

# Report of the NTP Director

Linda S. Birnbaum, PhD, DABT, ATS  
Director, National Institute of Environmental Health  
Sciences and NTP

NTP Board of Scientific Counselors Meeting  
December 12, 2018



# NIEHS 2018-2023 Strategic Plan

Now available in print and  
on the NIEHS website at  
[www.niehs.nih.gov/strategicplan](http://www.niehs.nih.gov/strategicplan)





# Congressional Appropriations Update

	FY 2016 Omnibus Appropriation	FY 2017 Omnibus Appropriation	FY 2018 Omnibus Appropriation	FY 2019 Minibus Appropriation	Δ Between FY2019 and FY2018 (in dollars)	Δ Between FY2019 and FY2018 (%)
<b>NIEHS</b>	\$ 693,533,000 <sup>a/</sup>	\$ 714,261,000	\$ 751,143,000	\$ 774,707,000	\$ 23,564,000	↑ 3.14%
<b>NIH (LHHS)<sup>b/</sup></b>	\$ 32,084,000,000	\$ 34,084,000,000	\$ 37,084,000,000	\$ 39,084,000,000	\$ 2,000,000,000	↑ 5.39%
<b>Common Fund<sup>c/</sup></b>	\$ 675,639,000	\$ 695,456,000	\$ 600,716,000 <sup>d/</sup>	\$ 606,566,000	\$ 5,850,000	↑ 0.97%
<b>Superfund</b>	\$ 77,349,000	\$ 77,349,000	\$ 77,349,000	\$ _____	\$ _____	_____
<b>NIEHS/DOE Training<sup>e/</sup></b>	\$ 10,000,000	\$ 10,000,000	\$ 10,000,000	\$ 10,000,000	No Change	No Change
<b>Ebola Response (via CDC)<sup>f/</sup></b>	\$ 3,000,000	\$ 3,000,000	\$ 3,000,000			

a/ Reduced by \$169,000 transfer to the NIH Office of AIDS Research.

b/ Excludes Mandatory Type 1 Diabetes Research and Superfund.

c/ Includes addition of \$12.6 million for the Gabriella Miller Kids First Act pediatric research initiative.

d/ Excludes \$60 million "All of US" funding which the committee moved to the OD.

e/ Appropriations Committee report language supporting the transfer of funds from the U.S. Department of Energy's Defense Environmental Cleanup account to NIEHS for the NIEHS/DOE Nuclear Worker Training Program.

f/ Transfers to NIEHS from 2015 CDC Ebola Emergency Response appropriation (Title VI, Div. G, PL 113-235).

Note: Approximately 15 percent of the total FY 2019 NIH budget is designated for high priority research areas.



# Congressional Testimony

## “The Federal Role in the Toxic PFAS Chemical Crisis”

- Senate Homeland Security and Governmental Affairs Subcommittee Oversight Hearing Held on August 26, 2018
  - Eight U.S. Senators attended
  - Dr. Birnbaum was one of four federal witnesses
    - EPA, DOD, and GAO representatives also testified
  - Dr. Birnbaum fielded 14 questions about the science (eight live and six for the record)
  - Three affected community members testified on a second panel
    - New Hampshire resident; Michigan resident; IAFF Firefighter from Virginia
- House Energy and Commerce Committee Hearing was Held on September 6, 2018
- Congressional interest in PFAS is expected to continue in 2019





# Authorization Legislation That Has Become Law

- *National Defense Authorization Act for FY2019*
  - Section 315(a), Funding of ATSDR Study and Assessment of Health Implications of PFAS Contamination in Drinking Water.
- Authorizes DOD to transfer \$30 million for FY2018, FY2019 and FY2020, combined, in Defense-wide O&M funds to HHS for a PFAS human health study and exposure assessment
  - National, multi-site, cross-sectional study must focus on no less than 8 current or former U.S. military bases
  - ATSDR is required to consult with NIEHS in designing the study
  - In August, ATSDR initiated the proof-of-concept study at Pease International Tradeport in New Hampshire (formerly Pease Air Force Base)
  - On November 13, NIEHS submitted technical comments on ATSDR draft protocol for the multi-site study
- Became Public Law 115-232 on August 13, 2018.





# Authorization Legislation That Has Become Law

---

- *National Defense Authorization Act for FY2019*
  - Section 315(c), DOD Assessment of Health Effects of PFAS Exposure.
    - Subsection (c) requires DOD Secretary to conduct an assessment of the human health implications of PFAS exposure.
    - The DOD assessment must include—
      - Meta-analysis linking health effects with exposed servicemembers
      - Estimate of number of servicemembers and Veterans exposed
      - DOD-VA process for transfer of health information
      - Amount of funding needed to administer a potential exposure registry
  - Became Public Law 115-232 on August 13, 2018.



# Authorization Legislation That Has Become Law

---

- *Federal Aviation Administration Reauthorization Act of 2018*
  - Section 332. Phaseout of Fluorinated Chemicals in Firefighting Foams.
    - Legislatively ends—by October 5, 2021—the FAA requirement to use fluorinated chemicals in firefighting foams at U.S. airports.
  - Became Public Law 115-254 on October 5, 2018.



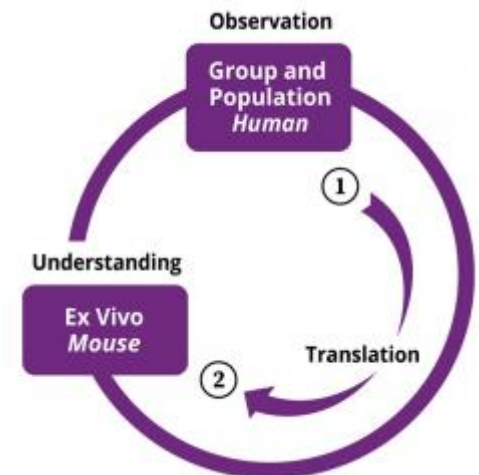
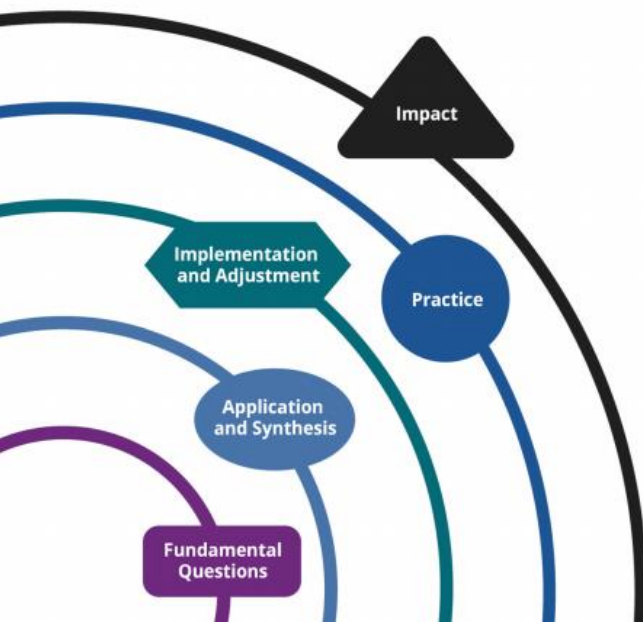


## One NIEHS

### ***Expanding the Concept of Translational Research: Making a Place for Environmental Health Sciences.***

Pettibone KG [DERT], DM Balshaw [DERT], C Dilworth [DERT], CH Drew [DERT], JE Hall [DIR], M Heacock [DERT], AR Latoni [DERT], KA McAllister [DERT], LR O'Fallon [DERT], C Thompson [DERT], **NJ Walker [DNTP], MS Wolfe [DNTP]**, DS Wright [DERT] and GW Collman [DERT].

*Environ Health Perspect* (2018) v. 126 (7).  
**(SP 1.7, 2.1, 3.6)**





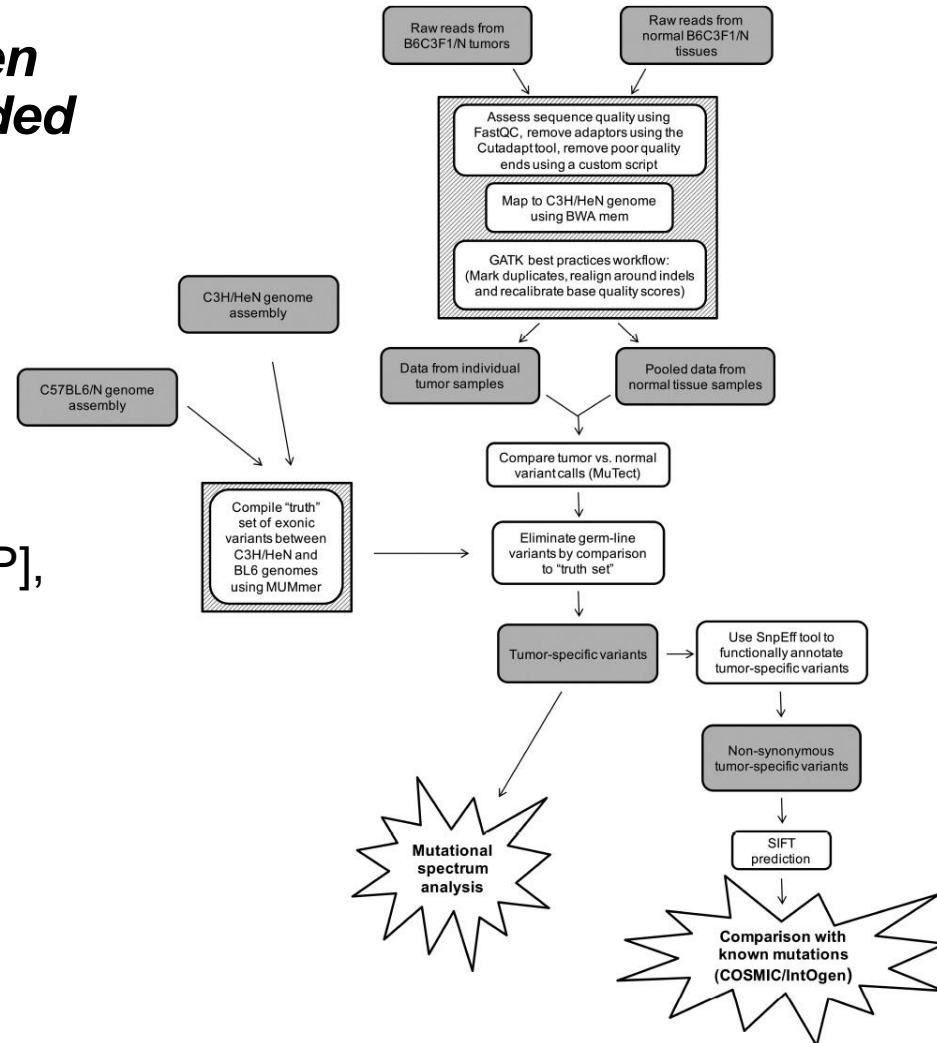


## DNTP

### ***Exome Sequencing of Fresh-frozen or Formalin-fixed Paraffin-embedded B6C3F1/N Mouse Hepatocellular Carcinomas Arising Either Spontaneously or Due to Chronic Chemical Exposure.***

SS Auerbach [DNTP], M Xu [DNTP], BA Merrick [DNTP], MJ Hoenerhoff [DNTP], D Phadke, DJ Taxman, R Shah, HL Hong [DNTP], TV Ton [DNTP], RC Kovi [DNTP], RC Sills [DNTP], AR Pandiri [DNTP].

*Toxicol Pathol.* 2018 Jul 25.  
**(SP 1.1)**





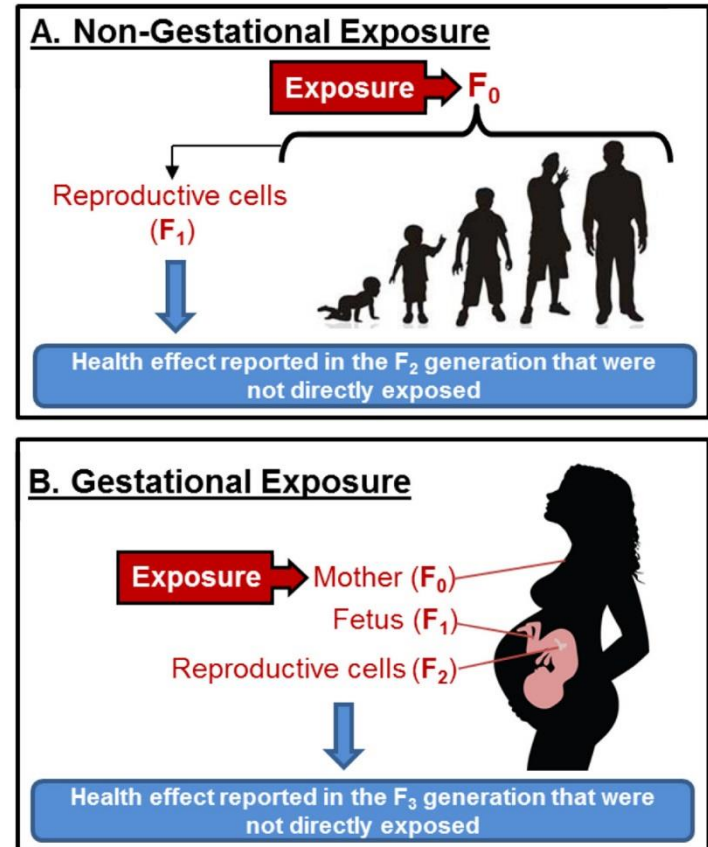
## DNTP

### ***Human and Animal Evidence of Potential Transgenerational Inheritance of Health Effects: An Evidence Map and State-of-the-science Evaluation.***

VR Walker [DNTP], AL Boyles [DNTP], KE Pelch [DNTP], SD Holmgren [DNTP], AJ Shapiro [DNTP], CR Blystone [DNTP], MJ Devito [DNTP], RR Newbold [DNTP], R Blain [DNTP], P Hartman, KA Thayer [DNTP], AA Rooney [DNTP].

*Environ Int.* 2018 Jun;115:48-69.

**(SP 1.4)**

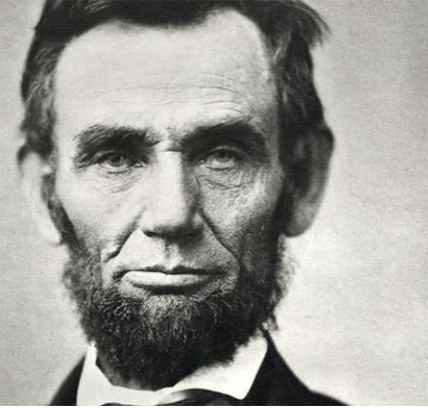




# National Academies of Science, Engineering, and Medicine

*“...The Academy shall, whenever called upon by any department of the Government, investigate, examine, experiment, and report upon any subject of science...”* (1863 Congressional Charter of the NAS, signed by President Lincoln)

Three subsequent Executive Orders: 1916, 1956, 1993  
(Wilson, Eisenhower, Bush)

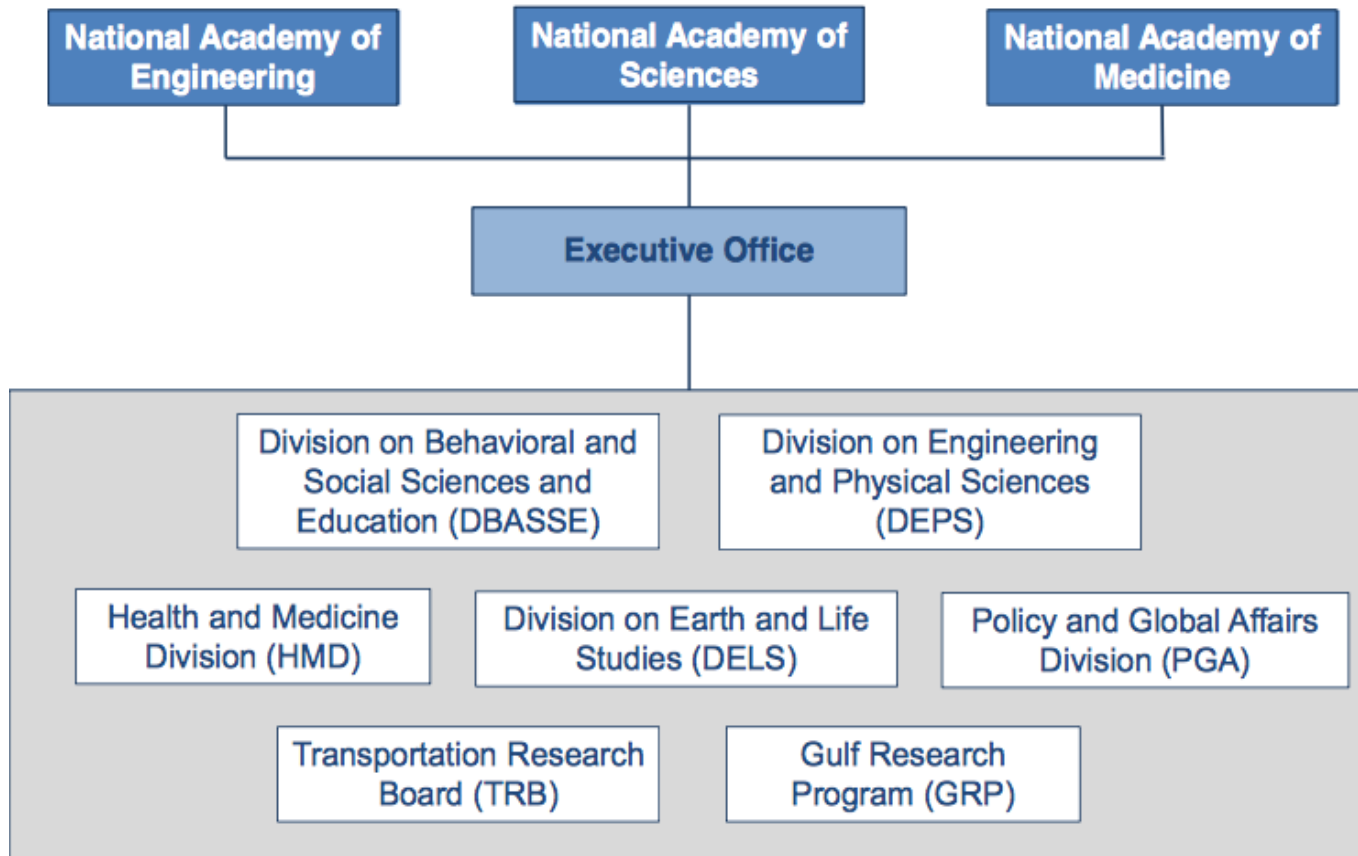


## Mission:

- Provides authoritative, independent scientific and technical advice
- Draws together volunteer experts to advise federal government, states, NGOs, foundations, academic community, private sector, public
- Does not lobby or advocate
- Non-profit 501(c)(3)—support for activities and operations from federal agencies, foundations, state & local governments, private sources, universities, NGOs



## National Academies Divisions





# Long History of Engagement and Support

2005: Public Health Risks of Disasters

2007: Ocean Science Series: Coastal Hazards

2008: Committee on the Health Risks of Phthalates

2011: Committee on Health Impact Assessment

2011: Committee on Ocean Infrastructure

2011: Stem Cell Models for Environmental Health

2012: Analysis of Cancer Risks in Populations near Nuclear Facilities

2014: The National Children's Study 2014:  
An Assessment

2015: Modeling the Health Risks of Climate Change







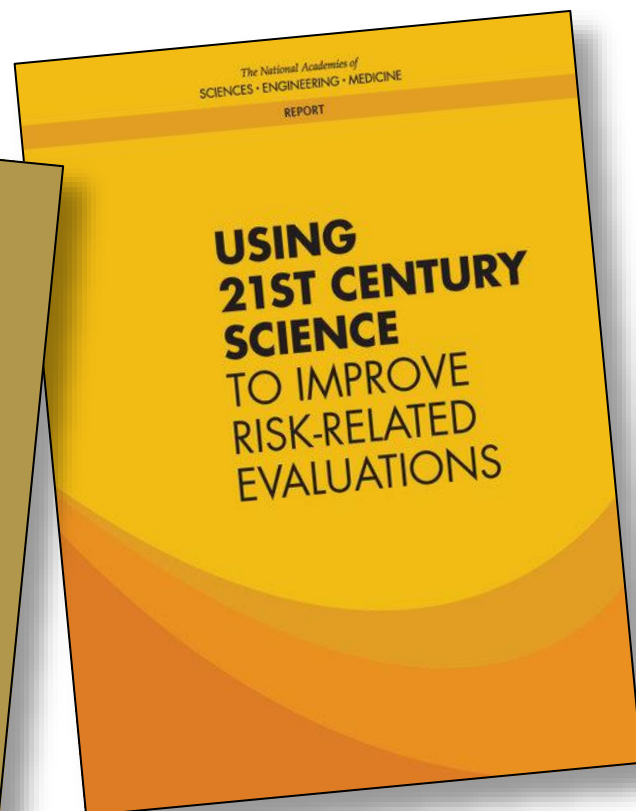
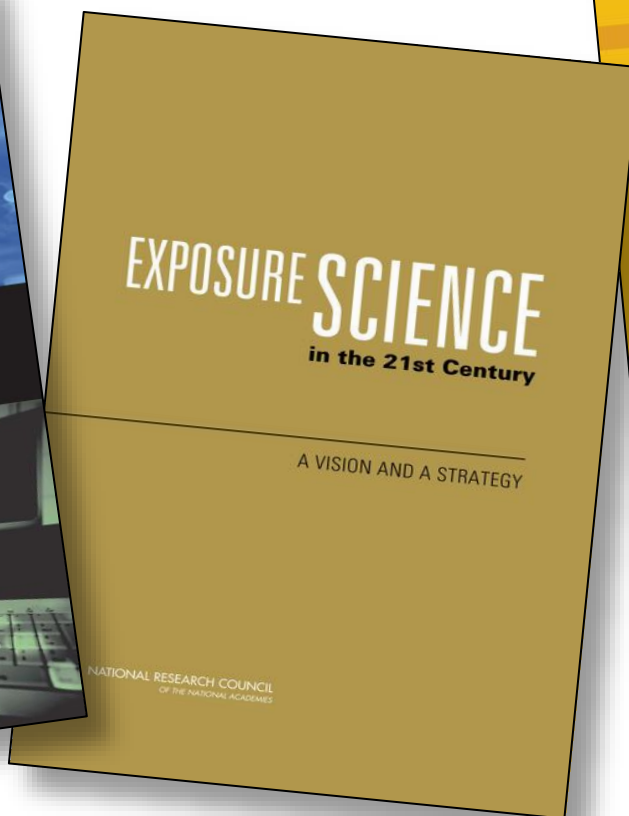
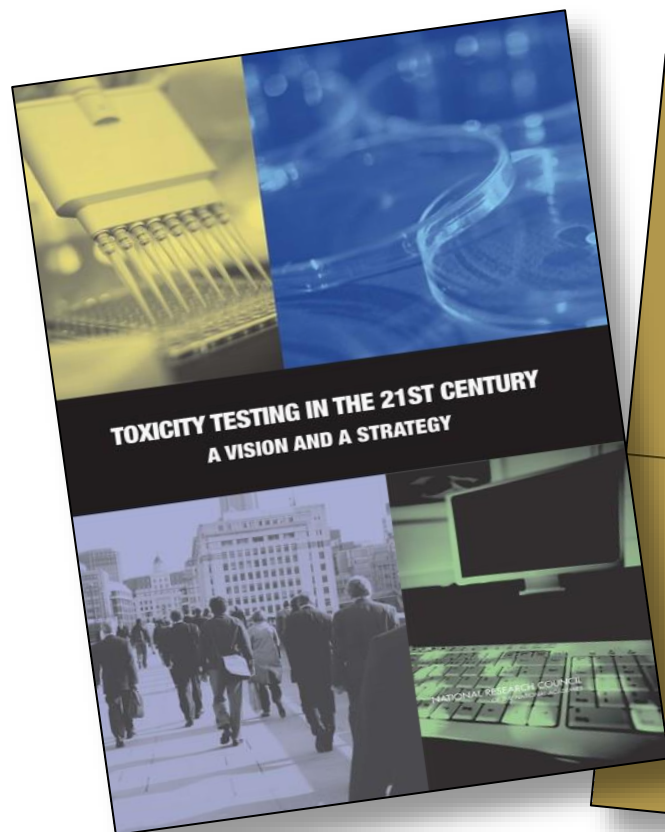
# Boards, Committees, Reviews



- Board on Research Data and Information – **Stephanie Holmgren, ODS**
- Institute for Laboratory Animal Research and Journal – David Kurtz, Quality Assurance Laboratory and **Brian Berridge, NTP**
- GuLF Research Program – Dale Sandler, Epidemiology Branch
- Dose Reconstruction Program, Defense Threat Reduction Agency – Clare Weinberg, Biostatistics & Computational Biology Branch
- Review of the Styrene Assessment in the NTP 12<sup>th</sup> RoC – **John Bucher, NTP**
- Review of the Formaldehyde Assessment in the NTP 12<sup>th</sup> RoC – **John Bucher, NTP**
- Committee to Develop a Scoping Plan to Assess the Hazards of Organohalogen Flame Retardants – **John Bucher, NTP**
- Microbiomes of the Built Environment: A Research Agenda for Microbiology, Human Health, and Buildings – Lisa Chadwick, DERT



# Toxicology and Exposure Science in the 21st Century

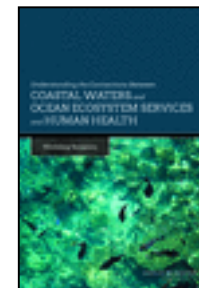
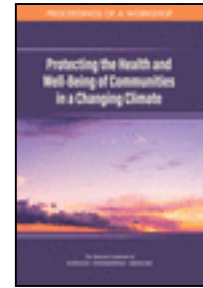






# Institute of Medicine Roundtable on Environmental Health Sciences, Research, and Medicine

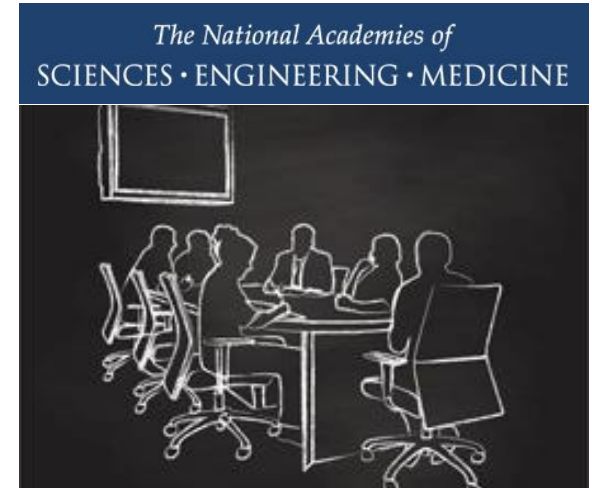
- Established in 1998
- 69 meetings and workshops
- Other sponsors (selected)
  - Environmental Protection Agency
  - National Oceanic and Atmospheric Administration
  - ExxonMobil Foundation
  - Kresge Foundation
  - Royal Dutch Shell
  - United States Geological Survey (DOI)
  - Colgate-Palmolive Company





# Standing Committee on Emerging Science for Environmental Health Decisions

- Co-chairs:
  - Kim Boekelheide, PhD., Brown U.
  - Melissa Perry, PhD, George Washington U.
- NIEHS government liaisons
  - Linda Birnbaum
  - John Balbus
  - Kimberly Thigpen Tart
  - David Balshaw
- Selected workshops:
  - Informing Environmental Health Decisions through Data Integration (2018)
  - The Promise of Genome Editing Tools to Advance Environmental Health Research (2018)
  - Personal Environmental Exposure Measurements (2017)
  - Microbiome II (2016)
  - Metabolomics & the Exposome (2016)
  - Modeling the Health Risks of Climate Change (2015)





# Environmental Health Matters Initiative

- November 2015 – NIEHS begins scoping
- February 2016 – Environmental Health Work at the National Academies Meeting – initial discussion
- February 2017 – Planning meeting;  
July 2017 – *The Potential Value of an Environmental Health Initiative at The National Academies of Sciences, Engineering, and Medicine: A Summary of Discussions and Ideas*
- September 2017 – NIEHS funds contract for initial scoping/communications needs, est. Advisory Committee
- December 2017 – *Environmental Health Matters: A New Initiative of the National Academies* concept paper
- February 2018 – EHMI announced, Advisory Committee named



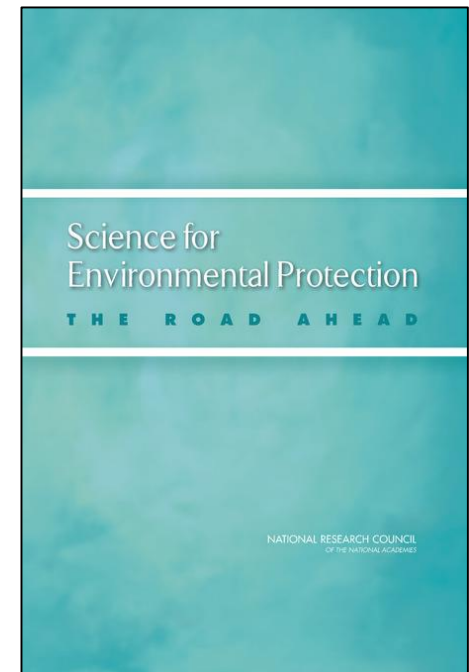


# Environmental Health Matters Initiative

## Complex Problems Require Unprecedented Level of Cross-disciplinary & Cross-sector Expertise and Collaboration

The challenges associated with environmental protection today:

- Complex
- Affected by many interacting factors
- Various spatial scales and long temporal scales
- May have global implications
- Difficult to define
- Unstable and socially complex
- Have no clear solution or end point
- Extend beyond the understanding of one discipline



<http://nas-sites.org/envirohealthmatters/>



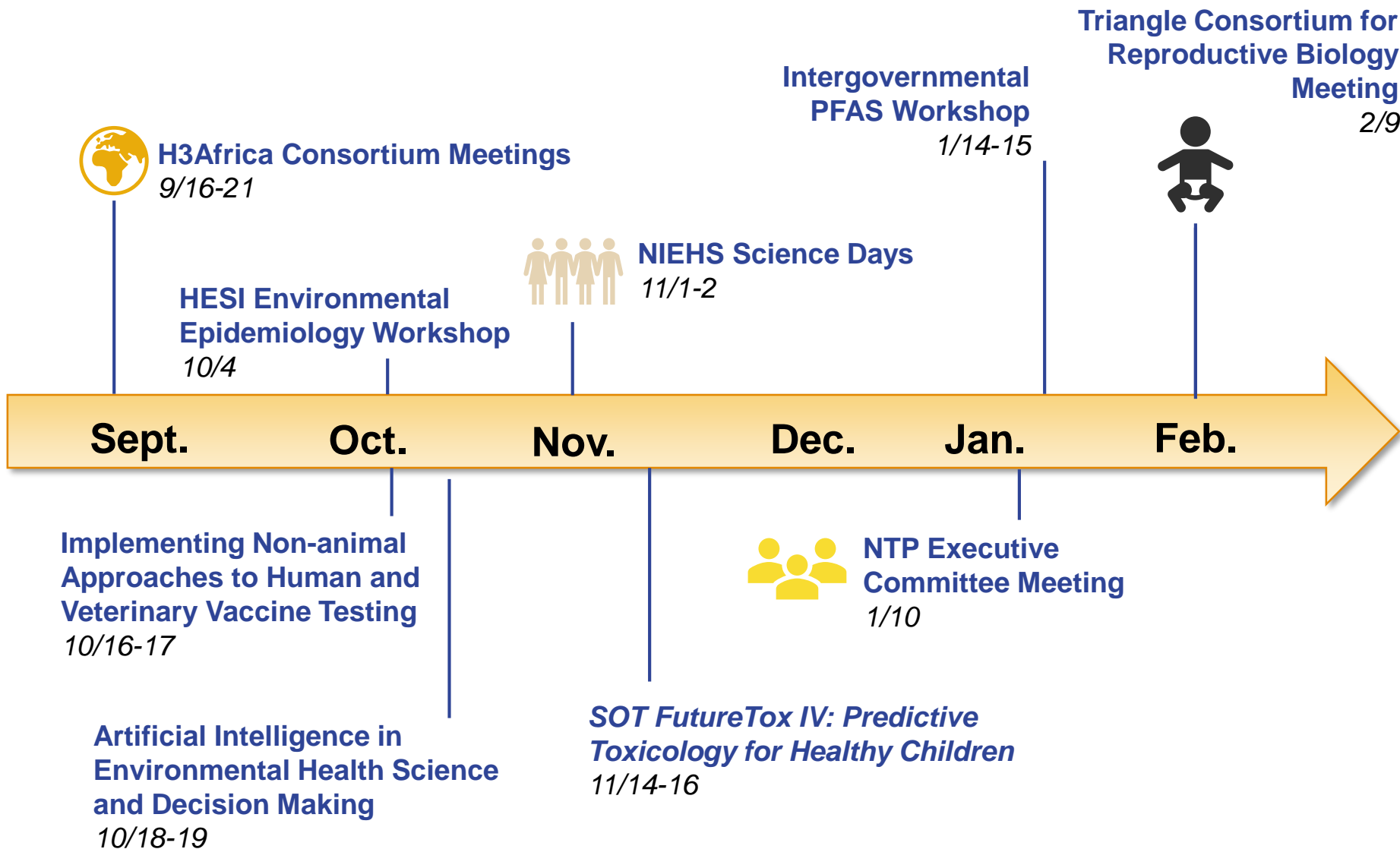
The EHMI aims to transform how the nation addresses the complex interplay of environmental factors affecting human health, to reduce the burden of disease and disability due to environmental factors and promote human health.

## Mission of EHMI

The EHMI will enable various sectors to harness and mobilize cross sector and trans-disciplinary knowledge and strategies that take into account a holistic view of the interacting factors at work in complex environmental health challenges and opportunities.



# Recent and Upcoming Events





# Awards and Recognition

## National Association of Government Communicators

### **NIEHS *Environmental Factor***

- Awarded first prize
- Best e-newsletter published by a government agency
- Newsletter gets almost 21,000 views each month
- Editor-in-Chief Kelly Lenox, Photo Editor Joe Poccia, Science Editor Robin Arnette



## NIH 2018 Director's Awards – Optimize NIH

- Ethics,
- Freedom of Information Act
- Committee Management



# Thank You!

