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# ILSI Health and Environmental Sciences Institute: HESI

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## IVGT: New Approaches Workshop

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ILSI Health and  
Environmental Sciences  
Institute



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# Recognizing the Challenge...

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“Although the rate of progress in basic biomedical research is high, it remains difficult to translate preclinical discovery into meaningful medical progress.”

*(Sorger et al, NIH Whitepaper, October 2011)*



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# HESI: Meeting the Challenge

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- ***HESI Mission***

Engage scientists from academia, government, research institutes, and industry to identify and resolve global health and environmental issues.

- ***HESI Vision***

Creating science-based solutions for a sustainable, healthier world.

- ***HESI Philosophy***

HESI 's scientific programs bring together scientists from around the world from academia, industry, and regulatory agencies and other governmental institutions, to address and reach consensus on scientific questions that have the potential to be resolved through creative application of intellectual and financial resources. This “tripartite” approach forms the core of every HESI scientific endeavor. As a non-profit organization, HESI provides a unique, objective forum for initiating dialogue among scientists with different perspectives and expertise.



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# What is HESI?

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- Washington-DC based non-profit scientific organization with global activity.
- Scientific management staff (6) provide technical and organizational support to HESI's scientific programs.
- Strategic leadership from Board of Trustees with internationally recognized scientific experts from academia, government, and industry.



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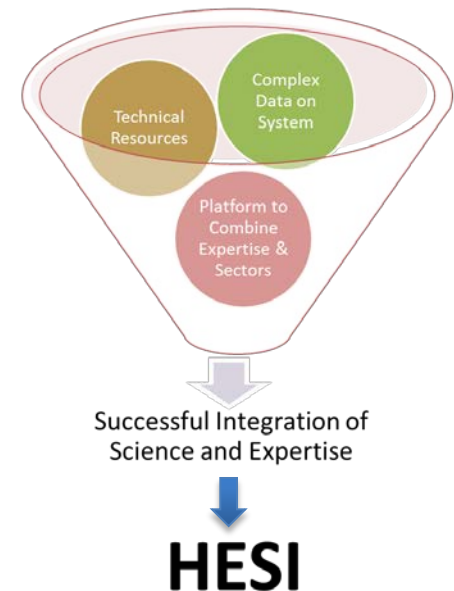
Health and Environmental  
Sciences Institute

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# HESI: A Resource for Scientific Collaboration and Progress

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- By pooling experience, data, resources, and diverse perspectives HESI's scientific collaborations offer benefits that independent research and participation in other groups cannot.
- HESI scientific committees are unique opportunities to contribute combined technical knowledge and innovative perspectives to the scientific community via workshops, peer reviewed publications, etc. as part of all HESI projects.



## Translational Biology

- Cardiac safety evaluation
- Biomarkers of renal toxicity
- Developmental and reproductive tox
- Immunotoxicology

## New Technologies

- Imaging for safety evaluation
- Genomics in mechanism-based risk assessment

## New Approaches

- Biological significance of DNA adducts
- Adjuvant/vaccine safety and risk of autoimmunity
- Frameworks for Alternative Chemical Assessment and Selection of Safer, Sustainable Alternatives

## Environmental Toxicology

- Animal alternative needs in environmental risk assessment
- Methods for a tiered approach to assess bioaccumulation

## Assessing Risk

- Risk assessment in the 21st Century (Risk 21)
- Relevance of positive results from *in vitro* genotoxicity testing
- Protein allergenicity
- Distinguishing adverse from non-adverse/adaptive effects
- Assessing risks from mixtures
- Evaluating causality in epidemiologic studies

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# Scientific Portfolio

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2012



HESI

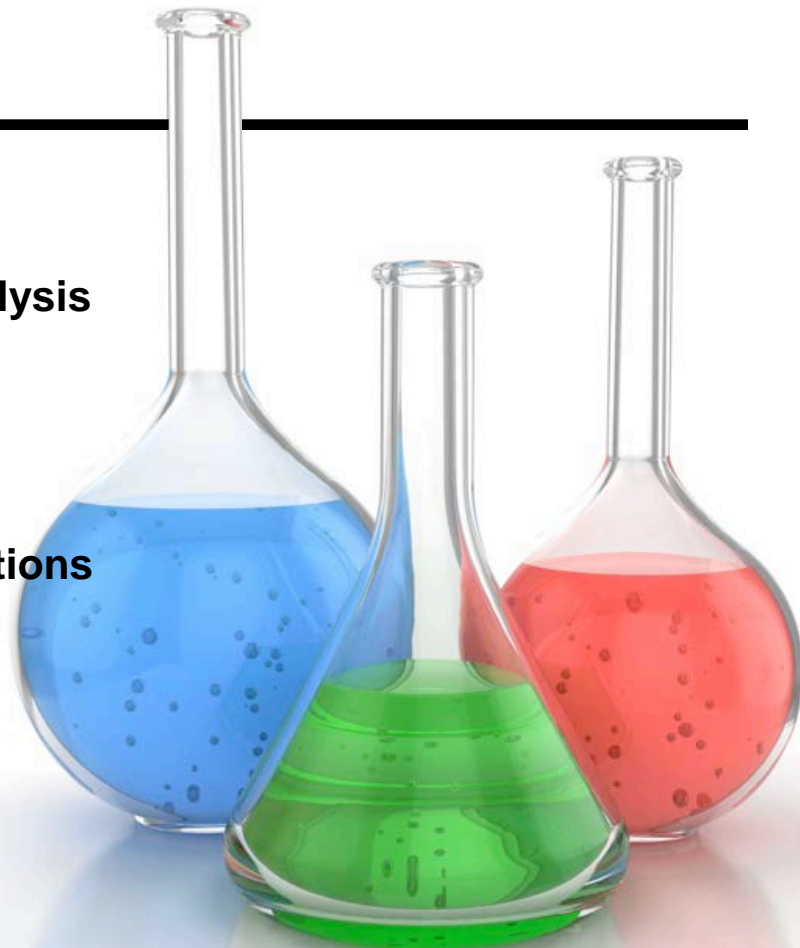
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# Scientific Endeavors at HESI

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- ❖ **Experimental / Laboratory Programs**
- ❖ **Data Sharing**
- ❖ **Database Development, Population, & Analysis**
- ❖ **Expert Panels**
  - Discussion forums of leading experts, white papers, best practices.
- ❖ **Scientific Outreach: Workshops & Publications**
  - Workshop design and execution.
  - Peer-reviewed publications.
- HESI is **not itself** a laboratory facility.



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# Partnering with HESI

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- Scientists from the private sector may join via their companies (via HESI Sponsorship);
- Scientists from academia, government, nonprofit research institutes may join at no cost;
- Scientists from all sectors expected to be active contributors of time/expertise on science programs;
- Direct partnerships between HESI and other public-health and research oriented scientific organizations are also available.





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# Thank you!

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Relax...

Enjoy...

Discuss...

Reflect!

