

# Report to the NTP Board of Scientific Counselors

Linda Birnbaum, PhD, DABT, ATS  
Director

National Institute of Environmental Health Sciences  
National Toxicology Program

NTP Board of Scientific Counselors Meeting  
June 25, 2013



# Implementation of Strategic Plan

- Leadership is reviewing reports of 8 cross-divisional teams:
  - Epigenetics
  - Inflammation
  - Stem Cells
  - Exposome
  - Predictive Toxicology and Disease
  - Global Environmental Health
  - Knowledge Science and Data Management
  - Website/Social Media



# Special Visitors

- National Institute of Neurological Disorders and Stroke (NINDS)  
Director **Story Landis, Ph.D.**



- National Institute of Diabetes and Digestive and Kidney Diseases  
Director **Griffin Rodgers, M.D.**



# Special Visitors

- **Gina McCarthy, Ph.D.**, Assistant Administrator and **Janet McCabe, Ph.D.**, Deputy Assistant Administrator of the Office of Air and Radiation, US EPA
- **Stephen Friend, M.D., Ph.D.**, President, Co-Founder, and Director of Sage Bionetworks

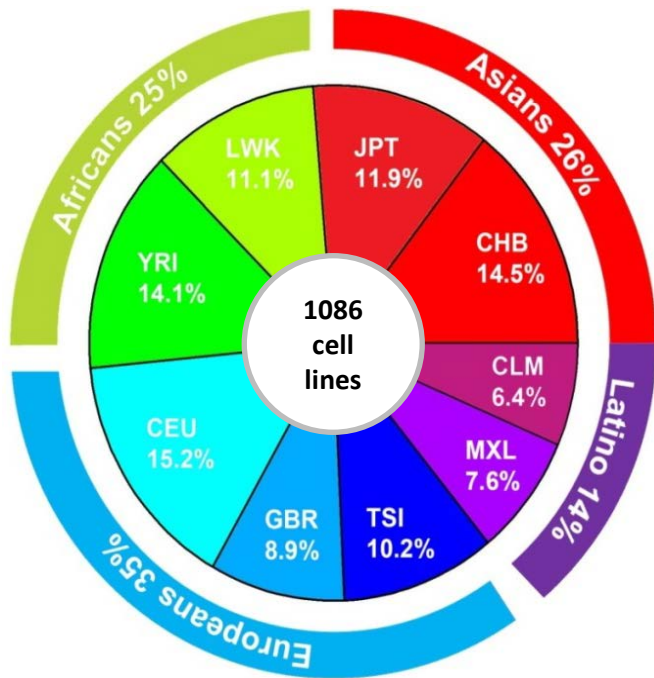


# My Air, My Health Challenge

- NIH/NIEHS, HHS Office of the National Coordinator for Health Information Technology, and EPA
- Challenge to create a personal, portable, near-real-time, location specific system
- \$100K winner
- Conscious Clothing



# NIEHS-NCATS-UNC DREAM Toxicogenetics Challenge



[https://www.synapse.org/ - !Synapse:syn1761567](https://www.synapse.org/#!Synapse:syn1761567)

- Sage Bionetworks teamed up with DREAM and the NIEHS-NCATS-UNC toxicogenetics project to launch the crowdsourced challenge.
- The NIEHS-NCATS-UNC team conducted the largest ever population-based *in vitro* cytotoxicity study:
  - 1086 cell lines representing 9 distinct geographical populations
  - 179 drugs and environmental chemicals
- The challenge asks participants to build models based on data from the toxicogenetics project to predict:
  1. the toxic response of individuals to chemicals
  2. how a particular population will respond to certain types of chemicals

# Data and Technology

- National Consortium for Data Science
- Metadata Access Tool for Climate and Health (MATCH)
- Big Data at NIH
- NIEHS Funding Widget
  - [http://www.niehs.nih.gov/research/supported/get\\_widget/index.cfm](http://www.niehs.nih.gov/research/supported/get_widget/index.cfm)



The image shows a screenshot of a widget from the National Institute of Environmental Health Sciences (NIEHS). The widget has a dark blue header with the NIEHS logo and the text "National Institute of Environmental Health Sciences" and "Division of Extramural Research and Training". Below the header, the title "Latest Grant Opportunities" is displayed. The main content area lists three grant opportunities, each with a link to the grant details and the application due date: "Research on Autism Spectrum Disorders (R01)(PA-13-216)", "Research on Autism Spectrum Disorders (R21)(PA-13-217)", and "Research on Autism Spectrum Disorders (R03)(PA-13-218)". All three grants have an application due date of May 8, 2016. At the bottom of the widget, there are four green buttons: "Who We Fund", "All Grant Opportunities", "How to Apply", and "Get this Widget".

**NIH** National Institute of Environmental Health Sciences  
Division of Extramural Research and Training

### Latest Grant Opportunities

[Research on Autism Spectrum Disorders \(R01\)\(PA-13-216\)](#)   
Application Due Date: May 8, 2016

[Research on Autism Spectrum Disorders \(R21\)\(PA-13-217\)](#)   
Application Due Date: May 8, 2016

[Research on Autism Spectrum Disorders \(R03\)\(PA-13-218\)](#)   
Application Due Date: May 8, 2016

[Who We Fund](#) [All Grant Opportunities](#) [How to Apply](#) [Get this Widget](#)

# Appropriations

	<b>FY 2011 Appropriation</b>	<b>FY 2012 Appropriation</b>	<b>FY2013 Enacted Level**</b>	<b>FY 2014 President's Request</b>
<b>NIEHS</b>	<b>\$ 683,724,312</b>	<b>\$ 685,570,818</b>	<b>\$ 649,788,725</b>	<b>\$ 691,348,000</b>
<b>NIH</b>	<b>\$30,688,286,000</b>	<b>\$30,631,986,000</b>	<b>\$29,098,665,708</b>	<b>\$31,093,776,000</b>
<b>Common Fund</b>	<b>\$ 543,021,000</b>	<b>\$ 544,930,000</b>	<b>\$ 516,488,518</b>	<b>\$ 572,948,000</b>
<b>Superfund*</b>	<b>\$ 79,053,576</b>	<b>\$ 78,927,514</b>	<b>\$ 74,808,039</b>	<b>\$ 79,411,000</b>
<b>NIEHS/DOE Training</b>	<b>\$ 10,000,000</b>	<b>\$ 10,000,000</b>	<b>\$ 9,230,000</b>	

\* FY 2013 Superfund reflects Senate Subcommittee draft mark.

\*\* Full year CR includes FY 2013 across-the-board rescission and sequestration reduction.



# Legislative Items

- Hearings
  - Federal Hydraulic Fracturing Research
  - House Labor, HHS for public health and research agencies
  - Senate Labor, HHS for NIH
- Briefings
  - NIEHS Superfund Programs
  - Women's Environmental Health
  - Breast Cancer
  - House Appropriations Ranking Member Nita Lowey (D-NY)



# Science Advances

## One NIEHS

- **Bisphenol A affects androgen receptor function via multiple mechanisms** Teng C (DNTP), B Goodwin, K Shockley (DIR), M Xia, R Huang, J Norris, BA Merrick (DNTP), AM Jetten (DIR), CP Austin and RR Tice (DNTP) *Chem. Biol. Interact.* (2013) v. 203 (3): pp. 556–564.
- **p53 Integrates Host Defense and Cell Fate During Bacterial Pneumonia** Madenspacher JH, KM Azzam, KM Gowdy, KC Malcolm, JA Nick, D Dixon, JJ Aloor, DW Draper, JJ Guardiola, M Shatz, D Menendez, J Lowe, J Lu, P Bushel, L Li, BA Merrick, MA Resnick and MB Fessler. *J. Exp. Med.* (2013)



# Science Advances

## Office of the Director

- **Phthalate concentrations and dietary exposure from food purchased in New York state**

Schechter A, M Lorber, Y Guo, Q Wu, SH Yun, K Kannan, M Hommel, N Imran, LS Hynan, D Cheng, JA Colacino and LS Birnbaum *Environ. Health Perspect.* (2013) v. 121 (4): pp. 473-479



# Science Advances

DIR

- **Epigenome-wide Association Study of Breast Cancer Using Prospectively Collected Sister Study Samples**

Xu Z, SC Bolick, LA Deroo, CR Weinberg, DP Sandler and JA Taylor. *J. Natl. Cancer Inst.* (2013)

- **Topoisomerase 1-Mediated Removal of Ribonucleotides from Nascent Leading-Strand DNA**

Williams JS, DJ Smith, L Marjavaara, SA Lujan, A Chabes and TA Kunkel. *Mol. Cell* (2013)



# Science Advances

## DETR

- **The broad scope of health effects from chronic arsenic exposure: Update on a worldwide public health problem**

Naujokas MF, B Anderson, H Ahsan, H Vasken Aposhian, JH Graziano, C Thompson and WA Suk. *Environ. Health Perspect* (2013) v. 121 (3): pp. 295-302.

- **Traffic-related air pollution, particulate matter, and autism**

Volk HE, F Lurmann, B Penfold, I Hertz-Picciotto and R. McConnell *JAMA psychiatry* (2013) v. 70 (1): pp. 71-7.



# Science Advances

## DNTP

- **Hepatocellular carcinomas in B6C3F1 mice treated with *Ginkgo biloba* extract for two years differ from spontaneous liver tumors in cancer gene mutations and genomic pathways**

Hoenerhoff MJ, AR Pandiri, SA Snyder, HH Hong, T-V Ton, S Peddada, KR Shockley, K Witt, P Chan, C Rider, L Kooistra, A Nyska, and RC Sills. *Toxicol. Pathol.* (2012)

doi: 10.1177/0192623312467520

- **Improving the Human Hazard Characterization of Chemicals: A Tox21 Update**

Tice, RR, CP Austin, RJ Kavlock, and JR Bucher. *Environ. Health Perspect.* (2013) doi:10.1289/ehp.1205784



**Thank you!**

