Report on ICCVAM and NICEATM Activities

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SACATM Meeting, September 27, 2016
Research Triangle Park, NC
ICCVAM Biennial Progress Report

- Congressionally mandated
- Comprehensive summary of member agency activities (2014-2015) relevant to the ICCVAM mission
- This and future editions will be published as searchable websites; downloadable PDF available
- Published August 2016
Communities of Practice Webinar

- Fundamentals of Using Quantitative Structure-Activity Relationship Models and Read-across Techniques in Predictive Toxicology, Jan 2016
  - Alex Tropsha, Ph.D., University of North Carolina at Chapel Hill
  - Louis Scarano, Ph.D., Office of Pollution Prevention and Toxics, EPA

QSAR Modeling

**Screening Level Tools/Models Used by EPA/OPPT**
- P-Chem and Fate
- Aquatic Toxicity
- Carcinogenicity
- Non-Cancer Effects
- Exposure Potential

**SF Chemical Assessment**

**OPPT currently has no computer models to quantitatively predict non-cancer effects but relies on traditional analog identification and read across**

January 26, 2016

ICCVAM Community of Practice Webinar
ICCVAM Public Forum

- May 25, 2016
  Natcher Conference Center
  NIH, Bethesda, MD

- Updates by NICEATM and ICCVAM agencies on current activities

- 33 in-person (from 12 ICCVAM agencies) and 160 webcast views

- Opportunities for public comments and questions

- Roadmap concept for replacing animal use for the “6-pack”

- Implementation Plan

- Next ICCVAM Public Forum: May 23, 2017
Alternatives for Acute Toxicity Workshop

- Over 60 participants from industry, academia, NGOs, and regulatory agencies
- Breakout groups charged with identifying key aspects to address in order to replace the in vivo acute systemic toxicity test methods within 3 years
- Recommendations included:
  - Publish a white paper on the regulatory landscape
  - Organize expert groups that will focus on specific tasks (resulted in the Sep 2016 inhalation tox workshop)
  - Work towards global harmonization of testing requirements
  - Provide training and promotion of alternative approaches
  - Collect and collate available data in centralized repositories
- Workshop report submitted (Tox In Vitro)
- See also http://ntp.niehs.nih.gov/go/atwksp-2015
Workshops in 2016: A New Model

- Designed to encourage consistent engagement and maximize productive participation
- Topics driven by ICCVAM agency needs
- Organizing committees with broad stakeholder representation
- Education via pre-workshop webinar series
- Increased emphasis on breakout groups
IVIVE Workshop

• Workshop goals
  – Review state of the science
  – Identify data gaps
  – Describe practices and case study examples

• ~100 attendees from industry, academia, NGOs, and government

• 3 workshop themes
  – Toxicokinetic (TK) model considerations
  – In silico and non-animal methods for obtaining TK parameters
  – Application to prioritization/screening/risk assessment
Pre-Workshop IVIVE Webinar Series

- Average attendance ~130 participants, ~400 registered
- Provided background in preparation for the in person workshop

**October 7:** Setting the Stage: Purpose, Definitions, Scope, and Assumptions
Barbara Wetmore, Ph.D., ScitoVation

**November 4:** Building Fit-for-purpose Pharmacokinetic Models
John Wambaugh, Ph.D., U.S. Environmental Protection Agency

**December 3:** The Role of Pharmacokinetic Model Evaluation
Lisa Sweeney, Ph.D., Naval Medical Research Unit Dayton

**January 6:** Framework for Establishing an Internal Threshold of Toxicological Concern
Corie Ellison, Ph.D., The Procter & Gamble Company
IVIVE Workshop Action Items

• Quantitative high throughput TK (HTTK) model review article

• Database for in vitro and in vivo PK/TK data and models

• Best practices for use of IVIVE in a prioritization and risk decision making setting

• Workshop report in prep
  – Case studies highlighting where IVIVE can currently be used
  – Challenges that new data or different models may address
Alternative Approaches for Acute Inhalation Toxicity Testing to Address Global Regulatory and Non-regulatory Data Requirements

September 22-23, 2016
Bethesda, MD

September 22: Bldg. 35 Porter Neuroscience Center, NIH campus
September 23: Hilton Garden Inn Washington DC/Bethesda

- Co-organized with PETA International Science Consortium
- Experts from industry, government, academia, and NGOs
- Compiled an inventory of information on validation status of alternatives
- Identified data gaps
- Outlined a strategy for implementation; action items/responsible parties
Pre-Workshop Inhalation Tox Webinar Series

- Average attendance ~100 participants, >500 registered
- Detailed the state-of-the-science in preparation for the in person workshop

**March 29:** Current Testing Practices: Regulatory Requirements and Non-regulatory Testing  
*Jon Hotchkiss, Dow Chemical Co.*  
*Ian Indans, UK Chemicals Regulation Directorate*

**April 26:** State-of-the-science, Practical Application, and Dosimetry Considerations for In Vitro and Ex Vivo Methods  
*Annie Jarabek, Ph.D., EPA*  
*Marianna Gaca, British American Tobacco*

**May 26:** State-of-the-science and Practical Application of In Silico Methods  
*Grace Patlewicz, EPA*  
*Dan Wilson, Dow Chemical Co.*

**June 28:** GHS Additivity Approach to Classify Mixtures Based on Ingredient Toxicity  
*Marco Corvaro, Dow AgroSciences*

**July 12:** Adverse Outcome Pathways  
*Mathieu Vinken, Free University of Brussels*  
*Barbara Buckley, EPA*

**September 8:** 21st Testing Approaches  
*Kelly BéruBé, Cardiff University*  
*Dan Huh, University of Pennsylvania*
SACATM Liaisons

- **Lauren Black**: ICCVAM Communities of Practice Webinar 2016 - Fundamentals of Using QSAR Models and Read-across Techniques in Predictive Toxicology

- **Pam Spencer**: ICCVAM 2016 Public Forum

- **Kate Willett**: Workshop on Alternative Approaches for Identifying Acute Systemic Toxicity: Moving from Research to Regulatory Testing and Alternative Approaches for Acute Inhalation Toxicity to Address Global Regulatory and Non-regulatory Data Requirements

- **Brian Berridge**: Workshop on In Vitro to In Vivo Extrapolation for High Throughput Prioritization and Decision Making