



ICCVAM Communities of Practice Webinars: Capturing the Leading Edge of NAMs

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Scientific Advisory Committee on Alternative Toxicological Methods
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Agency for Toxic Substances and Disease Registry • Consumer Product Safety Commission • Department of Agriculture • Department of Defense
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The views expressed in this presentation are those of the author and do not necessarily reflect the views or policies of the U.S. Environmental Protection Agency.

Why the Communities of Practice Webinars Were Needed

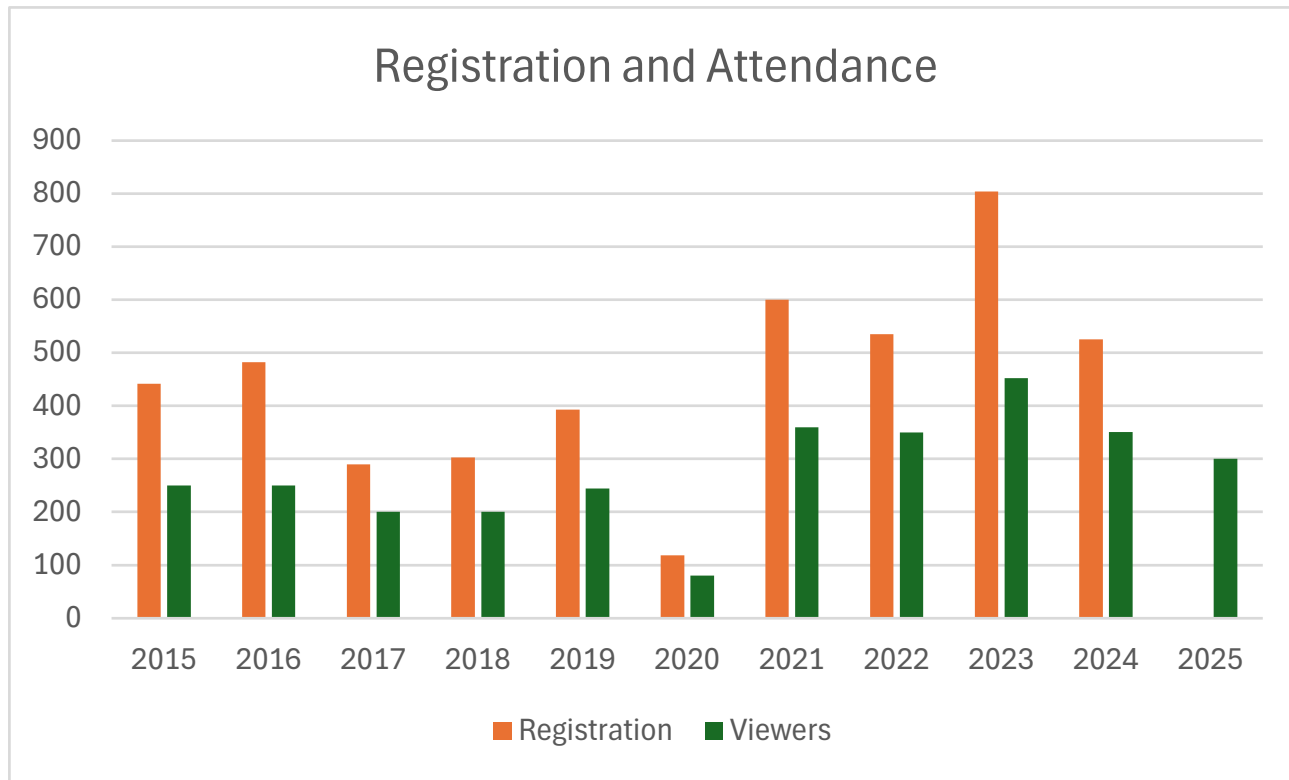
- In July 2014, ICCVAM members proposed a webinar series similar to the EPA Tox21 Communities of Practice webinars
- Envisioned as a high-level overview of a new technology with an emphasis on its potential regulatory application
- Along with SACATM and the Public Forum, the webinar would provide three occasions a year on which ICCVAM would regularly engage with the public

The First Communities of Practice Webinar

- January 27, 2015; presented as a streamed live event at EPA in RTP
- “Reverse Toxicokinetics: Using In Vitro Data to Estimate Exposures that Could Be Associated with Adverse Effects In Vivo”
 - Speakers: John Wambaugh (EPA), Barbara Wetmore (Hamner Institutes for Health Sciences)
 - Over 250 viewers



Engagement Over Time



Topics

- 2016: Fundamentals of Using QSAR Models and Read-across Techniques in Predictive Toxicology (Alex Tropsha, UNC-CH; Gino Scarano, EPA OPPT)
- 2017: Incorporating Chemical Information: Resources, Limitations, and Characterizing the Domain of Applicability for 21st Century Toxicity Testing (Denis Fourches, NCSU; Kamel Mansouri, EPA)
- 2018: Machine Learning in Toxicology: Fundamentals of Application and Interpretation (Sean Akins, Collaborations Pharmaceuticals; Nicole Kleinstreuer, NICEATM)
- 2019: Non-animal Approaches for Inhalation Toxicity Testing (Amy Clippinger, PETA-SCI; Paul Hinderliter, Syngenta Crop Protection)
- 2020: Use of Animal-free Affinity Reagents (Alejandra Solache, Abcam; Rebecca Clewell, 21st Century Tox Consulting)

Topics (cont'd)

- 2021: Non-animal Approaches for Mixtures Assessment (Cynthia Rider, NIEHS; Patricia Ruiz, ATSDR; Kristin Isaacs, EPA)
- 2022: New Approach Methodologies to Assess (Developmental) Neurotoxicity (Helena Hogberg, NICEATM; Jyotshnabala Kanungo, FDA/NCTR)
- 2023: Emerging Approaches for Anchoring Biological Relevance of New Approach Methodologies (Lorna Ewart, Emulate; James McKim, IONTOX/LifeNet Health; Tamara Tal, Helmholtz Centre-UFZ)
- 2024: Implementing Computational Approaches for Regulatory Safety Assessments (Michael Lowit, EPA; Pras Pathmanathan, FDA/CDER; Jon Arnot, Arnot Research and Consulting)
- 2025: Evolution of Complex In Vitro Models (Dan Tagle, NCATS; Ivan Rusyn, Texas A&M; Remi Villenave, Roche)

Follow-on Activities from Communities of Practice Webinars

- 2015: Webinar on reverse toxicokinetics
- Follow-on activity: webinar series and workshop on in vitro to in vivo extrapolation
 - Four webinars October 2015-January 2016
 - Workshop February 17-18, 2016; about 100 in-person attendees
 - Workshop report: Bell et al. 2016, <https://doi.org/10.1016/j.tiv.2017.11.016>



National Toxicology Program
U.S. Department of Health and Human Services

In Vitro to In Vivo Extrapolation for High Throughput Prioritization and Decision Making

WORKSHOP

Wednesday, February 17, 2016 • 8:00 a.m. – 6:00 p.m.
Thursday, February 18, 2016 • 8:30 a.m. – 3:00 p.m.

U.S. Environmental Protection Agency
Research Triangle Park, North Carolina

For agenda and registration information,
visit <http://ntp.niehs.nih.gov/go/ivive-wksp-2016>

Individuals with disabilities who need accommodation to participate in this event should contact Elizabeth M. Hall at 919-216-4608 or email ehall@ntp.niehs.nih.gov. TTY users should contact the Federal TTY Relay Service at 800-877-8339. Requests should be made at least 30 business days in advance of the event.

Any individual seeking access to the EPA campus will need to be registered to show a photo ID in person, direct's license, or a company identification, or university ID and provide either a copy of this flyer or pertinent information about the seminar (e.g., nature of the speaker, topic, or title of the seminar).

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Follow-on Activities from Communities of Practice Webinars

- 2016: QSAR models and read-across
- Follow-on activity: concurrent and subsequent collaborations between NICEATM and UNC-CH (Tropsha group) produced predictive models for:
 - Skin sensitization
 - Eye irritation
 - Acute toxicity
 - Developmental toxicity



STopTox

a machine learning app to predict the battery of acute toxicity test classically known as "6-pack".



DeTox: Predicting Developmental Toxicity Potential



Follow-on Activities from Communities of Practice Webinars

- 2019: human-relevant in vitro model for inhalation toxicity
- Follow-on activity:
 - Published as a case study by OECD
 - Data used to support EPA risk assessment for chlorothalonil

