Advancing a New Paradigm for Chemical Safety Assessment

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The Humane Society family of organizations are together the world’s largest animal protection organization, driving transformational change in the U.S. and around the world to create a humane world for people and animals alike.

Our approach is to work with vested stakeholders to achieve find solutions and achieve common goals.

Animal testing

**Expert team:** toxicology, ecotoxicology, pharmacology, regulatory science, endocrinology, biochemistry, neuroscience, law, etc.

**Global presence:** Brazil, United States, Canada, Mexico, Central America, European Union, India, Japan, South Korea, Viet Nam, Australia, Africa and beyond

**Approach:** Working with policy makers, regulators, companies, scientists, and other stakeholders to build partnerships for progress
"Transform toxicity testing from a system based on whole animal testing to one founded primarily on in vitro methods that evaluate changes in biologic processes using cell, cell lines, or cellular components, preferably of human origin."

2009

Identified need for a multi-stakeholder group to accelerate this transition with this goal in mind.

Martin Stephens – HSUS
Melvin Andersen – Hamner
Others
A multi-stakeholder coalition dedicated to accelerating global implementation of a new paradigm in toxicity testing

**Mission:** To serve as a catalyst for the prompt, global, and coordinated implementation of pathway-based science, which will better safeguard human health and hasten the replacement of animal use in toxicology.
HTPC: Tripartite Approach

Promoting the Science

Consortium members and partners are working together to accelerate technical and scientific advances in pathway-based approaches to chemical safety assessment.

Workshops · Presentations · Papers · Sponsorship

Communication

Effective communication facilitates consensus-building among stakeholders and is essential to building confidence in new approaches to chemical and drug safety.

Website · Articles · Videos

Advocacy

The Consortium works to effect policy changes and cultivate funding opportunities that support pathway-based approaches in the U.S. and internationally.

Policy · Bill language · Appropriations
Promoting the Science

Scientific presentations

Toward a 21st-century Roadmap for Biomedical Research and Drug Discovery. Presented at the 3rd International Conference on Toxicity Testing Alternatives & Translational Toxicology, July 9 - 12, 2017, Nanjing, China.

The Use of Adverse Outcome Pathways (AOPs) to Support Chemical Safety Decisions within the Context of Integrated Approaches to Testing and Assessment (IATA). Presented at The Asian Congress on Alternatives and Animal Use in the Life Sciences, 2017 Karatsu, Japan.

Webinars

Introduction to the concept of Adverse Outcome Pathways and Integrated Approaches to Testing and Assessment according to the Organization of Economic Cooperation and Development. Webinar presented by the In Vitro and Alternative Methods Specialty Section, Society of Toxicology, 27 January 2016.
Workshops:


Scientific presentations:

**Willett, C. 2017.** Toward a 21st-century Roadmap for Biomedical Research and Drug Discovery. Presented at the 3rd International Conference on Toxicity Testing Alternatives & Translational Toxicology, July 9 - 12, Nanjing, China.

**Willett, C. 2016.** The Use of Adverse Outcome Pathways (AOPs) to Support Chemical Safety Decisions within the Context of Integrated Approaches to Testing and Assessment (IATA). Presented at The Asian Congress on Alternatives and Animal Use in the Life Sciences, Karatsu, Japan.
Selected peer-reviewed publications:


AOP training

AOPs 101 and 201
- collaboration with PCRM
- Scientific conferences (e.g. SOT, WC10)
- US, Mexico, Japan, China
- Online: AOP Learning Channel
- [https://humantoxicologyproject.org/about-pathways-2/](https://humantoxicologyproject.org/about-pathways-2/)

Download: [https://humantoxicologyproject.org/about-pathways-2/aop-online-course/](https://humantoxicologyproject.org/about-pathways-2/aop-online-course/)

Run: [https://aopwiki.org/](https://aopwiki.org/)
Objectives of this workshop:

- to explore existing systems biology projects and approaches and how these projects might be better coordinated to optimally improve disease understanding and interventions

- by bringing together experts from several of these projects with stakeholders to identify barriers and opportunities and make recommendations regarding what is needed to achieve the goal of fully implementing a human systems-biology platform for understanding disease and improving interventions.
Participants:

- Government, industry, academia, NGO, consulting
- US government: 6 NIH institutes, 5 FDA centers, EPA

Recommendations (report in progress):

- International and inter-agency collaboration
- Funding agency focus on human-based biology and open access data
- Collaborative, open-access high-quality databases
- Common reporting formats and common ontologies
- Better cross-sector communication
- Creation of case studies to show applications
Communications

Website: HumanToxicologyProject.org

Instructional videos: The AOP Learning Channel

Educational videos:
- The Future of Toxicology
- A “pathway-based” approach?

Others coming soon

Infographic: The Future of Toxicology
Advocacy:

Public Law 114-182, H.R.2576 - Frank R. Lautenberg Chemical Safety for the 21st Century Act, an update to the Toxic Substances Control Act: introduced language that reduces testing on vertebrate animals, and supports development and implementation of alternative methods.

Appropriations

Report language to prioritize TT21C projects
President’s budget FY2016 to increase NIH and EPA TT21C projects
Thank you!

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