

Report of the NTP Associate Director

John R. Bucher, Ph.D.

National Institute of Environmental Health Sciences

NTP Board of Scientific Counselors

April 16, 2014

Topics

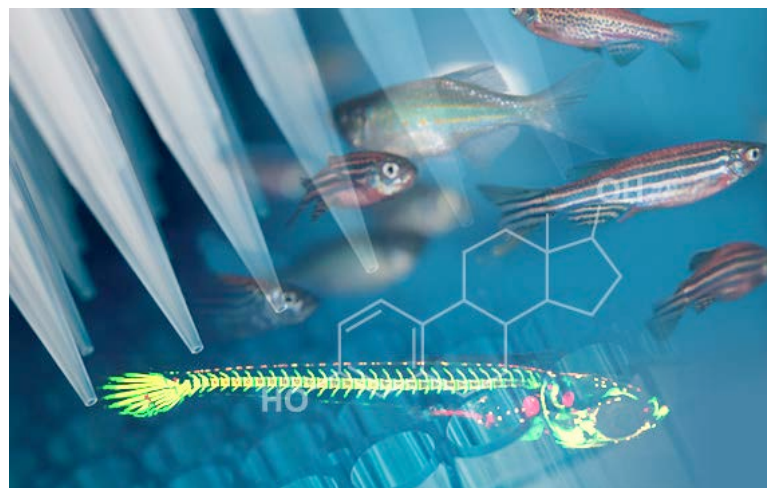
- Recent and upcoming meetings and events
- Society of Toxicology 53rd Annual Meeting
- Staff changes
- Transdisciplinary environmental health fellowship
- Tox21 highlights
- Skin sensitization AOP
- Systematic review update

Recent Meetings and Events

- Events since the June 2013 Board of Scientific Counselors (BSC) meeting
 - Scientific Advisory Committee on Alternative Toxicological Methods (SACATM) meeting: Sept. 2013
 - Peer review of draft NTP Technical Reports on cobalt metal, vinylidene chloride, tetrabromobisphenol A, and glycidamide: Oct. 2013
 - Peer review of draft Report on Carcinogens monographs for *ortho*-toluidine and pentachlorophenol: Dec. 2013
 - Office of Report on Carcinogens webinar "Human Cancer Studies on Exposure to Trichloroethylene: Methods Used to Assess Exposure and Cancer Outcomes": Mar. 2014
 - NTP staff participation in advisory group to recommend priorities for International Agency for Research on Cancer (IARC) Monographs during 2015–2019: Apr. 2014

Upcoming Workshops and Events

- “Collaborative Workshop on Aquatic Models and 21st Century Toxicology”: May 5-6, 2014
 - Co-sponsored by NTP Interagency Center for the Evaluation of Alternative Toxicological Methods (NICEATM) and NC State University
 - <http://ntp.niehs.nih.gov/go/41308>
- NTP satellite symposium at the Society of Toxicologic Pathology 33rd Annual Symposium: June 21, 2014
 - Presentation on the NTP Nonneoplastic Lesion Atlas
- NICEATM and Interagency Coordinating Committee on the Validation of Alternative Methods (ICCVAM) workshop “Adverse Outcome Pathways: From Research to Regulation”: Sept. 3-5, 2014



Upcoming Advisory Activities

- Division of NTP Intramural Research Program Review
- Peer review of draft NTP Technical Reports: May 22, 2014
 - Bromodichloroacetic acid
 - CIMSTAR 3800
 - Green tea extract
 - Indole-3-carbinol
- BSC meeting: June 17-18, 2014
- BSC meeting: Dec. 9-10, 2014
 - Toxicology Branch review
- SACATM meeting: Sept. 16-17, 2014



Society of Toxicology 53rd Annual Meeting

NTP Awards

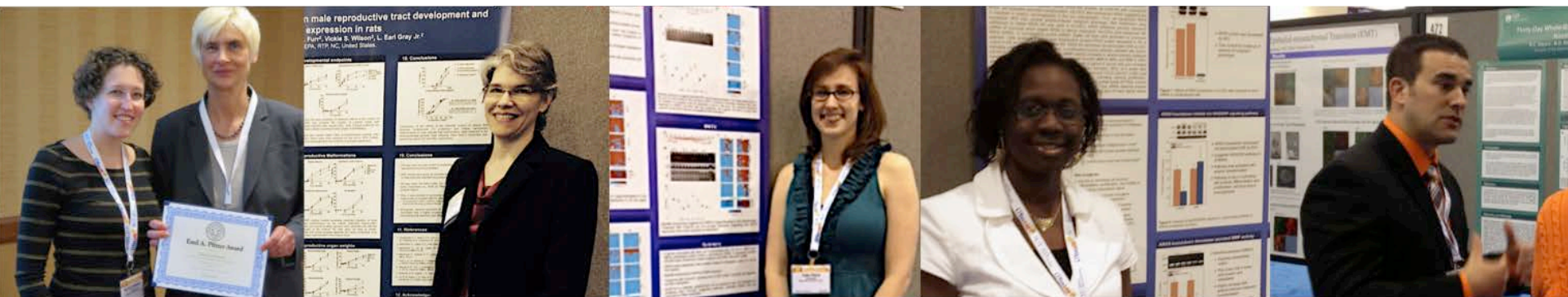
First Place for the Drug Discovery Toxicology SS Emil A. Pfitzer Postdoctoral Award
Rachel Goldsmith, Ph.D., Fellow, Biomolecular Screening Branch

Best Abstract Award from the SOT Mixtures Specialty Section
Kembra Howdeshell, Ph.D., Office of Health Assessment and Translation

Third Place Postdoctoral Award in the Metals Specialty Section
Katie Pelch, Ph.D., Fellow, NTP Laboratory

Stem Cell Specialty Section Postdoctoral Award for Research Excellence
Olive Ngalame, Ph.D., Fellow, NTP Laboratory

Best Publication Award in the Nanotoxicology Specialty Section
Brian Sayers, Ph.D., Fellow, Toxicology Branch



Staff Changes

Retirements



Sharon Soward
Information Specialist
Program Operations Branch
(Dec. 2013)



Mike Waalkes, Ph.D.
Group Leader and Chief
NTP Laboratory
(June 2014)

Hired



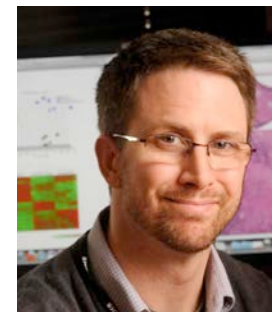
Vicki Sutherland, Ph.D.
Toxicologist
Toxicology Branch

Transferred



Richard Paules, Ph.D.
Leader, Toxicogenomics and
Genetics Group
Biomolecular Screening Branch

Moved on



Mark Hoenerhoff, Ph.D.
Head, Investigative Pathology
Comparative & Molecular
Pathology Branch

Transdisciplinary Environmental Health Fellowship

- Trainees will gain:
 - Laboratory training in the Division of Intramural Research and/or the DNTP Laboratory
 - Experience in grants administration, environmental health policy, and toxicology from
 - Division of Extramural Research and Training
 - Division of NTP
 - <http://www.niehs.nih.gov/careers/research/index.cfm>
- Research areas for recruitment:
 - Epigenetics research
 - Stem cell research

Laboratory Research



Data Analysis

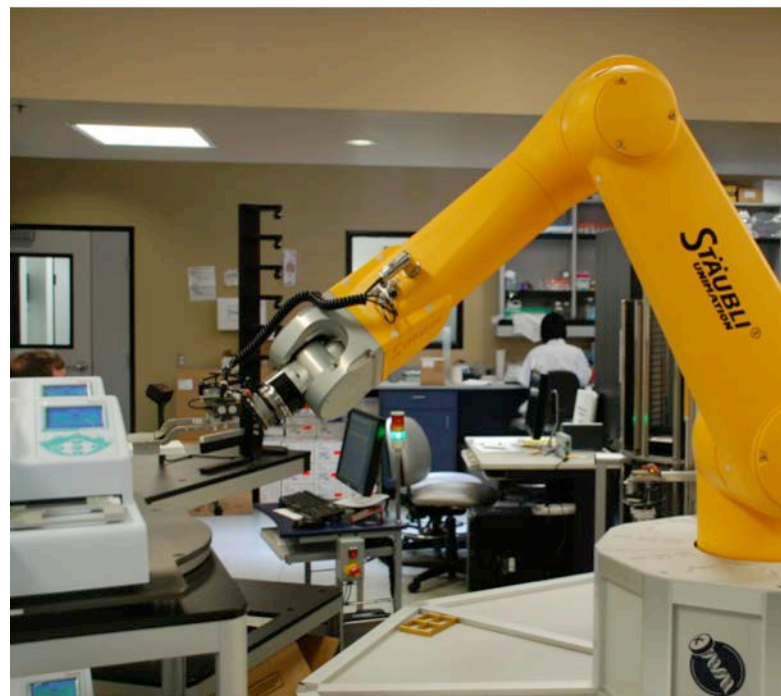


Grants Administration



Tox21 Highlights

- **Systematic study of mitochondrial toxicity of environmental chemicals using quantitative high throughput screening.** Attene-Ramos MS, Huang R, Sakamuru S, Witt KL, Beeson GC, Shou L, Schnellmann RG, Beeson CC, Tice RR, Austin CP, and Xia M. *Chem Res Toxicol.* (2013). doi: 10.1021/tx4001754



- **Profiling of the Tox21 10K compound library for agonists and antagonists of the estrogen receptor alpha signaling pathway.** Huang R, Sakamuru S, Martin M, Reif D, Judson R, Houck K, Casey W, Hsieh J-H, Shockley K, Ceger P, Fostel J, Witt K, Tong W, Rotroff D, Zhao T, Shinn P, Simeonov A, Dix D, Austin CP, Kavlock R, Tice R, and Xia M. *Scientific Reports* (submitted).

NICEATM/ICCVAM Project on Skin Sensitization

- Collaborations to develop and evaluate chemical structure-activity relationship (SAR) models for predicting skin sensitization
- Develop an open-source Bayesian network that uses multiple physicochemical, *in silico*, *in chemico*, and *in vitro* inputs to predict skin sensitization
- Coordinate with the OECD Adverse Outcome Pathway (AOP) program for skin sensitization to guide development of an integrated testing strategy (ITS / IATA)
- Evaluate high throughput screening (HTS) assays from ToxCast/Tox21 program for relevance to skin sensitization

*ALTEX Online first
published March 31, 2014
<http://dx.doi.org/10.14573/altex.1310151>*

SHORT COMMUNICATION

Open Source Software Implementation of an Integrated Testing Strategy for Skin Sensitization Potency Based on a Bayesian Network

Jason R. Pirone¹, Marjolein Smith¹, Nicole C. Kleinstreuer², Thomas A. Burns², Judy Strickland², Yuri Dancik⁴, Richard Morris¹, Lori A. Rinckel², Warren Casey³, and Joanna S. Jaworska⁴

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³National Toxicology Program Interagency Center for the Evaluation of Alternative Toxicological Methods, Division of the National Toxicology Program, National Institute of Environmental Health Sciences, Research Triangle Park, NC, USA; ⁴Procter & Gamble NV, Strombeek-Bever, Belgium

Systematic Review Update

Office of Health Assessment and Translation (OHAT)

- Meetings with international groups about OHAT Approach for Systematic Review and Evidence Integration for Literature-based Health Assessments
 - *Advancing Risk Assessment of Environmental Agents Conference*, Karolinska Institute, Stockholm Sweden: Nov. 2013
 - University of Ottawa: Apr. 2014
 - European Food Safety Authority, IARC, World Health Organization (WHO): Apr. 2014
 - Grading of Recommendations Assessment, Development and Evaluation (GRADE) Working Group: Apr. 2014
- “Lessons learned” public webinar: July 2014
- Development of a systematic review approach for *in vitro* data
 - Partnership with WHO

Systematic Review Framework Publication

- **Systematic review and evidence integration for literature-based environmental health science assessments.** Rooney, AA, Boyles, AL, Wolfe, MS, Bucher, JR, Thayer, KA. (2014) *Environ. Health Perspect.* (in press).



Questions