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**Subject:** Written comments for Meeting of the Scientific Advisory Committee on Alternative Toxicological Methods (SACATM)

For topic: "Coordinating Activities Between the Federal Government and Stakeholders"

The National Research Council's Committee on Incorporating 21st Century Science into Risk-Based Evaluations (<http://dels.nas.edu/Study-In-Progress/Incorporating-21st-Century-Science-into-Risk/DELS-BEST-14-04>) will be releasing a report on its deliberations scheduled for release late fall 2016. The committee's statement of task is related, among other important areas, to the challenge of validation. Specifically "An ad hoc committee under the auspices of the National Research Council (NRC) will provide recommendations on integrating new scientific approaches into risk-based evaluations. Specifically, the committee will [...] consider whether a new paradigm is needed for data validation (or acceptance), [...] will focus its recommendations on pragmatic solutions [...] and] identify barriers or obstacles to advancing and integrating the various types of science, and ultimately transforming risk assessment." Thus, both ICCVAM and NICEATM may wish to study the recommendations of the committee on validation and other relevant topics when the report is released.

In addition, it is critical to note that the challenge of validation of alternative methods cannot be solved by the government or industry efforts alone. The new methods and approaches are often developed in academic laboratories, are licensed to and refined in the small and medium size enterprises, and the outputs of these methods are implemented into decision making by the regulatory agencies. Likewise, the validation must be the effort that involves diverse stakeholders and is conducted as a public-private partnership. One example of a solution to the challenge in acceptance of alternative methods is the validation of tissue chip and microphysiological systems. The National Center for Advancing Translational Sciences has recognized that "in vitro [...] platforms [...] need to be validated for their predictive capabilities in the assessment of biomarkers, and the bioavailability, efficacy, and toxicity of therapeutic agents prior to entry into clinical trials" (<http://grants.nih.gov/grants/guide/rfa-files/RFA-TR-16-006.html>). Validation of the tissue chips is envisioned through the tissue chip testing centers "that will be responsible for the testing of a select group of compounds using predefined assays and biomarkers according to pharmaceutical industry standards, and for the integration of the data into a public database." Such an approach demonstrates a path for public-private partnerships in validation of alternative methods that enable close engagement between diverse stakeholders: assay developers, the regulatory agencies, the industry and the academia.

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