

# Report of the NTP Associate Director

John R. Bucher, Ph.D.  
National Institute of Environmental Health Sciences

BSC Meeting  
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# Topics

- Staff changes
- Division of the NTP review



# Staff Changes

- Hires
  - Esra Mutlu, Ph.D., Chemist, Program Operations Branch
  - Andrew Shapiro, M.S., Data Scientist, Program Operations Branch
  - Nisha Sipes, Ph.D., Computational Toxicologist, Biomolecular Screening Branch



## Division of NTP (DNTP) Review

- All NIH Intramural Research Divisions participated
- Short timeline - Feb to July 2014
- Charge questions centrally provided, but revised to be appropriate for DNTP
- Committee met in person on April 18, plus two teleconferences
- Report approved July 14
- Report provided to NIH Deputy Director for Intramural Research on July 28



## Review Panel

- Linda S. Birnbaum and Robert E. Chapin, Co-Chairs
- Members
  - William H. Farland
  - Michael A. Gallo
  - Bernard D. Goldstein
  - Scott A. Masten
  - Carolyn J. Mattingly
  - Daniel T. Shaughnessy
  - Anton Simeonov
  - Russell S. Thomas
  - Nigel J. Walker
  - Mary S. Wolfe
- John R. Bucher, Executive Secretary



## Essence of the Report

- Recognition of unique mission, structure, and mode of operation
- Directions taken and accomplishments in-line with 2004 NTP Roadmap; recognized leadership in evolution of toxicology
- Recommended greater effort to integrate data-intensive mechanistic and adverse outcome pathway (AOP) information with findings from traditional models
- Recommended enhanced effort in epigenetics, exploration of the utility of stem cells, organotypic models, organs-on-a-chip, and *in silico* modeling approaches
- Recommended continued effort to exert a global influence on advancing the understanding of the human health significance of toxicological studies of all types



## Barriers

- Insufficient funding
- Insufficient training of staff to carry out increasingly complicated science
- Inflexible hiring mechanisms
- PI-driven culture that fails to recognize and reward team science
- Need to accommodate “big data”



## Some Suggested Areas for Future Activity

- Systems biology
- Tissue-on-a-chip
- Preclinical safety assessments on orphan drugs for environmental diseases
- Mechanisms of cancer causation
- 21<sup>st</sup> century exposure science
- Mixtures research
- Physical agent studies
- Public health emergencies
- Climate change and disease





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# Questions