



## October 2015

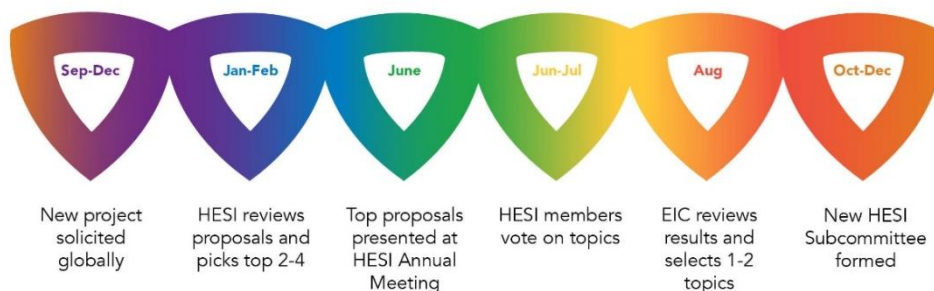


### **HESI Emerging Issues Updates — Two New Programs Launched for 2016!**

**Translational Safety Assessment of Cell-based Therapies.** We are pleased to announce the pending launch of HESI's Newest Emerging Issues Committee on **Translational Safety Assessment of Cell-based Therapies**. Cell-based therapies show tremendous therapeutic promise, but their full realization in the clinic requires greater understanding of cellular therapy mode of action, migration of the therapy after administration, and how localization or distribution of the cells may impact patient safety. This project will bring together an interdisciplinary team of scientists to discuss and evaluate current approaches (and gaps) in preclinical methods to assess cell therapeutic safety and to explore the development of new approaches and strategies. If you are interested in participating in this program, please contact Ms. Cyndi Nobles ([cnobles@hesiglobal.org](mailto:cnobles@hesiglobal.org)).

**Big Data and Exposure.** Exposure science plays a critical role in public health protection, environmental protection and regulation, urban and ecosystem planning, and disaster management. Current technology allows for collection of exposure-related data on multiple scales — from chemical changes at the epigenome level to GIS-level data on environmental releases. The scientifically rigorous and feasible integration, interpretation, and application of these data sources as exposure inputs for risk assessment remains a challenge. A small advisory team, led by HESI's Associate Director for Environmental Science, Dr. Michelle Embry, has been chartered by the Emerging Issues Committee to begin to tackle this challenge via development of actionable project areas for specific discussion by interested HESI stakeholders in early 2016. If you are interested in participating in these 2016 discussions, please contact Brianna Farr ([bfarr@hesiglobal.org](mailto:bfarr@hesiglobal.org)).

**HESI Emerging Issues Proposal Solicitation Now Open.** HESI seeks your suggestions for priority emerging scientific issues (human or environmental health) that should be addressed through a focused, multi-sector collaborative program. The most promising proposals will form the basis of new scientific initiatives within HESI and will receive supporting funds to initiate activities in the fall of 2016.



Proposal submissions do not require a commitment of resources or any current or prior affiliation with the HESI organization. However, proposals that come with matching resources will be given special consideration. [Click here](#) for frequently asked questions about the HESI proposal solicitation process. Download the proposal form [online](#). The deadline for submission is 4 December 2015. For more information, please contact Ms. Jennifer Pierson ([jpierson@hesiglobal.org](mailto:jpierson@hesiglobal.org)).

**Bioaccumulation Committee Ring-trial Update given at OECD VMGeco Meeting.** Presentations on the ongoing in vitro ring-trial project and plans for the development of a test guideline were given by Michelle Embry and Marlies Halder at the 5 October 2015 OECD Validation Management Group for Ecotoxicity Testing (VMGeco) meeting in Paris, France. The ring-trial, which involves seven laboratories and six test chemicals, will evaluate the performance of in vitro methods based on rainbow trout liver S9 and cryopreserved hepatocytes, with the goal of developing an OECD test guideline for in vitro determination of hepatic biotransformation in fish. This information can then be used to refine bioaccumulation estimates. All experiments have been completed and the team will have a data analysis meeting in December 2015. A draft ring-trial report is expected in 1Q 2016.



Dr. Robert Brent

**Longtime HESI Board Member Receives Award.** HESI is pleased to share that the National Academy of Medicine has presented Robert Brent, MD, PhD, DSc (hon), with the Gustav O. Lienhard Award. Dr. Brent was a HESI board member from 1990 to 2008. Congratulations to Dr. Brent! Read more about the Lienhard Award [here](#).

## UPCOMING EVENTS

**HESI at the Society of Environmental Toxicology and Chemistry (SETAC) North America Annual Meeting.** The 36th SETAC North America Annual Meeting will be held 1–5 November in Salt Lake City, Utah. Visit the [meeting website](#) to learn more. HESI work will be well represented at the meeting!

### Monday, 2 November 2015

**Platform 63 (10:20; Ballroom F):** Ecological Threshold of Toxicological Concern — Fundamentals and Initial Findings from a Comprehensive Assessment of More than 4000 Chemicals (*Platform presentation by Scott Belanger on behalf of the Animal Alternatives in ERA Technical Committee*)

**Poster MP129:** Life Stage Terminology in Regulatory Test Guidelines: Improvements for Harmonization (*Animal Alternatives in ERA Technical Committee*)

### Tuesday, 3 November 2015

**Platform 294 (2:00; Room 250 D-E):** In Vitro to In Vivo Extrapolation of Hepatic Metabolism in Fish: An Inter-laboratory Comparison of In Vitro Methods (*Platform presentation by Kellie Fay on behalf of the Bioaccumulation Technical Committee*)

**Poster TP113:** In Vitro Fish Hepatic Metabolism: Overview of Ring-Trial to Evaluate Transferability, Intra- and Interlaboratory Reproducibility (*Bioaccumulation Technical Committee*)

**Poster TP114:** Statistical Approach to Inform the Study Design of an Inter-laboratory Comparison of In Vitro Methods to Estimate Fish Hepatic Metabolism (*Bioaccumulation Technical Committee*)

**Poster TP116:** The Use of Trout Liver S9 Fraction and Cryopreserved Hepatocytes in Substrate Depletion Assays for the Evaluation of Fish Xenobiotic Biotransformation (*Bioaccumulation Technical Committee*)

**Poster TP131:** Exploring the Predictivity of Hazard-Based Chemical Alternatives Assessment Methodologies and Incorporation of Exposure (*Sustainable Chemical Alternatives Technical Committee*)

### Wednesday, 4 November 2015

**Platform Symposium (1:00–4:15; Room 250 D-E):** Integrating Environmental Health and LCA into Chemical Alternatives Assessment (*Co-chaired by Jennifer Tanir on behalf of the Sustainable Chemical Alternatives Technical Committee and Lauren Heine*)

**HESI Genetic Toxicology Technical Committee (GTTC) at the Upcoming Annual Meetings of the American College of Toxicology (ACT) and Society for Risk Analysis (SRA).** The quantitative approaches of the GTTC will be featured in the symposium “Thresholds vs. Point of Departure in Genetic Toxicology” on 10 November at the [ACT Annual Meeting](#), and the symposium “Genetic Toxicology at the CrossRoads: Moving from Qualitative Hazard Identification to Quantitative Risk Assessment” will be held on 8 December at the [SRA Annual Meeting](#). Please contact Jennifer Tanir ([jtanir@hesiglobal.org](mailto:jtanir@hesiglobal.org)) for additional information.

## RECENT PUBLICATIONS

Belanger SE, Sanderson H, Embry MR, Coady K, DeZwart D, Farr BA, Gutsell S, Halder M, Sternberg R, and Wilson P (2015) It is time to develop ecological thresholds of toxicological concern to assist environmental hazard assessment. *Environ Toxicol Chem*. doi: 10.1002/etc.3132.

Fay KA, Nabb DL, Mingoia RT, Bischof I, Nichols JW, Segner H, Johanning K, and Han X (2015) Determination of metabolic stability using cryopreserved hepatocytes from rainbow trout (*Oncorhynchus mykiss*). *Curr Protocol Toxicol*. 65:4.42.1-4.42.29.

Gobas FAPC, Burkhard LP, Doucette WJ, Sappington KG, Verbruggen EMG, Hope BK, Bonnell MA, Arnot JA, and Tarazona JV (2015) Review of existing terrestrial bioaccumulation models and terrestrial bioaccumulation modeling needs for organic chemicals. *Integr Environ Assess Manag*. doi: 10.1002/ieam.1690.

Hoke RA, Huggett D, Brasfield S, Brown B, Embry M, Fairbrother A, Kivi M, Leon Paumen M, Prosser R, Salvito D, and Scroggins R (2015) Review of laboratory-based terrestrial bioaccumulation assessment approaches for organic chemicals: current status and future possibilities. *Integr Environ Assess Manag*. doi: 10.1002/ieam.1692.

van den Brink NW, Arblaster JA, Bowman SR, Conder JM, Elliott JE, Johnson MS, Muir DCG, Natal-da-Luz T, Rattner BA, Sample B, and Shore RF (2015) Use of terrestrial field studies in the derivation of bioaccumulation potential of chemicals. *Integr Environ Assess Manag*. doi: 10.1002/ieam.1717.

Webster AF, Zumbo P, Fostel J, Gandara J, Hester SD, Recio L, Williams A, Wood CE, Yauk CL, and Mason CE (2015) Mining the archives: a cross-platform analysis of gene expression profiles in archival formalin-fixed paraffin-embedded (FFPE) tissue. *Toxicol Sci*. doi: 10.1093/toxsci/kfv195.

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## FROM THE EXECUTIVE DIRECTOR

I hope you share our excitement at the launch of HESI's 2016 Emerging Issues programs as described above! Thanks to all who contributed to this year's Emerging Issues process. Kudos also to the HESI science committees for continuing to align their portfolios to contemporary human and environmental health challenges. HESI's ability to continue to provide impactful science for health is a testament to the vibrancy of both of these elements.

*Spice D. Rohit*

