HESI: Science for a Safer, More Sustainable World

CONVENE. TRANSLATE. PROTECT.

FOR HUMAN AND ENVIRONMENTAL HEALTH
291 partner organizations

- ~71% public sector organizations
- ~29% private sector organizations

**Engagement**

**Resourcing**

- Grants will extend into 2021
- New grants submitted
- New grant opportunities pending

2020 FUNDING SOURCES

- Committee Dues: 27%
- Grants: 27%
- Corporate Sponsorships: 46%

Academia
Government/Regulatory Agencies
Industry
NGOs, Research Institutes, and Others
### SCIENTIFIC FOCUS AREAS

- **ACCURATE AND EFFICIENT CHEMICAL RISK ASSESSMENT**
- **SAFE AND EFFECTIVE MEDICINES**
- **ENVIRONMENTAL QUALITY AND SUSTAINABILITY**
- **FOOD SAFETY**

### COMMITTEES

- Animal Alternatives in Environmental Risk Assessment
- Botanical Safety Consortium
- Cardiac Safety
- Cell Therapy – TRAcking, Circulation and Safety (CT-TRACS)
- Collaboration on Ototoxicity Risk Assessment (CORA)
- Development of Methods for a Tiered Approach to Assessment the Bioaccumulation of Chemicals
- Developmental and Reproductive Toxicology (DART)
- Emerging Systems Toxicology for the Assessment of Risk (eSTAR)
- Environmental Epidemiology for Risk Assessment
- Genetic Toxicology
- Immuno-Safety
- Multi-Component Substances (MCS) and UVCBs
- PBPK Models
- Protein Allergens, Toxins and Bioinformatics (PATB) and the COMPARE database
- Risk Assessment in the 21st Century (RISK21)
- Transforming the Evaluation of Agrochemicals (TEA)
- Translational Biomarkers of Neurotoxicity (NeuTox)

### PROJECT MECHANISMS

- **DECISION FRAMEWORKS**
- **DATA SHARING & COLLECTIVE ANALYSIS**
- **NOVEL EXPERIMENTAL STUDIES**
- **MANUSCRIPTS**
- **TOOL / ASSAY DEVELOPMENT**
- **SCIENTIFIC MEETINGS & TRAININGS**
What Impacts Do HESI Programs Have?

**ENHANCED EFFICIENCY & ACCURACY IN SAFETY ASSESSMENT**
- By generating science that improves practices in drug development in companies, research labs, & in regulatory practice/policy

**ENHANCED SOCIETAL KNOWLEDGE BASE OF BIOLOGICAL & ENVIRONMENTAL PROCESSES RELEVANT TO PROTECTING HUMAN & ECOLOGICAL HEALTH**
- Through conducting & publishing novel laboratory studies on mechanisms of toxicity, biomarkers of effect, models of disease, etc.

**CATALYSIS OF NEW SCIENCE**
- By bringing together partners to synergize ongoing research, share resources, & develop efficient, innovative, & impactful study design & analysis

**INCREASED AUDIENCES FOR COLLABORATIVE SAFETY SCIENCE**
- By demonstrating the critical impact of bringing together academic, government, & industry scientists across different technical disciplines to improve public health

**DEVELOPMENT OF SCIENTISTS SKILLED IN TRANSLATIONAL SCIENCE**
- Through training & outreach
HESI’s Google Scholar Page

- [https://scholar.google.com/citations?user=Vmk5S9YAAAAJ&hl=en](https://scholar.google.com/citations?user=Vmk5S9YAAAAJ&hl=en)

- H-index is the maximum value of $H$ such that the given author has published $H$ papers that have each been cited at least $H$ times.

- A good H-index score depends not only on a prolific output but also on a large number of citations by other authors.

- Our H-index is considered high & represents a collective of HESI authors.
HESI’s science is a key reference point for...

- ICH S1, S7, E14, S5, S2, S8, S11
- OECD (Genetox, PBPK, Bioaccumulation)
- Regulatory & research agency scientific strategy & resource evaluation
- US FDA
- PMDA (Japan) via active HESI involvement
- European Commission reports & discussions
- Brazilian risk assessment methods
- Canadian risk assessment methods
- And more!

Enhanced Efficiency & Accuracy in Safety Assessment
Increased Audiences for Collaborative Safety Science

In 2020 into 2021, HESI has simultaneous, active, programmatic participation & engagement from North America, South America, Europe, Asia, Oceana (Australia), & Africa
Why Join HESI?

Opportunity to **COLLABORATE** with academic, regulatory, clinical, and other industry scientists working on issues that matter to your scientific portfolio.

Opportunity to **LEVERAGE RESOURCES** by pooling data, expertise, funding, and lab facilities across partner organizations.

Opportunity to **ACTIVELY CONTRIBUTE TO DISCUSSIONS AND DATA GENERATION/EVALUATION THAT IMPACTS GLOBAL SAFETY ASSESSMENT PRACTICES**.

**EXPOSURE** to global best practices, evolving drug/development safety issues and discussions, etc.

Opportunity to **BUILD SCIENTIFIC NETWORKS AND PROFESSIONAL DEVELOPMENT** for your staff.
Facilitating New Science: Moving science from the idea stage to the implementation stage

The adoption of new programs & projects allows HESI to address the most relevant emerging science & serve as a contemporary resource for our stakeholders.
Method likely to be adopted by multiple test sites in Brazil & in use by Children’s Hospital of Philadelphia

Example of HESI innovation & public benefit

Figure 1. Ct values plotted against the sample-specific average Ct values from the 10 laboratories. The solid line indicates the line of equation $y = x$. Each color indicates one laboratory; a same color is used to identify a same laboratory in all plots of the report.
Joining HESI

Information on joining HESI is available here: hesiglobal.org/sponsorship-application

Participation requires becoming a HESI sponsor and then selecting (and paying for) the scientific programs in which your organization would like to participate on an annual basis. Participation fees cover as many scientists as you would like to join for the same fee.
How Can I Learn More About HESI’s Scientific Programs?

- An overview of recent efforts is available in [HESI’s 2020 Annual Report](https://hesiglobal.org).
- Contact HESI’s Executive Director, Dr. Syril Pettit ([spettit@hesiglobal.org](mailto:spettit@hesiglobal.org)), for more information.
- Propose a webinar or in-person meeting to discuss HESI programs and opportunities for participation.
- [hesiglobal.org](https://hesiglobal.org).

Thank you for your interest! We look forward to speaking with you further.