Research, Pittsburgh, PA, The United States of America. <sup>3</sup>Ohio State University, Columbus, OH, The United States of America. <sup>4</sup>NIOSH, Morgantown, WV, The United States of America
- P318-0771** **Iron Oxide Nanoparticles Aggravate Neuroinflammation in a Murine Model of Experimental Autoimmune Encephalomyelitis.** Yai-ping Hsiao<sup>1</sup>, Chung-Hsiung Huang<sup>2</sup>, Tong-rong Jan<sup>1</sup>. <sup>1</sup>National Taiwan University, Department of Veterinary Medicine, Taipei, Taiwan. <sup>2</sup>National Taiwan Ocean University, Department of Food Science, Keelung, Taiwan
- P319-0802** **Genetic and Hepatic Damage Induced by TiO<sub>2</sub> (Anatase), ZnO Nanoparticles, and Their Mixture in Mice: A Morphological and Mechanistic Approach.** Opeoluwa Fadoju<sup>1</sup>, Olusegun Ogunseyi<sup>1</sup>, Olubukola Akanni<sup>1</sup>, Oluwatosin Adaramoye<sup>1</sup>,

Sébastien Cambier<sup>2</sup>, Santhana Eswara<sup>2</sup>, Arno Gutleb<sup>2</sup>, Adekunle Bakare<sup>1</sup>. <sup>1</sup>University of Ibadan, Ibadan, Nigeria.  
<sup>2</sup>Luxembourg Institute of Science and Technology, Belvaux, Luxembourg.

- P321-0831** **Graphene-Based Nanomaterials Directly Induce Epithelial-Mesenchymal Transition *In Vitro*.** Yanyan Liao<sup>1</sup>, Peng Cai<sup>1,2</sup>.  
<sup>1</sup>Institute of Urban Environment, Chinese Academy of Sciences, Key Lab of Urban Environment and Health, Xiamen, China.  
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- P322-0843** **Comparative *In Vitro* Toxicity Assessment of Carbon Dots with Positive and Negative Surface Charge.** Tana Zavodna<sup>1,2</sup>,  
Katerina Polakova<sup>3</sup>, Tomas Malina<sup>3</sup>, Jan Belza<sup>3</sup>, Alena Milcova<sup>1</sup>, Jolana Vankova<sup>1</sup>, Katerina Hola<sup>3</sup>, Pavel Rossner<sup>1</sup>, Jan  
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Republic
- P323-0878** **Halloysite Nanotube Toxicity Is Predicted by Surface Area.** Kenneth Barfod<sup>1</sup>, Katja Bendtsen<sup>1</sup>, Trine Berthing<sup>1</sup>, Joonas  
Koivisto<sup>1</sup>, Søs Poulsen<sup>1</sup>, Ester Segal<sup>2</sup>, Andreas Holländer<sup>3</sup>, Keld Jensen<sup>1</sup>, Karin Sørig Hougaard<sup>1</sup>, Ulla Vogel<sup>1</sup>. <sup>1</sup>National  
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Technology, Department of Biotechnology and Food Engineering, Haifa, Israel. <sup>3</sup>Fraunhofer Institute for Applied Polymer  
Research IAP, Research Division Functional Polymer Systems, Potsdam, Germany
- P324-0885** **Comparative Study of Cytotoxic and Genotoxic Effects of Uncoated and Polyethylene-Glycol-Coated Gold Nanoparticles  
on Human Kidney (HK-2) Cells.** Paul Tchounwou<sup>1</sup>, Christian Rogers<sup>1</sup>, Anita Patlolla<sup>1</sup>. <sup>1</sup>Jackson State University, Center for  
Environmental Health, Jackson, MS, The United States of America
- P325-0165** **Inhibitory Effect of Kahweol on PMA-Induced MMP-9 Expression through Suppressing Akt/JNK1/2/p38 MAPK Signal  
Transduction and NF-κB-Dependent Transcriptional Activity in Human Fibrosarcoma Cells.** Jae Ho Choi<sup>1</sup>, Yong Pil Hwang.  
<sup>2</sup>, Sun Woo Jin<sup>1</sup>, Gi Ho Lee<sup>1</sup>, Hyung Gyun Kim<sup>3</sup>, Eun Hee Han<sup>4</sup>, Young Chul Chung<sup>5</sup>, Hye Gwang Jeong<sup>1</sup>. <sup>1</sup>Chungnam National  
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- P326-0166** **Stimulatory Effect of Platycodin D on Osteoblast Differentiation via SIRT1/β-Catenin Pathways.** Youn Ho Han<sup>1</sup>, Sun Woo  
Jin<sup>2</sup>, Gi Ho Lee<sup>2</sup>, Jae Ho Choi<sup>2</sup>, Han Gun Kim<sup>3</sup>, Young Chul Chung<sup>4</sup>, Kwang Youl Lee<sup>5</sup>, Hye Gwang Jeong<sup>2</sup>. <sup>1</sup>Wonkwang  
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Medicine, College of Public Health and Natural Science, Jinju, The Republic of Korea. <sup>5</sup>Chonnam National University, College  
of Pharmacy and Research Institute of Drug Development, Gwangju, The Republic of Korea
- P327-0199** **IGF-1 Promotes Platelet Recovery in Mice by Thrombopoiesis Facilitation and Radioprotective Effect after Radiation.**  
Shilei Chen<sup>1</sup>, Mengjia Hu<sup>2</sup>, Mingqing Shen<sup>1</sup>, Fang Chen<sup>1</sup>, Song Wang<sup>1</sup>, Mo Chen<sup>3</sup>, Cheng Wang<sup>1</sup>, Dongfeng Zeng<sup>4</sup>, Fengchao  
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<sup>5</sup>Xinqiao Hospital, Third Military Medical University, Chongqing, China
- P328-0225** **AHR-Related Microbial Pattern Changes in the Murine Gut Measured by High-Resolution Flow Cytometry.** Katrin  
Hochrath<sup>1</sup>, Nicole Dauzenroth<sup>2</sup>, Jonathan Rathjens<sup>2</sup>, Katja Ickstadt<sup>2</sup>, Charlotte Esser<sup>1</sup>. <sup>1</sup>IUF - Leibniz Research Institute for  
Environmental Medicine, Immunology, Düsseldorf, Germany. <sup>2</sup>TU Dortmund University, Mathematical Statistics with  
Applications in Biometrics, Dortmund, Germany
- P329-0297** **Protective Effect of 12AC3O against High Phosphate-Induced Vascular Calcification.** Naoko Takase<sup>1</sup>, Masatoshi Inden<sup>1</sup>,  
Shunsuke Hirai<sup>1</sup>, Yumeka Yamada<sup>1</sup>, Hisaka Kurita<sup>1</sup>, Eiji Yamaguchi<sup>2</sup>, Akichika Itoh<sup>2</sup>, Isao Hozumi<sup>1</sup>. <sup>1</sup>Gifu Pharmaceutical  
University, Laboratory of Medical Therapeutics and Molecular Therapeutics, Gifu, Japan. <sup>2</sup>Gifu Pharmaceutical University,  
Laboratory of Pharmaceutical Synthetic Chemistry, Gifu, Japan

- P330-0348** **Effect of the Conserved Residues on Reactive Oxygen Species Scavenging in Cytoglobin.** Shen Jingkai<sup>1</sup>, Hirofumi Tsujino<sup>1</sup>, Ryo Torii<sup>1</sup>, Takumi Tanaka<sup>1</sup>, Taku Yamashita<sup>2</sup>, Kazuma Higashisaka<sup>1,3</sup>, Kazuya Nagano<sup>1,3</sup>, Yasuo Tsutsumi<sup>1,3,4</sup>. <sup>1</sup>Osaka University, Graduate School of Pharmaceutical Sciences, Suita, Japan. <sup>2</sup>Mukogawa Woman's University, School of Pharmaceutical Sciences, Nishinomiya, Japan. <sup>3</sup>Osaka University, Graduate School of Medicine, Suita, Japan. <sup>4</sup>Osaka University, The Center for Advanced Medical Engineering and Informatics, Suita, Japan
- P331-0505** **Toxicity of Metformin as an Adjunct Chemotherapeutic Agent.** Abigail Bland<sup>1</sup>, Nensi Shrestha<sup>2</sup>, Ivan Sammut<sup>2</sup>, Rhonda Rosengren<sup>2</sup>, John Ashton<sup>2</sup>. <sup>1</sup>University of Otago, Pharmacology and Toxicology, Dunedin, New Zealand. <sup>2</sup>University of Otago, Pharmacology and Toxicology Department, Dunedin, New Zealand
- P332-0526** **Genome-Wide Screening of Formaldehyde Toxicity Using CRISPR-Cas9.** Yun Zhao<sup>1</sup>, Abderrahmane Tagmount<sup>2</sup>, Alex Loguinov<sup>2</sup>, Nima Hejazi<sup>1</sup>, Alan Hubbard<sup>1</sup>, Chris Vulpe<sup>2</sup>, Luoping Zhang<sup>1</sup>. <sup>1</sup>University of California Berkeley, School of Public Health, Berkeley, CA, The United States of America. <sup>2</sup>University of Florida, College of Veterinary Medicine, Gainesville, FL, The United States of America
- P333-0627** **Inhibition of Pyruvate Kinase M2 Reduces Ovarian Cancer Cells Growth and Migration.** Kyeong Seok Kim<sup>1</sup>, Jae Hyeon Park<sup>1</sup>, Ji Yeon Son<sup>1</sup>, Ji Su Kim<sup>1</sup>, Hyung Sik Kim<sup>1</sup>. <sup>1</sup>Sungkyunkwan University, College of Pharmacy, Suwon, The Republic of Korea
- P334-0633** **Characterization of a Novel Oxygenating Therapeutic.** Amjad Dabi<sup>1</sup>, Grace Aquino<sup>1</sup>, Fan Zhang<sup>1</sup>, Erica Bruce<sup>2</sup>. <sup>1</sup>Baylor University, Environmental Science, Waco, TX, The United States of America. <sup>2</sup>Baylor University, Environmental Science, Waco, TX, The United States of America
- P335-0677** **Knockdown of PKM2 Induces Autophagic Cell Death via Akt/mTOR Pathway in Human Prostate Cancer Cells.** Prasanta Dey<sup>1</sup>, Amit Kundu<sup>1</sup>, Richa Sachan<sup>1</sup>, Su Hyun Lee<sup>1</sup>, Byung-Mu Lee<sup>1</sup>, Hyung Sik Kim<sup>1</sup>. <sup>1</sup>Sungkyunkwan University, College of Pharmacy, Suwon, The Republic of Korea
- P336-0717** **Establishment of Ionizing Radiation-Induced Human Umbilical Vein Endothelial Cells Aging Model.** Jiahui Sun<sup>1</sup>, Sai Hu<sup>2,3</sup>, Xiaodan Liu<sup>1</sup>, Hua Guan<sup>1</sup>, Pingkun Zhou<sup>1</sup>. <sup>1</sup>Beijing Institute of Radiation Medicine, Department of Radiation Toxicology and Oncology, Beijing Key Laboratory for Radiobiology, Beijing, China. <sup>2</sup>University of South China, Hengyang, Institute for Environmental Medicine and Radiation Hygiene, School of Public Health, Hengyang, China. <sup>3</sup>Beijing Institute of Radiation Medicine, Department of Radiation Toxicology and Oncology, Beijing, China
- P337-0780** **Role of Advanced Glycation End-Products in Diabetes-Associated Pancreatic Islet Endothelial Cell Fibrosis.** Pei-Shan Tsai<sup>1</sup>, Chen-Yuan Chiu<sup>2</sup>, Shing-Hwa Liu<sup>1</sup>. <sup>1</sup>National Taiwan University, Institute of Toxicology, Taipei, Taiwan. <sup>2</sup>National Taiwan University, Institute of Food Safety and Health, Taipei, Taiwan
- P338-0798** **Determination of the Antimicrobial Activity of Nine Brands of Toothpaste on *Streptococcus mutans* Isolated from the Mouth of Students in Veritas University, Abuja, Nigeria.** Theresa Ozoude<sup>1</sup>. <sup>1</sup>Veritas University, Abuja, Biological Sciences, Bwari, Nigeria
- P339-0814** **Nanofibers as Membrane for Extraction  $\beta$ -Lactam Antibiotics in Urban River Followed by Determination with Capillary Electrophoresis.** Hongmei Shi<sup>1</sup>, Xinghua Li<sup>1</sup>. <sup>1</sup>Hebei Medical University, School of public health, Shijiazhuang, China
- P340-0888** **The Use of Complementary and Alternative Medicine by Cancer Patients in Libya: Beliefs versus Chemotherapy.** Hanin Hussin<sup>1</sup>, Rehab Shembish<sup>2</sup>, Sara Alwsafally<sup>3</sup>, Basma Abd elraheem<sup>4</sup>. <sup>1</sup>Univeristy of Benghazi, Pharmacology and Toxicology, Benghazi, Libya. <sup>2</sup>Benghazi Medical Center, Oncology, Benghazi, Libya. <sup>3</sup>Libyan International Medical University, PharmD, Benghazi, Libya. <sup>4</sup>University of Benghazi, Pharmacology and Toxicology, Benghazi, Libya
- P341-0890** **Microplastics (MPs): Occurrence and Characterization Using Fourier Transform Infrared Spectroscopic Method Coupled with Attenuated Total Reflectance (FTIR-ATR).** Olushola Abiodun<sup>1</sup>, Fidelia Osuala<sup>2</sup>, Adebayo Otitoloju<sup>3</sup>, Derek Ndinteh<sup>4</sup>, Carine Fotsing<sup>4</sup>. <sup>1</sup>Nigerian Institute for Oceanography and Marine Research, Department of Biological Oceanography, Lagos, Nigeria. <sup>2</sup>University of Lagos, ZOOLOGY, Akoka, Nigeria. <sup>3</sup>University of Lagos, ZOOLOGY, Akoka, Nigeria. <sup>4</sup>University of Johannesburg, APPLIED CHEMISTRY, Doornfontein, South Africa
- P342-0891** **Expression of miRNA Related to Polyhexamethylene Guanidine Phosphate-Induced Epithelial-Mesenchymal Transition (EMT) in A549.** Hyeong Tae Yu<sup>1</sup>, Mi Ho Jeong<sup>1</sup>, Jun Woo Kim<sup>1</sup>, YuBin Han<sup>1</sup>, Kyu Hyuck Chung<sup>1</sup>. <sup>1</sup>Sungkyunkwan University, College of Pharmacy, Suwon, The Republic of Korea

- P343-0902** **4 $\alpha$ ,5 $\alpha$ -Oxidoeudesm-11-en-3-one, a Potential Selective Estrogen Receptor Modulator from *Cyperus rotundus*.** Young Joo Park<sup>1</sup>, In Jae Bang<sup>1</sup>, Hailing Zheng<sup>1</sup>, Jong Hwan Kwak<sup>1</sup>, Kyu Hyuck Chung<sup>1</sup>. <sup>1</sup>*Sungkyunkwan University, College of Pharmacy, Suwon, The Republic of Korea*
- P344-0912** **High-Throughput System for Profiling of Epithelial Damage Induced by Fibrotic Agents.** In Jae Bang<sup>1</sup>, Mi Ho Jeong<sup>1</sup>, Jun Woo Kim<sup>1</sup>, YuBin Han<sup>1</sup>, Ha Ryong Kim<sup>2</sup>. <sup>1</sup>*Sungkyunkwan University, College of Pharmacy, Suwon, The Republic of Korea.* <sup>2</sup>*Daegu Catholic University, college of pharmacy, Daegu, The Republic of Korea*
- P345-0923** **Inhibitory Effects of *Euphorbia tirucalli* lineu (Euphorbiaceae) Diluted Latex on Human and Canine Melanoma Cells.** Diego Paz<sup>1</sup>, Marcia Nagamine<sup>1</sup>, Maria Lucia Zaidan Dagli<sup>1</sup>. <sup>1</sup>*University of São Paulo, School of Veterinary Medicine and Animal Science, Department of Pathology, São Paulo, Brazil*
- P346-0926** **Exosomes Purified from Bronchoalveolar Lavage Fluid of Mice Instilled with Polyhexamethylene Guanidine Phosphate Induce Inflammation in Naive Macrophages.** Hyeong Tae Yu<sup>1</sup>, Mi Ho Jeong<sup>1</sup>. <sup>1</sup>*Sungkyunkwan University, College of Pharmacy, Suwon, The Republic of Korea*
- P347-0927** **The Role of miR-6126 Upregulated by Polyhexamethylene Guanidine Phosphate in Lung Fibrosis via Targeting PCDH9.** YuBin Han<sup>1</sup>, Mi Ho Jeong<sup>1</sup>, Hyeong Tae Yu<sup>1</sup>, Dong Min Kim<sup>1</sup>, Kyu Hyuck Chung<sup>1</sup>. <sup>1</sup>*Sungkyunkwan University, College of Pharmacy, Suwon, The Republic of Korea*
- P348-0929** **Polyhexamethylene Guanidine Phosphate Induces Endothelial-Mesenchymal Transition in EA.hy926 Cells.** YuBin Han<sup>1</sup>, Jun Woo Kim<sup>1</sup>, Mi Ho Jeong<sup>1</sup>. <sup>1</sup>*Sungkyunkwan University, College of Pharmacy, Suwon, The Republic of Korea*
- P349-0115** **Development of Software for Facilitating Quality Control of POPs Detection in Food and Animal Feeds.** Wenjing Guo<sup>1</sup>, Jeffrey Archer<sup>2</sup>, Morgan Moore<sup>2</sup>, Jeffrey Bruce<sup>2</sup>, Michelle McLain<sup>2</sup>, Sina Shojaee<sup>2</sup>, Wen Zou<sup>1</sup>, Russell Fairchild<sup>2</sup>, Huixiao Hong<sup>1</sup>. <sup>1</sup>*US FDA/NCTR, National Center for Toxicological Research, Jefferson, AR, The United States of America.* <sup>2</sup>*US FDA, Arkansas Laboratory, Jefferson, AR, The United States of America*
- P350-0214** **Using Gene-Network Analysis and Cell Model to Investigate the Effect of Dioxin Exposure on Inflammasome Activation and Lymphomagenesis.** Chun-Yu Chuang<sup>1</sup>, Yi Wang<sup>1</sup>, Yin-Kai Chen<sup>2</sup>. <sup>1</sup>*National Tsing Hua University, Department of Biomedical Engineering and Environmental Sciences, Hsinchu, Taiwan.* <sup>2</sup>*National Taiwan University Hospital, Division of Hematology & Oncology, Taipei, Taiwan*
- P351-0222** **Chronic Exposure to Low-Level Organochlorine Pesticides (OCPs) Mixture Causes Type. <sup>2</sup> Diabetes-Related Metabolic Dysregulation in Zebrafish Model.** Hyojin Lee<sup>1</sup>, Moonsung Choi<sup>1</sup>, Sangkyu Lee<sup>2</sup>, Youngja Park<sup>3</sup>, Ki-Tae Kim<sup>1</sup>. <sup>1</sup>*Seoul National University of Science and Technology, Seoul, The Republic of Korea.* <sup>2</sup>*Kyungpook National University, College of Pharmacy, Daegu, The Republic of Korea.* <sup>3</sup>*Korea University, College of Pharmacy, Sejong, The Republic of Korea.*
- P352-0401** **Decabromodiphenyl Ether Impairs Glucose Homeostasis in Mice Fed a High-Fat Diet.** Rie Yanagisawa<sup>1</sup>, Eiko Koike<sup>1</sup>, Tin-Tin Win-Shwe<sup>1</sup>. <sup>1</sup>*National Institute for Environmental Studies, Center for Health and Environmental Risk Research, Tsukuba, Japan*
- P353-0453** **Assessment of Polychlorinated Biphenyls (PCBs) Levels in Surface Water, Sediment, Parasitic Fauna, and Bagrid Catfish, *Chrysichthys nigrodigitatus*, as an Index of Pollution of a Tropical Lagoon.** Minasu Kuton<sup>1</sup>, Bamidele Akinsanya<sup>2</sup>, Amii Usese<sup>1</sup>. <sup>1</sup>*University of Lagos, Department of Marine Sciences, Lagos, Nigeria.* <sup>2</sup>*University of Lagos, DEPARTMENT OF ZOOLOGY, Lagos, Nigeria*
- P354-0463** **Comparative Assessment of Per- and Polyfluoroalkyl Substances (PFASs) on Pancreatic Toxicity.** Barbara Hocevar<sup>1</sup>, Jessica Hocevar<sup>1</sup>, Allison Clarke<sup>1</sup>, Lisa Kamendulis<sup>1</sup>. <sup>1</sup>*Indiana University, Environmental and Occupational Health, Bloomington, IN, The United States of America*
- P355-0465** **Coupling Transcriptomics and Developmental Toxicity in Zebrafish to Classify Polycyclic Aromatic Hydrocarbons (PAHs).** Parthana Shankar<sup>1</sup>, Mitra Geier<sup>1</sup>, Ryan McClure<sup>2</sup>, Lisa Truong<sup>1</sup>, Paritosh Pande<sup>2</sup>, Jane LaDu<sup>1</sup>, Katrina Waters<sup>2</sup>, Robert Tanguay<sup>1</sup>. <sup>1</sup>*Oregon State University, Environmental and Molecular Toxicology, Corvallis, OR, The United States of America.* <sup>2</sup>*Pacific Northwest National Laboratory, Health Effects and Exposure Science, Richland, WA, The United States of America*
- P356-0467** **Decolorization of Some Synthetic Dyes Using Partially Purified Peroxidase from Cucumber (*Cucumis sativus*).** Obiora Okonkwo<sup>1</sup>, Tunde Muftau<sup>2</sup>, Larry Barde<sup>3</sup>. <sup>1</sup>*Plateau State University, Borkos, Nigeria.* <sup>2</sup>*Plateau State University, Department of Biochemistry, Borkos, Nigeria.* <sup>3</sup>*Plateau State University, Department of Biochemistry, Borkos, Nigeria*

- P357-0480** **The Study of Molecular Mechanism of Dioxin-Induced Neurotoxicity: Targeting the Cholinergic System.** Yangsheng Chen<sup>1</sup>, Li Xu<sup>1</sup>, Heidi Xie<sup>1</sup>, Bin Zhao<sup>1</sup>. <sup>1</sup>RCEES, CAS, Beijing, China
- P358-0502** **Halogenated Marine Indoles Compete with High Affinity Ligands for Aryl Hydrocarbon Receptor Binding.** Jessie King<sup>1</sup>, Helen Woolner<sup>2</sup>, Peter Northcote<sup>3</sup>, Robert Keyzers<sup>2</sup>, Rhonda Rosengren<sup>4</sup>. <sup>1</sup>University of Otago, Pharmacology and Toxicology Department, Dunedin, New Zealand. <sup>2</sup>Victoria University of Wellington, School of Physical and Chemical Sciences, Wellington, New Zealand. <sup>3</sup>Victoria University of Wellington, Ferrier Research Institute, Wellington, New Zealand. <sup>4</sup>University of Otago, Pharmacology and Toxicology, Dunedin, New Zealand
- P359-0533** **Decabromodiphenyl Ether Affects Immune Response in Obese Mice and in Adipocyte-Macrophage Coculture System.** Eiko Koike<sup>1</sup>, Rie Yanagisawa<sup>1</sup>, Tin-Tin Win-Shwe<sup>1</sup>, Hirohisa Takano<sup>2</sup>. <sup>1</sup>National Institute for Environmental Studies, Center for Health and Environmental Risk Research, Tsukuba, Japan. <sup>2</sup>Kyoto University, Graduate School of Engineering, Kyoto, Japan
- P360-0590** **Low-Dose Chronic Exposure of OCPs Mixture in C57BL/6J Mice Induces the Impairment of Glucose Metabolism.** Chul-Min Park<sup>1</sup>, Ki-Tae Kim<sup>2</sup>, Dong-Young Rhyu<sup>3</sup>. <sup>1</sup>Environmental Technology Research Institute, Seoul National University of Science and Technology, Seoul, The Republic of Korea. <sup>2</sup>Seoul National University of Science and Technology, Seoul, The Republic of Korea. <sup>3</sup>Mokpo National University Department of Oriental Medicine Resources, Muan-gun, The Republic of Korea
- P361-0639** **Concentrations of Environmental PCBs in Breast Milk and Serum of Lactating North Carolina Women.** Erin Hines<sup>1</sup>, Sue Fenton<sup>2</sup>. <sup>1</sup>US EPA/NCEA, US EPA, National Center for Environmental Assessment, Environmental Media Assessment Group, Research Triangle Park, NC, The United States of America. <sup>2</sup>Sue Fenton, NIEHS/NTP/Reproductive Endocrinology Group, Research Triangle Park, NC, The United States of America
- P362-0669** **DEHP Triggers Developmental Abnormality of Ovary and Oviduct in Quails (*Coturnix japonica*) via Disruption of Hypothalamo-pituitary-ovarian Axis Response.** Xue-Nan Li<sup>1</sup>, Jinlong Li<sup>1,2,3</sup>. <sup>1</sup>Northeast Agricultural University, College of Veterinary Medicine, Harbin, China. <sup>2</sup>Northeast Agricultural University, Key Laboratory of the Provincial Education Department of Heilongjiang for Common Animal Disease Prevention and Treatment, Harbin, China. <sup>3</sup>Northeast Agricultural University, Heilongjiang Key Laboratory for Laboratory Animals and Comparative Medicine, Harbin, China
- P363-0797** **PFAS Clearance in Cattle.** Tarah Hagen<sup>1</sup>, Roger Drew<sup>1</sup>, David Champness<sup>2</sup>, Amelie Sellier<sup>3</sup>. <sup>1</sup>ToxConsult Pty Ltd, Darling South, Australia. <sup>2</sup>Agriculture Victoria, Department of Jobs, Precincts and Regions, Hamilton, Australia. <sup>3</sup>AsureQuality, Wellington, New Zealand
- P364-0919** **Applying the Concept of Essential Use to Determine Where and When PFAS Can Be Phased Out.** Mark Miller<sup>1</sup>, Ian Cousins<sup>2</sup>, Gretta Goldenman<sup>3</sup>, Dorte Herzke<sup>4</sup>, Andrew Lindstrom<sup>5</sup>, Rainer Lohmann<sup>6</sup>, Carla Ng<sup>7</sup>, Martin Scheringer<sup>8</sup>, Xenia Trier<sup>9</sup>, Zhanyun Wang<sup>8</sup>, Jamie DeWitt<sup>10</sup>. <sup>1</sup>NIEHS and US Public Health Service, Research Triangle Park, NC, The United States of America. <sup>2</sup>Stockholm University, Department of Environmental Science and Analytical Chemistry, Stockholm, Sweden. <sup>3</sup>Milieu, Brussels, Belgium. <sup>4</sup>NILU in Fram Centre, Tromsø, Norway. <sup>5</sup>US EPA/NCCT, Research Triangle Park, NC, The United States of America <sup>6</sup>University of Rhode Island, Kingston, RI, The United States of America <sup>7</sup>University of Pittsburgh, Drug Discovery Institute, Pittsburgh, PA, The United States of America <sup>8</sup>ETH Zurich, Zurich, Switzerland <sup>9</sup>European Environment Agency, Copenhagen, Denmark <sup>10</sup>East Carolina University, Greenville, NC, The United States of America
- P365-0931** **PFAS Tissue Distribution in Cattle.** Roger Drew<sup>1</sup>, Tarah Hagen<sup>1</sup>, David Champness<sup>2</sup>, Amelie Sellier<sup>3</sup>. <sup>1</sup>ToxConsult Pty Ltd, Darling South, Australia. <sup>2</sup>Agriculture Victoria, Department of Jobs, Precincts and Regions, Hamilton, Australia. <sup>3</sup>AsureQuality, Wellington, New Zealand
- P366-0932** **PFAS Clearance and Tissue Distribution in Sheep.** Roger Drew<sup>1</sup>, Tarah Hagen<sup>1</sup>, David Champness<sup>2</sup>, John Ryan<sup>3</sup>, Lisa Graham<sup>4</sup>. <sup>1</sup>ToxConsult Pty Ltd, Darling South, Australia. <sup>2</sup>Agriculture Victoria, Department of Jobs, Precincts and Regions, Hamilton, Australia. <sup>3</sup>Agriculture Victoria, Department of Economic Development, Jobs, Transport and Resources, Wangaratta, Australia. <sup>4</sup>AsureQuality, Wellington, New Zealand
- P367-0933** **PFAS Assimilation from Water by Cattle and Sheep.** Tarah Hagen<sup>1</sup>, Roger Drew<sup>1</sup>, Lisa Graham<sup>2</sup>. <sup>1</sup>ToxConsult Pty Ltd, Darling South, Australia. <sup>2</sup>AsureQuality, Wellington, New Zealand
- P368-0948** **An Evaluation of the Utility of Human Cell Models for Characterizing Relative Potency for Dioxin-Like Compounds.** Jonathan Urban<sup>1</sup>, Daniele Wikoff<sup>2</sup>, Seneca Fitch<sup>3</sup>, Caroline Ring<sup>1</sup>, Laurie Haws<sup>1</sup>, Mark Harris<sup>3</sup>. <sup>1</sup>ToxStrategies, Inc., Austin, TX, The United States of America. <sup>2</sup>ToxStrategies, Inc., Asheville, NC, The United States of America. <sup>3</sup>ToxStrategies, Inc., Katy, TX, The United States of America

- P369-0092** **A Case of Delayed Organophosphate Poisoning Caused by Fenthion Ingestion.** Ivan Chua<sup>1</sup>, R Ponampalam<sup>2</sup>, Boon Kiat Kenneth Tan<sup>3</sup>. <sup>1</sup>*Chua Si Yong Ivan, Emergency Medicine, Singapore, Singapore.* <sup>2</sup>*R Ponampalam, DEM, Singapore, Singapore.* <sup>3</sup>*Tan Boon Kiat Kenneth, DEM, Singapore, Singapore*
- P370-0143** **Developmental Exposure to Glyphosate-Based Herbicide Causes Dysregulation of Dynorphins in the Brain of Adult Rats.** Daiane Cattani<sup>1,2</sup>, Vivien Steffensen<sup>1</sup>, Nona Struyf<sup>1</sup>, Ariane Zamoner Pacheco de Souza<sup>2</sup>, Malin Andersson<sup>1</sup>, Eva Brittebo<sup>1</sup>. <sup>1</sup>*Uppsala University, Department of Pharmaceutical Biosciences, Uppsala, Sweden.* <sup>2</sup>*Federal University of Santa Catarina, Department of Biochemistry, Florianopolis, Brazil*
- P371-0153** **Study on Systemic and Reproductive Toxicity of Acetochlor in Male Mice.** Song Xianping<sup>1</sup>, Feng Zhang<sup>1</sup>, Dongya Chen<sup>1</sup>, Qian Bian<sup>1</sup>, Hengdong Zhang<sup>1</sup>, Xin Liu<sup>1</sup>, Baoli Zhu<sup>1</sup>. <sup>1</sup>*Jiangsu Provincial Center for Disease Control and Prevention, Nanjing, China.*
- P372-0181** **Effects of Acephate, Carbendazim, and Mancozeb Isolated or in Mixture on DNA Damages and Hepatic and Renal Histopathology.** Juliana Perobelli<sup>1</sup>, Deborah Cavalcante<sup>2</sup>, Maria Aranha<sup>3</sup>, André Almeida<sup>4</sup>, Mariana Simões-Garcia<sup>5</sup>. <sup>1</sup>*Laboratory of Experimental Toxicology - LATOEX/UNIFESP, Santos, Brazil.* <sup>2</sup>*Laboratory of Experimental Toxicology - LATOEX/UNIFESP, Santos, Brazil.* <sup>3</sup>*Laboratory of Experimental Toxicology - LATOEX/UNIFESP, Santos, Brazil.* <sup>4</sup>*Laboratory of Experimental Toxicology - LATOEX/UNIFESP, Santos, Brazil.* <sup>5</sup>*Laboratory of Experimental Toxicology - LATOEX/UNIFESP, Santos, Brazil*
- P373-0184** **Understanding the Role of Tyrosine in Toxicity Associated with HPPD Inhibitors and Impact on Human Health Risk Assessment.** Angela Hofstra<sup>1</sup>, David Cowie<sup>2</sup>, Elizabeth McInnes<sup>2</sup>, Daniel Minnema<sup>3</sup>, Richard Lewis<sup>2</sup>, Jane Botham<sup>2</sup>. <sup>1</sup>*Syngenta Canada Inc., Toxicology and Health Sciences, Guelph, Canada.* <sup>2</sup>*Syngenta Ltd Jealott's Hill, Toxicology and Health Sciences, Bracknell, United Kingdom.* <sup>3</sup>*Syngenta Crop Protection LLC, Toxicology and Health Sciences, Greensboro, NC, The United States of America*
- P374-0207** **In Vivo and In Vitro Effects of a Neonicotinoid Pesticide, Clothianidin, on Mammalian Nervous Function.** Tetsushi Hirano<sup>1</sup>, Satsuki Minagawa<sup>1</sup>, Yukihiro Furusawa<sup>2</sup>, Tatsuya Yunoki<sup>1</sup>, Toshifumi Yokoyama<sup>3</sup>, Nobuhiko Hoshi<sup>3</sup>, Yoshiaki Tabuchi<sup>1</sup>. <sup>1</sup>*University of Toyama, Toyama, Japan.* <sup>2</sup>*Toyama Prefectural University, Imizu, Japan.* <sup>3</sup>*Kobe University, Kobe, Japan*
- P375-0301** **Organophosphate-Induced ADHD-Like Behavior in Adolescent Rats.** Yuki Ito<sup>1</sup>, Motohiro Tomizawa<sup>2</sup>, Kazutaka Suzuki<sup>3</sup>, Yuichi Shirakawa<sup>3</sup>, Hiromasa Ono<sup>3</sup>, Keishi Adachi<sup>3</sup>, Himiko Suzuki<sup>3</sup>, Michihiro Kamijima<sup>3</sup>. <sup>1</sup>*Nagoya City University Graduate School of Medical Sciences, Occupational and Environmental Health, Nagoya, Japan.* <sup>2</sup>*Faculty of Life Sciences, Tokyo University of Agriculture, Chemistry, Setagaya, Japan.* <sup>3</sup>*Nagoya City University Graduate School of Medical Sciences, Occupational and Environmental Health, Nagoya, Japan*
- P376-0311** **Serum and Caecal Metabolomics in Rats Exposed Subchronically to Glyphosate and Roundup.** Robin Mesnage<sup>1</sup>, Laura Falcioni<sup>2</sup>, Daniele Mandrioli<sup>2</sup>, Fiorella Belpoggi<sup>2</sup>, Michael Antoniou<sup>1</sup>. <sup>1</sup>*King's College London, London, United Kingdom.* <sup>2</sup>*Ramazzini institute, Bologna, Italy*
- P377-0312** **The Experimental Study of the Effects of a Carboxamide Derivative on the Migration-Water Hazard Indicator.** Valerii Rakitskii<sup>1</sup>, Tatiana Sinitskaya<sup>1</sup>, Gromova Irina<sup>1</sup>. <sup>1</sup>*FBES "FSCH Named after F.F. Erisman" of the Rospotrebnadzor, Mytischchi, The Russian Federation*
- P378-0326** **The Isolated and Combined Effects of 2,4-D and Methylmercury on the Morphology of Xerogel of Rat Serum.** Valerii Rakitskii<sup>1</sup>, Tatiana Sinitskaya<sup>1</sup>, Gromova Irina<sup>1</sup>, Gleb Masaltsev<sup>1</sup>. <sup>1</sup>*FBES "FSCH Named after F.F. Erisman" of the Rospotrebnadzor, Mytischchi, The Russian Federation*
- P379-0392** **Aluminum Phosphide Poisoning: Rare Survival Case.** Nazih Ramadan<sup>1</sup>. <sup>1</sup>*Cairo University, Cairo, Egypt*
- P380-0396** **Hydrogen Cyanamide Poisoning: Rare, but Serious, Case Study.** Nazih Ramadan<sup>1</sup>. <sup>1</sup>*Cairo University, Cairo, Egypt*
- P381-0430** **Endpoints as Biomarkers to Assess the Occupational Exposure to Triazoles.** Simone Machado<sup>1</sup>, Isarita Martins<sup>2</sup>. <sup>1</sup>*Federal University of Alfenas, Faculty of Pharmaceutical Sciences, Alfenas, Brazil.* <sup>2</sup>*Federal University of Alfenas-MG, Faculty of Pharmaceutical Sciences, Alfenas, Brazil*
- P382-0439** **Glyphosate Induces Peripheral Blood Abnormalities and Plasma Cell Neoplasms Resembling Multiple Myeloma in Mice.** Yong Li<sup>1</sup>. <sup>1</sup>*Cleveland Clinic Cancer Biology, Cancer Biology, Cleveland, OH, The United States of America*
- P383-0475** **Development of Data-Derived Extrapolation Factors for Herbicides That Inhibit 4-hydroxyphenyl Pyruvate Dioxygenase (HPPD).** Angela Hofstra<sup>1</sup>, David Geter<sup>2</sup>, David Cowie<sup>3</sup>, Jane Botham<sup>3</sup>, Alex Stevens<sup>3</sup>, Sarah Whalley<sup>3</sup>, Virunya Bhat<sup>4</sup>, Paul

Hinderliter<sup>2</sup>. <sup>1</sup>Syngenta Canada Inc., Toxicology and Health Sciences, Guelph, Canada. <sup>2</sup>Syngenta Crop Protection LLC, Toxicology and Health Sciences, Greensboro, NC, The United States of America. <sup>3</sup>Syngenta Ltd Jealott's Hill, Toxicology and Health Sciences, Bracknell, United Kingdom. <sup>4</sup>NSF International, Ann Arbor, MI, The United States of America

**P384-0577** **Vitamin E ( $\alpha$ -Tocopherol) Improves Mitochondrial Energy Metabolism in Rat Liver following Acute Aluminum Phosphide Exposure.** Leila Shahriyari<sup>1</sup>, bahareh Bigdeli<sup>1</sup>, Fariba Khodaghohi<sup>2</sup>, Shahin Shadnia<sup>3</sup>. <sup>1</sup>Institute of Biochemistry and Biophysics, University of Tehran, Tehran, Islamic Republic of Iran. <sup>2</sup>Neuroscience Research Center, Shahid Beheshti University of Medical Sciences, Tehran, Islamic Republic of Iran. <sup>3</sup>Toxicological Research Center, Shahid Beheshti University of Medical Sciences, Toxicological Research Center, Excellent Center of Clinical Toxicology, Department of Clinical Toxicology, Loghman Hakim Hospital Poison Center, School of Medicine, Shahid Beheshti University of Medical Sciences, Tehran, Islamic Republic of Iran

**P385-0620** **Effects of Repeated Doses of the Organophosphorus Pesticide Temephos on Sperm Quality and Acetylcholinesterase Activity in Rats.** Israel Camacho-Hernández<sup>1</sup>, Adolfo Sierra Santyo<sup>1</sup>, Francisco Verdin Betancourt<sup>1</sup>, Maria Solís Heredia<sup>1</sup>, Alberto Duana Moreno<sup>1</sup>, Aurora Rojas-García<sup>2</sup>, Betzabet Quintanilla Vega<sup>1</sup>. <sup>1</sup>Center of Research and Advanced Studies (Cinvestav), Department of Toxicology, Mexico City, Mexico. <sup>2</sup>Laboratorio de Contaminación y Toxicología Ambiental, Universidad Autónoma de Nayarit, Tepic Nayarit, Mexico

**P386-0656** **A Novel Mitochondrial Dysfunction Mechanism of Atrazine-Induced Nephrotoxicity in Quail (*Coturnix C. coturnix*) via Hindering Cross Talk between Detoxification Response and Nrf2-Mediated Antioxidant Defense.** Cong Zhang<sup>1</sup>, Jing Ge<sup>1</sup>, Qi Zhang<sup>1</sup>, Jinlong Li<sup>1,2,3</sup>. <sup>1</sup>Northeast Agricultural University, College of Veterinary Medicine, Harbin, China. <sup>2</sup>Northeast Agricultural University, Key Laboratory of the Provincial Education Department of Heilongjiang for Common Animal Disease Prevention and Treatment, Harbin, China. <sup>3</sup>Northeast Agricultural University, Heilongjiang Key Laboratory for Laboratory Animals and Comparative Medicine, Harbin, China

**P387-0679** **Synthesis, Determination, and the Neurotoxic Potential Effect of Temephos Oxidized-Metabolites.** Francisco Verdin Betancourt<sup>1</sup>, Mario Figueroa<sup>2</sup>, Ma. de López-González<sup>1</sup>, Elizabeth Gómez<sup>3</sup>, Yael Bernal-Hernández<sup>4</sup>, Aurora Rojas-García<sup>4</sup>, Adolfo Sierra-Santoyo<sup>1</sup>. <sup>1</sup>Centro de Investigación y de Estudios Avanzados del Instituto Politécnico Nacional, Toxicología, Ciudad de México, Mexico. <sup>2</sup>Universidad Nacional Autónoma de México, Facultad de Química, Farmacia, Ciudad de México, Mexico. <sup>3</sup>Universidad Nacional Autónoma de México, Instituto de Química, Ciudad de México, Mexico. <sup>4</sup>Universidad Autónoma de Nayarit, Laboratorio de Contaminación y Toxicología Ambiental, Tepic, Mexico

**P388-0767** **Stereoselective Copper-Dependent Hydrolysis of Thrichloronate by Turkey Serum Albumin.** Damianys Almenares<sup>1</sup>, Antonio Monroy N.<sup>2</sup>. <sup>1</sup>Universidad Popular de la Chontalpa, División de Ingenierías y Ciencias Agropecuarias, Villahermosa, Mexico. <sup>2</sup>Universidad Autonoma del Estado de Morelos, Facultad de Farmacia, Cuernavaca, Mexico

**P389-0812** **Influence of an Intervention Program in the Concentrations of Organochlorinated Pesticides in Adolescents of an Agricultural Community of Mexico.** Andrea Rodríguez<sup>1</sup>, Rebeca Mejía<sup>1</sup>, Leticia Yañez<sup>1</sup>, Vanessa Labrada<sup>2</sup>. <sup>1</sup>Universidad Autónoma de San Luis Potosí, LABORATORIO DE GENERO, SALUD Y AMBIENTE, San Luis Potosí, Mexico. <sup>2</sup>Universidad Autónoma de San Luis Potosí, Facultad de Ciencias, San Luis Potosí, Mexico

**P390-0911** **Assessment of the Influence of Unutilized and Prohibited to Use Pesticides on Health of the Almaty Region Population.** Elmira Khussainova<sup>1</sup>, Akerke Seisenbaeva<sup>1</sup>, Oksana Cherednichenko<sup>2</sup>, Gulnara Baigushikova<sup>2</sup>, Oras Sapargali<sup>1</sup>, Unzira Kapyshova<sup>3</sup>, Sholpan Bakhtiyarova<sup>3</sup>, Leyla Djansugurova<sup>1</sup>, Bakytzhan Bekmanov<sup>1</sup>. <sup>1</sup>Institute of General Genetics and Cytology, Laboratory of Molecular Genetics, Almaty, Kazakhstan. <sup>2</sup>Institute of General Genetics and Cytology, Laboratory of Genetical Monitoring, Almaty, Kazakhstan. <sup>3</sup>Institute of Human and Animal Physiology, Almaty, Kazakhstan

**P391-0036** **Retrospective Analysis of HIV Cure Applications at the US FDA: 2008–2018.** Laine Myers<sup>1</sup>, Damon Deming<sup>1</sup>, Hanan Ghantous<sup>1</sup>. <sup>1</sup>US FDA/CDER, CDER / OND / OAP / Division of Antiviral Products, Silver Spring, MD, The United States of America

**P392-0232** **Use of Read-Across to Characterize the Health Effects of Substances in the Anthraquinones Group in a Screening Assessment of the Chemicals Management Plan in Canada.** Joan Wong<sup>1</sup>, Shayesta Seenundun<sup>2</sup>, Pamela Cebrowski<sup>3</sup>, Adam Griffiths<sup>4</sup>. <sup>1</sup>Health Canada, Ottawa, Canada. <sup>2</sup>Health Canada, Ottawa, Canada. <sup>3</sup>Health Canada, Ottawa, Canada. <sup>4</sup>Health Canada, Ottawa, Canada

**P393-0271** **Prospective Application of Human Health Risk Assessment for Rodent Eradication Program on an Inhabited Island.** Robert DeMott<sup>1</sup>, Belinda Goldsworthy<sup>2</sup>, Thomas Sendor<sup>3</sup>, Edward Jansson<sup>4</sup>. <sup>1</sup>Ramboll, Health Sciences, Tampa, FL, The United States of America. <sup>2</sup>Ramboll, Health Sciences, The Junction, Australia. <sup>3</sup>Ramboll, Health Sciences, Munich, Germany. <sup>4</sup>Office of the Chief Scientist and Engineer, NSW Dept. of Industry, Sydney, Australia

- P394-0333** **Risk Assessment Study on Inhalation Exposure to Benzene among Gasoline Station Workers: Impact on Human Health.** Nitin Verma<sup>1</sup>. <sup>1</sup>Nitin Verma, School of Pharmacy and Emerging Sciences, Baddi, India
- P395-0363** **Probabilistic Risk Assessment of Perfluorooctanesulfonate (PFOS) by Integrating *In Vitro* and *In Vivo* Toxicity with Physiologically Based Pharmacokinetic Models in Multiple Species.** Wei-Chun Chou<sup>1</sup>, Zhoumeng Lin<sup>1</sup>. <sup>1</sup>Kansas State University, Institute of Computational Comparative Medicine (ICCM), Department of Anatomy and Physiology, College of Veterinary Medicine, Manhattan, KS, The United States of America
- P396-0417** **Cancer Risk Estimation of Smoking Filter Cigarettes and Risk Ranking of Human Carcinogens in Active and Passive Smokers.** Seong Lim<sup>1</sup>, Min Kim<sup>1</sup>, Duck Lim<sup>1</sup>, Hyung Sik Kim<sup>1</sup>, Sam Kacew<sup>2</sup>, Byung-Mu Lee<sup>1</sup>. <sup>1</sup>Sungkyunkwan University, College of Pharmacy, Suwon, The Republic of Korea. <sup>2</sup>University of Ottawa, McLaughlin Centre for Population Health Risk Assessment, Ottawa, Canada
- P397-0436** **Estimation of Cancer Risk Imposed by Arsenic Exposure through Rice Consumption in Chinese Urban Population.** Kan Shao<sup>1</sup>, Zheng Zhou<sup>2</sup>, Yijin Kang<sup>3</sup>, Huanhong Li<sup>4</sup>, Suzhen Cao<sup>5</sup>, Jianhua Xu<sup>6</sup>, Xiaoli Duan<sup>7</sup>. <sup>1</sup>Department of Environmental and Occupational Health, Bloomington, IN, The United States of America. <sup>2</sup>Department of Environmental and Occupational Health, Bloomington, IN, The United States of America. <sup>3</sup>School of Energy and Environmental Engineering, Beijing, China. <sup>4</sup>College of Environmental Sciences & Engineering, Beijing, China. <sup>5</sup>School of Energy and Environmental Engineering, Beijing, China <sup>6</sup>College of Environmental Sciences & Engineering, Beijing, China <sup>7</sup>School of Energy and Environmental Engineering, Beijing, China
- P398-0460** **Risk Assessment of Polycyclic Aromatic Hydrocarbons (PAHs) Levels in Surface Water, Sediment, and Two Edible Fish Species from a Tropical Creek, Nigeria.** Amii Usese<sup>1</sup>, Joel Benneth<sup>1</sup>, Lucian Chukwu<sup>1</sup>. <sup>1</sup>University of Lagos, Department of Marine Sciences, Lagos, Nigeria
- P399-0479** **Risk Assessment of Some Heavy Metals in Cow Hides Processed by Different Methods in Nnewi and Environs.** Onyenmechi Afonne<sup>1</sup>, Onyeka Okoro<sup>1</sup>, Emeka Ifediba<sup>2</sup>. <sup>1</sup>Nnamdi Azikiwe University, Department of Pharmacology, Nnewi, Nigeria. <sup>2</sup>Nnamdi Azikiwe University, Department of Pharmacology, Nnewi, Nigeria
- P400-0485** **Exploratory Genetic Association of Type 2 Diabetes Occurrence Using a Pharmacogenetic Panel.** Russell Fankhouser<sup>1</sup>, Derek Murrell<sup>1</sup>, Allen Cofer<sup>1</sup>, David Hurley<sup>1</sup>, Sam Harirforoosh<sup>1</sup>. <sup>1</sup>East Tennessee State University, Department of Pharmaceutical Sciences, Johnson City, TN, The United States of America
- P401-0510** **Analysis of Personal Genomic Susceptibility for Atopic Dermatitis Disease by Using Cord Blood DNA in Small-Scale Birth Cohort.** Seung Yong Hwang<sup>1,2</sup>, Seung Jun Kim<sup>2</sup>, Moon Ju Oh<sup>2</sup>, Jeong Jin Ahn<sup>2</sup>, Jungeun Yang<sup>1</sup>, Eun Jung Koh<sup>1</sup>. <sup>1</sup>Hanyang University, Department of Bio-nanotechnology, Ansan-Si, The Republic of Korea. <sup>2</sup>Bio-Core, Seoul, The Republic of Korea
- P402-0515** **The *In Vitro* Metabolism and Toxic Effects of Emerging Contaminants. 2-Chlorothioxanthone Involved in Human CYP1A2 and CYP3A4 Enzymes.** Tingjie Zhan<sup>1</sup>, Jiayan Chen<sup>1</sup>, Shulin Zhuang<sup>1</sup>. <sup>1</sup>Zhejiang University College of Environmental and Resource Sciences, Hangzhou, China
- P403-0549** **Repeated-Dose *In Vivo* Oral Toxicity Study to Test Long-Term Effects of the Mycotoxin Enniatin B in Male and Female CD-1 Mice: Focus on Histopathological Data for the NOAEL Definition.** Roberta Tassinari<sup>1</sup>, Laura Narciso<sup>1</sup>, Sabrina Tait<sup>1</sup>, Cinzia La Rocca<sup>1</sup>, Gabriella Di Felice<sup>2</sup>, Cinzia Butteroni<sup>2</sup>, Silvia Corinti<sup>2</sup>, Bianca Barletta<sup>2</sup>, Eugenia Cordelli<sup>3</sup>, Francesca Pacchierotti<sup>3</sup>, Patrizia Eleuteri<sup>3</sup>, Paola Villani<sup>3</sup>, Ludovic Le Hegarat<sup>4</sup>, Valérie Fessard<sup>4</sup>, Océane Reale<sup>4</sup>, Francesca Maranghi<sup>1</sup>. <sup>1</sup>Istituto Superiore di Sanità, Center for Gender-Specific Medicine, Rome, Italy. <sup>2</sup>Istituto Superiore di Sanità, National Center for Drug Research and Evaluation, Roma, Italy. <sup>3</sup>Italian National Agency for New Technologies, Energy and Sustainable Economic Development, Laboratory of Biosafety and Risk Assessment - SSPT-TECS BIORISC, Rome, Italy. <sup>4</sup>French Agency for Food, Environmental and Occupational Health and Safety, Fougères, France
- P404-0624** **Gaining Insights to Molecular Mechanisms of Combined Air Pollutants Exposures Using PBPK Models and Systems Biology Approaches.** Patricia Ruiz<sup>1</sup>, Claude Emond<sup>2</sup>, Eva McLanahan<sup>1</sup>, Moiz Mumtaz<sup>1</sup>. <sup>1</sup>CDC/ATSDR, Centers for Disease Control and Prevention (CDC), Atlanta, GA, The United States of America. <sup>2</sup>BioSimulation Consulting Inc, Newark, DE, The United States of America
- P405-0694** **Risk Assessment for Benz[a]pyrene Carcinogenicity in the Chilean Population.** Andrea Salas<sup>1</sup>, Fernanda Cavieres<sup>1</sup>. <sup>1</sup>Universidad de Valparaíso School of Chemistry and Pharmacy, Faculty of Pharmacy, Valparaíso, Chile



- P406-0706** **Human and Ecological Health Risk Assessment for Reuse of Secondary Materials in Brazil: A Case Study Using Steel Aggregate from Mills across Brazil.** Deborah Proctor<sup>1</sup>, Joao Silva<sup>2</sup>, Cynthia Pestana<sup>3</sup>. <sup>1</sup>*ToxStrategies, Mission Viejo, CA, The United States of America.* <sup>2</sup>*ArcelorMittal, Vitoria, Brazil.* <sup>3</sup>*ALS Brazil, San Paulo, Brazil*
- P407-0740** **Quantitative Evaluation of Cytochrome P450. <sup>3</sup>A4 Inhibition and Hepatotoxicity in HepaRG. <sup>3</sup>D Spheroids.** Dae-Seop Shin<sup>1</sup>, Hyewon Seo<sup>1</sup>, Jung Yoon Yang<sup>1</sup>, Jeongmin Joo<sup>1</sup>, So Hee Im<sup>1</sup>, Seong Soon Kim<sup>1</sup>, Sang Kyum Kim<sup>2</sup>, Myung Ae Bae<sup>1,3</sup>. <sup>1</sup>*Korea Research Institute of Chemical Technology, Bio & Drug Discovery Division, Daejeon, The Republic of Korea.* <sup>2</sup>*Chungnam National University, College of Pharmacy, Daejeon, The Republic of Korea.* <sup>3</sup>*University of Science & Technology, Department of Medicinal Chemistry and Pharmacology, Daejeon, The Republic of Korea*
- P408-0783** **Concentration-Time Extrapolation of Short-Term Inhalation Exposure Levels for Dimethyl Sulfide.** Eugene Demchuk<sup>1</sup>, Shannon Ball<sup>1</sup>, San Le<sup>1</sup>, Andrew Prussia<sup>1</sup>. <sup>1</sup>*CDC/ATSDR, Division of Toxicology and Human Health Sciences, Atlanta, GA, The United States of America*
- P409-0786** **Risk Assessment of Heavy Metals in *Carica papaya* (Pawpaw) from Three Refuse Dump Sites in Rivers State, Nigeria.** Ietan Karikpo<sup>1</sup>, Ikem Ekweozor<sup>1</sup>, Moslen Muebaka<sup>1</sup>. <sup>1</sup>*Rivers State University, Animal and Environmental Biology, Port Harcourt, Nigeria*
- P410-0822** ***Aspergillus* Section *Nigri* from Agricultural Products and Cultivated Soil and Their Mycotoxin Production.** Suppara Aukka<sup>1</sup>. <sup>1</sup>*Postharvest and Processing Research and Development Division, Department of Agriculture, Chatuchak, Thailand*
- P411-0866** **Nonclinical Development of Cedazuridine, a Novel Cytidine Deaminase Inhibitor for Use in Combination with Decitabine to Enable Oral Administration to Patients with Myelodysplastic Syndromes (MDS).** Aram Oganesian<sup>1</sup>, Richard Seals<sup>2</sup>, Bradley Saville<sup>3</sup>, Mohammad Azab<sup>1</sup>. <sup>1</sup>*Astex Pharmaceuticals, Inc., Pleasanton, CA, The United States of America.* <sup>2</sup>*BASi, Mount Vernon, IN, The United States of America.* <sup>3</sup>*Charles River Laboratories, Reno, NV, The United States of America*
- P412-0892** **Use of *In Vitro* to *In Vivo* Extrapolation (IVIVE) to Support Risk Assessment for Early Life Stages: Life-Stage Physiologically Based Pharmacokinetic (PBPK) Modeling for Pyrethroids.** Marjory Moreau<sup>1</sup>, Pankajini Mallick<sup>1</sup>, Gina Song<sup>1,2</sup>, Salil Pendse<sup>1</sup>, Moire Creek<sup>3</sup>, Harvey Clewell<sup>4</sup>, Brian Lake<sup>5</sup>, Paul Hinderliter<sup>6</sup>, Miyoung Yoon<sup>1,2</sup>, Thomas Osimitz<sup>7</sup>. <sup>1</sup>*ScitoVation, PMPK division, Durham, NC, The United States of America.* <sup>2</sup>*ToxStrategies, Inc., Cary, NC, The United States of America.* <sup>3</sup>*Toxicology Consulting Services, Lincoln, The United States of America.* <sup>4</sup>*Ramboll, Research Triangle Park, NC, The United States of America.* <sup>5</sup>*Concept Life Sciences, Dundee, United Kingdom* <sup>6</sup>*Syngenta, Greensboro, The United States of America* <sup>7</sup>*Science Strategies, LLC, Charlottesville, The United States of America*
- P413-0955** **Risk Assessment of Lead Contamination Outdoor of Lead Recycling Company.** Laura Börgel<sup>1,2</sup>, Melissa Schulthess<sup>1,2</sup>, Germán Corey<sup>1</sup>, Adolfo Börgel<sup>1</sup>, Yerko Jeldes<sup>1</sup>. <sup>1</sup>*Dra. Laura Börgel y Cía. Ltda, Recoleta, Chile.* <sup>2</sup>*University of Chile, Legal Medicine and Anatomy Department, Independencia, Chile*
- P414-0957** **Systematic Update of the Mammalian Relative Potency Estimate (REP) Database for Dioxin-Like Compounds (DLCs).** Seneca Fitch<sup>1</sup>, Daniele Wikoff<sup>2</sup>, Kara Franke<sup>2</sup>, Caroline Ring<sup>3</sup>, Mark Harris<sup>1</sup>, Laurie Haws<sup>3</sup>. <sup>1</sup>*ToxStrategies, Inc., Katy, TX, The United States of America.* <sup>2</sup>*ToxStrategies, Inc., Asheville, NC, The United States of America.* <sup>3</sup>*ToxStrategies, Inc., Austin, TX, The United States of America*
- P415-0960** **Environmental Contamination: The Toxic Legacy of a Native American Tribe Continues.** Katherine Fetcie<sup>1</sup>, Oyemwenosa Avenbuan<sup>1</sup>, Dennis DeFreese<sup>2</sup>, Mianhua Zhong<sup>1</sup>, Jason Blum<sup>1</sup>, Judith Zelikoff<sup>1</sup>. <sup>1</sup>*NYU School of Medicine, Environmental Medicine, New York, NY, The United States of America.* <sup>2</sup>*Ramapough Lenape Nation, New Jersey, The United States of America*
- P416-0005** **Oral Ingestion of a Novel Oxygenating Compound, Ox66™, Is Nontoxic and Results in Increased Oxygenation.** Fan Zhang<sup>1</sup>, Grace Aquino<sup>2</sup>, Amjad Dabi<sup>2</sup>, William Nugent<sup>3</sup>, Bjorn Song<sup>3</sup>, Erica Bruce<sup>2,4,5</sup>. <sup>1</sup>*Baylor University, Department of Environmental Science, Waco, TX, The United States of America.* <sup>2</sup>*Baylor University, Department of Environmental Science, Waco, TX, The United States of America.* <sup>3</sup>*Song Biotechnologies, LLC, Baltimore, MD, The United States of America.* <sup>4</sup>*Baylor University, Department of Biology, Waco, TX, The United States of America.* <sup>5</sup>*Baylor University, Institute of Biomedical Studies, Waco, TX, The United States of America*
- P417-0155** **A Review for the Best Practices for the Application and Preparation of SEND Datasets.** Sue McPherson<sup>1</sup>, Bei Zhou<sup>2</sup>, Cameron McPherson<sup>2</sup>. <sup>1</sup>*WuXi AppTec (Suzhou), Toxicology, Suzhou, China.* <sup>2</sup>*WuXi AppTec (Suzhou), RW, Suzhou, China*

- P418-0158** **Pioneering Better Science to Advance the 3Rs in Pharmaceutical Toxicity Testing.** Fiona Sewell<sup>1</sup>, Nikki Gellatly<sup>1</sup>, Helen Prior<sup>1</sup>. <sup>1</sup>National Centre for the Replacement, Refinement and Reduction of Animals in Research (NC3Rs), Toxicology and Regulatory Sciences, London, United Kingdom
- P419-0177** **A Review of Procedure-Induced Lesions in Sprague Dawley Rats and Cynomolgus Monkeys When Utilizing Continuous Intravenous Infusion as the Route of Administration.** Caibiao Hu<sup>1</sup>, Leo Pan<sup>2</sup>, Sue McPherson<sup>3</sup>. <sup>1</sup>WuXi AppTec (Suzhou), Toxicology, Suzhou, China. <sup>2</sup>WuXi AppTec (Suzhou), Toxicology, Suzhou, China. <sup>3</sup>WuXi AppTec (Suzhou), Toxicology, Suzhou, China
- P420-0269** **Preclinical Toxicology Testing Data for Alignment with the Regulatory Update of the Eurasian Economic Union.** Andrey Kukhareenko<sup>1</sup>, Abhijit Vichare<sup>2</sup>, Sushant Kamath<sup>2</sup>, Brinda Mahadevan<sup>2</sup>. <sup>1</sup>Abbott Laboratories, Global Preclinical Development, Moscow, The Russian Federation. <sup>2</sup>Abbott Healthcare Pvt Ltd, Global Preclinical Development, Mumbai, India
- P421-0435** **The Needleless Injection Site Swabbable Connector (NISSC): A Practical and Reliable Tool That Permits Dogs to be Exercised on Continuous Intravenous Infusion Studies.** Arsen Zakaryan<sup>1</sup>, Joseph Younan<sup>2</sup>, Djamel Bennamane<sup>3</sup>, Adrian Bocan<sup>4</sup>. <sup>1</sup>ITR Laboratories Canada Inc., Study Director, Baie-D'Urfe, Canada. <sup>2</sup>ITR Laboratories Canada Inc., VP, Sciences, Baie-D'Urfe, Canada. <sup>3</sup>ITR Laboratories Canada Inc., Director Veterinary Services, Baie-D'Urfe, Canada. <sup>4</sup>ITR Laboratories Canada Inc., Toxicology, Baie-D'Urfe, Canada
- P422-0536** **Development of QSAR Models to Predict Potential Nephrotoxic Ingredients in Traditional Chinese Medicines.** Yuqing Sun<sup>1</sup>, Shaoze Shi<sup>1</sup>, Yaqiu Li<sup>1</sup>, Qi Wang<sup>1</sup>. <sup>1</sup>Peking University, School of Public Health, Beijing, China
- P423-0569** **Toxicological Safety Assessment of Novel 5,6-Dihydropyridazine-1(4H)-Carbohydrazide: An Antitubercular Agent.** Ravinesh Mishra<sup>1</sup>, Anees Siddiqui<sup>2</sup>. <sup>1</sup>Baddi University of Emerging Sciences and Technology, School of Pharmacy and Emerging Sciences, Baddi, India. <sup>2</sup>Jamia Hamdard, Department of Pharmaceutical Chemistry, Faculty of Pharmacy, New Delhi, India
- P424-0609** **Prediction of Seizure Liability in Cultured Human iPSC-Derived Neurons Using MEA System.** Aoi Odawara<sup>1</sup>, Naoki Matsuda<sup>1</sup>, Yuto Ishibashi<sup>1</sup>, Ikuro Suzuki<sup>1</sup>. <sup>1</sup>Tohoku Institute of Technology, Department of electronics, Sendai, Japan
- P425-0815** **A 10-Week Telemetered Electroencephalographic and Cardiovascular Comparison between Two Sodium Channel Blockers in Sprague-Dawley Rats.** Rob Angus<sup>1</sup>, Joan Lane<sup>2</sup>, Alison Easter<sup>3</sup>, Ken Loveday<sup>1</sup>, Annick Prefontaine<sup>1</sup>, Claudia Harper<sup>4</sup>, Dale Morris<sup>1</sup>, Patricia Schroeder<sup>5</sup>, Kalyan Vasudevan<sup>6</sup>, Mike Rooney<sup>7</sup>, Kris King<sup>7</sup>, Simon Authier<sup>8</sup>. <sup>1</sup>Biogen, Preclinical Safety, Cambridge, MA, The United States of America. <sup>2</sup>Amgen, Comparative Biology and Safety Sciences, Cambridge, MA, The United States of America. <sup>3</sup>Praxis Precision Medicines, Cambridge, The United States of America. <sup>4</sup>AVROBIO, Cambridge, MA, The United States of America. <sup>5</sup>Forma Therapeutics, Watertown, MA, The United States of America. <sup>6</sup>Celgene, Summit, The United States of America. <sup>7</sup>Biogen, DMPK, Cambridge, MA, The United States of America. <sup>8</sup>Citoxlab, Laval, Canada
- P426-0824** **Safety Evaluation of Drugs Using PDX (Patient-Derived Xenograft) and Solid Cancer-Derived Organoid Culture Systems.** Mie Naruse<sup>1</sup>, Masako Ochiai<sup>1</sup>, Hirokazu Taniguchi<sup>2</sup>, Nobuyoshi Hiraoka<sup>2</sup>, Toshio Imai<sup>1</sup>. <sup>1</sup>National Cancer Center Research Institute, Central Animal Division, Tokyo, Japan. <sup>2</sup>National Cancer Center Research Institute, Pathology, Tokyo, Japan
- P427-0863** **Acute and Subacute Oral Toxicity Study of KCFC0051 in Rats.** Jeong doo Heo<sup>1</sup>, Kwang Hyun Hwang<sup>2</sup>, Yeon Gyu Moon<sup>1</sup>, Jeheon Kim<sup>1</sup>, Na Hyun Kim<sup>1</sup>, Woong soo Kim<sup>1</sup>, Ju Hong Lee<sup>1</sup>, Tae Kil Tak<sup>1</sup>, Jungil Choi<sup>1</sup>. <sup>1</sup>Korea Institute of Toxicology, Biological Resource Research Group, Jinju-si, The Republic of Korea. <sup>2</sup>Korea Institute of Toxicology, Biological Resource Research Group, Jinju-si, The Republic of Korea
- P428-0887** **Assessment of a 28-Day Oral Exposure to the Dietary Supplements Nattokinase and Lumbrokinase Alone or in Combination with Aspirin in Sprague-Dawley Rats.** Luisa Camacho<sup>1</sup>, Camila Silva<sup>1</sup>, Michelle Vanlandingham<sup>1</sup>, Ralph Patton<sup>2</sup>, Greg Olson<sup>2</sup>, R. Paul Felton<sup>1</sup>, Sherry Ferguson<sup>1</sup>, Charles Law<sup>1</sup>, Sibyl Swift<sup>3</sup>, Ali Abdel-Rahman<sup>3</sup>, Suzanne Fitzpatrick<sup>3</sup>. <sup>1</sup>US FDA/NCTR, NCTR, Jefferson, AR, The United States of America. <sup>2</sup>TPA, Jefferson, AR, The United States of America. <sup>3</sup>US FDA/CFRAN, CFRAN, College Park, MD, The United States of America
- P429-0905** **A Collaborative Effort to Establish Nonanimal Cosmetic Safety Assessment Globally by 2023.** Catherine Willett<sup>1</sup>. <sup>1</sup>Humane Society International, Research and Toxicology, Washington, DC, The United States of America
- P430-0949** **JSOH Evaluation of 1-Bromopropane Related to Setting an OEL.** Carr Smith<sup>1</sup>. <sup>1</sup>Albemarle Corporation, Toxicology, Mobile, The United States of America

## Poster Session 2: Wednesday, July 17, 4:30—6:30 PM

- P101 -0046** **Trace Element Concentrations in Atmospheric (PM10) Particles from la Habana, Cuba.** Yoagne Trapero Quintana<sup>1</sup>, Braulio Jimenez<sup>2</sup>, Michel Manduca<sup>3</sup>. <sup>1</sup>*Instituto de Farmacia y Alimentos, Farmacia, La Lisa, Cuba.* <sup>2</sup>*Center of Environmental and Toxicological Research, San Juan, Puerto Rico.* <sup>3</sup>*Instituto Superior de Tecnologías y Ciencias Aplicadas, Plaza, Cuba*
- P102 -0053** **Effect of the Exposure to Ambient Particulate Matter on Striatal Dopamine Transmission and Motor Activity.** María de los Angeles Andrade Oliva<sup>1</sup>, Yamin Debray García<sup>1</sup>, Juan Escamilla Sanchez<sup>1</sup>, Marisela Uribe Ramírez<sup>1</sup>, Benjamin Floran<sup>1</sup>, José Antonio Arias Montaña<sup>1</sup>, Andrea De Vizcaya Ruiz<sup>1</sup>. <sup>1</sup>*Center for Research and Advanced Studies (Cinvestav), Mexico City, Mexico*
- P103 -0097** **Serum Clara Cell Protein as a Pulmonary Damage Biomarker for Fine Particulate Matter Exposure in Chinese Population.** Yanhua Wang<sup>1</sup>, Zhenjie Wang<sup>1</sup>, Ting Wang<sup>1</sup>, Nan Wu<sup>2</sup>, Huawei Duan<sup>1</sup>. <sup>1</sup>*National Institute for Occupational Health and Poison Control, Chinese Center for Disease Control and Prevention, Beijing, China.* <sup>2</sup>*China Medical University School of Public Health, Shenyang, China*
- P104 -0141** **Estimates of the Global Burden of Meteorological Factors and Air Pollution on Hand, Foot, and Mouth Disease (HFMD) Infectious among Children.** Ruixue Huang<sup>1</sup>, Li He<sup>2</sup>. <sup>1</sup>*Central South University, Changsha, China.* <sup>2</sup>*Central South University, Changsha, China*
- P105 -0239** **AhR-Mediated Regulation of SOCS3-STAT3 Axis Is Involved in Downregulation of B[a]P-Induced Retinal Lesion.** Chi-Hao Tsai<sup>1</sup>, Yi Lee<sup>1</sup>, Yu-Wen Cheng<sup>2</sup>, Jaw-Jou Kang<sup>3</sup>. <sup>1</sup>*National Taiwan University, Institute of Toxicology, College of Medicine, Taipei, Taiwan.* <sup>2</sup>*Taipei Medical University, School of Pharmacy, College of Pharmacy, Taipei, Taiwan.* <sup>3</sup>*National Yang-Ming University, Faculty of Pharmacy, Taipei, Taiwan*
- P106 -0268** **Cytotoxicity of Ultrafine Diesel Exhaust Particles in Endothelial and Microglial Cell Monocultures and Mixed Coculture.** Grace Aquino<sup>1</sup>, Erica Bruce<sup>1</sup>, Amjad Dabi<sup>1</sup>. <sup>1</sup>*Baylor University, Department of Environmental Science, Waco, TX, The United States of America*
- P107 -0380** **Ambient Fine Particulate Matter Induced Pulmonary Vascular Lesions in Mice and Its Cellular Mechanisms.** Pinpin Lin<sup>1</sup>, Chia-Chi Ho<sup>1</sup>, Yu-Cheng Chen<sup>1</sup>, Ming-Hsien Tsai<sup>1</sup>, Hui-Ti Tsai<sup>1</sup>, Chen-Yi Weng<sup>1</sup>. <sup>1</sup>*National Health Research Institutes, National Institute of Environmental Health Sciences, Zhunan, China*
- P108 -0419** **The Hematological Effects of Airborne Fine Particles via the Interaction of the Kallikrein-Kinin, Complement, and Coagulation Systems** Xiaoting Jin<sup>1</sup>, Qunfang Zhou<sup>2</sup>, Guibin Jiang<sup>2</sup>. <sup>1</sup>*Chinese Academy of Sciences, Research Center for Eco-Environmental Sciences, Beijing, China.* <sup>2</sup>*Chinese Academy of Sciences, Research Center for Eco-Environmental Sciences, Beijing, China*
- P109 -0429** **Evaluation of Long-Term Exposure to Air Pollution in the Development of Systemic Lupus Erythematosus in NZBWF1 Mice.** Victor Yariwake<sup>1</sup>, Janaina Torres<sup>1</sup>, Amanda Silva<sup>2</sup>, Sylvia Farhat<sup>1</sup>, Niels Camara<sup>2,3</sup>, Mariana Veras<sup>1</sup>. <sup>1</sup>*University of São Paulo, School of Medicine, São Paulo, Brazil.* <sup>2</sup>*Federal University of São Paulo, Paulista School of Medicine, São Paulo, Brazil.* <sup>3</sup>*University of São Paulo, Institute of Biomedical Sciences, São Paulo, Brazil*
- P110 -0446** **Health Effects and Climate Change Caused by Fossil Fuels Compared with Other Energy Sources.** John Whysner<sup>1</sup>. <sup>1</sup>*Washington Occupational Health Associates, Inc., Toxicology, Santa Fe, NM, The United States of America*
- P111 -0496** **Comparative Study on Genotoxic Activity of Different Components of Fine Particulate Matter (PM<sub>2.5</sub>) Using *In Vitro* Bioassays.** Jing Yang<sup>1</sup>, Xiaoqian Chen<sup>1</sup>, Haowen Yin<sup>1</sup>, Ying Zhang<sup>1</sup>, Min Liu<sup>1</sup>, Lijuan Jia<sup>1</sup>, Yingzhi Wang<sup>1</sup>. <sup>1</sup>*Bioassay and Safety Assessment Laboratory, Shanghai Academy of Public Measurement, Shanghai, China*
- P112 -0497** **Role of Calcium-Related Signaling Pathway in Endothelial Cell Permeability Induced by PM<sub>2.5</sub>.** Yan Wang<sup>1</sup>, Meng Tang<sup>2</sup>. <sup>1</sup>*Southeast University, School of public health, Nanjing, China.* <sup>2</sup>*Southeast University, School of Public Health, Nanjing China*
- P113 -0524** **Sulfur Dioxide Monitoring Associated with the 2018 Kilauea Lower East Rift Zone Eruption.** Diana Felton<sup>1</sup>, G. Grange<sup>1</sup>, David Damby<sup>2</sup>, Alvin Bronstein<sup>3</sup>, Dan Spyker<sup>4</sup>. <sup>1</sup>*Hawaii Department of Health, Hazard Evaluation and Emergency Response Office, Honolulu, HI, The United States of America.* <sup>2</sup>*United States Geological Survey, Volcano Science Center, Menlo Park, CA, The United States of America.* <sup>3</sup>*Hawaii Department of Health, Emergency Medical Services Injury Prevention System Branch, Honolulu, HI, The United States of America.* <sup>4</sup>*Oregon Health and Science University, Emergency Medicine, Portland, OR, The United States of America*

- P114 -0552** **Transcriptomic Alterations Induced by Air Pollution–Derived PM<sub>2.5</sub> Reflect the Shift from Healthy to COPD-Diseased Human Bronchial Epithelium.** Sébastien Anthérieu<sup>1</sup>, Bérénice Leclercq<sup>1</sup>, Laurent Yves Alleman<sup>2</sup>, Esperanza Perdrix<sup>2</sup>, Patrice Coddeville<sup>2</sup>, Jean-Marc Lo-Guidice<sup>1</sup>, Guillaume Garçon<sup>1</sup>. <sup>1</sup>Univ. Lille, CHU Lille, Institut Pasteur de Lille, EA4483-IMPECS (IMPact of Environmental Chemicals on human health), Lille, France. <sup>2</sup>IMT Lille Douai, Univ. Lille, SAGE, Lille, France
- P115 -0573** **Time Course of Olfactory Epithelium Damages after Cessation of Inhalation Exposure to <sup>2</sup>-Ethyl-1-Hexanol in Mice.** Mio Miyake<sup>1</sup>, Yuki Ito<sup>1</sup>, Naoko Oya<sup>1</sup>, Hiroataka Sato<sup>1</sup>, Takanari Wakayama<sup>1</sup>, Michihiro Kamijima<sup>1</sup>. <sup>1</sup>Nagoya City University Graduate School of Medical Sciences, Occupational and Environmental Health, Nagoya, Japan
- P116 -0607** **Naphthalene-Increased CYP2F1 Expression Is Mediated via Activation of NF-κB Signaling Pathway in Retina Pigment Epithelium Cell.** Yi-Shiou Wei<sup>1</sup>, Chi-Hao Tsai<sup>1</sup>, Yu-Wen Cheng<sup>2</sup>, Jaw-Jou Kang<sup>3</sup>. <sup>1</sup>National Taiwan University, Institute of Toxicology, College of Medicine, Taipei, Taiwan. <sup>2</sup>Taipei Medical University, School of Pharmacy, College of Pharmacy, Taipei, Taiwan. <sup>3</sup>National Yang-Ming University, Faculty of Pharmacy, Taipei, Taiwan
- P117 -0622** **Dynamic Ozone-Induced Gene Expression Changes in Lung, Liver, and Adrenals during Early Time Point and Adaptation: The Influence of Long-Term Glucocorticoid Pretreatment.** Andres Henriquez<sup>1</sup>, Samantha Snow<sup>2</sup>, John House<sup>3</sup>, Mette Schladweiler<sup>2</sup>, Colette Miller<sup>2</sup>, Urmila Kodavanti<sup>2</sup>. <sup>1</sup>Oak Ridge Institute for Science and Education, Oak Ridge, TN, The United States of America. <sup>2</sup>US EPA/NHEERL, Research Triangle Park, NC, The United States of America. <sup>3</sup>North Carolina State University Bioinformatics Research Center, Raleigh, NC, The United States of America
- P118 -0661** **Mitochondrial Oxidative Stress and Energy Metabolism Disruption Are Involved in COF-Induced Hepatotoxicity.** Youqiong Xu<sup>1</sup>, Xiaoyang Zhang<sup>1</sup>, Meiling Zhou<sup>1</sup>. <sup>1</sup>Fuzhou Center for Disease Control and Prevention, Fuzhou, China
- P119 -0758** **Hazard Identification, Exposure Assessment an *In Vitro* Toxicity Assessment of Dust Emissions from South African Gold Mine Tailings Sites.** Charlene Andraos<sup>1</sup>, Mary Gulumian<sup>1,2</sup>. <sup>1</sup>National Institute for Occupational Health, Toxicology and Biochemistry, Johannesburg, South Africa. <sup>2</sup>University of the Witwatersrand, Haematology and Molecular Medicine, Johannesburg, South Africa
- P120 -0769** **Prenatal Urinary Polycyclic Aromatic Hydrocarbon Metabolites, Global DNA Hydroxymethylation, and Neurodevelopment at <sup>2</sup>–3 Years of Age.** Jisheng Nie<sup>1</sup>, Jinyu Li<sup>1</sup>, Qiao Niu<sup>1</sup>, Deliang Tang<sup>2</sup>. <sup>1</sup>Shanxi Medical University, School of Public Health, Taiyuan, China. <sup>2</sup>Columbia University, Department of Environmental Health Sciences, Mailman School of Public Health, New York, Armenia
- P121 -0811** **Organic Particulate Matter 10 (PM<sub>10</sub>) in Transported African Dust at an Urban and Rural Town in Puerto Rico: *In Vitro* Implications to the Etiological and Geographical Assessment of Asthma** Fernando Isart<sup>1</sup>. <sup>1</sup>University of Puerto Rico, Biology, San Juan, PR, The United States of America
- P122 -0875** **Military Working Dogs: Unlocking the Mystery of Deployment-Related Exposures and Health.** Terra Vincent<sup>1</sup>, Erin Dursa<sup>2</sup>, Sheldon Waugh<sup>3</sup>, Sara Mullaney<sup>3</sup>. <sup>1</sup>Environmental Health Program, Post-Deployment Health Services, Department of Veterans Affairs, Washington, DC, The United States of America. <sup>2</sup>Epidemiology Program, Post-Deployment Health Services, Department of Veterans Affairs, Washington, DC, The United States of America. <sup>3</sup>One Health Division, Veterinary Services and Public Health Sanitation Directorate, US Army Public Health Center, Aberdeen Proving Ground, MD, The United States of America
- P123 -0893** **Levels of Trace Elements, PCDD/Fs, and PCBs in the Surroundings of a Municipal Solid Waste Incinerator: Assessing Health Risks.** Montse Marquès<sup>1</sup>, Joaquim Rovira<sup>1</sup>, José Luis Domingo<sup>1</sup>, Martí Nadal<sup>1</sup>. <sup>1</sup>URV-IISPV, Laboratory of Toxicology and Environmental Health, School of Medicine, Reus, Spain
- P124 -0915** **Traffic Road Dust–Derived Particulate Matter Aggravates Allergic Inflammation.** Hyun Soo Lee<sup>1</sup>, Sehyun Han<sup>2</sup>, Ki-Joon Jeon<sup>3</sup>. <sup>1</sup>Catholic University of Korea College of Medicine, Ophthalmology, Seoul, The Republic of Korea. <sup>2</sup>Inha University, Environmental Engineering, Incheon, The Republic of Korea. <sup>3</sup>Inha University, Inha University, Incheon, The Republic of Korea
- P125 -0916** **Methylation Profiles in Newborns from Diverse Air Polluted Localities in the Czech Republic.** Katerina Honkova<sup>1</sup>, Kristyna Vrbova<sup>1</sup>, Andrea Rossnerova<sup>1</sup>, Radim Sram<sup>1</sup>, Jan Topinka<sup>1</sup>. <sup>1</sup>Institute of Experimental Medicine CAS, Department of Genetic Toxicology and Nanotoxicology, Prague, The Czech Republic
- P126 -0917** **Outdoor Physical Exercise and Health Implications.** Joana Madureira<sup>1,2</sup>, Emerson Antonio Brancher<sup>3</sup>. <sup>4</sup>, Ricardo Aurino de Pinho<sup>5</sup>, João Paulo Teixeira<sup>1,2</sup>. <sup>1</sup>EIPUnit, Instituto de Saúde Pública, Universidade do Porto, EPIUnit, Porto, Portugal. <sup>2</sup>National Institute of Health, Environmental Health Department, Porto, Portugal. <sup>3</sup>Universidade do Extremo Sul Catarinense, Laboratório de Fisiologia e Bioquímica do Exercício (LAFIBE), Criciúma, Brazil. <sup>4</sup>Universidade Regional de Blumenau,

*Departamento de Educação Física, Blumenau, Brazil. <sup>5</sup>School of Medicine, Pontifícia Universidade Católica do Paraná, Laboratory of Exercise Biochemistry in Health, Graduate Program in Health Sciences, Curitiba, Brazil*

- P127 -0082** **Ether-Phosphatidylcholine Characterized by Consolidated Plasma and Liver Lipidomics Is a Predictive Biomarker for Valproic Acid–Induced Hepatic Steatosis.** Keisuke Goda<sup>1</sup>, Kosuke Saito<sup>2</sup>, Kyotaka Muta<sup>1</sup>, Akio Kobayashi<sup>1</sup>, Yoshiro Saito<sup>2</sup>, Shoichiro Sugai<sup>1</sup>. <sup>1</sup>*Japan Tobacco Inc., Toxicology Research Lab., Central Pharmaceutical Research Institute, Hadano, Japan.* <sup>2</sup>*National Institute of Health Sciences, Division of Medicinal Safety Science, Kawasaki, Japan*
- P128 -0083** **Evaluation of Exosomes as Toxic Biomarkers.** Ryuichi Ono<sup>1</sup>, Yusuke Yoshioka<sup>2</sup>, Yusuke Furukawa<sup>1</sup>, Takahiro Ochiya<sup>2,3</sup>, Satoshi Kitajima<sup>1</sup>, Yoko Hirabayashi<sup>4</sup>. <sup>1</sup>*National Institute of Health Sciences, Division of Cellular and Molecular Toxicology, Center for Biological Safety and Research, Kawasaki, Japan.* <sup>2</sup>*National Cancer Center Research Institute, Division of Molecular and Cellular Medicine, Tokyo, Japan.* <sup>3</sup>*Tokyo Medical University, Tokyo, Japan.* <sup>4</sup>*National Institute of Health Sciences, Center for Biological Safety and Research, Kawasaki, Japan*
- P129 -0201** **Comparison of Modeled Internal Exposures to Di(2-ethylhexyl)phthalate from Foods and Cosmetics with Urinary Metabolite Concentrations—Results from the EuroMix Biomonitoring Study.** Trine Husøy<sup>1</sup>, Maria Martínez<sup>2</sup>, Vikas Kumar<sup>2</sup>, Monica Andreassen<sup>1</sup>, Friederike Sonnet<sup>1</sup>, Amrit Sakhi<sup>3</sup>, Hubert Dirven<sup>1</sup>. <sup>1</sup>*Norwegian Institute of Public Health, Department of Toxicology and Risk Assessment, Oslo, Norway.* <sup>2</sup>*Universitat Rovira i Virgili, Tarragona, Spain.* <sup>3</sup>*Norwegian Institute of Public Health, Environmental Exposure and Epidemiology, Oslo, Norway*
- P130 -0202** **Exposure to a Mixture of Phthalates as Measured in <sup>24</sup>-Hour Urine and Associations with Food Intake and Use of Personal Care Products—Results from the EuroMix Biomonitoring Study.** Trine Husøy<sup>1</sup>, Monica Andreassen<sup>1</sup>, Hege Hjertholm<sup>1</sup>, Monica Carlsen<sup>2</sup>, Amrit Sakhi<sup>3</sup>, Azemira Sabaredzovic<sup>3</sup>, Hubert Dirven<sup>1</sup>. <sup>1</sup>*Norwegian Institute of Public Health, Department of Toxicology and Risk Assessment, Oslo, Norway.* <sup>2</sup>*University of Oslo, Institute of Basic Medical Sciences, Oslo, Norway.* <sup>3</sup>*Norwegian Institute of Public Health, Environmental Exposure and Epidemiology, Oslo, Norway*
- P131 -0241** **P21 Might Be a Potential Early Toxicity Biomarker of DNA Damage and Hematopoietic Depression by Benzene Exposure.** Bosheng Wang<sup>1</sup>, Hong Zhang<sup>1</sup>, Xiaoqin Li<sup>2</sup>, Yanhua Zhou<sup>1</sup>, Tong Wang<sup>1</sup>, Mengying Zhang<sup>1</sup>, Rongli Sun<sup>1</sup>, Kun Wang<sup>1</sup>, Wu Jin<sup>2</sup>, Lihong Yin<sup>1</sup>, Yuepu Pu<sup>1</sup>, Juan Zhang<sup>1</sup>. <sup>1</sup>*Southeast University, Key Laboratory of Environmental Medicine Engineering of Ministry of Education, School of Public Health, Nanjing, China.* <sup>2</sup>*Yangzhou Center for Disease Control and Prevention, Occupation health department Yangzhou, China*
- P132 -0282** **Molecular Mechanism of Low Expression of miR-486-5p in Lung Squamous Cell Carcinoma.** Sheng Yang<sup>1</sup>, Geyu Liang<sup>1</sup>, Wenjuan Wu<sup>1</sup>, Jing Sui<sup>1</sup>, Tong Liu<sup>1</sup>, Yanping Cheng<sup>1</sup>, Lihong Yin<sup>1</sup>, Yuepu Pu<sup>1</sup>. <sup>1</sup>*Key Laboratory of Environmental Medicine Engineering, Ministry of Education, School of Public Health, Southeast University, Nanjing, China*
- P133 -0292** **8-Hydroxyguanine as an Oxidative Stress Biomarker in Saliva.** Kazuaki Kawai<sup>1</sup>, Yuya Kawasaki<sup>1</sup>, Yun-Shan Li<sup>1</sup>, Shintaro Watanabe<sup>1</sup>, Hiroshi Kasai<sup>1</sup>. <sup>1</sup>*University of Occupational and Environmental Health, Japan, Department of Environmental Oncology, Kitakyushu, Japan*
- P134 -0338** **Biomarkers of Acute Toxicity by Carbon Monoxide in a Cohort Study of Patients in Argentina.** Analia Cortez<sup>1,2</sup>, Rocío Galarza<sup>3</sup>, Carlos Damin<sup>1,2</sup>, Alicia Faletti<sup>1,3</sup>. <sup>1</sup>*Primera Cátedra de Toxicología, Departamento de Toxicología y Farmacología, Ciudad A. de Buenos Aires, Argentina.* <sup>2</sup>*Hospital General de Agudos Juan A. Fernández, Departamento de Urgencias, Ciudad A. de Buenos Aires, Argentina.* <sup>3</sup>*Centro de Estudios Farmacológicos y Botánicos (CEFYBO)-CONICET, Facultad de Medicina-Universidad de Buenos Aires, Argentina, CABA, Argentina*
- P135 -0351** **The Potential Mechanisms of Cytotoxicity Induced by Halobenzoquinone Water Disinfection Byproducts.** Jinhua Li<sup>1</sup>, Xing-Fang Li<sup>2</sup>. <sup>1</sup>*School of Public Health, Jilin University, Health Toxicology, Changchun, China.* <sup>2</sup>*University of Alberta, Laboratory Medicine and Pathology, Edmonton, Canada*
- P136 -0371** **Subclinical Nephrotoxicity Associated with Chelation Therapy in Young Thalassemia Patients: The Role of Urinary Kidney Injury Molecule.** Ola Nafea<sup>1</sup>, Marwa Zakaria<sup>2</sup>, Tamer Hassan<sup>2</sup>, Sherif Elgebal<sup>2</sup>, Hosam Salah<sup>3</sup>. <sup>1</sup>*Zagazig University, Forensic Medicine and Clinical Toxicology, Zagazig, Egypt.* <sup>2</sup>*Zagazig University, Pediatric Department, Zagazig, Egypt.* <sup>3</sup>*Zagazig University, Clinical Pathology Department, Zagazig, Egypt*
- P137 -0394** **The Effects of Indirect Toxicity to Vascular Endothelial Dysfunction by Respiratory Exposure to Single-Walled Carbon Nanotubes.** Zhuge Xi<sup>1</sup>, Jun Yan<sup>2</sup>, Tie Han<sup>2</sup>, Xiaohua Liu<sup>2</sup>, Bencheng Lin<sup>2</sup>. <sup>1</sup>*Tianjin Institute of Environmental and Operational Medicine, Tianjin Institute of Environmental and Operational Medicine, Tianjin, China.* <sup>2</sup>*Tianjin Institute of Environmental and Operational Medicine, Department of Toxicology, Tianjin, China*

- P138 -0424** **Effect of Estrogen on Tumor Progression in Gastric Cancer Cells–Derived Xenograft Models.** Joohee Jung<sup>1,2</sup>, Kyoung Mee Kim<sup>1,2</sup>, Sun Yi Lee<sup>2</sup>. <sup>1</sup>*Duksung Women's University, College of Pharmacy, Seoul, The Republic of Korea.* <sup>2</sup>*Duksung Women's University, Innovative Drug Center Seoul, The Republic of Korea*
- P139 -0428** **AdductomicsPT: A New Mass Spectrometry–Based Adductomics Pipeline for Toxicology Studies.** Alexandra Antunes<sup>1</sup>, João Nunes<sup>1</sup>, Catarina Charneira<sup>1</sup>, Sofia Gouveia-Fernandes<sup>2,3</sup>, Jacinta Serpa<sup>2,3</sup>, Judit Morello<sup>1</sup>. <sup>1</sup>*Instituto Superior Técnico, ULisboa, Centro de Química Estutural, Lisboa, Portugal.* <sup>2</sup>*Faculdade de Ciências Médicas, Universidade Nova de Lisboa, Centro de Estudos de Doenças Crónicas (CEDOC), Lisboa, Portugal.* <sup>3</sup>*Instituto Português de Oncologia de Lisboa Francisco Gentil, Lisboa, Portugal*
- P140 -0494** **ASB15 and RBM45, the Novel Target Genes of HIF-1 $\alpha$  Involved in Benzene Hematopoietic Toxicity.** Zhaodi Man<sup>1</sup>, Fengxia Sun<sup>1</sup>, Yunqiu Pu<sup>1</sup>, Shuangbin Ji<sup>1</sup>, Kai Xu<sup>1</sup>, Rongli Sun<sup>1</sup>, Lihong Yin<sup>1</sup>, Juan Zhang<sup>1</sup>, Yuepu Pu<sup>1</sup>. <sup>1</sup>*Southeast University, Key Laboratory of Environmental Medicine Engineering of Ministry of Education, School of Public Health, Nanjing, China*
- P141 -0530** **The Concept of “Signal Toxicity” for the Mechanistic Analysis of So-Called Low Dose Effect and Delayed Effect after Perinatal Exposure.** Jun Kanno<sup>1,2</sup>, Ken-ichi Aisaki<sup>2</sup>, Satoshi Kitajima<sup>2</sup>, Kentaro Tanemura<sup>3</sup>. <sup>1</sup>*Japan Bioassay Research Center, Japan Organization of Occupational Health and Safety, Hadano, Japan.* <sup>2</sup>*National Institute of Health Sciences, Division of Cellular & Molecular Toxicology, Center for Biological Safety & Research, Kawasaki, Japan.* <sup>3</sup>*Tohoku University, Laboratory of Animal Reproduction and Development Graduate School of Agricultural Science, Sendai, Japan*
- P142 -0600** **Physiological Biomarkers of Low-Level VX Exposure in the New Zealand White Rabbit.** Michael Horsmon<sup>1</sup>, Nicole Vincelli<sup>1</sup>, Chelsea Kotlowski<sup>2</sup>, Shelby Roe<sup>2</sup>, Theodore Moran<sup>1</sup>. <sup>1</sup>*US Army Chemical Biological Research and Development Center, Operational Toxicology, Gunpowder, MD, The United States of America.* <sup>2</sup>*Excet Inc., Springfield, VA, The United States of America*
- P143 -0603** **aProximate Proximal Tubule Model as a Predictive Model of Aminoglycoside Nephrotoxicity Using Clinical Relevant Biomarkers of Toxicity.** Colin Brown<sup>1</sup>, Mike Nicholds<sup>1</sup>, Git Chung<sup>1</sup>, Keith Pye<sup>1</sup>, Lyle Armstrong<sup>1</sup>. <sup>1</sup>*Newcells Biotech, Newcastle upon Tyne, United Kingdom*
- P144 -0712** **2-Alkenal Modification of Hemoglobin: Identification of a Novel Hemoglobin-Specific Alkanoic Acid-Histidine Adduct.** Jun Yoshitake<sup>1</sup>, Takahiro Shibata<sup>1</sup>, Koji Uchida<sup>2</sup>. <sup>1</sup>*Nagoya University, Graduate School of Bioagricultural Sciences, Nagoya, Japan.* <sup>2</sup>*The University of Tokyo, Graduate School of Agricultural and Life Sciences, Tokyo, Japan*
- P145 -0755** **Antioxidant Enzymes and BDNF as Biomarkers of Oxidative Stress–Induced Neurodegeneration Such as Amnesia.** Mee Ree Kim<sup>1</sup>. <sup>1</sup>*Chungnam National University, Food & Nutrition, Daejeon, The Republic of Korea*
- P146 -0776** **The Effect of Betel Quid Chewing on Smoking-Induced Oxidative Stress.** Hsiao Tung Ko<sup>1</sup>, Guor-Jien Wei<sup>1</sup>, Hsiang-Tsui Wang<sup>2</sup>, Han-Hsing Tsou<sup>3</sup>, Tsung-Yun Liu<sup>1</sup>. <sup>1</sup>*National Yang-Ming University Institute of Food Safety and Health Risk Assessment, Institute of Food Safety and Health Risk Assessment, Taipei, Taiwan.* <sup>2</sup>*National Yang-Ming University Institute of Pharmacology, Institute of Pharmacology, National Yang-Ming University, Taipei, Taiwan.* <sup>3</sup>*National Yang-Ming University Institute of Environmental and Occupational Health Science, Institute of Environmental and Occupational Health Science, Taipei, Taiwan*
- P147 -0850** **A Toxicology MOOC (Massive Online Open Course) for Different Learning Needs.** Rosa Laura Vicente Vicente<sup>1,2,3</sup>, Marta Prieto<sup>1,2,3</sup>, Moises Pescador<sup>1,2</sup>, Alfredo Casanova<sup>1,2,3</sup>, María Teresa Hernández-Sánchez<sup>1,2,3</sup>, Ana Isabel Morales-Martín<sup>1,2,3</sup>. <sup>1</sup>*University of Salamanca, Toxicology Unit, Salamanca, Spain.* <sup>2</sup>*University of Salamanca, Translational Research on Renal and Cardiovascular Diseases (TRECARD), Salamanca, Spain.* <sup>3</sup>*Institute of Biomedical Research of Salamanca (IBSAL), Salamanca, Spain*
- P148 -0856** **Identification of Protein Markers Predictive of Adverse Effects Due to Chemical Mixture Exposures.** Yue Ge<sup>1</sup>, Maribel Bruno<sup>1</sup>, Aimen Farraj<sup>1</sup>, Brian Chorley<sup>1</sup>. <sup>1</sup>*US EPA, Integrated Systems Toxicology Division, Durham, NC, The United States of America*
- P149 -0868** **A New Biomarker Capable to Predict Nephrotoxicity Caused by Contrast Media in Cardiological Patients.** María Teresa Hernández-Sánchez<sup>1,2,3</sup>, Ignacio Cruz-González<sup>3,4</sup>, Rosa Laura Vicente Vicente<sup>1,2,3</sup>, Marta Prieto<sup>1,2,3</sup>, Alfredo Casanova<sup>1,2,3</sup>, Moises Pescador<sup>1,2</sup>, Francisco Lopez-Hernandez<sup>2,3</sup>, Ana Isabel Morales-Martín<sup>1,2,3</sup>. <sup>1</sup>*University of Salamanca, Toxicology Unit, Salamanca, Spain.* <sup>2</sup>*University of Salamanca, Translational Research on Renal and Cardiovascular Diseases (TRECARD), Salamanca, Spain.* <sup>3</sup>*Institute of Biomedical Research of Salamanca (IBSAL), Salamanca, Spain.* <sup>4</sup>*University Hospital of Salamanca, Cardiology Department, Salamanca, Spain*

- P150 -0869** **Correlation between Tobacco Use and Biomarkers of Early Kidney Damage.** Alfredo Casanova<sup>1,2,3</sup>, Francisco J. Sanz-Parras<sup>4</sup>, Marta Prieto<sup>1,2,3</sup>, Rosa Laura Vicente Vicente<sup>1,2,3</sup>, María Teresa Hernández-Sánchez<sup>1,2,3</sup>, Moises Pescador<sup>1,2</sup>, Ana Isabel Morales-Martín<sup>1,2,3</sup>. <sup>1</sup>University of Salamanca, Toxicology Unit, Salamanca, Spain. <sup>2</sup>University of Salamanca, Translational Research on Renal and Cardiovascular Diseases (TRECARD), Salamanca, Spain. <sup>3</sup>Institute of Biomedical Research of Salamanca (IBSAL), Salamanca, Spain. <sup>4</sup>Servicio Extremeño de Salud, Cáceres, Spain
- P151 -0874** **Toxicity of CMIT/MIT, a Humidifier Disinfectant on Eye-Dryness and Metabolomic Profile Using <sup>1</sup>H-NMR Metabolomics in Rats.** Jung Dae Lee<sup>1</sup>, Jin ju Park<sup>2</sup>, Jueng Eun Im<sup>2</sup>, Hyang Yeon Kim<sup>2</sup>, Soo bean Oh<sup>3</sup>, Hyeyoon Goo<sup>3</sup>, Kyong Jin Cho<sup>3</sup>, Suhkmann Kim<sup>4</sup>, Byung-Mu Lee<sup>5</sup>, Kyu-Bong Kim<sup>2</sup>. <sup>1</sup>Sungkyunkwan University, College of Pharmacy, Suwon, The Republic of Korea. <sup>2</sup>Dankook University, College of Pharmacy, Cheonan, The Republic of Korea. <sup>3</sup>Dankook University, College of Medicine, Cheonan, The Republic of Korea. <sup>4</sup>Pusan National University, Department of Chemistry and Chemistry Institute of Functional Materials, Busan, The Republic of Korea. <sup>5</sup>Sungkyunkwan University, College of Pharmacy, Suwon, The Republic of Korea
- P152 -0900** **An In Vitro Analysis of PPARα and CYP4A as Potential Biomarkers for Perfluoroalkyl Acid Exposure in Cetacean Kidney Cells.** Kaylee Kautz<sup>1</sup>, Jennette VanderJagt<sup>1</sup>, Jennifer Lynch<sup>2,3</sup>, Brenda Jensen<sup>1</sup>, Yongli Chen<sup>1</sup>. <sup>1</sup>Hawaii Pacific University, College of Natural and Computational Sciences, Kaneohe, HI, The United States of America. <sup>2</sup>National Institute of Standards and Technology, Chemical Sciences Division Waimanalo, HI, The United States of America. <sup>3</sup>Hawaii Pacific University, Waimanalo, HI, The United States of America
- P153 -0920** **Betel Quid Containing Safrole Enhances Metabolic Activation of Tobacco-Specific. <sup>4</sup>-(methylnitrosamino)-1-(3-pyridyl)-1-butanone (NNK).** Hsiang-Tsui Wang<sup>1</sup>, Han-Hsing Tsou<sup>2</sup>, Hsiao Tung Ko<sup>3</sup>, Chia-Tzu Chen<sup>2</sup>, Tse-Wen Wang<sup>4</sup>, Chien-Hung Lee<sup>5</sup>, Tsung-Yun Liu<sup>4</sup>. <sup>1</sup>National Yang-Ming University, Department of Pharmacology, Taipei, Taiwan. <sup>2</sup>National Yang-Ming University Institute of Environmental and Occupational Health Sciences, Institute of Environmental and Occupational Health Sciences, Taipei, Taiwan. <sup>3</sup>National Yang-Ming University Institute of Food Safety and Health Risk Assessment, Institute of Food Safety and Health Risk Assessment, Taipei, Taiwan. <sup>4</sup>National Yang-Ming University Institute of Food Safety and Health Risk Assessment, School of Pharmaceutical Sciences, Taipei, Taiwan. <sup>5</sup>Kaohsiung Medical University, Department of Public Health, College of Health Sciences, Kaohsiung, Taiwan
- P154 -0947** **Urine Metabolomics of a Standardised *Andrographis paniculata* Aqueous Extract in a Rat Model of Neuroinflammation.** Dahiru Sani<sup>1</sup>, Johnson Stanslas<sup>2</sup>, Hamidon Basri<sup>2</sup>, Brian Kirby<sup>3</sup>. <sup>1</sup>Ahmadu Bello University, Veterinary Pharmacology and Toxicology, Zaria, Nigeria. <sup>2</sup>Universiti Putra Malaysia, Medicine, Serdang, Malaysia. <sup>3</sup>Royal College of Surgeons in Ireland, Dublin, Ireland
- P155 -0017** **Epigenetic Mechanism of Hexavalent Chromium-Induced Cell Transformation, Cancer Stem Cell-Like Property, and Tumorigenesis.** Chengfeng Yang<sup>1</sup>, Zhishan Wang<sup>1</sup>. <sup>1</sup>University of Kentucky, Department of Toxicology and Cancer Biology, Lexington, KY, The United States of America
- P156 -0019** **Arsenic and Benzo(a)pyrene Co-exposure Synergizes in Inducing Cancer Stem Cell-Like Property, Cell Malignant Transformation, and Lung Tumorigenesis in Mice.** Zhishan Wang<sup>1</sup>, Chengfeng Yang<sup>1</sup>. <sup>1</sup>University of Kentucky, Department of Toxicology and Cancer Biology, Lexington, KY, The United States of America
- P157 -0042** **Ne-carboxymethyl-lysine, a Major Member of Advanced Glycation End Products, Promotes Tumor Malignancy of Breast Cancers via Activation of RAGE/SIRT6 Axis In Vitro and In Vivo.** Chen-Yuan Chiu<sup>1</sup>, Chiung-Jung Wen<sup>2</sup>, Shing-Hwa Liu<sup>3</sup>. <sup>1</sup>Institute of Food Safety and Health, National Taiwan University, Taipei, Taiwan. <sup>2</sup>National Taiwan University Hospital Department of Geriatrics and Gerontology, Taipei, Taiwan. <sup>3</sup>Institute of Toxicology, National Taiwan University, Taipei, Taiwan
- P158 -0119** **Seed Oils of *Centranthus ruber* and *Valeriana officinalis* Contain Conjugated Linolenic Acids and Have a Cytotoxic Effect on Cancer Cells.** Taro Honma<sup>1</sup>, Ikumi Sato<sup>1</sup>, Nobuhiro Shiratani<sup>2</sup>, Yuki Banno<sup>2</sup>, Tsutomu Takayanagi<sup>2</sup>, Kayoko Kita<sup>1</sup>, Toshihide Suzuki<sup>1</sup>. <sup>1</sup>Teikyo University, Laboratory of Toxicology, Faculty of Pharma-Science, Itabashi-ku, Japan. <sup>2</sup>Tokyo University of Technology, School of Bioscience and Biotechnology, Hachioji, Japan
- P159 -0156** **Inhibitory Effect of Sesamin on CYP1A1 and CYP1B1 Expression in Breast Cancer Cells via Prevention of Aryl Hydrocarbon Receptor.** Thi Hoa Pham<sup>1</sup>, Sun Woo Jin<sup>1</sup>, Hye Gwang Jeong<sup>1</sup>. <sup>1</sup>Chungnam National University, Department of Toxicology, College of Pharmacy, Daejeon, The Republic of Korea
- P160 -0196** **Adaptive Response of Cadmium with Decreasing Concentrations to Apoptosis in Human Myelomonocytic Lymphoma U937 Cells and Its Molecular Mechanism.** Hidekuni Inadera<sup>1</sup>, S. A. Zakki<sup>1</sup>, Lu Sun<sup>1</sup>, Qian-Wen Feng<sup>1</sup>, Meng-Ling Li<sup>1</sup>, Zheng-Guo Cui<sup>1</sup>. <sup>1</sup>University of Toyama, Department of Public Health, Graduate School of Medicine and Pharmaceutical Sciences, Toyama, Japan

- P161 -0210** **Nrf2 Accumulation and PI3K Akt Activation upon Exposure to Arsenate Bring about Autophagy Deficiency through Novel Signal Transduction Pathway in Human Keratinocyte Transformation.** Qianlei Yang<sup>1</sup>, Jing Wu<sup>1</sup>, Yiping Ni<sup>1</sup>, Jiayuan Mao<sup>1</sup>, Yasuyo Shimoda<sup>2</sup>, Xuerui Zhu<sup>1</sup>, Shasha Tao<sup>3</sup>, Koichi Kato<sup>2</sup>, Kenzo Yamanaka<sup>2</sup>, Jie Zhang<sup>1</sup>, Yan An<sup>1</sup>. <sup>1</sup>*School of Public Health, Medical College of Soochow University, Department of Toxicology, Suzhou, China.* <sup>2</sup>*Nihon University School of Pharmacy, Laboratory of Environmental Toxicology and Carcinogenesis, Funabashi, Japan.* <sup>3</sup>*School of Public Health, Medical College of Soochow University, Department of Labor and Environmental Hygiene, Suzhou, China*
- P162 -0215** **CYP1B1 Induces XIAP Stability and Activity through Phosphorylation of PKC-ε in Human Breast Cancer Cells.** Hyoung-Seok Bae<sup>1</sup>, Yeo-Jung Kwon<sup>1</sup>, Dong-Jin Ye<sup>1</sup>, Tae-Uk Kwon<sup>1</sup>, Young-Jin Chun<sup>1</sup>. <sup>1</sup>*Chung-Ang University, College of Pharmacy, Seoul, The Republic of Korea*
- P163 -0264** **Improving Formalin-Fixed Paraffin-Embedded (FFPE) Clinical Samples for Variant Calling and Mutant Detection.** Leah Wehmas<sup>1</sup>, Charles Wood<sup>2</sup>, Ping Guan<sup>3</sup>, Helen Moore<sup>3</sup>, Carole Yauk<sup>4</sup>, Lauren Peel<sup>5</sup>, Mark Gosink<sup>6</sup>, Susan Hester<sup>7</sup>. <sup>1</sup>*US EPA, ORD, Durham, NC, The United States of America.* <sup>2</sup>*Boehringer Ingelheim, Ridgefield, CT, The United States of America.* <sup>3</sup>*National Cancer Institute, Bethesda, MD, The United States of America.* <sup>4</sup>*Health Canada, Ottawa Canada.* <sup>5</sup>*HESI, Washington, DC, The United States of America.* <sup>6</sup>*Pfizer, Groton, CT, The United States of America.* <sup>7</sup>*US EPA, Durham, NC, The United States of America*
- P164 -0355** **Zearalenone Promotes Colon Cancer Cell Proliferation via GPER.** Kwun Kwan Lo<sup>1</sup>, Jetty Chung-Yung Lee<sup>1</sup>, Hani El-Nezami<sup>1</sup>. <sup>1</sup>*The University of Hong Kong, School of Biological Sciences, Hong Kong, China*
- P165 -0454** **The Role of NF-κB and AhR in Pb-Mediated Immune Toxic Effects on A549 Lung Cancer Cells.** Attafi Ibraheem Mohammed<sup>1</sup>, Saleh Albakheet<sup>2</sup>, Hesham Korashy<sup>3</sup>. <sup>1</sup>*Ministry of Health, Poison Control & Medical Forensic Chemistry Center, General Directorate of Health Affairs, Jazan, Saudi Arabia.* <sup>2</sup>*King Saud University, Department of Pharmacology & Toxicology, College of Pharmacy, Riyadh, Saudi Arabia.* <sup>3</sup>*Qatar University, Pharmaceutical Sciences Section, College of Pharmacy, Doha, Qatar*
- P166 -0501** **Pterostilbene Triggers Endoplasmic Reticulum Stress-Mediated Autophagy and Apoptosis in Human Hepatocellular Carcinoma Cells.** Hui-Ling Chiou<sup>1</sup>, Chen-Lin Yu<sup>2</sup>, Yi-Hsien Hsieh<sup>3</sup>. <sup>1</sup>*Chung Shan Medical University, School of Medical Laboratory and Biotechnology, Taichung, Taiwan.* <sup>2</sup>*Chung Shan Medical University, Institute of Medicine, Taichung, Taiwan.* <sup>3</sup>*Chung Shan Medical University, Department of Biochemistry, School of Medicine, Taichung, Taiwan*
- P167 -0703** **Bioactive Fractions of *Rhus trilobata* Induce Apoptosis on Colon Cancer Cells (CaCo-2) by Activation of Caspase-9.** Lori Hajar<sup>1</sup>, Carmen Gonzalez-Horta<sup>1</sup>, David Chavez-Flores<sup>1</sup>, Blanca Sánchez-Ramírez<sup>1</sup>, Patricia Talamás-Rohana<sup>2</sup>. <sup>1</sup>*Universidad Autónoma de Chihuahua, Facultad de Ciencias Químicas, Chihuahua, Mexico.* <sup>2</sup>*Cinvestav, Department of infectomy and molecular pathogenesis, Mexico City, Mexico*
- P168 -0718** **LncRNA MALAT1 Mediates PM2.5 Organic Extract Induced-Cells Epithelial-Mesenchymal Transition via miR-204/ZEB1 Pathway in Lung Bronchial Epithelial Cells.** Fei Luo<sup>1</sup>, Yan Feng<sup>1</sup>, Yan Wang<sup>1</sup>. <sup>1</sup>*Shanghai Jiao Tong University, Faculty of Public Health, School of Medicine, Shanghai, China*
- P169 -0729** **Modes of Action Underlying Development of Renal Tumors in Rats following Chronic Exposure to Tert Butyl Alcohol.** Gordon Hard<sup>1</sup>, Samuel Cohen<sup>2</sup>, Jihyun Ma<sup>3</sup>, Fang Yu<sup>3</sup>, Lora Arnold<sup>2</sup>, Marcy Banton<sup>4</sup>. <sup>1</sup>*Independent Consultant, Tairua, New Zealand.* <sup>2</sup>*University of Nebraska Medical Center, Pathology and Microbiology, Omaha, NE, The United States of America.* <sup>3</sup>*University of Nebraska Medical Center, Department of Biostatistics, College of Public Health, Omaha, NE, The United States of America.* <sup>4</sup>*LyondellBasell, Houston, TX, The United States of America*
- P170 -0793** **Targeting ER Stress to Overcome Acquired Resistance to EGFR-TKIs in Non-small Lung Cancer.** Kyunghwan Jegal<sup>1</sup>, Keon Wook Kang<sup>1</sup>. <sup>1</sup>*Seoul National University, College of Pharmacy and Research Institute of Pharmaceutical Sciences, Seoul, The Republic of Korea*
- P171 -0801** **Inhibition of Cell Migration and Metastasis of Prostate Cancer Cells by GV1001: Role of GnRHR/Gas/cAMP Pathway in Androgen Receptor/YAP1 Axis.** Yongjune Choi<sup>1</sup>, Ji Won Kim<sup>1</sup>, Keon Wook Kang<sup>1</sup>. <sup>1</sup>*Seoul National University, Department of Pharmacy, College of Pharmacy and Research Institute of Pharmaceutical Sciences, Seoul, The Republic of Korea*
- P172 -0857** **Definition of Biological Thresholds for the Identification and Classification of Tumorigenic Chemicals in the Rat Liver.** Chris Corton<sup>1</sup>, Thomas Hill<sup>1</sup>, Jaleh Abedini<sup>1</sup>, Hisham El-Masri<sup>1</sup>, John Rooney<sup>1</sup>. <sup>1</sup>*US EPA, Durham, NC, The United States of America*
- P173 -0951** **Goniothalamin Induces Cytotoxicity and Reduces the Migration and Invasion of Human Glioma Cells.** Chan Kok Meng<sup>1</sup>, Ruhana Hamzah<sup>2</sup>, Hui Min Neoh<sup>2</sup>, A. Rahman A. Jamal<sup>2</sup>, Salmaan Hussain Inayat-Hussain<sup>3</sup>. <sup>1</sup>*Universiti Kebangsaan Malaysia,*



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- P174 -0055** **Qualification of *In Vitro* Cardiomyocyte Cell Models for Prediction of Drug-Induced Toxicity Studies.** Carol De Santis<sup>1</sup>, Jason Gill<sup>1,2</sup>. <sup>1</sup>Newcastle University, Northern Institute for Cancer Research, Newcastle upon Tyne, United Kingdom. <sup>2</sup>Newcastle University, School of Pharmacy, Newcastle upon Tyne, United Kingdom
- P175 -0079** **Atherogenic Index of Plasma (AIP) and Its Association with Novel Predictive Circulating Molecular Biomarkers for Cardiovascular Illnesses in Mexican Women Exposed to PAHs.** Juan Fernández Macías<sup>1</sup>, Iván Pérez Maldonado<sup>1</sup>, Angeles Ochoa Martínez<sup>1</sup>, Tania Ruíz Vera<sup>1</sup>, Lucía Pruneda Álvarez<sup>1</sup>. <sup>1</sup>Universidad Autónoma de San Luis Potosí, Toxicología Molecular-CIACYT, San Luis Potosí, Mexico
- P176 -0098** **Nrf2/Keap1 Oxidative Stress-Responsive System Inhibits Neointimal Hyperplasia Response to Vascular Injury by Regulating Vascular Smooth Muscle Cell Migration and Apoptosis.** Takashi Ashino<sup>1</sup>, Masayuki Yamamoto<sup>2</sup>, Satoshi Numazawa<sup>1</sup>. <sup>1</sup>Showa University School of Pharmacy, Division of Toxicology, Tokyo, Japan. <sup>2</sup>Tohoku University Graduate School of Medicine, Department of Medical Biochemistry, Sendai, Japan
- P177 -0125** **Cardioprotective Effect of Gemigliptin on Cardiac Ischemia/Reperfusion and Spontaneously Hypertensive Rat Hearts.** SunHyun Park<sup>1</sup>, Ki-Suk Kim<sup>1</sup>. <sup>1</sup>Korea Institute of Toxicology, R&D Center for Advanced Pharmaceuticals and Evaluation, Daejeon, The Republic of Korea
- P178 -0133** **Effect of Acrolein on Epigenetic Modifications of Rat's Vascular Smooth Muscle Cells.** Zivar Yousefipour<sup>1</sup>, Grace Nwaiwu. <sup>2</sup>, Mahsa Esmaeili<sup>1</sup>, Mathew Joseph<sup>1</sup>, Omana Mathew<sup>1</sup>, Kasturi Ranganna<sup>1</sup>. <sup>1</sup>Texas Southern University, Pharmaceuticals & Environmental Health Sciences, Houston, TX, The United States of America. <sup>2</sup>Texas Southern University, Environmental and Interdisciplinary Sciences Houston, TX, The United States of America
- P179 -0134** **Exposure to Volatile Organic Compounds Depletes Circulating Angiogenic Cells.** Daniel Riggs<sup>1</sup>, Pawel Lorkiewicz<sup>1</sup>, Zhengzhi Xie<sup>1</sup>, Tatiana Krivokhizhina<sup>1</sup>, Timothy O'Toole<sup>1</sup>, Wesley Abplanalp<sup>1</sup>, James McCracken<sup>1</sup>, Jordan Finch<sup>1</sup>, Rachel Keith<sup>1</sup>, Nagma Zafar<sup>1</sup>, Sathya Krishnasamy<sup>1</sup>, Andrew DeFilippis<sup>1</sup>, Daniel Conklin<sup>1</sup>, Shesh Rai<sup>1</sup>, Aruni Bhatnagar<sup>1</sup>, Sanjay Srivastava<sup>1</sup>. <sup>1</sup>University of Louisville, Louisville Superfund Research Center and Envirome Institute, Louisville, KY, The United States of America
- P180 -0262** **Healthful Nutrition as a Modifier of Environmental Pollutant-Induced Inflammatory Diseases: Implications in Atherosclerosis.** Bernhard Hennig<sup>1</sup>, Michael Petriello<sup>2</sup>. <sup>1</sup>University of Kentucky, UK Superfund Research Center, Lexington, KY, The United States of America. <sup>2</sup>University of Kentucky, Cardiovascular Medicine, Lexington, KY, The United States of America
- P181 -0410** **NADPH Oxidase 1 Mediates Angiotensin II-Induced Calcium Signaling by Acting on Non-selective Cation Channels in Rat Vascular Smooth Muscle Cells.** Jung-Min Park<sup>1</sup>, Moo-Yeol Lee<sup>2</sup>. <sup>1</sup>Dongguk University College of Pharmacy, Toxicology, Goyang, The Republic of Korea. <sup>2</sup>Dongguk University College of Pharmacy, Toxicology, Goyang, The Republic of Korea
- P182 -0412** **A Mixture of Chloromethylisothiazolinone and Methylisothiazolinone Disturbs Vasomotor Function by Dysregulating Ca<sup>2+</sup> and Zn<sup>2+</sup> in Vascular Smooth Muscle Cells.** Quan Do<sup>1</sup>, Moo-Yeol Lee<sup>2</sup>. <sup>1</sup>Dongguk University College of Pharmacy, Toxicology, Goyang, The Republic of Korea. <sup>2</sup>Dongguk University College of Pharmacy, Toxicology, Goyang, The Republic of Korea
- P183 -0438** **Nicotinamide Adenine Dinucleotide Phosphate Oxidase (NOX) Upregulation by PM2.5 Alters Nitric Oxide Level through ADMA Increase in Human Umbilical Vein Endothelial Cell.** Lingyue Zou<sup>1,2</sup>, Yan Wang<sup>1,2</sup>, Tianshu Wu<sup>1,2</sup>, Meng Tang<sup>1,2</sup>. <sup>1</sup>Southeast University, Key Laboratory of Environmental Medicine Engineering, Ministry of Education, School of Public Health, Nanjing, China. <sup>2</sup>Southeast University, Jiangsu Key Laboratory for Biomaterials and Devices, Nanjing, China
- P184 -0587** **Ameliorative Effect of Gallic Acid against Sodium Fluoride-Induced Hypertension and Hepato-renal Complications in Wistar Rats.** Olufunke Ola-Davies<sup>1</sup>, Samuel Olukole<sup>2</sup>, Ademola Oyagbemi<sup>1</sup>, Temidayo Omobowale<sup>3</sup>. <sup>1</sup>University of Ibadan, Department of Veterinary Physiology and Biochemistry, Ibadan, Nigeria. <sup>2</sup>University of Ibadan, Department of Veterinary Anatomy, Ibadan, Nigeria. <sup>3</sup>University of Ibadan, Department of Veterinary Medicine, Ibadan, Nigeria
- P185 -0619** **Gender Differences in Cardiac Remodeling Induced by a High-Fat Diet and Whole-Life, Low-Dose Cadmium Exposure.** Yaqin Liang<sup>1</sup>, Jamie Young<sup>2</sup>, Jonathan Freedman<sup>3</sup>, Lu Cai<sup>4</sup>. <sup>1</sup>First Affiliated Hospital of Wenzhou Medical University, Department of Pediatrics, Wenzhou, China. <sup>2</sup>University of Louisville, Pharmacology and Toxicology, Louisville, KY, The United States of America. <sup>3</sup>University of Louisville, Pharmacology and Toxicology, Louisville, KY, The United States of America. <sup>4</sup>University of Louisville School of Medicine, Pediatric Research Institute, Louisville, KY, The United States of America

- P186 -0625** **Dioxin-Like Pollutants Accelerate Atherosclerosis and Disrupt Gut Microbiota Homeostasis** Michael Petriello<sup>1</sup>, Jessie Hoffman<sup>2</sup>, Olga Vsevolozhskaya<sup>3</sup>, Andrew Morris<sup>4</sup>, Bernhard Hennig<sup>5</sup>. <sup>1</sup>University of Kentucky, Cardiovascular Research Center, Lexington, KY, The United States of America. <sup>2</sup>University of Kentucky, Pharmaceutical Sciences, Lexington, KY, The United States of America. <sup>3</sup>University of Kentucky, Statistics, Lexington, KY, The United States of America. <sup>4</sup>University of Kentucky, Cardiovascular Research, Lexington, KY, The United States of America. <sup>5</sup>University of Kentucky, Animal and Food Sciences, Lexington, KY, The United States of America
- P187 -0692** **Role of Spliced XBP1 in Palmitic Acid-Induced Endothelial Lipotoxicity.** Jia-Rong Jheng<sup>1</sup>, Cai-Qin Xiao<sup>2</sup>, Yuan-Siao Chen<sup>2</sup>, Chih-Kang Chiang<sup>2,3</sup>. <sup>1</sup>National Taiwan University, College of Medicine, Department of Internal Medicine, Taipei, Taiwan. <sup>2</sup>National Taiwan University, College of Medicine, Graduate Institute of Toxicology, Taipei, Taiwan. <sup>3</sup>National Taiwan University Hospital, Department of Integrated Diagnostics and Therapeutics, Taipei, Taiwan
- P188 -0695** **The Effect of PBDEs Exposure on Early Vascular Development in Zebrafish.** Yanhong Wei<sup>1</sup>, Xiali Zhong<sup>1</sup>, Jianmeng Kang<sup>1</sup>, Jiahuang Qiu<sup>1</sup>. <sup>1</sup>Sun Yat-sen University School of Public Health, Toxicology, Guangzhou, China
- P189 -0726**  **$\alpha$ -Bisabolol Attenuates NLRP3 Inflammasome Activation and Enhances Autophagic Flux in Isoproterenol-Induced Myocardial Infarction in Rats.** Shreesh Ojha<sup>1</sup>, MFN Meeran<sup>1</sup>, Sheikh Azimullah<sup>1</sup>. <sup>1</sup>UAE University, Pharmacology and Therapeutics, Al Ain, The United Arab Emirates
- P190 -0828** **Effects of Arsenite and Fluoride Exposure on Cardiac Injury and Expression of Autophagy Related Genes in Rats.** Lin Tian<sup>1</sup>, Sha Dong<sup>2</sup>, Jing Feng<sup>1</sup>, Xin Xie<sup>2</sup>, XiaoYan Yan<sup>2</sup>. <sup>1</sup>Shanxi Medical University, Shanxi Key Laboratory of Experimental Animal Science and Animal Model of Human Disease, Taiyuan, China. <sup>2</sup>Shanxi Medical University, School of Public Health, Taiyuan, China
- P191 -0956** **Multiplex Proteomics Approaches to the Identification of Potential Predictive Biomarkers of Doxorubicin-Induced Clinical Cardiotoxicity.** Li-Rong Yu<sup>1</sup>, Jaclyn Daniels<sup>1</sup>, Zhijun Cao<sup>1</sup>, Richard Beger<sup>1</sup>, William Mattes<sup>1</sup>, Issam Makhoul<sup>2</sup>, Angela Pennisi<sup>2</sup>, Jeanne Wei<sup>2</sup>, Jane Bai<sup>3</sup>, Julia Lathrop<sup>4</sup>, Jinong Li<sup>5</sup>, Valentina Todorova<sup>2</sup>. <sup>1</sup>US FDA/NCTR, Jefferson, AR, The United States of America. <sup>2</sup>University of Arkansas for Medical Sciences, Biochemistry and Molecular Biology, Little Rock, AR, The United States of America. <sup>3</sup>US FDA/CDER, Silver Spring, MD, The United States of America. <sup>4</sup>US FDA/CBER, Silver Spring, MD, The United States of America. <sup>5</sup>US FDA/CDRH, Silver Spring, MD, The United States of America
- P192 -0310** **Acute Accidental Poisoning in Children: The Situation in Cairo.** Nazih Ramadan<sup>1</sup>. <sup>1</sup>Cairo University Cairo Egypt
- P193 -0339** **The Nonclinical Innovation and Patient Safety Initiative (NIPSI): Supporting Human-Based Nonclinical Approaches through Global Advances in Regulation, Policy, Science, Education, and Training.** Elizabeth Baker<sup>1</sup>. <sup>1</sup>Physicians Committee for Responsible Medicine, Washington, DC, The United States of America
- P194 -0443** **Cryotherapy as a Coadjuvant in Fabotherapy in Patients with Bites of Type Crotalos Serpents.** Miguel Canul<sup>1</sup>, Patricia Esclante. <sup>2</sup>, Jesus Madrigal. <sup>3</sup>. <sup>1</sup>Juárez Hospital Department of Toxicology, Mexico City, Ciudad de Mexico, Mexico. <sup>2</sup>Juárez Hospital Department of Toxicology, Mexico City. Ciudad de Mexico, Mexico. <sup>3</sup>Juárez Hospital Department of Toxicology, Ciudad de Mexico, Mexico
- P195 -0464** **Cannabis and Driving Impairment: Is There a THC Equivalent to 0.08 BAC?.** Laura Plunkett<sup>1</sup>, Sol Bobst<sup>2</sup>. <sup>1</sup>Integrative Biostrategies LLC, Houston, TX, The United States of America. <sup>2</sup>ToxSci Advisors LLC, Houston, The United States of America
- P196 -0476** **Betel Nut Chewing Induced Acute Pulmonary Edema.** Dong-Zong Hung<sup>1</sup>. <sup>1</sup>China Medical University Hospital, Division of Toxicology, Taichung, Taiwan
- P197 -0517** **Sex Differences of <sup>5</sup>-Fluorouracil-Induced Adverse Drug Reactions in Colorectal Cancer.** Hyesol Lim<sup>1</sup>, Sun Young Kim<sup>2</sup>, Eunhye Lee<sup>1</sup>, Seungeun Lee<sup>1</sup>, Sungryong Oh<sup>1</sup>, Joohee Jung<sup>1</sup>, Kwi Suk Kim<sup>3</sup>, Aree Moon<sup>1</sup>. <sup>1</sup>Duksung Women's University, College of Pharmacy, Seoul, The Republic of Korea. <sup>2</sup>Duksung Women's University, College of Natural Sciences, Seoul, The Republic of Korea. <sup>3</sup>Seoul National University Hospital, Department of Pharmacy, Seoul, The Republic of Korea
- P198 -0626** **Utility of Purified Swine Hemoglobin in the Therapeutic Approach of Cutaneous Injury by Loxoscelism: Pilot Study of Controlled Clinical Trial.** Jose Lopez<sup>1</sup>, Patricia Esclante. <sup>2</sup>, Jesus Madrigal. <sup>3</sup>, Miguel Canul<sup>4</sup>. <sup>1</sup>Juárez Hospital Department of Toxicology, Mexico City, Ciudad de Mexico, Mexico. <sup>2</sup>Juárez Hospital Department of Toxicology, Mexico City. Ciudad de Mexico, Mexico. <sup>3</sup>Juárez Hospital Department of Toxicology, Ciudad de Mexico, Mexico. <sup>4</sup>Juárez Hospital Department of Toxicology, Mexico City, Ciudad de Mexico, Mexico
- P199 -0641** **Understanding the Types and Sources of Online Information Used by US Poison Center Staff.** Pertti Hakkinen<sup>1</sup>, Alvin Bronstein<sup>2</sup>, Mark Ryan<sup>3</sup>, Henry DeLima<sup>4</sup>. <sup>1</sup>National Institutes of Health, National Library of Medicine, Bethesda, MD, The

United States of America. <sup>2</sup>Hawaii Department of Health, EMS and Injury Prevention, Honolulu, HI, The United States of America. <sup>3</sup>Louisiana Poison Center, Shreveport, LA, The United States of America. <sup>4</sup>DeLima Associates, McLean, The United States of America

- P200 -0663** **The Latest (2019) Content and Plans for the Chemical Hazards Emergency Medical Management (CHEMM) Resource.** Pertti Hakkinen<sup>1</sup>. <sup>1</sup>National Institutes of Health, National Library of Medicine, Bethesda, MD, The United States of America
- P201 -0670** **Serum Albumin Binding of Synthetic Cannabinoids and Other Drugs and Dyes Is Detectable by Agarose Gel Electrophoresis and Spectroscopic Techniques.** Oluseyi Vanderpuye<sup>1</sup>, Chiagoziem Agu<sup>2</sup>, Alexius Lampkin<sup>3</sup>. <sup>1</sup>Albany State University, Chemistry & Forensic Science, Albany, GA, The United States of America. <sup>2</sup>Albany State University, Biological Sciences, Albany, GA, The United States of America. <sup>3</sup>University of Wisconsin–Madison, Molecular and Cellular Pharmacology, Madison, WI, The United States of America
- P202 -0781** **The Incidence, Associated Factors, and Clinical Impact of Hyperamylasemia in Self-Poisoning Patients.** Semin Choi<sup>1</sup>, Sanghoon Oh<sup>2</sup>, Hanjoon Kim<sup>2</sup>, Soohyun Kim<sup>2</sup>. <sup>1</sup>Catholic University of Korea, Uijeongbu St. Mary's Hospital, Emergency department Uijeongbu-si, The Republic of Korea. <sup>2</sup>Catholic University of Korea, Seoul, The Republic of Korea
- P203 -0804** **Mechanism of miR-27a-5p Regulating AA-Induced Apoptosis Induced by Oxidative Stress.** Lujia Zhang<sup>1</sup>, Fang Chen<sup>1</sup>. <sup>1</sup>China Agricultural University College of Food Science and Nutritional Engineering, Beijing, China
- P204 -0816** **Safety Assessment of a New CBI Class of DNA Alkylators.** Donna W Lee<sup>1</sup>, Nicola Stagg<sup>1</sup>, Fiona Zhong<sup>1</sup>, Helen Booler<sup>1</sup>, Joey Bravo<sup>1</sup>, Melissa Schutten<sup>1</sup>, Hong Wang<sup>1</sup>. <sup>1</sup>Genentech, Safety Assessment, South San Francisco, CA, The United States of America
- P205 -0876** **Determinants of *In Vitro* Cross Talk between cAMP and Sirtuins.** João Amorim<sup>1,2,3</sup>, Joaõ Teodoro<sup>1,3</sup>, Anabela Rolo<sup>1,3</sup>, Clemens Steegborn<sup>4</sup>, David Sinclair<sup>2</sup>, Carlos Palmeira<sup>1,3</sup>. <sup>1</sup>University of Coimbra, Centre for Neuroscience and Cell Biology, Coimbra, Portugal. <sup>2</sup>Glenn Labs for the Biological Mechanisms of Aging, Department of Genetics, Boston, MA, The United States of America. <sup>3</sup>University of Coimbra, Department of Life Sciences, Coimbra, Portugal. <sup>4</sup>University of Bayreuth, Department of Biochemistry, Bayreuth, Germany
- P206 -0952** **Zinc Encephalopathy in Adult Related to Recent Tattoo (Clinical Case Report).** Laura Børgel<sup>1,2</sup>, Melissa Schulthess<sup>1,2</sup>, Johanny Graterol<sup>1</sup>. <sup>1</sup>Dra. Laura Børgel y Cía. Ltda, Recoleta, Chile. <sup>2</sup>University of Chile, Legal Medicine and Anatomy Department, Independencia, Chile
- P207 -0149** **Tributyltin Decreases the Expression of Nuclear Respiratory Factor-1 via Epigenetic Changes.** Yaichiro Kotake<sup>1</sup>, Saki Hanaoka<sup>1</sup>, Keishi Ishida<sup>1</sup>, Saki Tanaka<sup>2</sup>, Shuichiro Sakamoto<sup>1</sup>, Katsuhiko Okuda<sup>3</sup>, Seigo Sanoh<sup>1</sup>, Shigeru Ohta<sup>1</sup>. <sup>1</sup>Hiroshima University, Hiroshima, Japan. <sup>2</sup>Hiroshima Univeisty, Hiroshima, Japan. <sup>3</sup>Asahikawa Medical University, Hiroshima, Japan
- P208 -0169** **Effect of Tetrabromobisphenol A on MMP-9 Expression through Enhancing of NF-κB/AP-1 and Akt/MAPKs-Dependent Pathway in Breast Cancer Cells.** Gi Ho Lee<sup>1</sup>, Sun Woo Jin<sup>1</sup>, Hye Gwang Jeong<sup>1</sup>. <sup>1</sup>Chungnam National University, Department of Toxicology, College of Pharmacy, Daejeon, The Republic of Korea
- P209 -0217** **Effects of Bis (2-Ethylhexyl) Phthalate, Endocrine-Disrupting Chemicals, and Alternative Chemicals on Estrogen and Androgen Receptors.** Heewon Song<sup>1</sup>, Joonwoo Park<sup>1</sup>, Youngjoo Lee<sup>1</sup>. <sup>1</sup>Sejong University, Integrative Bioscience and Biotechnology, Seoul, The Republic of Korea
- P210 -0601** **Bisphenol A–Induced Expression of Peroxisome Proliferator-Activated Receptors in Testis and Its Implication.** Shikha Sharma<sup>1</sup>, Suhel Parvez<sup>1</sup>, S. Raisuddin<sup>1</sup>. <sup>1</sup>Jamia Hamdard, Medical Elementology & Toxicology, New Delhi, India
- P211 -0614** **Effect of Parental Obesity on the Transgenerational Reprotoxicity of Bisphenol A in F1 Generation Rats.** Sadaf Dabeer<sup>1</sup>, Suhel Parvez<sup>2</sup>, S. Raisuddin<sup>2</sup>. <sup>1</sup>Jamia Hamdard (Hamdard University), Department of Medical Elementology & Toxicology, New Delhi, India. <sup>2</sup>Jamia Hamdard (Hamdard University), Department of Medical Elementology & Toxicology, New Delhi, India
- P212 -0657** **Screening and Prioritization of Phase 1, 2, and e1K ToxCast Chemicals for Potential Inhibition of the Sodium-Iodide Symporter (NIS).** Tammy Stoker<sup>1</sup>, Jun Wang<sup>1,2</sup>, Daniel Hallinger<sup>1</sup>, Ashley Murr<sup>1</sup>, Angela Buckalew<sup>1</sup>, Susan Laws<sup>1</sup>. <sup>1</sup>US EPA/NHEERL, ETB, TAD, NHEERL, ORD, Research Triangle Park, NC, The United States of America. <sup>2</sup>Oak Ridge Institute for Science and Education, Oak Ridge, TN, The United States of America
- P213 -0665** **Potential Effects of Benzophenones on Sex Differentiation and Their Toxic Effects on Zebrafish Larvae and ZFL Cells.** King Ming Chan<sup>1</sup>, Qi Meng<sup>2</sup>, Karen Yeung<sup>3</sup>. <sup>1</sup>Chinese University of Hong Kong, School of Life Sciences, Sha Tin, Hong Kong.

<sup>2</sup>Chinese University, School of Life Sciences, Sha Tin, Hong Kong. <sup>3</sup>University of Toronto, Medical Toxicology Program, Toronto, Canada

- P214 -0668** **Endocrine-Disruption Effects of Three Different Emergent Pollutants on *Caenorhabditis elegans*.** Maria C. García-Espiñeira<sup>1,2</sup>, Lesly Tejada-Benitez<sup>3, 4</sup>, Jesus Olivero-Verbel<sup>5, 6</sup>. <sup>1</sup>University of Cartagena, School of Medicine, Cartagena, Colombia. <sup>2</sup>University of Cartagena Biomedical, Toxicological and Environmental Sciences Research Group, School of Medicine, Cartagena, Colombia. <sup>3</sup>University of Cartagena, School of Engineering, Cartagena, Colombia. <sup>4</sup>University of Cartagena Biomedical, Toxicological and Environmental Sciences Research Group, School of Medicine, Cartagena, Colombia. <sup>5</sup>University of Cartagena, School of Pharmaceutical Sciences, Cartagena, Colombia. <sup>6</sup>University of Cartagena Environmental and Computational Chemistry Research Group, School of Pharmaceutical Sciences, Cartagena, Colombia
- P215 -0671** **Identification the Target Receptor of Sunscreen Chemicals, Bezophenones and Octocrylene, Using Reporter Gene System in a Human Cell Line of Embryonic Kidney, HEK293.** King Ming Chan<sup>1</sup>, Qi Meng<sup>1</sup>. <sup>1</sup>Chinese University, School of Life Sciences, Sha Tin, Hong Kong
- P216 -0689** **High Content Imaging and Machine Learning–Based Single Cell Analysis of Adverse Effects Induced by Bisphenol A and Its Analogs Bisphenol S, Bisphenol AF, and Tetrabromobisphenol A in a Three–Dimensional Testicular Cell Coculture Model.** Lei Yin<sup>1</sup>, Jacob Siracusa<sup>2</sup>, Xiaozhong Yu<sup>3</sup>. <sup>1</sup>Reprotox Biotech, Athens, GA, The United States of America. <sup>2</sup>University of Georgia, Department of Environmental Health Science, Athens, GA, The United States of America. <sup>3</sup>University of Georgia, Environmental Health Science, Athens, GA, The United States of America
- P217 -0690** **Occurrence of Fibrates and Their Metabolites in Source and Drinking Water in Shanghai and Zhejiang, China.** Tsuyoshi Nakanishi<sup>1</sup>, Akiko Ido<sup>1</sup>, Youhei Hiromori<sup>1</sup>, Hisamitsu Nagase<sup>1,2</sup>, Jianying Hu<sup>3</sup>. <sup>1</sup>Gifu Pharmaceutical University, Laboratory of Hygienic Chemistry and Molecular Toxicology, Gifu, Japan. <sup>2</sup>Gifu University of Medical Science, School of Health Science, Seki, Japan. <sup>3</sup>Peking University, College of Urban and Environmental Sciences, Beijing, China
- P218 -0752** **B Cell Survival Is Regulated by Bisphenol A and Its Substitutes.** Ju-Won Jang<sup>1</sup>, Pham Xuan Thuy<sup>1</sup>, Sung-Sik Yoon<sup>1</sup>, Jae-Wook Lee<sup>1</sup>, Eun-Yi Moon<sup>1</sup>. <sup>1</sup>Sejong University, Department of Bioscience and Biotechnology, Seoul, The Republic of Korea
- P219 -0761** **Glucocorticoid Biosynthetic Pathway Analysis Divulges the Susceptibility of Adrenal Gland against EDCs by Novel Approach Uncovering Endocrine-Disruption Mechanism.** Shahzad Ahmad<sup>1</sup>, Sheikh Raisuddin<sup>1</sup>. <sup>1</sup>Molecular Toxicology Lab, Department of Medical Elementology & Toxicology, SCLS, Jamia Hamdard, New Delhi, India
- P220 -0832** **Phthalate-Induced Dysfunction of Blood-Brain Barrier (BBB) Endothelial Cells Mediated by Impairment of Tight Junction Proteins.** Haram Kim<sup>1</sup>, Eun-Hye Kim<sup>1</sup>, Donggeun Shin<sup>1</sup>, Donghyun Kim<sup>1</sup>, Eujin Oh<sup>1</sup>, Seung-Hoon Baek<sup>2</sup>, Ok-Nam Bae<sup>1</sup>. <sup>1</sup>Hanyang University, College of Pharmacy, Ansan, The Republic of Korea. <sup>2</sup>Ajou University, College of Pharmacy, Suwon, The Republic of Korea
- P221 -0833** **The Sensitivity of Taxane-Resistant Prostate Cancer Is Improved by Targeting Plk1 and Androgen Receptor.** Sol-Bi Shin<sup>1</sup>, Sang-Uk Woo<sup>1</sup>, Hye-Ran Jang<sup>1</sup>, Rong Xu<sup>1</sup>, Jae Yeon Won<sup>1</sup>, Daeun Kim<sup>1</sup>, Chang Hyeon Kim<sup>1</sup>, Ok-Nam Bae<sup>1</sup>, Hyungshin Yim<sup>1</sup>. <sup>1</sup>Hanyang University, College of Pharmacy, Ansan, The Republic of Korea
- P222 -0834** **TP53-Mutated Cancer Cells Are Sensitive to Genistein, a Direct Plk1 Inhibitor.** Sol-Bi Shin<sup>1</sup>, Sang-Uk Woo<sup>1</sup>, Hye-Ran Jang<sup>1</sup>, Rong Xu<sup>1</sup>, Jae Yeon Won<sup>1</sup>, Daeun Kim<sup>1</sup>, Chang Hyeon Kim<sup>1</sup>, Ok-Nam Bae<sup>1</sup>, Hyungshin Yim<sup>1</sup>. <sup>1</sup>Hanyang University, College of Pharmacy, Ansan, The Republic of Korea
- P223 -0835** **7-O-Methylwogonin Induces Mitotic Disturbance by Inhibiting Plk1 Activity in Hep3B Cells.** Sang-Uk Woo<sup>1</sup>, Hye-Ran Jang<sup>1</sup>, Rong Xu<sup>1</sup>, Jae Yeon Won<sup>1</sup>, Daeun Kim<sup>1</sup>, Chang Hyeon Kim<sup>1</sup>, Ok-Nam Bae<sup>1</sup>, Hyungshin Yim<sup>1</sup>. <sup>1</sup>Hanyang University, College of Pharmacy, Ansan, The Republic of Korea
- P224 -0851** **Assessment of Androgen Receptor Agonistic/Antagonistic Effects on Bisphenol Analogues by OECD *In Vitro* Assays.** Hyun-suk Oh<sup>1</sup>, Hee-seok Lee<sup>1</sup>, YongEui Koo<sup>1</sup>. <sup>1</sup>National Institute of Food and Drug Safety Evaluation, Food Safety Risk Assessment Division, Chungju-si, The Republic of Korea
- P225 -0910** **Exposure to Low Doses of Oxybenzone during Perinatal Development Alters Mammary Gland Morphology in Male and Female Mice.** Klara Matouskova<sup>1</sup>, Laura Vandenberg<sup>1</sup>. <sup>1</sup>University of Massachusetts Amherst, Dept of Environmental Health Sciences, Amherst, MA, The United States of America
- P226 -0037** **Tissue-Specific Global Epigenetic Alterations Induced by Acrylamide in Mice.** Aline de Conti<sup>1</sup>, Volodymyr Tryndyak<sup>1</sup>, Alexandra Antunes<sup>2</sup>, Linda VonTungeln<sup>1</sup>, Michelle Vanlandingham<sup>1</sup>, Mona Churchwell<sup>1</sup>, Frederick Beland<sup>1</sup>, Igor Pogribny<sup>1</sup>.

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- P227 -0139** **Exosome-Packaged miR-1246 Contributes to Bystander DNA Damage by Targeting LIG4.** Ruixue Huang<sup>1</sup>, Pingkun Zhou<sup>2</sup>, Lijun Mo<sup>3</sup>. <sup>1</sup>Central South University, Changsha, China. <sup>2</sup>Pingkun, Beijing Key Laboratory for Radiobiology, Department of Radiation Biology, Beijing Institute of Radiation Medicine, Beijing, China. <sup>3</sup>Beijing Key Laboratory for Radiobiology, Department of Radiation Biology, Beijing Institute of Radiation Medicine, Beijing, China
- P228 -0151** **Epigenetic Effects of Low-Level Sodium Arsenite Exposure on Human Liver HepaRG Cells.** Barbara Borowa-Mazgai<sup>1</sup>, Volodymyr Tryndyak<sup>1</sup>, Colleen Steward<sup>2</sup>, Kostiantyn Dreval<sup>3</sup>, Daniel Doerge<sup>1</sup>, Frederick Beland<sup>1</sup>, Igor Pogribny<sup>1</sup>. <sup>1</sup>US FDA/NCTR, Biochemical Toxicology, Jefferson, AR, The United States of America. <sup>2</sup>State University of New York at Geneseo, Department of Chemistry, Geneseo, NY, The United States of America. <sup>3</sup>University of New Mexico, Internal Medicine, Albuquerque, NM, The United States of America
- P229 -0187** **The Persistence of 1,3-Butadiene-Induced DNA Damage, Transcriptional Effects, and Chromatin State Alterations in C57BL6/J and CAST/EiJ Mice.** Lauren Lewis<sup>1</sup>, Oksana Kosyk<sup>2</sup>, Wanda Bodnar<sup>2</sup>, Kenneth Sexton<sup>2</sup>, Kranti Konganti<sup>3</sup>, John House<sup>4</sup>, Fred Wright<sup>4</sup>, Ivan Rusyn<sup>1</sup>. <sup>1</sup>Texas A&M University, Department of Veterinary Integrative Biosciences, College Station, TX, The United States of America. <sup>2</sup>University of North Carolina at Chapel Hill, Department of Environmental Sciences and Engineering, Chapel Hill, NC, The United States of America. <sup>3</sup>Texas A&M University, Department of Molecular and Cellular Medicine, College Station, TX, The United States of America. <sup>4</sup>NC State University, Bioinformatics Research Center and Departments of Statistics and Biological Sciences, Raleigh, NC, The United States of America
- P230 -0256** **Arsenite-Induced Histone H3 Modification and Its Effects on EGR1 and FOS Expression in HeLa Cells.** Toshihide Suzuki<sup>1</sup>, Hiroshi Watanabe<sup>1</sup>, Taro Honma<sup>1</sup>, Kayoko Kita<sup>1</sup>. <sup>1</sup>Teikyo University, Laboratory of Toxicology, Faculty of Pharma-Science, Itabashi-ku, Japan
- P231 -0280** **LncRNA Lnc-RI Regulates Homologous Recombination Repair of DNA Double-Strand Breaks by Stabilizing RAD51 mRNA as a Competitive Endogenous RNA.** Liping Shen<sup>1,2</sup>, Qi Wang<sup>2</sup>, Ruixue Liu<sup>2</sup>, Zhongmin Chen<sup>2</sup>, Xueqing Zhang<sup>2</sup>, Pingkun Zhou<sup>1,2</sup>, Zhidong Wang<sup>2</sup>. <sup>1</sup>Medical College of Soochow University, School of Radiation Medicine and Protection, Suzhou, China. <sup>2</sup>Beijing Institute of Radiation Medicine, Department of Radiation Toxicology and Oncology, Beijing, China
- P232 -0366** **Dynamic Alterations in DNA Methylation Precede Tris(1,3-dichloro-2-propyl)phosphate-Induced Delays in Zebrafish Epiboly.** David Volz<sup>1</sup>, Allison Kupsco<sup>1</sup>, Subham Dasgupta<sup>1</sup>. <sup>1</sup>University of California, Environmental Sciences, Riverside, CA, The United States of America
- P233 -0456** **Gene Expression and Epigenetic Alterations in Human Hepatocytes Treated with Low Doses of Chemical Carcinogens.** Volodymyr Tryndyak<sup>1</sup>, Frederick Beland<sup>1</sup>, Igor Pogribny<sup>1</sup>. <sup>1</sup>US FDA/NCTR, Biochemical Toxicology, Jefferson, AR, The United States of America
- P234 -0546** **Correlation between Heavy Metal and 8-OHdG Levels in Turkish Welders.** Nurşen Başaran<sup>1</sup>, Merve Bacanlı<sup>1</sup>, Hatice Anlar<sup>2</sup>, Dilek Tokaç<sup>1</sup>, Servet İritaş<sup>3</sup>. <sup>1</sup>Hacettepe University, Pharmaceutical Toxicology, Ankara, Turkey. <sup>2</sup>Zonguldak Bülent Ecevit University, Pharmaceutical Toxicology, Zonguldak, Turkey. <sup>3</sup>Council of Forensic Medicine, The Council of Forensic Medicine, Ankara, Turkey
- P235 -0616** **Gene-Specific. 5'-UTR Methylation versus Promoter Methylation in Leukocytes from Workers Exposed to Different Levels of VOCs.** Octavio Jiménez-Garza<sup>1</sup>, Jorge Alegría-Torres<sup>2</sup>, Benigno Linaes-Segovia<sup>3</sup>. <sup>1</sup>Univesidad de Guanajuato Campus León, Health Sciences Division, León, Mexico. <sup>2</sup>Univesidad de Guanajuato Campus Guanajuato, Exact Sciences Division, Guanajuato, Mexico. <sup>3</sup>Univesidad de Guanajuato, Health Sciences Division, León, Mexico
- P236 -0807** **Association between Methylation of DNA Damage Response-Related Genes and DNA Damage in Hepatocytes of Rats following Subchronic Exposure to Vinyl Chloride.** Yulan Qiu<sup>1</sup>, Zhi-bin Xu<sup>1</sup>, Qian Wang<sup>1</sup>. <sup>1</sup>Shanxi Medical University, School of Public Health, Taiyuan, China
- P237 -0898** **The Period of Germline Epigenetic Reprogramming Represents a Critical Window of Chemical Sensitivity.** Hui Jiang<sup>1</sup>, Chen-Wei Yu<sup>1</sup>, Patrick Allard<sup>1</sup>. <sup>1</sup>UCLA Institute for Society and Genetics, Los Angeles, CA, The United States of America
- P238 -0935** **Characteristics of Chemical Compounds Affecting Global DNA Methylation in Multipotent Stem Cells.** Satoshi Otsuka<sup>1,2</sup>, Tomohiro Ito<sup>1</sup>, Yoichi Nakao<sup>2</sup>, Hideko Sone<sup>1,3</sup>. <sup>1</sup>National Institute for Environmental Studies, Center for Health and Environmental Risk Research, Tsukuba, Japan. <sup>2</sup>Waseda University, Graduate School of Advanced Science and Engineering, Shinjuku, Japan. <sup>3</sup>Yokohama University of Pharmacy, Department of Environmental Health and Preventive Medicine, Yokohama, Japan

- P239 -0937** **Examining the Transgenerational Effects of Environmental Cues in *C. elegans*.** Lisa Truong<sup>1</sup>, Jessica Camacho<sup>2</sup>, Danny Vo<sup>3</sup>, Patrick Allard<sup>3</sup>. <sup>1</sup>*UCLA Human Genetics, Human Genetics, Los Angeles, CA, The United States of America.* <sup>2</sup>*UCLA Molecular Toxicology Interdepartmental Program, Molecular Toxicology, Los Angeles, CA, The United States of America.* <sup>3</sup>*UCLA Institute for Society and Genetics, Institute for Society and Genetics, Los Angeles, CA, The United States of America*
- P240 -0954** **Epigenetic Mechanisms of Memory of Environmental Chemical Exposure.** Patrick Allard<sup>1</sup>. <sup>1</sup>*UCLA Institute for Society and Genetics, Los Angeles, CA, The United States of America*
- P241 -0962** **Fusaric Acid-Induced Promoter Methylation of DNA Methyltransferases Triggers Global DNA Hypomethylation in Human Hepatocellular Carcinoma (HepG2) Cells.** Terisha Ghazi<sup>1</sup>, Savania Nagiah<sup>1</sup>, Pragalathan Naidoo<sup>1</sup>, Anil Chuturgoon<sup>1</sup>. <sup>1</sup>*University of KwaZulu-Natal, Medical Biochemistry, Durban, South Africa*
- P242 -0105** **Follow-Up of Oxidative Stress and DNA Damage Markers in Young Physicians Occupationally Exposed to Inhalation Anesthetics during the Medical Residency.** Mariana Braz<sup>1</sup>, Aline Aun<sup>1</sup>, Júlia Guedes<sup>1</sup>, Juliana Lara<sup>1</sup>, Kátina Souza<sup>1</sup>, Leandro Braz<sup>1</sup>. <sup>1</sup>*São Paulo State University, Botucatu, Brazil*
- P243 -0107** ***In Vitro* Genotoxicity of TEMPO and Its Derivatives.** Nan Mei<sup>1</sup>, Si Chen<sup>2</sup>, Lei Guo<sup>2</sup>, Xiaoqing Guo<sup>3</sup>. <sup>1</sup>*US FDA/NCTR, Division of Genetic and Molecular Toxicology, Jefferson, AR, The United States of America.* <sup>2</sup>*US FDA/NCTR, Division of Biochemical Toxicology, Jefferson, AR, The United States of America.* <sup>3</sup>*US FDA/NCTR, Division of Genetic and Molecular Toxicology, Jefferson, AR, The United States of America*
- P244 -0113** **Genome-Wide Characterization of Mutations Induced by Genetic Carcinogens Using Next-Generation Sequencing.** Tao Chen<sup>1</sup>. <sup>1</sup>*US FDA/NCTR, National Center for Toxicological Research, Jefferson, AR, The United States of America*
- P245 -0114** **Quantitative Comparison of *In Vitro* Genotoxicity between Metabolically Competent HepaRG Cells and HepG2 Cells Using the High-Throughput High-Content CometChip Assay.** Xiaoqing Guo<sup>1</sup>, Ji-Eun Seo<sup>1</sup>, Volodymyr Tryndyak<sup>2</sup>, Qiangen Wu<sup>2</sup>, Nan Mei<sup>1</sup>. <sup>1</sup>*US FDA/NCTR, Division of Genetic and Molecular Toxicology, Jefferson, AR, The United States of America.* <sup>2</sup>*US FDA/NCTR, Division of Biochemical Toxicology, Jefferson, AR, The United States of America*
- P246 -0128** **Thai Desserts and Snacks Reduce the Formation of Mutagen, Mutagenesis, and Their Antioxidant Activity.** Monruedee Sukprasansap<sup>1</sup>, Atchari Pin-Am<sup>1</sup>, Kaew Kangsadlampai<sup>1</sup>. <sup>1</sup>*Institute of Nutrition, Mahidol University, Food Toxicology Unit, Phutthamonthon, Thailand*
- P247 -0161** **Fate of Micronuclei and Micronucleated Cells.** Hauke Reimann<sup>1</sup>, Helga Stopper<sup>1</sup>, Henning Hintzsche<sup>1,2</sup>. <sup>1</sup>*Universität Würzburg, Institut für Pharmakologie und Toxikologie, Würzburg, Germany.* <sup>2</sup>*Bayerisches Landesamt für Gesundheit und Lebensmittelsicherheit, Forschungscoordination, Risikobewertung und Webredaktion, Erlangen, Germany*
- P248 -0180** **Comprehensive DNA Analysis for DNA Modifications and Reporter Gene Mutation Assay to Investigate Genotoxicity of Elemicin and Its Mechanisms Using *gpt* Delta Rats.** Yuji Ishii<sup>1</sup>, Shinji Takasu<sup>2</sup>, Aki Kijima<sup>1</sup>, Takehiko Nohmi<sup>1</sup>, Kumiko Ogawa<sup>1</sup>, Takashi Umemura<sup>1,3</sup>. <sup>1</sup>*National Institute of Health Sciences, Division of Pathology, Kawasaki, Japan.* <sup>2</sup>*National Institute of Health Sciences, 1. Division of Pathology, Kawasaki, Japan.* <sup>3</sup>*Yamazaki University of Animal Health Technology, Faculty of Animal Health Technology, Tokyo, Japan*
- P249 -0191** **Arecoline, an Alkaloid of Betel Quid, Inhibits p53-Mediated DDB2 Expression and DNA Repair in Human Head and Neck Cancer Cells.** Jau-Ling Huang<sup>1</sup>, Yu-Chiu Wang<sup>2,3</sup>, Ka-Wo Lee<sup>4</sup>, Hsing-Han Lu<sup>1,2</sup>, Yuan-Jen Lin<sup>2</sup>, Long-Fong Chen<sup>2</sup>, Chang-Shen Lin<sup>2</sup>. <sup>1</sup>*Chang Jung Christian University, Department of Bioscience Technology, Tainan, Taiwan.* <sup>2</sup>*Kaohsiung Medical University, Graduate Institute of Medicine, Kaohsiung, Taiwan.* <sup>3</sup>*Kaohsiung Medical University Hospital, Department of Surgery, Kaohsiung, Taiwan.* <sup>4</sup>*Kaohsiung Medical University Hospital, Department of Otolaryngology, Kaohsiung, Taiwan*
- P250 -0324** **Toward *In Vitro* Approaches Linking Chemical Exposure to Mutagenesis Risk.** Cécile Mingard<sup>1</sup>, Maureen McKeague<sup>2</sup>, Mirjam Schneider<sup>1</sup>, Nathalie Ziegler<sup>1</sup>, Seiichiro Kizaki<sup>1</sup>, Vera Hürlimann<sup>1</sup>, Yang Jiang<sup>1</sup>, Mohamed Amin Choukrallah<sup>3</sup>, Nicolas Sierrro<sup>3</sup>, Nikolai Ivanov<sup>3</sup>, Julia Hoeng<sup>3</sup>, Shana Sturla<sup>1</sup>. <sup>1</sup>*ETH Zürich, Health Sciences and Technology, Zürich, Switzerland.* <sup>2</sup>*McGill, Chemistry, Montreal, Canada.* <sup>3</sup>*Philip Morris Products S.A., PMI R&D, Neuchâtel, Switzerland*
- P251 -0334** **The Impact of *OPRM1* A118G Polymorphism on Addiction in Turkish Population.** Hulya Turkan<sup>1</sup>, Benu Karahaliı<sup>2</sup>, Ela Kadioglu<sup>3</sup>, Kenan Eren<sup>4</sup>, Defne Gürol<sup>5</sup>, AliEsat Karakaya<sup>6</sup>. <sup>1</sup>*Bozok University, Medical Faculty, Ankara, Turkey.* <sup>2</sup>*Gazi University, Faculty of Pharmacy, Ankara, Turkey.* <sup>3</sup>*Gazi University, Faculty of Pharmacy Department of Toxicology,, Ankara, Turkey.* <sup>4</sup>*Bakirköy State Hospital for Mental and Neurological Diseases, Alcohol and Substance Addiction Treatment and Research Center,, Istanbul, Turkey.* <sup>5</sup>*Bakirköy State Hospital for Mental and Neurological Diseases, Alcohol and Substance Addiction Treatment and Research Center,, Istanbul, Turkey.* <sup>6</sup>*Gazi University, Faculty of Pharmacy, Ankara, Turkey*

- P252 -0423** **A Comparative Study of the Genotoxic Effects of the Neonicotinoids Nitenpyram and Imidacloprid in Human Cell Line U937 Utilizing a Novel Statistical Approach to Evaluate Comet Data.** Erik Bivehed<sup>1</sup>, Björn Hellman<sup>2</sup>, Anton Gustafsson<sup>1</sup>, Anders Berglund<sup>3</sup>. <sup>1</sup>Uppsala University, Pharmaceutical Biosciences, Uppsala, Sweden. <sup>2</sup>Uppsala University, Department of Pharmaceutical Biosciences, Uppsala, Sweden. <sup>3</sup>Statistikakademin AB, Uppsala, Sweden
- P253 -0500** **The Reproductive Toxicity of ZishenYutai Pill on Rats and Offspring in Perinatal Period.** Li Zhou<sup>1</sup>, Juan Jiang<sup>1</sup>, Yang Yang<sup>1</sup>, Li Xu<sup>1</sup>, Liming Chong<sup>1</sup>, Zuyue Sun<sup>1</sup>. <sup>1</sup>National Evaluation Centre for the Toxicology of Fertility Regulating Drug, Department of Pharmacology and Toxicology, Shanghai, China
- P254 -0518** **Repeated-Dose Toxicity Study and Explore for Safety Assessment of *Thesium chinense* Particles in Juvenile Rats.** Yang Yang<sup>1</sup>, Liming Chong<sup>1</sup>, Yinwen Hou<sup>1</sup>, Congcong Shao<sup>1</sup>, Fen Wang<sup>1</sup>, Li Xu<sup>1</sup>, Li Zhou<sup>1</sup>, Zuyue Sun<sup>1</sup>, Qinxia Wang<sup>2</sup>. <sup>1</sup>National Evaluation Centre for the Toxicology of Fertility Regulating Drug, Department of Pharmacology and Toxicology, Shanghai, China. <sup>2</sup>Shanghai Institute of Planned Parenthood Research, Xuhui Qu, China
- P255 -0827** **CRISPR-Cas9 Generated Appb Zebrafish Mutants with Early Developmental Defects and Behavioral Alterations in Adulthood.** Rakesh Kumar Banote<sup>1</sup>, Jasmine Chebli<sup>1</sup>, Tuğçe Şatır<sup>1</sup>, Johan Ledin<sup>2</sup>, Shawn Burgess<sup>3</sup>, Alexandra Abramsson<sup>1</sup>, Henrik Zetterberg<sup>1,4,5,6</sup>. <sup>1</sup>Institute of Neuroscience and Physiology, University of Gothenburg, Department of Psychiatry and Neurochemistry, The Sahlgrenska Academy, Gothenburg, Sweden. <sup>2</sup>Uppsala University, Department of Organismal Biology, Science for Life Laboratory, Uppsala, Sweden. <sup>3</sup>National Human Genome Research Institute, National Institutes of Health, Translational and Functional Genomics Branch, Bethesda, MD, The United States of America. <sup>4</sup>Clinical Neurochemistry Laboratory, Sahlgrenska University Hospital, Mölndal, Sweden. <sup>5</sup>UCL Institute of Neurology, Department of Molecular Neuroscience, London, United Kingdom. <sup>6</sup>UK Dementia Research Institute, London, United Kingdom
- P258 -0906** **Evaluation of Black Cohosh Extract for Genotoxicity and Epigenetic Alterations Using the CometChip Assay.** Manju Manjanatha<sup>1</sup>, Ji-Eun Seo<sup>1</sup>, Xiaoqing Guo<sup>1</sup>, Sharon Shelton<sup>1</sup>, Ying Chen<sup>1</sup>, Volodymyr Tryndyak<sup>1</sup>, Kristine Witt<sup>2</sup>, Staphanie Smith-Roe<sup>2</sup>. <sup>1</sup>US FDA/NCTR, Jefferson, AR, The United States of America. <sup>2</sup>NIEHS/NTP, Research Triangle Park, NC, The United States of America
- P259 -0922** **The Comparative Evaluation of the Genotoxicity of Different Titanium Dioxide Particles Using *In Vitro* Comet Assay.** In Jae Bang<sup>1</sup>. <sup>1</sup>Sungkyunkwan University, College of Pharmacy, Suwon, The Republic of Korea
- P260 -0032** **Either IL-4 Administration or Zinc Supplementation Mitigates Aggravated Inflammatory Response Associated with Increased White Blood Cells in Zinc-Deficient Rats.** Takamasa Kido<sup>1</sup>, Machi Suka<sup>1</sup>, Masashi Tsunoda<sup>2</sup>, Hiroyuki Yanagisawa<sup>1</sup>. <sup>1</sup>The Jikei University School of Medicine, Public Health and Environmental Medicine, Tokyo, Japan. <sup>2</sup>National Defense Medical College, Saitama, Japan
- P261 -0072** **Development of Th1-Related Diseases during Omalizumab Treatment: A Case Series of Severe Asthma.** Hiroaki Hayashi<sup>1</sup>, Yuma Fukutomi<sup>1</sup>, Kentaro Watai<sup>1</sup>, Kiyoshi Sekiya<sup>1</sup>, Norihiro Fujita<sup>1</sup>, Maki Iwata<sup>1</sup>, Kisako Nagayama<sup>1</sup>, Yuto Nakamura<sup>1</sup>, Yuto Hamada<sup>1</sup>, Kai Ryu<sup>1</sup>, Yasuhiro Tomita<sup>1</sup>, Yosuke Kamide<sup>1</sup>, Akio Mori<sup>1</sup>, Masami Taniguchi<sup>1</sup>. <sup>1</sup>National Hospital Organization Sagami Hospital, Clinical Research Center for Allergy and Rheumatology, Sagami Hospital, Japan
- P262 -0087** **Evaluating the Pharmacodynamics and Protective Efficacy of Catalytic Bioscavenger following Subcutaneous Administration in Guinea Pigs.** Thuy Dao<sup>1</sup>, Sandra DeBus<sup>1</sup>, Michael Boeri<sup>2</sup>, Zachary Canter<sup>2</sup>, Douglas Cerasoli<sup>1</sup>, Shane Kasten<sup>1</sup>. <sup>1</sup>US Army Medical Research Institute of Chemical Defense, Aberdeen Proving Ground, MD, The United States of America. <sup>2</sup>Oak Ridge Institute for Science and Education, Aberdeen Proving Ground, MD, The United States of America
- P263 -0088** **Assessing the Skin Irritation and Sensitizing Potential of Concentrates of Water Chlorinated in the Presence of Iodinated X-ray Contrast Media** David Lehmann<sup>1</sup>, Mikayla Armstrong<sup>2</sup>, Jane Ellen Simmon<sup>1</sup>. <sup>1</sup>US EPA/NHEERL, National Health and Environmental Effects Research Laboratory, Durham, NC, The United States of America. <sup>2</sup>University of North Carolina at Chapel Hill, Department of Environmental Sciences and Engineering, Chapel Hill, NC, The United States of America
- P264 -0194** **Mercury and Arsenic Disrupt Inflammatory Responses by Inhibition of Inflammation Activation.** Huijeong Ahn<sup>1</sup>, Geun-Shik Lee<sup>1</sup>. <sup>1</sup>Kangwon National University, College of Veterinary Medicine and Institute of Veterinary Science, Chuncheon, The Republic of Korea
- P265 -0270** **lncRNA MALAT1 Interacts with Nrf2 to Regulate Septic Shock in Mouse: Molecular Mechanism and Potential Therapeutic Application** Jingshu Chen<sup>1</sup>, Sui Ke<sup>2</sup>, Benjamine Morpurgo<sup>2</sup>, Andrei Golovko<sup>2</sup>, Yannan Tian<sup>2</sup>. <sup>1</sup>Texas A&M University, VIBS, College Station, TX, The United States of America. <sup>2</sup>Texas A&M University, Veterinary Integrative Biosciences, College Station, TX, The United States of America

- P266 -0294** **Obovatol Attenuates NLRP3, AIM2, and Caspase-11 Inflammasome Activation.** Jeongeun Kim<sup>1</sup>, Geun-Shik Lee<sup>1</sup>. <sup>1</sup>*Kangwon National University, College of Veterinary Medicine and Institute of Veterinary Science, Chuncheon, The Republic of Korea*
- P267 -0316** **Red Ginseng Extracts Inhibit Cytokine Expression via TLR4-MyD88-NF-kappaB Signaling.** SangJung Yu<sup>1</sup>, Geun-Shik Lee<sup>1</sup>. <sup>1</sup>*Kangwon National University, College of Veterinary Medicine and Institute of Veterinary Science, Chuncheon, The Republic of Korea*
- P268 -0365** **Gefitinib, an Anticancer Drug Inhibiting EGFR, Stimulates IL-1 $\beta$  Secretion by Activating Drp1 and p38 MAPK.** Yuki Kudoh<sup>1</sup>, Rio Naganuma<sup>1</sup>, Yusuke Hirata<sup>1</sup>, Takuya Noguchi<sup>1</sup>, Atsushi Matsuzawa<sup>1</sup>. <sup>1</sup>*Tohoku University Graduate School of Pharmaceutical Sciences Laboratory of Health Chemistry, Sendai, Japan*
- P269 -0413** **Whole Body Microwave Irradiation and Rat Peritoneal Macrophages.** Mirjana Matausic-Pisli<sup>1</sup>, Ivan Pavicic<sup>1</sup>, Ana Marija Marjanovic-Cermak<sup>1</sup>. <sup>1</sup>*Institute for Medical Research and Occupational Health, Radiation Dosimetry and Radiobiology Unit, Zagreb, Croatia*
- P270 -0570** **Effect of Pesticide Exposure on Immune Parameters in Agricultural Workers: The Twenty Years Experience at the International Centre for Rural Health.** Emanuela Corsini<sup>1</sup>, Valentina Galbiati<sup>1</sup>, Stefan Mandic-Rajcevic<sup>2</sup>, Claudio Colosio<sup>2</sup>. <sup>1</sup>*Università degli Studi di Milano, Department of Environmental Science and Policy Milan, Italy.* <sup>2</sup>*Università degli Studi di Milano, International Centre for Rural Health of the SS. Paolo and Carlo Hospitals, Milan, Italy*
- P271 -0594** **Study of Generic Tebuconazole Hematotoxic Activity after Acute Intoxication on Wistar Hannover Male Rats.** Mykola Prodanchuk<sup>1</sup>, Tetiana Usenko<sup>1</sup>, Volodymyr Bubalo<sup>1</sup>, Yana Kolianchuk<sup>1</sup>, Valentyna Shulyak<sup>1</sup>, Nadiia Nedopytanska<sup>1</sup>. <sup>1</sup>*L.I. Medved's Research Center of Preventive Toxicology, Food and Chemical Safety, Ministry of Health, Ukraine, Kyiv, Ukraine*
- P272 -0596** **Sex-Specific Influenza Pathology with Concurrent Chronic Arsenic Exposure in Adult C57BL/6 Mice.** Sarah Attreed<sup>1</sup>, Rachele Liu<sup>1</sup>, Chloe Kashiwagi<sup>1</sup>, Kristal Rychlik<sup>1</sup>, Emily Illingworth<sup>1</sup>, Han Zhang<sup>1</sup>, Tyrone Howard<sup>1</sup>, Sabra Klein<sup>2</sup>, Christopher Heaney<sup>1</sup>, Fenna Sillé<sup>1</sup>. <sup>1</sup>*Johns Hopkins University, Environmental Health and Engineering, Baltimore, MD, The United States of America.* <sup>2</sup>*Johns Hopkins University, Molecular Microbiology and Immunology, Baltimore, MD, The United States of America*
- P273 -0659** **Investigating the Role of Metallothionein and Gene Expression as Predictors of Immune Response in *Hypsigobius dujardini* following Exposure to Cadmium.** Damola Olatoregun<sup>1</sup>. <sup>1</sup>*Texas Southern University, Environmental Toxicology, Houston, TX, The United States of America*
- P274 -0674** **Role of the Aryl Hydrocarbon Receptor (AhR) in Inflammatory Responses Induced by Dioxin and Persistent Organochlorinated Pesticides.** W.L. William Channng<sup>1</sup>, Sarah Kado<sup>1</sup>, Yasuhiro Ishihara<sup>1</sup>, Christoph Vogel<sup>1</sup>. <sup>1</sup>*University of California Davis, Davis, CA, The United States of America.*
- P275 -0733** **Allergenic Oxidized Fragrances in Consumer Goods: Understanding the Sensitizing Potential and Related Oxidative Stress in an Epidermal Skin Environment.** Fatma Sahli<sup>1</sup>, Marta Silva e Sousa<sup>2</sup>, Bertrand Vileno<sup>3</sup>, Jutta Lichter<sup>2</sup>, Brunhilde Blömeke<sup>2</sup>, Elena Gimenez-Arnau<sup>1</sup>. <sup>1</sup>*University of Strasbourg, Dermatochemistry, Strasbourg, France.* <sup>2</sup>*University of Trier, Department of Environmental Toxicology, Trier, Germany.* <sup>3</sup>*University of Strasbourg, POMAM Laboratory, Strasbourg, France*
- P276 -0734** **Formation of Free Radicals from the Skin Sensitizer Ascaridole in a <sup>3</sup>D Epidermis Model and Activation of the Innate Immune Response.** Fatma Sahli<sup>1</sup>, Bertrand Vileno<sup>2</sup>, Marta Silva e Sousa<sup>3</sup>, Jutta Lichter<sup>3</sup>, Brunhilde Blömeke<sup>3</sup>, Elena Gimenez-Arnau<sup>1</sup>. <sup>1</sup>*University of Strasbourg, Dermatochemistry, Strasbourg, France.* <sup>2</sup>*University of Strasbourg, POMAM Laboratory, Strasbourg, France.* <sup>3</sup>*University of Trier, Department of Environmental Toxicology, Trier, Germany*
- P277 -0743** **Effect of Immunosuppressive Drugs on Viral Proliferation.** Cha-Gyun Shin<sup>1</sup>, Ga-Eun Lee<sup>2</sup>. <sup>1</sup>*Chung-Ang University, Department of Systems Biotechnology, Ansong, The Republic of Korea.* <sup>2</sup>*Chung-Ang University, Department of Systems Biotechnology, Ansong, The Republic of Korea*
- P278 -0789** **Ovalicin Alleviated Pruritic and Inflammatory Signaling through Inhibition of IL-31 and ROS in DH82 Cells.** Yongbaek Kim<sup>1, 2</sup>, Sung-Hyun Hwang<sup>1, 3</sup>. <sup>1</sup>*Seoul National University, College of Veterinary Medicine, Seoul, The Republic of Korea.* <sup>2</sup>*Research Institute for Veterinary Science, College of Veterinary Medicine, Seoul National University, Seoul, The Republic of Korea.* <sup>3</sup>*Seoul National University, BK21 PLUS Program for Creative Veterinary Science Research, College of Veterinary Medicine, Seoul, The Republic of Korea*
- P279 -0810** **Cholera Toxin Can Exert Mucosal Adjuvanticity via ERdj5 in Innate Immune Cells.** Hyun-Jeong Ko<sup>1</sup>, Mee-Sun Kim<sup>2</sup>, Sunyoung Chang<sup>3</sup>. <sup>1</sup>*Kangwon National University, Laboratory of Microbiology and Immunology, College of Pharmacy Chuncheon, The Republic of Korea.* <sup>2</sup>*Ajou University, College of Pharmacy, and Research Institute of Pharmaceutical Science*



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- P280 -0224** **Prompt Elimination of Uremic Toxin Alleviates AKI to CKD Transition.** Jia-Rong Jheng<sup>1</sup>, Jia-Huang Chen<sup>2</sup>, Yuan-Siao Chen<sup>2</sup>, Chih-Kang Chiang<sup>2,3</sup>. <sup>1</sup>National Taiwan University, College of Medicine, Department of Internal Medicine, Taipei, Taiwan. <sup>2</sup>National Taiwan University, College of Medicine, Graduate Institute of Toxicology, Taipei, Taiwan. <sup>3</sup>National Taiwan University Hospital, Department of Integrated Diagnostics and Therapeutics, Taipei, Taiwan
- P281 -0328** **Effect of Moon Seed Vine (*Triclisia gilentii* Staner) on Ethane-1,2-Diol-Induced Urolithiasis and Its Renotoxicity in Wistar Albino Rats.** Olayeriju Olanrewaju<sup>1,2</sup>, Olusola Elekofehinti<sup>1</sup>, Tolulope Olaleye<sup>1</sup>, Akintunde Akindahunsi<sup>1</sup>. <sup>1</sup>Federal University of Technology Akure, Biochemistry, Akure, Nigeria. <sup>2</sup>University of Pavia, Drug Sciences, Pavia, Italy
- P282 -0349** **Acute Kidney Injury Associated with Ingestion of Star Fruit.** Thajudeen Mohammed Zuhary<sup>1</sup>, R Ponampalam<sup>1</sup>. <sup>1</sup>Singapore General Hospital, Emergency Medicine, Singapore, Singapore
- P283 -0469** **Characterization of Early Kidney Damage in a Child Population Exposed to a Mixture of Environmental Pollutants from Apizaco, Tlaxcala, Mexico.** Manolo Ortega-Romero<sup>1</sup>, Mara Medeiros-Domingo<sup>2</sup>, Pablo Méndez-Hernández<sup>3</sup>, Guadalupe Aguilar-Madrid<sup>4</sup>. <sup>5</sup>, Luz Maria Del Razo-Jiménez<sup>1</sup>, Mónica Jiménez-Córdova<sup>1</sup>, Juana Narváez-Morales<sup>1</sup>, Ana María Hernández-Sánchez<sup>2</sup>, Olivier Barbier<sup>1</sup>. <sup>1</sup>Center for Research and Advanced Studies (Cinvestav), Departamento de Toxicología, Mexico City, Mexico. <sup>2</sup>Hospital Infantil de México Federico Gómez, Unidad de Investigación en Nefrología, Mexico City, Mexico. <sup>3</sup>Secretaría de Salud de Tlaxcala, Tlaxcala, Mexico. <sup>4</sup>Facultad de Medicina UNAM, Departamento de Salud Pública, Mexico City, Mexico. <sup>5</sup>Claustro Universitario de Chihuahua, Dirección de Investigación y de Posgrado, Chihuahua, Mexico
- P284 -0474** **Cross-Species Assessment of Amphotericin B–Induced Renal Tubular Injury and Related Profile Changes in miRNAs, Genes, and Proteins.** James McDuffie<sup>1</sup>, Manisha Sonee<sup>2</sup>, Justin Kanerva<sup>1</sup>, Elnaz Atabakhsh<sup>3</sup>, Harry Reese<sup>3</sup>, Michael Tackett<sup>3</sup>, Yunhai Zhang<sup>4</sup>, Ryan Meng<sup>4</sup>, Yafei Chen<sup>1</sup>. <sup>1</sup>Janssen Research & Development, Mechanistic & Investigative Toxicology, San Diego, CA, The United States of America. <sup>2</sup>Janssen Research & Development, Nonclinical Sciences, Spring House, PA, The United States of America. <sup>3</sup>Abcam Inc, Multiplex Assays, Cambridge, MA, The United States of America. <sup>4</sup>Janssen Research & Development, NonClinical Sciences, Shanghai, China
- P285 -0617** **Role of NGAL/24p3 Receptor in the Handling of CdMT-FITC along the Distal Nephron with Decreased Endocytic Capacity.** Itzel Pamela Zavala Guevara<sup>1</sup>, Manolo Ortega-Romero<sup>1</sup>, Juana Narváez-Morales<sup>1</sup>, Laura Arreola Mendoza<sup>2</sup>, Olivier Barbier<sup>1</sup>. <sup>1</sup>Center for Research and Advanced Studies (Cinvestav), Departamento de Toxicología, Mexico City, Mexico. <sup>2</sup>Centro Interdisciplinario de Investigaciones y Estudios Sobre Medio Ambiente y Desarrollo del Instituto Politécnico Nacional, Departamento de Biociencias e Ingeniería, Mexico City, Mexico
- P286 -0681** ***Dendropanax morbifera* Attenuates Nephropathy via SIRT1/AMPK Pathways in Streptozotocin-Induced Diabetic Rats.** Richa Sachan<sup>1</sup>, Amit Kundu<sup>1</sup>, Kyeong Seok Kim<sup>1</sup>, Jong Seung Lim<sup>1</sup>, In Su Kim<sup>1</sup>, Byung-Mu Lee<sup>1</sup>, Jong Hwan Kwak<sup>1</sup>, Hyung Sik Kim<sup>1</sup>. <sup>1</sup>Sungkyunkwan University, College of Pharmacy, Suwon, The Republic of Korea
- P287 -0754** **The Role of the Inducible Calbindin-D28k Protein in Advanced Glycation End Products–Associated Renal Proximal Tubule Fibrosis.** Cheng-Tien Wu<sup>1</sup>, Shing-Hwa Liu<sup>2,3,4</sup>, Wei-Han Lin<sup>5</sup>, Chih-Kang Chiang<sup>6,7</sup>, Yen-Hau Su<sup>1</sup>, Shin-An Chen<sup>1</sup>. <sup>1</sup>Shuang Ho Hospital, Department of Surgery, Taipei, Taiwan. <sup>2</sup>Institute of Toxicology, National Taiwan University, Taipei, Taiwan. <sup>3</sup>National Taiwan University Hospital, Department of Pediatrics, Taipei, Taiwan. <sup>4</sup>China Medical University Hospital, Department of Medical Research, Taipei, Taiwan. <sup>5</sup>Institute of Toxicology, National Taiwan University, Taipei, Taiwan. <sup>6</sup>Institute of Toxicology, National Taiwan University, Taipei, Taiwan. <sup>7</sup>College of Medicine and Hospital, Departments of Integrated Diagnostics & Therapeutics and Internal Medicine, Taipei, Taiwan
- P288 -0914** **Association of Genetic Polymorphisms in Multispecific Transporters with Mercury Nephrotoxicity in Artisanal and Small-Scale Gold Mining.** Luz Helena Sanchez Rodriguez<sup>1</sup>, Olga Medina<sup>1</sup>, Linda Rocha<sup>2</sup>, Giovanna Rincón<sup>1</sup>, Fernando Rondón<sup>3</sup>, Oscar Flórez<sup>4</sup>. <sup>1</sup>Industrial University of Santander, School of Microbiology, Bucaramanga, Colombia. <sup>2</sup>University of Santander, CIENCIAUDES Research Group, Bucaramanga, Colombia. <sup>3</sup>Industrial University of Santander, School of Biology, Bucaramanga, Colombia. <sup>4</sup>National Cancer Institute, Division of Cancer Epidemiology and Genetics, Bethesda, MD, The United States of America
- P289 -0063** **Connexin Hemichannels and Pannexin Channels as Drug Targets in Liver Toxicity and Disease.** Mathieu Vinken<sup>1</sup>, Bruno Cogliati<sup>2</sup>. <sup>1</sup>Vrije Universiteit Brussel, Department of Toxicology, Brussels, Belgium. <sup>2</sup>University of São Paulo, Department of Pathology, School of Veterinary Medicine and Animal Science, São Paulo, Brazil

- P290 -0111** **Mechanistic Investigation of Anti-retroviral Related Liver Injury through the Use of Metabolomics and Lipidomics Techniques.** Thomas Kralj<sup>1</sup>, Dovile Anderson<sup>1</sup>, Amanda De Paoli<sup>1</sup>, Anubhav Srivastava<sup>1</sup>, Darren Creek<sup>1</sup>. <sup>1</sup>Monash University, Drug Delivery, Disposition and Dynamics, Parkville, Australia
- P291 -0116** **Population Variability in the Severity of Alcoholic Hepatitis in a Mouse Model.** Hisataka Fukushima<sup>1</sup>, Luo Yu-Syuan<sup>1</sup>, Lauren Lewis<sup>1</sup>, David Threadgill<sup>2</sup>, Ivan Rusyn<sup>1</sup>. <sup>1</sup>Texas A&M University, Veterinary Integrative Biosciences, College Station, TX, The United States of America. <sup>2</sup>Texas A&M University, Department of Molecular and Cellular Medicine, College Station, TX, The United States of America
- P292 -0123** **The Role OATP2A1 in Hepatoprotection against CCl<sub>4</sub>-Induced Liver Injury.** Hiroaki Shimada<sup>1</sup>, Ryota Hashimoto<sup>1</sup>, Aya Aoki<sup>1</sup>, Saya Yamada<sup>1</sup>, Atsushi Kawase<sup>1</sup>, Masahiro Iwaki<sup>1</sup>. <sup>1</sup>Kindai University, Pharmacy, Higashi-osaka, Japan
- P293 -0142** **Hepatoprotective Effect of Polyphenolic Rich Fractions from *Lauridia tetragona* (L.f.) R.H. Archer on Acetaminophen-Induced Liver Injury.** Samuel Odeyemi<sup>1</sup>, John Dewar<sup>1</sup>. <sup>1</sup>University of South Africa, Life and consumer Sciences, Johannesburg, South Africa
- P294 -0168** **Suppressive Effect of Sesamin on Lipogenesis through Activation of CaMKK/AMPK in Hepatocytes.** Thi Hoa Pham<sup>1</sup>, Sun Woo Jin<sup>1</sup>, Hye Gwang Jeong<sup>1</sup>. <sup>1</sup>Chungnam National University, Department of Toxicology, College of Pharmacy, Daejeon, The Republic of Korea
- P295 -0170** **Suppressive Effects of Platyconic Acid A on TGF-Beta1-Induced Hepatic Stellate Cell Activation through Blocking Smad-Dependent and Smad-Independent Signal Transduction Pathways.** Jae Ho Choi<sup>1</sup>, Gi Ho Lee<sup>1</sup>, Sun Woo Jin<sup>1</sup>, Young Chul Chung<sup>2</sup>, Hye Gwang Jeong<sup>1</sup>. <sup>1</sup>Chungnam National University, Department of Toxicology, College of Pharmacy, Daejeon, The Republic of Korea. <sup>2</sup>International University of Korea, Department of Food and Medicine, College of Public Health and Natural Science, Jinju, The Republic of Korea
- P296 -0171** **Inhibitory Effects of Rutaecarpine on Acetaminophen-Induced Hepatotoxicity through Enhancing of Nrf2-Mediated Antioxidants Enzymes in Mice.** Gi Ho Lee<sup>1</sup>, Jae Ho Choi<sup>1</sup>, Han Gun Kim<sup>2</sup>, Kwang Youl Lee<sup>3</sup>, Hye Gwang Jeong<sup>1</sup>. <sup>1</sup>Chungnam National University, Department of Toxicology, College of Pharmacy, Daejeon, The Republic of Korea. <sup>2</sup>Sunchon National University, Department of Pharmacy, Suncheon, The Republic of Korea. <sup>3</sup>Chonnam National University, College of Pharmacy and Research Institute of Drug Development, Gwangju, The Republic of Korea
- P297 -0279** **An Inhibitor of the Protein Kinases IKK $\epsilon$  and TBK1 Ameliorates Acetaminophen-Induced Oxidative Stress in Mice.** Jing Qi<sup>1</sup>, Jong-Won Kim<sup>1</sup>, Zixiong Zhou<sup>1</sup>, Chae Woong Lim<sup>1</sup>, Hyeneui Jeong<sup>1</sup>, Daram Yang<sup>1</sup>, Bumseok Kim<sup>1</sup>. <sup>1</sup>Chonbuk National University, Biosafety Research Institute and Laboratory of Pathology (BK21 Plus Program), College of Veterinary Medicine, Iksan, The Republic of Korea
- P298 -0286** **Amlexanox Attenuates the Severity of Hepatotoxin-Induced Liver Fibrosis and Biliary Fibrosis in Mice.** Zixiong Zhou<sup>1</sup>, Jing Qi<sup>1</sup>, Jong-Won Kim<sup>1</sup>, Hyeneui Jeong<sup>1</sup>, Daram Yang<sup>1</sup>, Chae Woong Lim<sup>1</sup>, Bumseok Kim<sup>1</sup>. <sup>1</sup>Chonbuk National University, Biosafety Research Institute and Laboratory of Pathology (BK21 Plus Program), College of Veterinary Medicine, Iksan, The Republic of Korea
- P299 -0337** **Cyp2b-Null Male Mice Are Susceptible to High-Fat-Diet-Induced Obesity Due to Changes in PUFA Metabolism and Response to Hepatic Lipids as Measured by RNAseq.** Melissa Heintz<sup>1</sup>, Ramiya Kumar<sup>1</sup>, William Baldwin<sup>1</sup>. <sup>1</sup>Clemson University, Department of Biological Sciences, Clemson, SC, The United States of America
- P300 -0359** **The Toxicological Profiles of 1,3-Dichloro-2-Propanol Determined by a Repeated-Dose, 28-Day Oral Toxicity Study in F344 Rats.** Kohei Matsushita<sup>1</sup>, Takeshi Toyoda<sup>1</sup>, Tomomi Morikawa<sup>1</sup>, Takanori Yamada<sup>1,2</sup>, Kumiko Ogawa<sup>1</sup>. <sup>1</sup>National Institute of Health Sciences, Division of Pathology, Kawasaki, Japan. <sup>2</sup>Tokyo University of Agriculture and Technology, Laboratory of Veterinary Pathology, Fuchu, Japan
- P301 -0364** **CTR1 Overexpression Enhances Copper Toxicity in Zebrafish Liver Cell Line ZFL.** Man Long Kwok<sup>1</sup>, King Ming Chan<sup>1</sup>. <sup>1</sup>Chinese University of Hong Kong, School of Life Science, Hong Kong, Hong Kong
- P302 -0461** **Early-Life Activation of mTOR Pathway by Environmental Xenobiotics Permanently Reprograms Metabolism of Lipids and Carbohydrates by Liver.** Alexander Suvorov<sup>1</sup>. <sup>1</sup>University of Massachusetts Amherst, Environmental Health Sciences, Amherst, MA, The United States of America
- P303 -0468** **The Encoding Lipoprotein Gene and Lipid Profile Is Regulated by Anaemia and *Harungana madagascariensis* Bark Extract in Animal Model.** Olabisi Ogunrinola<sup>1</sup>, Samuel Olaitan<sup>1</sup>, Olusegun Fajana<sup>1</sup>, Oluwaseyi Ogunrinola<sup>2</sup>, Kehinde Olatunji<sup>1</sup>,

Atinuke Odufuye<sup>1</sup>, Oluwakemi Rotimi<sup>3</sup>, Solomon Rotimi<sup>3</sup>. <sup>1</sup>Lagos State University, Ojo, Biochemistry, Lagos, Nigeria. <sup>2</sup>Babcock University, Ilishan, Biochemistry, Ilishan, Nigeria. <sup>3</sup>Covenant University, Ota, Biological Sciences, Ota, Nigeria

P304 -0470

**How Similar among Different Toxicogenomics Study Designs?** Weida Tong<sup>1</sup>, Zhichao Liu<sup>1</sup>, Ruth Roberts<sup>2</sup>. <sup>1</sup>US FDA/NCTR, Jefferson, AR, The United States of America. <sup>2</sup>University of Birmingham, Pharmacology Edgbaston, United Kingdom

P305 -0486

**The Regulatory Mechanism of Hepatic PGE<sub>2</sub> Disposition in Carbamazepine-Induced Liver Injury.** Masahiro Iwaki<sup>1</sup>, Hiroaki Shimada<sup>1</sup>, Ryota Hashimoto<sup>1</sup>, Ken-ichi Oba<sup>1</sup>, Atsushi Kawase<sup>1</sup>. <sup>1</sup>Kindai University, Pharmacy, Higashi-osaka, Japan

P306 -0487

**Diclofenac Induces Lipid Accumulation in Liver by Inhibiting Chaperone-Mediated Autophagy.** Wonseok Lee<sup>1</sup>, Seung-Hwan Jung<sup>1</sup>, Byung Hoon Lee<sup>1</sup>. <sup>1</sup>Seoul National University, College of Pharmacy and Research Institute of Pharmaceutical Sciences, Seoul, The Republic of Korea

P307 -0490

**Diclofenac Inhibits Autophagic Flux and Sensitizes Hepatocarcinoma Cells to Sorafenib-Induced Cell Death.** Seung-Hwan Jung<sup>1</sup>, Seung-Hyeon Park<sup>1</sup>, Byung Hoon Lee<sup>1</sup>. <sup>1</sup>Seoul National University, College of Pharmacy and Research Institute of Pharmaceutical Sciences, Seoul, The Republic of Korea

P308 -0613

**Regorafenib Is Far More Toxic Than Its Pharmacologically Active Metabolites in Hepatocytes and Cardiomyocytes.** Qiang Shi<sup>1</sup>, Lijun Ren<sup>2</sup>, James Greenhaw<sup>3</sup>, Xi Yang<sup>4</sup>, William Mattes<sup>5</sup>. <sup>1</sup>US FDA/NCTR, Division of Systems Biology, Jefferson, AR, The United States of America. <sup>2</sup>US FDA/NCTR, Division of Systems Biology, Jefferson, AR, The United States of America. <sup>3</sup>US FDA/NCTR, Division of Systems Biology, Jefferson, AR, The United States of America. <sup>4</sup>US FDA/CDER, Division of Cardiovascular and Renal Products, Silver Spring, MD, The United States of America. <sup>5</sup>US FDA/NCTR, Division of Systems Biology, Jefferson, AR, The United States of America

P309 -0640

**Human CYP2B6 is an Anti-obesity Enzyme Involved in Unsaturated Fatty Acid Metabolism.** Emily Olack<sup>1</sup>, Melissa Heintz<sup>2</sup>, William Baldwin<sup>2,3</sup>. <sup>1</sup>Clemson University, Biological Sciences, Clemson, SC, The United States of America. <sup>2</sup>Clemson University, Environmental Toxicology Program, Clemson, SC, The United States of America. <sup>3</sup>Clemson University, Department of Biological Sciences, Clemson, SC, The United States of America

P310 -0680

**Estrogen Deficiency Potentiates Thioacetamide-Induced Hepatic Fibrosis.** Yong Hee Lee<sup>1</sup>, Jae Hyeon Park<sup>1</sup>, Yu Jung Park<sup>1</sup>, Kyeong Seok Kim<sup>1</sup>, Hyung Sik Kim<sup>1</sup>. <sup>1</sup>Sungkyunkwan University, College of Pharmacy, Suwon, The Republic of Korea

P311 -0696

**Adipose FGFR1 Regulates Binge Alcohol-Induced Adipolipolysis and Fat Accumulation in Liver in Mice.** Xue Chen<sup>1</sup>, Yongke Lu<sup>1</sup>. <sup>1</sup>East Tennessee State University, Health sciences, Johnson City, TN, The United States of America

P312 -0792

**The Influence of Alantolactone on Cholesterol Metabolism in Liver Cells.** Tomáš Zárbynický<sup>1</sup>, Veronika Skalická<sup>1</sup>, Terézia Kamasová<sup>1</sup>, Martin Ambrož<sup>1</sup>, Petra Matoušková<sup>1</sup>, Lenka Skálová<sup>1</sup>, Iva Boušová<sup>1</sup>. <sup>1</sup>Univerzita Karlova, Charles University, Hradec Králové, The Czech Republic.

P313 -0800

**Docosahexaenoic Acid Inhibits SREBP1-Mediated Lipogenic Enzyme Expression via G-Protein-Coupled Receptor. <sup>40</sup> in Primary Hepatocytes.** Hyun Young Kim<sup>1</sup>, Keon Wook Kang<sup>2</sup>, Jeongwoo Park<sup>2</sup>, Seungtae On<sup>3</sup>. <sup>1</sup>Seoul National University, College of Pharmacy and Research Institute of Pharmaceutical Sciences, Seoul, The Republic of Korea. <sup>2</sup>Seoul National University, College of Pharmacy and Research Institute of Pharmaceutical Sciences, Seoul, The Republic of Korea. <sup>3</sup>Seoul National University, College of Pharmacy and Research Institute of Pharmaceutical Sciences, Seoul National University, Seoul, Republic of Korea, Seoul, The Republic of Korea

P314 -0855

**A Human Hepatocellular Steatosis Model for In Vitro Toxicity Assessment.** Gail Nelson<sup>1</sup>, Nyssa Tucker<sup>1,2</sup>, Alan Tennant<sup>1</sup>, Brian Chorley<sup>3</sup>. <sup>1</sup>US EPA/NHEERL, Research Triangle Park, NC, The United States of America. <sup>2</sup>Oak Ridge Institute for Science and Education, US EPA, Research Triangle Park, NC, The United States of America. <sup>3</sup>US EPA/NHEERL, Research Triangle Park, NC, The United States of America

P315 -0860

**Interactions between Epigallocatechin-3-Gallate (EGCG) and Hydroxy Citric Acid Potentiate EGCG Hepatotoxicity.** Rachael Farrington<sup>1</sup>, Roger Byard<sup>2</sup>, Ian Musgrave<sup>1</sup>. <sup>1</sup>University of Adelaide, School of Medicine, Adelaide, Australia. <sup>2</sup>Forensic Science SA, Adelaide, Australia

P316 -0861

**Herbal Phytochemical Interactions Produce Synergistic Toxicity: Implications for Polyherbacy.** Susan Britza<sup>1</sup>, Ian Musgrave<sup>1</sup>, Roger Byard<sup>2</sup>. <sup>1</sup>University of Adelaide, School of Medicine, Adelaide, Australia. <sup>2</sup>Forensic Science SA, Adelaide, Australia

- P317 -0870** **Lichen Secondary Metabolite (Atranorin) Ameliorates Adriamycin-Induced Hepatotoxicity: Targeting the Proinflammatory Cytokine, Oxidative Stress, Apoptosis, and TGF-  $\beta$ 1/ STAT-3 Signaling.** [Ila Shukla](#)<sup>1</sup>, Lubna Azmi<sup>1</sup>, C Rao<sup>1</sup>. <sup>1</sup>CSIR-National Botanical Research Institute, Pharmacology, Lucknow, India
- P318 -0903** **Transcriptomic Landscape in Murine Plasma of Hepatocellular Liver Injury for Biomarker Discovery.** [Shingo Oda](#)<sup>1</sup>, Ken Itoh<sup>1</sup>, Tsuyoshi Yokoi<sup>1</sup>. <sup>1</sup>Nagoya University Graduate School of Medicine, Department of Drug Safety Sciences, Nagoya, Japan
- P319 -0904** **Carbon Monoxide-Releasing Molecule-3 Protects Oxidative Stress-Induced Cell Death in HepG2 Cells: Role of ERK-Mediated Nrf2 Activation.** Hyun Jung Choi<sup>1</sup>, Hye Min Hwang<sup>1</sup>, Eun Kyung Kim<sup>1</sup>, Soyeon Jeong<sup>1</sup>, Ami Choi<sup>1</sup>, [Keon Wook Kang](#)<sup>2</sup>, Young-Mi Kim<sup>1</sup>. <sup>1</sup>Hanyang University, Department of Pharmacy, Ansan, The Republic of Korea. <sup>2</sup>Seoul National University, Department of Pharmacy, Seoul, The Republic of Korea
- P320 -0908** **Effect of Molybdate on Hepatic Steatosis in Mice Given a Choline-Deficient High-Fat Diet.** [Seungwoo Lee](#)<sup>1</sup>, Doug-Young Ryu<sup>1</sup>. <sup>1</sup>Seoul National University, BK21 Plus Program for Creative Veterinary Science Research, Research Institute for Veterinary Science, Seoul, The Republic of Korea
- P321 -0961** **4-Methylpyrazole Is a New Therapy for Massive Acetaminophen Poisoning in Mice and Human.** [Jephte Y. Akakpo](#)<sup>1</sup>, Anup Ramachandran<sup>1</sup>, Luqi Duan<sup>1</sup>, Matt Schaich<sup>1</sup>, Matthew Jaeschke<sup>1</sup>, Brett Freudenthal<sup>1</sup>, Wen xing Ding<sup>1</sup>, Barry Rumack<sup>2</sup>, Hartmut Jaeschke<sup>1</sup>. <sup>1</sup>University of Kansas Medical Center, Kansas City, KS, The United States of America. <sup>2</sup>University of Colorado Denver, Department of Pharmaceutical Sciences, Aurora, CO, The United States of America
- P322 -0009** **The Role of Hepatic Cytochrome P450s in the Cytotoxicity of Dronedarone.** Si Chen<sup>1</sup>, Qiangen Wu<sup>1</sup>, Baitang Ning<sup>1</sup>, Matthew Bryant<sup>1</sup>, [Lei Guo](#)<sup>1</sup>. <sup>1</sup>US FDA/NCTR, Jefferson, AR, The United States of America
- P323 -0100** **Toxicokinetic Characteristics of Fusarenon-X and Its Major Metabolites in Goats.** [Amnart Poapolathep](#)<sup>1</sup>, Wanchalerm Phruksawan<sup>1</sup>, Saranya Poapolathep<sup>1</sup>, Kanjana Imsilp<sup>1</sup>, Mario Giorgi<sup>2</sup>, Zbynex Dzuman<sup>3</sup>, Jana Hajslova<sup>3</sup>. <sup>1</sup>Kasetsart University, Department of Pharmacology, Faculty of Veterinary Medicine, Bangkok, Thailand. <sup>2</sup>University of Pisa, Department of Veterinary Science, Pisa, Italy. <sup>3</sup>University of Chemistry and Technology, Department of Food Analysis and Nutrition, Prague, The Czech Republic
- P326 -0132** **Quatitative Metabolism of Senecionine—A Carcinogenic Pyrrolizidine Alkaloid by LC/MS/MS Analysis.** [Qingsu Xia](#)<sup>1</sup>, Xiaobo He<sup>1</sup>, Ge Lin<sup>2</sup>, Peter Fu<sup>1</sup>. <sup>1</sup>US FDA/NCTR, Biochemical Toxicology, Jefferson, AR, The United States of America. <sup>2</sup>Chinese University of Hong Kong, School of Biomedical Sciences, Shatin, China
- P327 -0172** **Buprenorphine and Metabolites Concentrations in Neonate Cord Blood: An Exploratory Pharmacogenetic Analysis.** [Lauren Dickerson](#)<sup>1</sup>, Derek Murrell<sup>1</sup>, Darshan Shah<sup>2</sup>, Stacy Brown<sup>1</sup>, Cara Carter<sup>1</sup>, Sam Harirforoosh<sup>1</sup>. <sup>1</sup>East Tennessee State University, Department of Pharmaceutical Sciences, Johnson City, TN, The United States of America. <sup>2</sup>East Tennessee State University, Department of Pediatrics, Johnson City, TN, The United States of America
- P328 -0174** **Changes in Hepatic Expression of Cytochrome P450 and Glutathione S-transferase in Mice Exposed to Cigarette Smoke.** [Jieun Yu](#)<sup>1</sup>, Young Jae Choi<sup>1</sup>, Chang Seon Ryu<sup>1</sup>, Hyo Seon Nam<sup>1</sup>, Jang su Jeon<sup>1</sup>, Teayoon Jung<sup>1</sup>, Ji-Eun Park<sup>1</sup>, Sang Kyum Kim<sup>1</sup>. <sup>1</sup>Chungnam National University, College of Pharmacy, Yuseong-gu, The Republic of Korea
- P329 -0254** **Characterization of Role of Cytochrome P450 in Hepatic Metabolism of Fimasartan.** [Ha Gyeong Kim](#)<sup>1</sup>, Young Jae Choi<sup>1</sup>, Ji-Yoon Lee<sup>1</sup>, Chang Seon Ryu<sup>1</sup>, Sang Kyum Kim<sup>1</sup>. <sup>1</sup>Chungnam National University, College of Pharmacy, Daehak-ro, Yuseong-gu, The Republic of Korea
- P330 -0257** **Metabolism of [<sup>3</sup>H]-BADGE in Rodents: A Spotlight on the Complex *In Vivo* Fate of the Diglycidyl Ether Analogue of Bisphenol A.** [Elodie Person](#)<sup>1</sup>, Isabelle Jouanin<sup>1</sup>, Emilien Jamin<sup>1</sup>, Florence Blas-Y-Estrada<sup>1</sup>, Sandrine Bruel<sup>1</sup>, Jean-Pierre Cravedi<sup>1</sup>, Nicolas Cabaton<sup>1</sup>, Daniel Zalko<sup>1</sup>. <sup>1</sup>INRA, TOXALIM Research Center, Toulouse, France
- P331 -0362** **Investigation of Mechanism of Rodenticide Resistance with Closed Colonies of Rodenticide-Resistant Rats from Tokyo.** [Kazuki Takeda](#)<sup>1</sup>, Yoshinori Ikenaka<sup>1,2</sup>, Kazuyuki D<sup>3</sup>, Shouta Nakayama<sup>1</sup>, Tsutomu Tanikawa<sup>3</sup>, Mayumi Ishizuka<sup>1</sup>. <sup>1</sup>Graduate School of Veterinary Medicine, Hokkaido University, Department of Environmental Veterinary Sciences, Sapporo, Japan. <sup>2</sup>School of Environmental Sciences and Development, North-West University South Africa, Water Research Group, Potchefstroom, South Africa. <sup>3</sup>Ikari Shodoku Co., Ltd., Technical Research Laboratory, Narashino, Japan
- P332 -0386** **Role of Intestinal Microbiota in Metabolism of Voglibose *In Vitro* and *In Vivo*.** [Geon Ho Kim](#)<sup>1</sup>, Mahesh Nepal<sup>1</sup>, Dong Ho Cha<sup>1</sup>, Mi Jeong Kang<sup>1</sup>, Tae Cheon Jeong<sup>1</sup>. <sup>1</sup>Yeungnam University, Pharmacy, Gyeongsan, The Republic of Korea

- P333 -0506** **Glutathione Conjugation of the Reactive Metabolite of Acetaminophen Catalyzed by Human Glutathione S-transferase Isoforms.** Ohnuma Tomokazu<sup>1</sup>, Hiroshi Kogure<sup>1</sup>, Takahito Nishiyama<sup>1</sup>, Kenichiro Ogura<sup>1</sup>, Hiratsuka Akira<sup>1</sup>. <sup>1</sup>Tokyo University of Pharmacy and Life Sciences, School of Pharmacy, Hachioji, Japan
- P335 -0687** **Toward Understanding Metabolism of Synthetic Cannabinoids and Model Compounds by Using *In Vitro* Oxidation by Microsomes and Chemical Oxidant Reagent.** Oluseyi Vanderpuye<sup>1,2</sup>, Alexius Lampkin<sup>3</sup>, Alexis Bailey<sup>2</sup>. <sup>1</sup>Albany State University, Chemistry & Forensic Science, Albany, GA, The United States of America. <sup>2</sup>Albany State University, Chemistry and Forensic Science, Albany, GA, The United States of America. <sup>3</sup>University of Wisconsin–Madison, Molecular and Cellular Pharmacology, Madison, WI, The United States of America
- P336 -0698** **Cytochromes P450 Bioactivate Lamisil (Terbinafine) through Multiple N-dealkylation Pathways.** Dustyne Barnette<sup>1</sup>, Mary Davis<sup>1</sup>, Na Dang<sup>2</sup>, Anirudh Pidugu<sup>3</sup>, Noah Flynn<sup>2</sup>, Tyler Hughes<sup>2</sup>, S Swamidass<sup>2</sup>, Gunnar Boysen<sup>4</sup>, Grover Miller<sup>1</sup>. <sup>1</sup>University of Arkansas for Medical Sciences, Biochemistry and Molecular Biology, Little Rock, AR, The United States of America. <sup>2</sup>Washington University, Pathology and Immunology, St. Louis, MO, The United States of America. <sup>3</sup>Emory University, Neuroscience and Behavioral Biology, Atlanta, GA, The United States of America. <sup>4</sup>University of Arkansas for Medical Sciences, Environmental and Occupational Health, Little Rock, AR, The United States of America
- P337 -0760** **Functional Characterization of Five CYP2A13 Allelic Variations.** Vitchan Kim<sup>1</sup>, Sora Yeom<sup>1</sup>, Harim Kim<sup>1</sup>, Donghak Kim<sup>1</sup>. <sup>1</sup>Konkuk University, Biological Sciences, Seoul, The Republic of Korea
- P338 -0840** **Barcoded DNA Measurements Yield Unexpected Interference with High-Throughput CYP-Mediated Cytotoxicity Assay.** Alice Woolard<sup>1</sup>, Steven Simmons<sup>2</sup>, Brian Chorley<sup>3</sup>. <sup>1</sup>Oak Ridge Institute for Science and Education, ORD/NHEERL/ISTD, Durham, NC, The United States of America. <sup>2</sup>US EPA/NCCT, ORD/NCCT, Durham, NC, The United States of America. <sup>3</sup>US EPA/NHEERL, Durham, NC, The United States of America
- P339 -0864** **Toxicokinetics of QiLin Pills following Single Oral Administrations in SD Rats.** Qinxia Wang<sup>1</sup>, Sichong Xu<sup>1</sup>, Qi Pang<sup>2</sup>, Li Zhou<sup>2</sup>, Zuyue Sun<sup>2</sup>. <sup>1</sup>National Evaluation Centre for the Toxicology of Fertility Regulating Drug, Department of Pharmacology and Toxicology, Shanghai, China. <sup>2</sup>National Evaluation Centre for the Toxicology of Fertility Regulating Drug, Department of Pharmacology and Toxicology, Shanghai, China
- P340 -0909** **Edaravone Free Radical Metabolite Formation and Its Consequences.** Lindsey Suh<sup>1</sup>, Dinesh Babu<sup>1</sup>, Lusine Tonoyan<sup>1</sup>, Béla Reiz<sup>2</sup>, S. Amirhossein Tabatabaei-Dakhili<sup>1</sup>, Andrew Morgan<sup>1</sup>, Carlos Velazquez<sup>1</sup>, Arno Siraki<sup>1</sup>. <sup>1</sup>University of Alberta, Pharmacy and Pharmaceutical Sciences, Edmonton, Canada. <sup>2</sup>University of Alberta, Department of Chemistry, Edmonton, Canada
- P341 -0936** **Pharmacokinetics and Metabolism of Acetyl Triethyl Citrate in Rats.** Young Seok Ji<sup>1</sup>, Jun Sang Yu<sup>1</sup>, Jeong Hoon Park<sup>1</sup>, Eun Gyu Lee<sup>1</sup>, Hye Hyun Yoo<sup>1</sup>. <sup>1</sup>Hanyang University, College of Pharmacy, Ansan, The Republic of Korea
- P342 -0022** **Damaging Effect on Spatial Cognition Behavior by Bioengineered ZnO Nanoparticles of *Trianthema portulacastrum* Linn. in Wistar Rats.** Ekta Yadav<sup>1</sup>. <sup>1</sup>Sam Higginbottom University of Agriculture, Technology and Sciences, Pharmaceutical Sciences, Allahabad, India
- P343 -0023** **Quercetin Attenuates Metronidazole-Induced Neurotoxicity through Downregulating Nitric Oxide Release and Regulation of NF-κB Pathway.** Wahaj Uddin<sup>1</sup>, Swati Chaturvedi<sup>1</sup>, Mohd Malik<sup>1</sup>. <sup>1</sup>CSIR Central Drug Research Institute, Pharmaceutics & Pharmacokinetics, Lucknow, India
- P344 -0084** **Behavioral Disorders Caused by Acute Carbon Monoxide Poisoning and Its Relationship with Prognostic Biomarkers.** Analía Cortez<sup>1</sup>, Rocío Galarza<sup>1</sup>, Sonia Molina<sup>1</sup>, María Meneghini<sup>1</sup>, Analía Karadayian<sup>2</sup>, Alicia Faletti<sup>1</sup>. <sup>1</sup>Centro de Estudios Farmacológicos y Botánicos (CEFyBO)-CONICET, Facultad de Medicina-Universidad de Buenos Aires, Argentina, CABA, Argentina. <sup>2</sup>Instituto de Bioquímica y Medicina Molecular (IBIMOL)-CONICET, Facultad de Farmacia y Bioquímica, Universidad de Buenos Aires, Argentina, CABA, Argentina
- P345 -0110** **Immunohistological Analysis of Peripheral Nerve Injury in Methylmercury-Exposed Rats.** Yo Shinoda<sup>1</sup>, Shunsuke Ehara<sup>1</sup>, Eiko Yoshida<sup>2</sup>, Tsutomu Takahashi<sup>1</sup>, Toshiyuki Kaji<sup>2</sup>, Yasuyuki Fujiwara<sup>1</sup>. <sup>1</sup>Tokyo University of Pharmacy and Life Sciences, School of Pharmacy, Hachioji, Japan. <sup>2</sup>Tokyo University of Science, Faculty of Pharmaceutical Sciences, Noda, Japan
- P346 -0148** **Cellular Recovery and Resilience—A New Angle to Look at Toxicity Testing.** Lena Smirnova<sup>1</sup>, Georgina Harris<sup>1</sup>, Helena Hogberg<sup>1</sup>, Alexandra Maertens<sup>1</sup>, Andre Kleensang<sup>1</sup>, Thomas Hartung<sup>1,2</sup>. <sup>1</sup>Johns Hopkins University, Bloomberg School of Public Health, Baltimore, MD, The United States of America. <sup>2</sup>University of Konstanz, Konstanz, Germany

- P347 -0176** **Molecular Mechanism of Methylmercury-Induced Neurotoxicity via Endoplasmic Reticulum Stress.** Hideki Hiraoka<sup>1</sup>, Kengo Nakahara<sup>1</sup>, Nobumasa Takasugi<sup>1</sup>, Masatake Fujimura<sup>2</sup>, Takao Iwawaki<sup>3</sup>, Yoshito Kumagai<sup>4</sup>, Takashi Uehara<sup>1</sup>. <sup>1</sup>Okayama University Graduate School of Medicine, Dentistry, and Pharmaceutical Sciences, Okayama, Japan. <sup>2</sup>National Institute for Minamata Disease Department of Basic Medical Sciences, Minamata, Japan. <sup>3</sup>Kanazawa Medical University, Division of Cell Medicine, Department of Life Science, Medical Research Institute, Uchinada, Japan. <sup>4</sup>University of Tsukuba Environmental Biology Laboratory, Faculty of Medicine, Tsukuba, Japan
- P348 -0204** **Mitigating Effects of Resveratrol Supplementation on Arsenic Trioxide Induced Neurotoxicity in Mouse Hippocampus.** Kamakshi Mehta<sup>1</sup>, Balpreet Kaur<sup>1</sup>, Kamlesh Kumar<sup>1</sup>, Pushpa Dhar<sup>1</sup>. <sup>1</sup>All India Institute of Medical Sciences, Anatomy, New Delhi, India
- P349 -0251** **Age-Dependent Dopaminergic Dysfunction following Early-Life Exposure to Atrazine in SD Rats.** Yanshu Li<sup>1</sup>. <sup>1</sup>Haerbin Medical University, Toxicology, Harbin, China
- P350 -0258** **An Innovative Tool for Detecting Alcohol Withdrawal Neurotoxicity: Focus on Limbic Memory in Rats.** Anna Brancato<sup>1</sup>, Carla Cannizzaro<sup>1</sup>, Marco Diana<sup>2</sup>. <sup>1</sup>University of Palermo, Sciences for Health Promotion and Mother and Child Care "G. D'Alessandro", Palermo, Italy. <sup>2</sup>University of Sassari, 'G. Minardi' Laboratory of Cognitive Neuroscience, Sassari, Italy
- P351 -0273** **Metabolomic Changes Associated with Genetic and Toxicological Perturbation of the Vesicular Monoamine Transporter (VMAT) in *Caenorhabditis elegans*.** Vrinda Kalia<sup>1</sup>, Joshua Bradner<sup>1</sup>, Merry Chen<sup>2</sup>, Douglas Walker<sup>3</sup>, Dean Jones<sup>4</sup>, Gary Miller<sup>1</sup>. <sup>1</sup>Columbia University, Department of Environmental Health Sciences, New York, NY, The United States of America. <sup>2</sup>Emory University, Emory College of Arts and Sciences, Atlanta, GA, The United States of America. <sup>3</sup>Icahn School of Medicine at Mount Sinai, Department of Environmental Medicine and Public Health, New York, NY, The United States of America. <sup>4</sup>Emory University, Clinical Biomarkers Laboratory, Division of Pulmonary, Allergy and Critical Care Medicine, Atlanta, GA, The United States of America
- P352 -0285** **Autophagic Cell Death via Inhibition of Akt/mTOR Signaling Pathway Contributed to Antimony-Induced Neuronal Damage.** Zhao Xinyuan<sup>1</sup>, Zhu Piaoyu<sup>1</sup>, Wang Xiaoke<sup>1</sup>, Qiyun Wu<sup>1</sup>. <sup>1</sup>Nantong University, Department of Occupational Medicine and Environmental Toxicology, Nantong, China
- P353 -0329** **The Attenuation of Glutamate-Induced Oxidative Toxicity and Induction of Antioxidant Genes by Resveratrol in HT22 Murine Hippocampal Neuronal Cells.** Wanchanok Nantacharoen<sup>1</sup>, Tewin Tencomnao<sup>2</sup>, Monruedee Sukprasansap<sup>3</sup>. <sup>1</sup>Clinical Biochemistry and Molecular Medicine, Department of Clinical Chemistry, Faculty of Allied Health Sciences, Master program in Clinical Biochemistry and Molecular Medicine, Department of Clinical Chemistry, Faculty of Allied Health Sciences, Bangkok, Thailand. <sup>2</sup>Age-Related Inflammation and Degeneration Research Unit, Department of Clinical Chemistry, Faculty of Allied Health Sciences, Age-related Inflammation and Degeneration Research Unit, Department of Clinical Chemistry, Faculty of Allied Health Sciences, Bangkok, Thailand. <sup>3</sup>Monruedee Sukprasansap, Food Toxicology Unit, Institute of Nutrition, Salaya, Thailand
- P354 -0343** **ER Stress Inhibitor Salubrinal Attenuates Deltamethrin-Induced Reduction of Hippocampal Neurogenesis in Adult Mice.** Muhammad Hossain<sup>1</sup>, Abdelmadjid Belkadi<sup>1</sup>. <sup>1</sup>Florida International University, Department of Environmental Health Sciences, Miami, FL, The United States of America
- P355 -0372** **Regulation of Ubiquitin-Proteasome System in ERAD via S-nitrosylation of UBE2D1.** Kana Fujikawa<sup>1</sup>, Kengo Nakahara<sup>1</sup>, Nobumasa Takasugi<sup>1</sup>, Akihiro Ito<sup>2</sup>, Takashi Uehara<sup>1</sup>. <sup>1</sup>Okayama University, Department of Medicinal Pharmacology, Graduate School Medicine, Dentistry, and Pharmaceutical Sciences, Okayama University, Okayama, Japan. <sup>2</sup>Laboratory of Cell Signaling, Tokyo University of Pharmacy and Life Science, Tokyo, Japan
- P356 -0376** **Atypical Antipsychotic Olanzapine Induces Oxidative Stress in the Hypothalamus.** Natsumi Hattori<sup>1</sup>, Asuka Kaizaki-Mitsumoto<sup>1</sup>, Satoshi Numazawa<sup>1</sup>. <sup>1</sup>Showa University School of Pharmacy, Division of Toxicology, Department of Pharmacology, Toxicology and Therapeutics, Showa University School of Pharmacy, Tokyo, Japan
- P357 -0379** **Possible Role of Endogenous S-persulfidation in the Enzymatic Activity of ER Protein.** Honami Ushirokawa<sup>1</sup>, Kenichi Yamaji<sup>1</sup>, Sho Okuda<sup>1</sup>, Eisuke Sugino<sup>1</sup>, Nobumasa Takasugi<sup>1</sup>, Takashi Uehara<sup>1</sup>. <sup>1</sup>Okayama University, Department of Medicinal Pharmacology, Graduate School Medicine, Dentistry, and Pharmaceutical Sciences, Okayama University, Okayama, Japan
- P358 -0414** **Utilization of Highly Sensitive LC-MS/MS to Detect Changes in the Central Nervous System (CNS): Comprehensive Profiling of Neurotransmitters and Proteins in Cerebrospinal Fluid in Rats.** Motohiro Shiotani<sup>1</sup>, Kanta Horie<sup>2</sup>, Sanae Omi<sup>1</sup>, Aya Goto<sup>1</sup>, Kyoko Nakano<sup>1</sup>, Shoji Asakura<sup>1</sup>. <sup>1</sup>Eisai Co., Ltd., Global Drug Safety, Tsukuba, Japan. <sup>2</sup>Eisai Co., Ltd., Translational Science, Neurology Business Group, Tsukuba, Japan

- P359 -0426** **Dimethylglycine Alleviates Behavioral Disturbances Induced by Adolescent Toluene Exposure.** Ming-Huan Chan<sup>1</sup>, Chung-Pineh Hsieh<sup>2</sup>, Hao Chen<sup>3</sup>, Hwei-Hsien Chen<sup>2</sup>. <sup>1</sup>*National Chengchi University, Institute of Neuroscience, Taipei, Taiwan.* <sup>2</sup>*National Health Research Institutes, Center for Neuropsychiatric Research, Miaoli, Taiwan.* <sup>3</sup>*National Tsing Hua University, Institute of Molecular Medicine, Hsinchu, Taiwan*
- P360 -0491** **Psychopharmacological Effects of Pyrolysates of Synthetic Cannabinoids.** Kyoko Hataoka<sup>1</sup>, Asuka Kaizaki-Mitsumoto<sup>1</sup>, Mika Ohsawa<sup>2</sup>, Masahiko Funada<sup>2</sup>, Satoshi Numazawa<sup>1</sup>. <sup>1</sup>*Showa University School of Pharmacy, Division of Toxicology, Department of Pharmacology, Toxicology and Therapeutics, Showa University School of Pharmacy, Tokyo, Japan.* <sup>2</sup>*NCNP, Department of Drug Dependence Research, National Institute of Mental Health, National Center of Neurology and Psychiatry, Tokyo, Japan*
- P361 -0499** **Prescription Drugs Interrupt Cholesterol Biosynthesis in Primary Cultures of Neurons.** Phillip Wages<sup>1</sup>, Amy Palubinsky<sup>2</sup>, Beth Ann McLaughlin<sup>2</sup>, Ned Porter<sup>1</sup>. <sup>1</sup>*Vanderbilt University, Department of Chemistry, Nashville, TN, The United States of America.* <sup>2</sup>*Vanderbilt University Medical Center, Department of Neurology, Nashville, TN, The United States of America*
- P362 -0534** **Alteration of Social Behavior and Neuroimmune Biomarkers in Fragile X Mental Retardation 1 Knockout and Valproic Acid-Induced Autism Rat Models.** Tin-Tin Win-Shwe<sup>1</sup>, Hidehiro Watanabe<sup>2</sup>. <sup>1</sup>*National Institute for Environmental Studies, Center for Health and Environmental Risk Research, Tsukuba, Japan.* <sup>2</sup>*National Institute for Environmental Studies, Center for Environmental Measurement and Analysis, Tsukuba, Japan*
- P363 -0537** **Metabolomic Approach Uncovered Impaired Amino Acid Metabolism in Human Astrocytoma Cells Induced by Manganese Exposure.** Yoshinori Okamoto<sup>1</sup>, Saki Kato<sup>1</sup>, Akira Aoki<sup>1</sup>, Koji Ueda<sup>1</sup>, Hideto Jinno<sup>1</sup>. <sup>1</sup>*Meijo University, Faculty of Pharmacy, Nagoya, Japan*
- P364 -0539** **Optical Recording Methods with Voltage-Sensitive Dye (VSD) Is Useful to Evaluate the Impact of Chemicals on Brain Activities in Acute and Late Effects.** Yoko Tominaga<sup>1</sup>, Makiko Taketoshi<sup>1</sup>, Kentaro Tanemura<sup>2</sup>, Takashi Tominaga<sup>1</sup>. <sup>1</sup>*Tokushima Bunri University, Institute of Neuroscience, Sanuki, Japan.* <sup>2</sup>*Tohoku University, Laboratory of Animal Reproduction and Development Graduate School of Agricultural Science, Sendai, Japan*
- P365 -0544** **Anti-neurotoxic Effect of *Passiflora edulis* Extracts against Glutamate-Induced Oxidative Damage in Cultured HT-22 Cells.** Shuqin Cao<sup>1</sup>, Tawarit Sarachana<sup>1</sup>, Chalinee Ronpirin<sup>2</sup>, Tewin Tencomnao<sup>1</sup>. <sup>1</sup>*Chulalongkorn University, Clinical Chemistry, Bangkok, Thailand.* <sup>2</sup>*Thammasat University, Preclinical Science, Khlong Luang, Thailand*
- P366 -0558** **Cadmium Effects on Memory Impairment and on Brain Neurochemistry: Modulation by *Lepidium sativum* L..** Ed-Day Soumia<sup>1</sup>, Fatima-Zahra Azzaoui<sup>2</sup>, Samira Boulbaroud<sup>3</sup>, Ahmed Omar Touhami Ahami<sup>4</sup>, Latifa Didou<sup>5</sup>. <sup>1</sup>*Faculty of Science, Ibn Tofail University, Biology, Kenitra, Morocco.* <sup>2</sup>*Faculty of Science, Ibn Tofail University, Biology, Kenitra, Morocco.* <sup>3</sup>*Sultan Moulay Slimane University, Biology, Beni Mellal, Morocco.* <sup>4</sup>*Faculty of Science, Ibn Tofail University, Biology, Kenitra, Morocco.* <sup>5</sup>*Faculty of Science, Ibn Tofail University, Biology, Kenitra, Morocco*
- P367 -0562** **Developing a QSAR Model for Predicting Neurotoxic Agents.** Hung-Lin Kan<sup>1</sup>, Chun-Wei Tung<sup>1,2</sup>, Ying-Chi Lin<sup>1,2</sup>, Chia-Chi Wang<sup>1,2</sup>. <sup>1</sup>*Kaohsiung Medical University, Kaohsiung, Taiwan.* <sup>2</sup>*Kaohsiung Medical University School of Pharmacy, Kaohsiung, Taiwan*
- P368 -0566** **Comparative Effects of Two Pyrethroids on Behavioral Reactions in Developmental Neurotoxicity Studies.** Nadiia Nedopytanska<sup>1</sup>, Mykola Prodanchuk<sup>1</sup>, Oleksandr Kravchuk<sup>1</sup>, Natalia Kornuta<sup>1</sup>, Yana Kolianchuk<sup>1</sup>, Inna Rashkivska<sup>1</sup>. <sup>1</sup>*L.I. Medved's Research Center of Preventive Toxicology, Food and Chemical Safety, Ministry of Health, Ukraine, Kyiv, Ukraine*
- P369 -0571** **Early-Life Exposure to Low Levels of Permethrin Exerts Impairments in Learning and Memory Associated with Glial Cell Disturbance in Adult Male Mice.** Hirokatsu Saito<sup>1</sup>, Kenshiro Hara<sup>1</sup>, Takashi Tominaga<sup>2</sup>, Kinichi Nakashima<sup>3</sup>, Kentaro Tanemura<sup>1</sup>. <sup>1</sup>*Tohoku University, Laboratory of Animal Reproduction and Development Graduate School of Agricultural Science, Sendai, Japan.* <sup>2</sup>*Tokushima Bunri University, Institute of Neuroscience, Sanuki, Japan.* <sup>3</sup>*Kyushu University, Department of Stem Cell Biology and Medicine, Graduate School of Medical Sciences, Fukuoka, Japan*
- P370 -0580** **The Transcription Factor REST/NRSF Mediates Protective Effects of 17 $\beta$ -Estradiol and Tamoxifen against Manganese-Induced Toxicity in Astrocytes.** Edward Pajarillo<sup>1</sup>, Michael Aschner<sup>2</sup>, Eunsook Lee<sup>1</sup>. <sup>1</sup>*Florida A&M University, Pharmaceutical Sciences, Tallahassee, FL, The United States of America.* <sup>2</sup>*Albert Einstein College of Medicine, New York, NY, The United States of America*

- P371 -0583** **Pharmacological Responses in Cultured Human iPSC-Derived Sensory Neurons Using MEA System.** Aoi Odawara<sup>1</sup>, Naoki Matsuda<sup>2</sup>, Ikuro Suzuki<sup>1</sup>. <sup>1</sup>*Tohoku Institute of Technology, Department of Electronics, Sendai, Japan.* <sup>2</sup>*Tohoku Institute of Technology, Sendai, Japan*
- P372 -0595** **The Toxic Effects of MnCl<sub>2</sub> on Motor Function Are Reduced in Mice Using a Contaminated Water Sediment Exposure Model.** Dana Freeman<sup>1</sup>, Rachel O'Neal<sup>1</sup>, Qiang Zhang<sup>1</sup>, Dan Lou<sup>2</sup>, Zhibin Wang<sup>2</sup>. <sup>1</sup>*Johns Hopkins Bloomberg School of Public Health, Environmental Health & Engineering, Baltimore, MD, The United States of America.* <sup>2</sup>*Johns Hopkins Bloomberg School of Public Health, Environmental Health and Engineering, Baltimore, MD, The United States of America*
- P373 -0645** **Analysis of Manganese Accumulation in the Pituitary Gland, Olfactory Bulb, and Hippocampus of Smelter Workers Using High-Resolution. <sup>3</sup>D T1-Weighted MRI.** Zeinab Aly<sup>1</sup>, Molly Cromer<sup>1</sup>, Alison Jeffries<sup>1</sup>, Eric Cameron<sup>1,2</sup>, Ulrike Dydak<sup>1,3</sup>. <sup>1</sup>*Purdue University, School of Health Sciences, West Lafayette, IN, The United States of America.* <sup>2</sup>*Indiana University School of Medicine, Department of Radiology and Imaging Sciences, Indianapolis, IN, The United States of America.* <sup>3</sup>*Indiana University School of Medicine, Department of Radiology and Imaging Sciences, Indianapolis, IN, The United States of America*
- P374 -0737** **Biphasic Effect of the Gliotoxin L- $\alpha$ -Aminoadipate on Astrocytes to Impact on Mouse Hippocampal Synaptic Plasticity.** Marlene Pereira<sup>1</sup>, Inês Amaral<sup>1</sup>, Daniela Madeira<sup>1</sup>, João Pedro Lopes<sup>1</sup>, Francisco Gonçalves<sup>1</sup>, Rodrigo Cunha<sup>1,2,3</sup>, Paula Agostinho<sup>1,2</sup>. <sup>1</sup>*University of Coimbra, Centre for Neuroscience and Cell Biology, Coimbra, Portugal.* <sup>2</sup>*University of Coimbra, Faculty of Medicine, Coimbra, Portugal.* <sup>3</sup>*University of Coimbra, MIA-Portugal, Coimbra, Portugal*
- P375 -0741** **Paternal Factors in Neurodevelopmental Toxicology: THC Exposure of Male Rats Causes Long-Lasting Neurobehavioral Effects in Their Offspring.** Edward Levin<sup>1</sup>, Andrew Hawkey<sup>1</sup>, Brandon Hall<sup>1</sup>, Marty Cauley<sup>1</sup>, Susan Slade<sup>1</sup>, Elisa Yazdani<sup>1</sup>, Bruny Kenou<sup>1</sup>, Hanna White<sup>1</sup>, Corinne Wells<sup>1</sup>, Amir Rezvani<sup>1</sup>, Susan Murphy<sup>2</sup>. <sup>1</sup>*Duke University, Department of Psychiatry and Behavioral Sciences, Durham, NC, The United States of America.* <sup>2</sup>*Duke University, Department of Obstetrics and Gynecology, Durham, NC, The United States of America*
- P376 -0751** **Adolescent Toluene Exposure Increases DOI-Induced Behavioral, Molecular, and Electrophysiological Responses in Adult Mice: Effects of Antipsychotic Treatment.** Hwei-Hsien Chen<sup>1</sup>, Mei-Yi Lee<sup>2</sup>, Bih-Fen Lin<sup>3</sup>, Ming-Huan Chan<sup>4</sup>. <sup>1</sup>*National Health Research Institutes, Center For Neuropsychiatric Research Zhunan, Taiwan.* <sup>2</sup>*National Health Research Institutes, Center For Neuropsychiatric Research Zhunan, Taiwan.* <sup>3</sup>*Tzu Chi University, Department of Laboratory Medicine and Biotechnology School of Medicine, Hualien, Taiwan.* <sup>4</sup>*National Chengchi University, Institute of Neuroscience, Taipei, Taiwan*
- P377 -0775** **Evaluation of Anticonvulsant Activity of Methanolic Leaf Extract of *Solanum nigrum* Plant and Its Fractions in Mice.** Nneka Chuka-Imarhia<sup>1</sup>. <sup>1</sup>*Nnamdi Azikiwe University, Pharmacology and Therapeutics, Nnewi, Nigeria*
- P378 -0777** **A Toxicological Profile of Valproic Acid in Experimental Model of Autism Spectrum Disorder: Developmental, Behavioral, Biochemical, and Histopathological Evidences.** Bikash Medhi<sup>1</sup>, Abhishek Mishra<sup>1</sup>, Phulen Sarma<sup>1</sup>, Rohit Rajput<sup>1</sup>, Rubal Singla<sup>1</sup>, Rupa Joshi<sup>1</sup>. <sup>1</sup>*PGIMER Chandigarh, Pharmacology, Chandigarh, India*
- P379 -0796** **Environmental Toxicants and the Melatonin System.** Paula Pierozan<sup>1,2</sup>, Daiane Cattani<sup>1,2</sup>, Eleftheria Theodoropoulou<sup>1,2</sup>, Ariane Zamoner Pacheco de Souza<sup>3</sup>, Eva Brittebo<sup>4</sup>, Oskar Karlsson<sup>1,2</sup>. <sup>1</sup>*Stockholm University, Department of Environmental Science and Analytical Chemistry, Stockholm, Sweden.* <sup>2</sup>*Science for Life Laboratory, Solna, Sweden.* <sup>3</sup>*Federal University of Santa Catarina, Department of Biochemistry, Florianopolis, Brazil.* <sup>4</sup>*Uppsala University, Pharmaceutical Biosciences, Uppsala, Sweden*
- P380 -0821** ***Magnoliae Cortex* Extract Protects PC12 Cells from Oxidative Stress through Induction of Drug-Metabolizing and Antioxidant Enzymes.** Takahito Nishiyama<sup>1</sup>, Ohnuma Tomokazu<sup>1</sup>, Ogura Kenichiro<sup>1</sup>, Hiratsuka Akira<sup>1</sup>. <sup>1</sup>*Tokyo University of Pharmacy and Life Sciences, Department of Drug Metabolism and Molecular Toxicology, Tokyo, Japan*
- P381 -0846** **Protective Effect of the Imidazoline I2 Receptor Agonist. <sup>2</sup>-BFI on Oxidative Cytotoxicity in Astrocytes.** Jihee Yun<sup>1</sup>, Jongmin Lee<sup>2</sup>, Dong-Hee Choi<sup>3</sup>. <sup>1</sup>*Konkuk University, College of Medicine, Medical Science Seoul, The Republic of Korea.* <sup>2</sup>*Konkuk University School of Medicine, Konkuk University, Rehabilitation Medicine, Seoul, The Republic of Korea.* <sup>3</sup>*Konkuk University School of Medicine, Konkuk University, Medical Science, Seoul, The Republic of Korea*
- P382 -0849** **Behavioral and Immunohistological Analysis of Peripheral Nerve Injury in Methylmercury-Exposed Rats.** Mari Kikuta<sup>1</sup>, Yuta Yamada<sup>2</sup>, Momoko Sakamoto<sup>2</sup>, Shunsuke Ehara<sup>2</sup>, Eiko Yoshida<sup>3</sup>, Tsutomu Takahashi<sup>2</sup>, Toshiyuki Kaji<sup>3</sup>, Yo Shinoda<sup>2</sup>, Yasuyuki Fujiwara<sup>2</sup>. <sup>1</sup>*Tokyo Gakuzei University International Secondary School, Tokyo, Japan.* <sup>2</sup>*Tokyo University of Pharmacy and Life Sciences, Tokyo, Japan.* <sup>3</sup>*Tokyo University of Science, Tokyo, Japan*



- P383 -0854** **Comparison of the Neurotoxicity Associated with Cobalt Nanoparticles and Cobalt Chloride in Wistar Rats.** Fuli Zheng<sup>1,2</sup>, Zhousong Luo<sup>3</sup>, Chunyan Zheng<sup>3</sup>, Jing Li<sup>3</sup>, Jingwen Zeng<sup>3</sup>, Hongyu Yang<sup>3</sup>, Michael Aschner<sup>2</sup>, Siying Wu<sup>3</sup>, Qunwei Zhang<sup>4</sup>, Huangyuan Li<sup>3</sup>. <sup>1</sup>Fujian Medical University, School of Public Health, Fuzhou, China. <sup>2</sup>Albert Einstein College of Medicine, Bronx, NY, The United States of America. <sup>3</sup>Fujian Medical University, Department of Preventive Medicine, Fuzhou, China. <sup>4</sup>University of Louisville, Louisville Superfund Research Center and Envirome Institute, Louisville, KY, The United States of America
- P384 -0865** **In Vitro and In Vivo Toxicity of Poly-L-arginine.** Jieun Kim<sup>1</sup>, Sungeun Lee<sup>1</sup>, Trang H. T. Trinh<sup>1</sup>, Hakmin Lee<sup>1</sup>, Junwu Shin<sup>1</sup>, Jaehyeon Kim<sup>1</sup>, Mireong Yoo<sup>1</sup>, A-ran Kim<sup>1</sup>, Taeyeon Kim<sup>2</sup>, Chongsuk Ryou<sup>1</sup>. <sup>1</sup>Hanyang University, Department of Pharmacy, Ansan-si, The Republic of Korea. <sup>2</sup>Sungshin University, Institute for Basic sciences, Seoul, The Republic of Korea
- P385 -0883** **In Vitro and In Vivo Assessment of SGI-1027 in Toxicological Perspectives.** Jieun Kim<sup>1</sup>, Sungeun Lee<sup>1</sup>, Trang H. T. Trinh<sup>1</sup>, Hakmin Lee<sup>1</sup>, Junwu Shin<sup>1</sup>, Jaehyeon Kim<sup>1</sup>, Mireong Yoo<sup>1</sup>, Dae-Hwan Kim<sup>2</sup>, Jiaojie Li<sup>3</sup>, A-ran Kim<sup>1</sup>, Taeyeon Kim<sup>4</sup>, Chongsuk Ryou<sup>1</sup>. <sup>1</sup>Hanyang University, Department of Pharmacy, Ansan-si, The Republic of Korea. <sup>2</sup>Institute of Science and Technology, College of Transdisciplinary Studies, Daegu, The Republic of Korea. <sup>3</sup>Gwangju Institute of Science and Technology, Department of Chemistry, Gwangju, China. <sup>4</sup>Sungshin University, Division of Developmental Biology and Physiology, Seoul, The Republic of Korea
- P386 -0889** **Manganese Induced Neurotoxicity Cross-Species due to Protein Biosynthesis Impairment with Putative Implications for Neurodegeneration.** Raul Hernandez<sup>1,2</sup>, Cristina Suñol<sup>3</sup>, Montserrat Carrascal<sup>4</sup>, Joaquin Abian<sup>4</sup>, Bernhard Michalke<sup>5</sup>, Yasmilde González<sup>6</sup>, Nadja Souza-Pinto<sup>7</sup>, Jos Kleinjans<sup>8</sup>, Marcel van Herwijnen<sup>8</sup>, Jolanda Piepers<sup>8</sup>, Daniel Burnside<sup>2</sup>, Houman Moteshareei<sup>2</sup>, Ashkan Golshani<sup>2</sup>. <sup>1</sup>Universidade Federal of São Paulo, Chemistry, Diadema, Brazil. <sup>2</sup>Carleton University, Biology, Ottawa, Canada. <sup>3</sup>Institut d'Investigacions Biomèdiques de Barcelona, IIBB-CSIC, Neurochemistry and Neuropharmacology, Barcelona, Spain. <sup>4</sup>Institut d'Investigacions Biomèdiques de Barcelona, IIBB-CSIC, CSIC/UAB Proteomics Laboratory, Barcelona, Spain. <sup>5</sup>Helmholtz Zentrum München GmbH, German Research Center for Environmental Health, Research Unit Analytical BioGeoChemistr, Munich, Germany. <sup>6</sup>University of Ottawa, Cellular and Molecular Medicine, Ottawa, Canada. <sup>7</sup>University of São Paulo, Biochemistry, São Paulo, Brazil. <sup>8</sup>Maastricht University, Toxicogenomics, Maastricht, The Netherlands
- P387 -0924** **Association of Initial Troponin I Level with the Development of Delayed Neurologic Sequelae in Patients with Acute Carbon Monoxide Poisoning.** Namseong Baek<sup>1</sup>, Jong Seung Lee<sup>1</sup>. <sup>1</sup>Asan Medical Center, Department of Emergency Medicine, Seoul, The Republic of Korea
- P388 -0058** **Validation Study of Developmental Toxicity Test Using Embryoid Body's Area.** Jae-Hwan Lee<sup>1</sup>, Dinh Nam Tran<sup>1</sup>, Bo-Hui Jeon<sup>1</sup>, Eui-Man Jung<sup>1</sup>, Eui-Bae Jeung<sup>1</sup>. <sup>1</sup>Chungbuk National University, College of Veterinary Medicine, Cheongju, The Republic of Korea
- P389 -0071** **Quercetin Ameliorates Cadmium Chloride-Induced Hepatotoxicity in Wistar Rats.** Eneji Egbung<sup>1</sup>, Victor Nna<sup>2</sup>, Item Atangwho<sup>3</sup>, Magdalene Obi-Abang<sup>4</sup>. <sup>1</sup>University of Calabar, Biochemistry, Calabar, Nigeria. <sup>2</sup>University of Calabar, Physiology, Calabar, Nigeria. <sup>3</sup>University of Calabar, Biochemistry, Calabar, Nigeria. <sup>4</sup>Cross River University of Technology, Chemical Sciences, Calabar, Nigeria
- P390 -0093** **Treatment of Human Choriocarcinoma Cells with Acrylonitrile-Induced Cell Cycle Arrest and Apoptosis by Promoting the Formation of Reactive Oxygen Species.** Soo-Min Kim<sup>1</sup>, Kyung-Chul Choi<sup>2</sup>. <sup>1</sup>Chungbuk National University, Laboratory of Biochemistry and Immunology, College of Veterinary Medicine, Cheongju, The Republic of Korea. <sup>2</sup>Chungbuk National University, Laboratory of Biochemistry and Immunology, College of Veterinary Medicine, Cheongju, The Republic of Korea
- P391 -0095** **Cigarette Smoke Extracts Induced Apoptosis and Oxidative Stress in Mouse Embryonic Stem Cells via Regulating Apoptotic and Oxidative Stress Related Genes.** Cho-Won Kim<sup>1</sup>, Kyung-Chul Choi<sup>1</sup>. <sup>1</sup>Chungbuk National University, Laboratory of Biochemistry and Immunology, College of Veterinary Medicine, Cheongju, The Republic of Korea
- P392 -0122** **Exposure to Embalment Fluid and Changes in Biomarkers of Oxidative Stress, Reproductive Hormones, and Renal Function in Embalmers in Calabar, Nigeria.** Augusta Nsonwu-Anyanwu<sup>1</sup>, Chinyere Usoro<sup>1</sup>, Raymond Eworo<sup>1</sup>, Sunday Offor<sup>1</sup>, Magnus Nsonwu<sup>2</sup>. <sup>1</sup>University of Calabar, Medical Laboratory Science, Calabar, Nigeria. <sup>2</sup>Imo State University, Optometry, Owerri, Nigeria
- P393 -0124** **Cadmium Exposure of Female Mice Impairs the Meiotic Maturation of Oocytes and Subsequent Embryonic Development.** Jiaqiao Zhu<sup>1,2,3</sup>, Hui Zou<sup>1</sup>, Jianchun Bian<sup>1,3</sup>, Zongping Liu<sup>1,2,3</sup>. <sup>1</sup>Yangzhou University College of Veterinary Medicine, Yangzhou, China. <sup>2</sup>Jiangsu Co-innovation Center for Prevention and Control of Important Animal Infectious Diseases and Zoonoses, Yangzhou, China. <sup>3</sup>Joint International Research Laboratory of Agriculture and Agri-Product Safety, the Ministry of Education of China, Yangzhou University, Yangzhou, China

- P394 -0137** **Antidepressant Sertraline Induces Cytotoxicity in Human Placental Cells.** Tomohiro Nabekura<sup>1</sup>, Tatsuya Kawasaki<sup>1</sup>, Yuichi Uwai<sup>1</sup>. <sup>1</sup>*Aichi Gakuin University, School of Pharmacy, Nagoya, Japan*
- P395 -0145** **BMAA Alters Striatal Neural Stem Cell Proliferation and Differentiation through Glutamatergic Mechanisms.** Paula Pierozan<sup>1</sup>, Liselott Kallsten<sup>1</sup>, Oskar Karlsson<sup>1</sup>. <sup>1</sup>*Stockholm University, Department of Environmental Science and Analytical Chemistry, Stockholm, Sweden*
- P396 -0146** **The Role of Autism Risk Gene, CHD8, in Chlorpyrifos-Induced Neurotoxicity in iPSC-Derived BrainSphere Model.** Lena Smirnova<sup>1</sup>, Xiali Zhong<sup>1, 2</sup>, Francesca Fagiani<sup>1, 3</sup>, David Pamies<sup>1, 4</sup>, Helena Hogberg<sup>1</sup>, Herbert Lachman<sup>5</sup>, Thomas Hartung<sup>1, 6</sup>. <sup>1</sup>*Johns Hopkins University, Bloomberg School of Public Health, Baltimore, MD, The United States of America.* <sup>2</sup>*Sun Yat-sen University, Guangzhou, China.* <sup>3</sup>*Institute for Advanced Study, Pavia, Italy.* <sup>4</sup>*University of Lausanne, Lausanne, Switzerland.* <sup>5</sup>*Albert Einstein College of Medicine, New York, NY, The United States of America.* <sup>6</sup>*University of Konstanz, Konstanz, Germany*
- P397 -0152** **The Combined Effects of Cadmium and Methylene Blue in Zebrafish Embryos.** Zuzana Magdolen<sup>1</sup>, Andrew Rempel<sup>1</sup>, Brodie Buchner-Duby<sup>1</sup>, Carolyn Kapron<sup>1</sup>. <sup>1</sup>*Trent University, Biology, Peterborough, Canada*
- P398 -0211** **Teratogenicity of Multiwall Carbon Nanotubes and Asbestos Intratracheally Administered to Mice.** Tomoko Fujitani<sup>1</sup>. <sup>1</sup>*Tokyo Metropolitan Institute of Public Health, Department of Pharmaceutical and Environmental health, Shinjuku, Japan*
- P399 -0242** **p, p'-DDT Induces Apoptosis in Human Endometrial Stromal Cells through Oxidative Stress.** Yeon Jean Cho<sup>1</sup>, Myoungseok Han<sup>1</sup>, Youngmin Kwon<sup>2</sup>. <sup>1</sup>*Dong-A University, College of Medicine, Department of Obstetrics and Gynecology, Busan, The Republic of Korea.* <sup>2</sup>*Dong-A University, College of Medicine, Department of Neurosurgery, Busan, The Republic of Korea*
- P400 -0275** **Gestational and Lactational Exposure to an Environmentally Relevant Mixture of Brominated Flame Retardants Dysregulates Cell-Cell Interactions, Thyroid Homeostasis, and the Proliferation-Apoptosis Balance in Rat Mammary Glands at Puberty.** Rita-Josiane Gouesse<sup>1</sup>, Mélanie Lavoie<sup>1</sup>, Elham Dianati<sup>1</sup>, Michael Wade<sup>2</sup>, Barbara Hales<sup>3</sup>, Bernard Robaire<sup>4</sup>, Isabelle Plante<sup>1</sup>. <sup>1</sup>*INRS, Institut-Armand Frappier, Environmental Toxicology and Pharmacology, Laval, Canada.* <sup>2</sup>*Health Canada, Environmental Health Science and Research Bureau, Ottawa, Canada.* <sup>3</sup>*McGill University, Faculty of Medicine, Department of Pharmacology & Therapeutics, Montreal, Canada.* <sup>4</sup>*McGill University, Faculty of Medicine, Department of Obstetrics & Gynecology, Montreal, Canada*
- P401 -0298** **Analysis of Epigenetic Effect of Low-Level Methylmercury on Neuronal Differentiation by Using an *In Vitro* Model.** Suzuna Go<sup>1</sup>, Kana Matsumoto<sup>1</sup>, Manami Hatano<sup>1</sup>, Hisaka Kurita<sup>1</sup>, Masatoshi Inden<sup>1</sup>, Isao Hozumi<sup>1</sup>. <sup>1</sup>*Gifu Pharmaceutical University, Laboratory of Medical Therapeutics and Molecular Therapeutics, Gifu, Japan*
- P402 -0466** **Differential Gene Expression Analysis in Mouse Placentae Reveals Association between Preterm Birth Linked Genes and PM<sub>2.5</sub> Exposure.** Ariana Schanzer<sup>1</sup>, Jason Blum<sup>1</sup>, Lung-Chi Chen<sup>1</sup>, Maya Deyssenroth<sup>2</sup>, Jia Chen<sup>3</sup>, Judith Zelikoff<sup>1</sup>. <sup>1</sup>*NYU School of Medicine, Environmental Medicine, New York, NY, The United States of America.* <sup>2</sup>*Icahn School of Medicine at Mount Sinai, Department of Environmental Medicine and Public Health, New York, NY, The United States of America.* <sup>3</sup>*Icahn School of Medicine at Mount Sinai, Department of Environmental Medicine and Public Health, New York, NY, The United States of America*
- P403 -0471** **Overabundance of microRNA 133b Induces Oil-Like Cardiotoxicity in Developing Zebrafish (*Danio rerio*) Embryos.** Justin Greer<sup>1</sup>, Subham Dasgupta<sup>1</sup>, Daniela Pampanin<sup>2</sup>, David Volz<sup>1</sup>, Daniel Schlenk<sup>1</sup>. <sup>1</sup>*University of California Riverside, Environmental Sciences, Riverside, CA, The United States of America.* <sup>2</sup>*University of Stavanger, Stavanger, Norway*
- P404 -0473** **Maternal Exposure during Pregnancy to Electronic Cigarette Aerosols Modifies Behavior of the Adult Offspring: Learning Neurodevelopment from a Mouse Model.** Judith Zelikoff<sup>1</sup>, Jason Blum<sup>2</sup>, Jared Schwartz<sup>3</sup>, Jill Ratner<sup>4</sup>, Jamie Church<sup>5</sup>. <sup>1</sup>*NYU School of Medicine, Environmental Medicine, New York, NY, The United States of America.* <sup>2</sup>*Product Safety Labs, Dayton, OH, The United States of America.* <sup>3</sup>*Mt Holyoke College, Department of Psychology & Education South Hadley, MA, The United States of America.* <sup>4</sup>*NYU School of Medicine, Environmental Medicine New York, NY, The United States of America.* <sup>5</sup>*Mt. Holyoke College, Department of Psychology & Education South Hadley, MA, The United States of America*
- P405 -0554** **Poly(ADP-ribose) Polymerase-1 Inhibitor Restores Neuroimmune Function through ROR $\gamma$ t and Stat3 Transcription Factors Signaling in BTBR Mice.** Saleh Albakheet<sup>1</sup>, Sheikh Ahmad<sup>1</sup>, Mushtaq Ansari<sup>1</sup>, Sabry Attia<sup>1</sup>. <sup>1</sup>*King Saud University, Department of Pharmacology and Toxicology, College of Pharmacy, Riyadh, Saudi Arabia*

- P406 -0565** **Investigation of Gonado- and Reproductive Toxicity of Carbendazim on Male and Female Wistar Hannover Rats.** Oleksandr Kravchuk<sup>1</sup>, Mykola Prodanchuk<sup>1</sup>, Nadiia Nedopytanska<sup>1</sup>, Inna Rashkivska<sup>1</sup>, Yana Kolianchuk<sup>1</sup>. <sup>1</sup>L.I. Medved's Research Center of Preventive Toxicology, Food and Chemical Safety, Ministry of Health, Ukraine, Kyiv, Ukraine
- P407 -0612** **Comparative Analysis of Zebrafish and Planarian Model Systems for Developmental Neurotoxicity Screens Using an 87-Compound Library.** Lisa Truong<sup>1</sup>, Danielle Hagstrom<sup>2</sup>, Siqi Zhang<sup>3</sup>, Eva-Maria Collins<sup>4</sup>, Robert Tanguay<sup>1</sup>. <sup>1</sup>Oregon State University, Department of Environmental and Molecular Toxicology, Corvallis, OR, The United States of America. <sup>2</sup>University of California San Diego, Division of Cell and Developmental Biology, La Jolla, CA, The United States of America. <sup>3</sup>University of California San Diego, Department of Bioengineering, La Jolla, CA, The United States of America. <sup>4</sup>Swarthmore College, Department of Biology, Swarthmore, PA, The United States of America
- P408 -0631** **Occupational Exposure to n-Hexane Is Associated with Reduced FSH Levels and Also with Prolonged Menstrual Cycles in Mexican Workers of Reproductive Age.** Liliana Ruiz García<sup>1</sup>, Octavio Jiménez<sup>2</sup>, Nicté Figueroa<sup>3</sup>, Juan M Malacara<sup>3</sup>, Mariella Carrieri<sup>4</sup>, Fabiola Salamon<sup>4</sup>. <sup>1</sup>Universidad de Guanajuato, DEPARTAMENTO DE ENFERMERÍA Y OSBTETRICIA León, Mexico. <sup>2</sup>Universidad de Guanajuato, DEPARTAMENTO DE ENFERMERÍA Y OBSTETRICIA, León, Mexico. <sup>3</sup>Universidad de Guanajuato, CIENCIAS MÉDICAS, León, Mexico. <sup>4</sup>Universidad de Padua, Departamento de Ciencia Cardiológica, Torácica y Vascolar, Padua, Italy
- P409 -0648** **Exposure to Di(2-Ethylhexyl) Phthalate (DEHP) Affects the Maturation and Quality of Blastocysts.** Lyda Parra-Forero<sup>1</sup>, Angelica Mojica-Villegas<sup>2</sup>, Elim Alfaro-Pedraza<sup>3</sup>, María Hernández-Ochoa<sup>3</sup>. <sup>1</sup>Center of Research and Advanced Studies (Cinvestav)-IPN, Departamento de Toxicología, La Laguna Ticoman, Mexico. <sup>2</sup>Escuela Nacional de Ciencias Biológicas-IPN, Laboratorio de toxicología de la Reproducción-Fertilidad, Departamento de Farmacia, Santo Tomás, Mexico. <sup>3</sup>Center for Research and Advanced Studies (Cinvestav), Departamento de Toxicología, Mexico City, Mexico
- P410 -0650** **Effect of Pre-pubertal Exposure to Di(n-butyl) Phthalate (DBP) on Ultrastructural and Immunohistochemical Changes in Peritubular Myoid Cells (PTMC) of Adult Japanese Quail Testes.** Umar M. Bello<sup>1</sup>, Tom A. Aire<sup>2</sup>, Imam Jibrin<sup>3</sup>, Jimoh Abdulazeez<sup>4</sup>, Casmir Igbokwe<sup>5</sup>. <sup>1</sup>Ahmadu Bello University, Laboratory of Cell Biology and Histology, Department of Veterinary Anatomy, Zaria, Nigeria. <sup>2</sup>St. George's University, Department of Anatomy, Physiology and Pharmacology, True Blue, Grenada. <sup>3</sup>Ahmadu Bello University, Department of Veterinary Anatomy, Zaria, Nigeria. <sup>4</sup>Ahmadu Bello University, Department of Human Physiology, Zaria, Nigeria. <sup>5</sup>University of Nigeria, Department of Veterinary Anatomy, Nsukka, Nigeria
- P411 -0704** **Sodium Arsenite Induces Inflammation and Reduces Functionality of Ovaries of Wistar Rats.** Zaira Gómez<sup>1</sup>, María González<sup>1</sup>, María Ballinas<sup>1</sup>, Margarita Levario<sup>2</sup>, Blanca Sánchez-Ramírez<sup>1</sup>. <sup>1</sup>Universidad Autónoma de Chihuahua, Facultad de Ciencias Químicas, Chihuahua, Mexico. <sup>2</sup>Universidad Autónoma de Chihuahua, Facultad de Medicina y Ciencias Biomédicas, Chihuahua, Mexico
- P412 -0719** **Maternal PCB Exposure and Disinhibitory Behaviors among Adolescent Offspring.** Yusuf Ransome<sup>1</sup>, Aisha Dickerson<sup>2</sup>, Oskar Karlsson<sup>3</sup>. <sup>1</sup>Yale School of Public Health, Social and Behavioral Sciences, New Haven, CT, The United States of America. <sup>2</sup>Harvard School of Public Health, Department of Environmental Health, Boston, MA, The United States of America. <sup>3</sup>Stockholm University, Department of Environmental Science and Analytical Chemistry, Stockholm, Sweden
- P413 -0732** **In Utero Exposure to Bisphenol A Causes Reproductive Dysfunction in F1 Adult Male Rats: Protective Role of Melatonin.** Samuel Olukole<sup>1</sup>, Damilare Lanipekun<sup>1</sup>, Olufunke Ola-Davies<sup>2</sup>, Bankole Oke<sup>1</sup>. <sup>1</sup>University of Ibadan, Veterinary Anatomy, Ibadan, Nigeria. <sup>2</sup>University of Ibadan, Veterinary Physiology and Biochemistry, Ibadan, Nigeria
- P414 -0829** **Enhanced Histone H3K9 Tri-methylation Suppresses Steroidogenesis in Rat Testis Chronically Exposed to Arsenic.** Qingyu Huang<sup>1</sup>, Ambreen Alamdar<sup>2</sup>. <sup>1</sup>Institute of Urban Environment, Chinese Academy of Sciences, Key Laboratory of Urban Environment and Health, Xiamen, China. <sup>2</sup>COMSATS University, Department of Biosciences, Islamabad, Pakistan
- P415 -0179** **Involvement of PI3K-Akt Signaling in Antiapoptotic Effect Evoked by 1,2-Naphthoquinone** Kengo Nakahara<sup>1</sup>, Hideki Hiraoka<sup>1</sup>, Kyohei Hamada<sup>1</sup>, Yoshito Kumagai<sup>2</sup>, Takashi Uehara<sup>1</sup>. <sup>1</sup>Okayama University Graduate School of Medicine, Dentistry, and Pharmaceutical Sciences, Okayama, Japan. <sup>2</sup>University of Tsukuba Environmental Biology Laboratory, Faculty of Medicine, Tsukuba, Japan
- P416 -0233** **Chemical Characterization and Toxicological Effects of Emissions Generated from New Tobacco- and Smoking-Related Products: Comparison with Conventional Cigarette Smoke.** Romain Dusautoir<sup>1</sup>, Gianni Zarcone<sup>1</sup>, Marie Verrielle<sup>2</sup>, Guillaume Garçon<sup>1</sup>, Isabelle Fronval<sup>2</sup>, Nicolas Beauval<sup>1</sup>, Delphine Allorge<sup>1</sup>, Véronique Riffault<sup>2</sup>, Nadine Locoge<sup>2</sup>, Jean-Marc Lo-Guidice<sup>1</sup>, Sébastien Anthérieu<sup>1</sup>. <sup>1</sup>Univ. Lille, CHU Lille, Institut Pasteur de Lille, EA4483-IMPECS (IMPact of Environmental Chemicals on human health), Lille, France. <sup>2</sup>IMT Lille Douai, Univ. Lille, SAGE, Lille, France

- P417 -0240** **TGF-Beta Induced CTGF Expression and Epithelial-Mesenchymal Transition in Human Lung Epithelial Cells through ERK, ADAM17, RSK1, and C/EBPbeta Pathways.** Bing-Chang Chen<sup>1</sup>, Shu-Ching Ou<sup>1</sup>. <sup>1</sup>Taipei Medical University, School of Respiratory Therapy, Taipei, Taiwan
- P418 -0277** **Sex Differences in Respiratory Toxicity Induced by Acute Ozone Inhalation and Sensitive Indicators in Rats.** Xiaohua Liu<sup>1</sup>, Ning Li<sup>1</sup>, Hu Yang<sup>1</sup>, Tie Han<sup>1</sup>, Zhuge Xi<sup>1</sup>. <sup>1</sup>Tianjin Institute of Environmental and Operational Medicine, Department of Toxicology, Tianjin, China
- P419 -0354** **Effects of Cigarette Smoking on the Health Status of Workers in Suburban Area of Tokyo.** Tomoko Fujitani<sup>1</sup>. <sup>1</sup>Tokyo Metropolitan Institute of Public Health, Department of Pharmaceutical and Environmental health, Shinjuku, Japan
- P420 -0560** **Adverse Effects of Real-Time Gasoline Engine Emissions Exposure at Air-Liquid Interface.** Tereza Cervena<sup>1,2</sup>, Vit Beranek<sup>3</sup>, Michal Vojtisek<sup>3</sup>, Pavel Rossner<sup>1</sup>. <sup>1</sup>Institute of Experimental Medicine CAS, Department of Genetic Toxicology and Nanotoxicology, Prague, The Czech Republic. <sup>2</sup>Charles University in Prague, Faculty of Science, Department of Physiology Prague, The Czech Republic. <sup>3</sup>Czech Technical University of Prague, Faculty of Mechanical Engineering, Centre for Sustainable Mobility, Prague, The Czech Republic
- P421 -0623** **Sex Differences in the Respiratory Response to Multi-Walled Carbon Nanotubes.** Jessica Ray<sup>1</sup>, Andrij Holian<sup>1</sup>. <sup>1</sup>University of Montana, Center for Environmental Health Sciences, Missoula, MT, The United States of America
- P422 -0667** **The Role of Thrombospondin Type 1 Repeat (TSR) Domain in Multiwalled Carbon Nanotube-Induced Endothelial Dysfunction and Inflammation.** Tamara Young<sup>1</sup>, Guy Herbert<sup>1</sup>, Selita Lucas<sup>1</sup>, Andrew Ottens<sup>2</sup>, Aaron Erdely<sup>3</sup>, Matthew Campen<sup>1</sup>. <sup>1</sup>University of New Mexico, Pharmaceutical Sciences, Albuquerque, NM, The United States of America. <sup>2</sup>Virginia Commonwealth University, Department of Anatomy and Neurobiology, Richmond, VA, The United States of America. <sup>3</sup>NIOSH, Morgantown, WV, The United States of America
- P423 -0686** **Impacts of Inhaled Ozone on Uterine and Placental Function and Maternal Cardiovascular Health.** Marcus Garcia<sup>1</sup>, Raul Salazar<sup>1</sup>, Brian Villalva<sup>1</sup>, Selita Lucas<sup>1</sup>, Guy Herbert<sup>1</sup>, Tamara Young<sup>1</sup>, Jessica Begay<sup>1</sup>, Barry Bleske<sup>2</sup>, Ryan Ashley<sup>3</sup>, Stacia Prosser<sup>4</sup>, Andrew Ottens<sup>5</sup>, Matthew Campen<sup>1</sup>. <sup>1</sup>University of New Mexico College of Pharmacy, Pharmaceutical sciences Albuquerque, NM, The United States of America. <sup>2</sup>University of New Mexico College of Pharmacy Pharmaceutical Sciences, Albuquerque, NM, The United States of America. <sup>3</sup>New Mexico State University, Animal and Range Science Las Cruces, NM, The United States of America. <sup>4</sup>New Mexico State University Animal and Range Science, Las Cruces, NM, The United States of America. <sup>5</sup>Virginia Commonwealth University Department of Neurosciences, Richmond, VA, The United States of America
- P424 -0805** **Breathing beyond the Barrier: The Dynamics of Oxidative Stress and Pro-inflammatory Signaling within a Novel Organotypic Airway Model.** Samantha Faber<sup>1</sup>, Nicole McNabb<sup>2</sup>, Shaun McCullough<sup>3</sup>. <sup>1</sup>University of North Carolina at Chapel Hill, Curriculum in Toxicology and Environmental Medicine, Chapel Hill, NC, The United States of America. <sup>2</sup>University of California, Davis, Pharmacology and Toxicology, Davis, CA, The United States of America. <sup>3</sup>US EPA/NHEERL, National Health and Environmental Effects Research Laboratory, Durham, NC, The United States of America
- P425 -0813** **Cellular and Epigenetic Effects of Cannabinoid Exposure on Bronchial Epithelial Cells** Megan Doldron<sup>1</sup>, Zhenquan Jia<sup>1</sup>, Ramji Bhandari<sup>1</sup>. <sup>1</sup>UNC Greensboro, Biology Greensboro, NC, The United States of America
- P426 -0871** **Subchronic Inhalation Toxicity Study of Mono Methyl Formamide in F344 Rats.** Ka-young Park<sup>1</sup>, Mi-Ju Lee<sup>1</sup>, Cheol-Hong Lim<sup>1</sup>, Yong-Soon Kim<sup>1</sup>. <sup>1</sup>Occupational Safety and Health Research Institute, KOSHA, Chemical Research Bureau, Daejeon, The Republic of Korea
- P427 -0880** **In Vitro Testing for Respiratory Sensitizers Using a Genomic Biomarker Signature and Machine Learning.** Andy Forreryd<sup>1</sup>, Henrik Johansson<sup>1</sup>, Joshua Schmidt<sup>2</sup>. <sup>1</sup>SenzaGen AB, Lund, Sweden. <sup>2</sup>SenzaGen Inc, Chapel Hill, NC, The United States of America
- P428 -0131** **Analysis on the Trend of the Preservative System in Commercial Infant Cosmetics and Anti-sensitive Cosmetics.** Xiufang Yan<sup>1</sup>, Zhitao Chen<sup>1</sup>, Zhenjuan Jiang<sup>1</sup>, Ying Wang<sup>1</sup>, Jing Hong<sup>1</sup>, Tian Chen<sup>1</sup>, Ping Cao<sup>1</sup>. <sup>1</sup>Jahwa United Co., Ltd, R&D Center, Shanghai, China
- P429 -0163** **Suppression of TARC Expression by Impresic Acid through Blockade of ERK1/2/STAT1 and Improvement of p62/Nrf2/HO-1 in Human Keratinocyte.** Jae Ho Choi<sup>1</sup>, Sun Woo Jin<sup>1</sup>, Young Ho Kim<sup>1</sup>, Hye Gwang Jeong<sup>1</sup>. <sup>1</sup>Chungnam National University, Department of Toxicology, College of Pharmacy, Daejeon, The Republic of Korea
- P430 -0314** **Aggravation of Acute Dermatitis Symptoms by Cosmetic Colorants Mediated through the Production of TSLP in Skin.** Gabsik Yang<sup>1</sup>, Hye Lee<sup>1</sup>, Kyung-Min Lim<sup>2</sup>, Yong-Kyu Choi<sup>3</sup>, Kyu-Bong Kim<sup>4</sup>, Byung-Mu Lee<sup>5</sup>, Joo Lee<sup>1</sup>. <sup>1</sup>Catholic University of

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- P431 -0688** **Molecular Pathogenesis Underlying Exposure to Cutaneous Warfare Vesicants, Arsenicals.** Mohammad Athar<sup>1</sup>, Ritesh Srivastava<sup>1</sup>, Changzhao Li<sup>1</sup>. <sup>1</sup>University of Alabama at Birmingham Research Center of Excellence in Arsenicals, UAB Center of Excellence in Arsenicals, Department of Dermatology, Birmingham, AL, The United States of America
- P432 -0791** **Mannosylerythritol Lipids Ameliorate UVA-Induced Aquaporin-3 Downregulation by Suppressing c-Jun N-Terminal Kinase Phosphorylation in Cultured Human Keratinocytes.** Il-Hong Bae<sup>1</sup>, Jae Won Yoo<sup>1</sup>, Dae-Yong Kim<sup>2</sup>. <sup>1</sup>Amorepacific Corporation, R&D Center, Yongin-si, The Republic of Korea. <sup>2</sup>Seoul National University, College of Veterinary Medicine, Seoul, The Republic of Korea
- P433 -0847** **Human Steroid Sulfatase Regulates Keratinization through Inducing the Expression of E-cadherin.** Tae-Uk Kwon<sup>1</sup>, Dong-Jin Ye<sup>1</sup>, Hong Gyu Ahn<sup>1</sup>, Young-Jin Chun<sup>1</sup>. <sup>1</sup>Chung-Ang University, College of Pharmacy, Seoul, The Republic of Korea
- P434 -0852** **An Ingredient of Cosmetic Hair Dye, Para-phenylenediamine, Increases TSLP and Inflammatory Cytokines and Causes Acute Dermatitis Symptoms.** Jae Kwon Lee<sup>1</sup>, Hye Lee<sup>1</sup>, Gabsik Yang<sup>1</sup>, Joo Lee<sup>1</sup>. <sup>1</sup>BK21plus Team, Catholic University of Korea, College of Pharmacy, Bucheon, The Republic of Korea
- P435 -0945** **Toxicity and Mechanisms of Vesicating Chemical Warfare Agent Skin Exposure.** Dinesh Goswami<sup>1</sup>, William Sosna<sup>2</sup>, Richard Tuttle<sup>2</sup>, Poojya Anantharam<sup>2</sup>, Julie Roseman<sup>2</sup>, B Malique Jones<sup>3</sup>, Holly Wright<sup>3</sup>, Joshua Klein<sup>3</sup>, Claire Crutch<sup>2</sup>, Rajesh Agarwal<sup>1</sup>, Neera Tewari-Singh<sup>3</sup>. <sup>1</sup>University of Colorado Denver, Department of Pharmaceutical Sciences, Aurora, CO, The United States of America. <sup>2</sup>MRIGlobal, Kansas City, KS, The United States of America. <sup>3</sup>Michigan State University, Department of Pharmacology and Toxicology, East Lansing, MI, The United States of America
- P436 -0525** **Correlation of epithelial-to-mesenchymal transition-related genes produces sex-biased differences specifically in liver cancer cell lines.** Sun Young Kim<sup>1</sup>, Hyesol Lim<sup>1</sup>, Seungeun Lee<sup>1</sup>, Ji Yoon Shin<sup>1</sup>, Eunhye Lee<sup>1</sup>, Joohee Jung<sup>1</sup>, Sang Geon Kim<sup>2</sup>, Aree Moon<sup>1</sup>. <sup>1</sup>Duksung Women's University, Seoul, The Republic of Korea. <sup>2</sup>Seoul National University, Seoul, The Republic of Korea<sup>8</sup>