Report to the National Advisory Environmental Health Sciences Council

Director, NIEHS and NTP

12 February 2018

Budget and Legislative Report

National Institute of Environmental Health Sciences
Your Environment. Your Health.

Appropriations

	FY 2015 Omnibus Appropriation	FY 2016 Omnibus Appropriation	FY 2017 Omnibus Appropriation	FY 2018 President's Request	FY 2018 House-Passed Appropriations	FY 2018 Senate Appropriations Committee
NIEHS	$ 667,333,000[a/]	$ 693,533,000[a/]	$ 714,261,000	$ 533,537,000	$ 725,387,000	$ 737,727,000
Ebola (via CDC)[b/]	$ 10,000,000					
NIH (LHHS)[c/]	$30,084,000,000	$32,084,000,000	$34,084,000,000	$26,701,103,000	$35,184,000,000	$36,084,000,000
Common Fund[d/]	$ 545,639,000	$ 675,639,000	$ 695,456,000	$ 454,423,000	$ 695,580,000	$ 587,890,000[e/]
Superfund	$ 77,349,000	$ 77,349,000	$ 77,349,000	$ 59,607,000	$ 76,349,000	$ 77,349,000
NIEHS/DOE Training	$ 10,000,000	$ 10,000,000	$ 10,000,000			Report Language

a/ Reduced by $169,000 transfer to the NIH Office of AIDS Research.
b/ Transfer from CDC Ebola Emergency Response appropriation to NIEHS to remain available through FY 2019.
c/ Excludes Mandatory Type 1 Diabetes Research and Superfund.
d/ Includes addition of $12.6 million for the Gabriella Miller Kids First Act pediatric research initiative.
e/ Excludes $60 million "All of US" Precision Medicine funding which the committee moved to the NIH OD.

FISCAL YEAR 2018 APPROPRIATIONS UPDATE

On January 22, 2018, the President signed into law, H.R. 195, the *Extension of Continuing Appropriations Act, 2018*, Public Law 115-120, which provides continuing appropriations for the National Institutes of Health (NIH) and other parts of the federal government through Thursday, February 8, 2018. This legislation is the fourth "Continuing Resolution" (CR) to become law to keep the federal government operating in the absence of regular appropriations since Fiscal Year 2017 ended on September 30, 2017. The enactment of the fourth CR ended a nearly three-day government shutdown that began at midnight on Saturday, January 20, 2018, with the expiration of the third CR, and ended in the evening of Monday, January 22. To date, approximately 36% of Fiscal Year 2018 has been covered under a CR situation. Each of the four CRs enacted to date have provided Fiscal Year 2018 appropriations to the NIH and certain other federal agencies for continuing projects or activities at the levels of, and under the terms and conditions specified by the Fiscal Year 2017 appropriations law, reduced by 0.6791%.

Below is a table delineating the Fiscal Year 2018 appropriations legislation enacted to date:

Continuing Resolution	Days Covered	House Vote	Senate Vote	Date Enacted	Date Expired	Bill No.	Public Law No.
First CR	69 days (19% of FY)	316-90 (Roll Call No. 480)	80-17 (Roll Call No. 192)	Sept. 8, 2017	Dec. 8, 2017	H.R. 601, Division D, Sec. 101	P.L. 115-56
Second CR	14 days (83 days cum.) (23% of FY)	235-193 (Roll Call No. 670)	81-14 (Roll Call No. 311)	Dec. 8, 2017	Dec. 22, 2017	H.J.Res. 123, Division A, Sec. 101	P.L. 115-90
Third CR	28 days (111 days cum.) (30% of FY)	231-188 (Roll Call No. 708)	66-32 (Roll Call No. 325)	Dec. 22, 2017	Jan. 19, 2018	H.R. 1370, Division A, Sec. 101	P.L. 115-96
Fourth CR	20 days (131 days cum.) (36% of FY)	266-150 (Roll Call No. 44)	81-18 (Roll Call No. 17)	Jan. 22, 2018	Feb. 8, 2018	H.R. 195, Division B, Sec. 2001	P.L. 115-120

CR: Continuing Resolution FY: Fiscal Year Sec.: Section
cum: cumulative P.L.: Public Law

Final action on regular Fiscal Year 2018 appropriations legislation is linked to ongoing negotiations occurring between leaders in Congress that concern, among other matters, immigration and border security policy, and overall budget priorities.

House Action

On September 14, 2017, by a vote of 211-198, the House of Representatives passed H.R. 3354, the *Make America Secure and Prosperous Appropriations Act, 2018*, an omnibus appropriations bill which contains the regular Interior, Environment, and Related Agencies Appropriations bill (Division A), under which the annual appropriation for the NIEHS Superfund Research Program (SRP) and Worker Training Program (WTP) is made, and the regular Departments of Labor, Health and Human Services, and Education, and Related Agencies appropriations bill (Division F), under which appropriations for NIEHS activities authorized under Section 301 and Title IV of the *Public Health Service Act* is made. Division A proposes an appropriation of $76,349,000 for the NIEHS Superfund Research Program and Worker Training Program, which represents a 1.29% reduction as compared to the Fiscal Year 2017 enacted level. Division F proposes an appropriation of $725,387,000 for NIEHS, which represents a 1.56% increase over the Fiscal Year 2017 enacted level.

Senate Action

On November 20, 2017, the Senate Appropriations Committee Chairman released the draft Interior, Environment and Related Agencies Appropriations bill for Fiscal Year 2018, which proposes to level fund the NIEHS SRP and WTP at $77,349,000. On September 7, 2017, the Senate Appropriations Committee reported S. 1771, its version of the Departments of Labor, Health and Human Services, and Education, and Related Agencies appropriations bill for Fiscal Year 2018, to the full Senate for action. Included in that Committee-passed bill is a proposal to fund NIEHS at $737,727,000, which represents a 3.29% increase over the Fiscal Year 2017 enacted level and a 38.27% increase over the amount that the President requested in May 2017 ($533,537,000). These bills are awaiting reconciliation with the House-passed omnibus package, and reconciliation is pending conclusion of ongoing negotiations to adjust budget caps for Fiscal Year 2018 and Fiscal Year 2019.

Science Advances

One NIEHS (NIEHS authors' groups in parens)

- ***Cytokine signaling through Drosophila Mthl10 ties lifespan to environmental stress.*** *Sung EJ [NTP], M Ryuda, H Matsumoto, O Uryu, M Ochiai, ME Cook [DIR], NY Yi, H Wang, JW Putney [DIR], GS Bird [DIR], SB Shears [DIR] and Y Hayakawa. Proc Natl Acad Sci (2017) [ePub]*
  http://dx.doi.org/10.1073/pnas.1712453115
  SP Goal 1, 2

- ***Predictors of blood volatile organic compound levels in Gulf coast residents.*** *Werder EJ [DIR], KB Gam [DIR], LS Engel [DIR], RK Kwok [DIR], CC Ekenga, MD Curry, DM Chambers, A Blair, AK Miller [OD], LS Birnbaum [OD] and DP Sandler [DIR]. J Expo Sci Environ Epidemiol* (2017) [ePub]
  http://dx.doi.org/10.1038/s41370-017-0010-0
  SP Goal 3

DNTP

- ***In vitro to in vivo extrapolation for high throughput prioritization and decision making.*** *Bell SM, X Chang, JF Wambaugh, DG Allen, M Bartels, KLR Brouwer, WM Casey (DNTP), N Choksi, SS Ferguson (DNTP), G Fraczkiewicz, AM Jarabek, A Ke, A Lumen, SG Lynn, A Paini, PS Price, C Ring, TW Simon, NS Sipes (DNTP), CS Sprankle, J Strickland, J Troutman, BA Wetmore and NC Kleinstreuer (DNTP). Toxicology in vitro* (2017) [In Press]
  http://dx.doi.org/10.1016/j.tiv.2017.11.016
  SP Goal 11

- ***Identification of Estrogen-Related Receptor Alpha Agonists in the Tox21 Compound Library****. Lynch C, J Zhao, R Huang, N Kanaya, L Bernal, JH Hsieh, SS Auerbach (DNTP), KL Witt (DNTP), BA Merrick (DNTP), S Chen, CT Teng (DNTP) and M Xia. Endocrinology* (2017) [In Press]
  https://academic.oup.com/endo/advance-article/doi/10.1210/en.2017-00658/4686007
  SP Goal 1

- ***Evaluation of the respiratory tract toxicity of ortho-phthalaldehyde, a proposed alternative for the chemical disinfectant glutaraldehyde.*** *Catlin NR (DNTP), Willson CJ, Stout M (DNTP), Kissling GE (DNTP), Waidyanatha S (DNTP), Baker GL, Hayden BK, Wyde M (DNTP). Inhal Toxicol (2017) 29(9):414–427.*
  https://www.ncbi.nlm.nih.gov/pubmed/29039228
  SP Goal 3

DIR

- ***Association Between Biomarkers of Ovarian Reserve and Infertility Among Older Women of Reproductive Age.*** *Steiner AZ, D Pritchard, FZ Stanczyk, JS Kesner, JW Meadows, AH Herring and DD Baird (DIR). JAMA* (2017) v. 318 (14): pp. 1367-1376
  http://dx.doi.org/10.1001/jama.2017.14588
  SP Goal 1d, 2

- ***Elimination of the male reproductive tract in the female embryo is promoted by COUP-FII in mice.*** *Zhao F (DIR), HL Franco (DIR), KF Rodriguez (DIR), PR Brown (DIR), MJ Tsai, SY Tsai and HH Yao (DIR). Science* (2017) v. 357 (6352): pp. 717-720
  http://dx.doi.org/10.1126/science.aai9136
  SP Goal 1d, 2

- ***ZATT (ZNF451)-mediated resolution of topoisomerase 2 DNA-protein cross-links****. Schellenberg MJ (DIR), JA Lieberman, A Herrero-Ruiz, LR Butler (DIR), JG Williams (DIR), AM Munoz-Cabello, GA Mueller (DIR), RE London (DIR), F Cortes-Ledesma and RS Williams (DIR). Science (2017) v. 357 (6358): pp. 1412-1416*
  http://dx.doi.org/10.1126/science.aam6468
  SP Goal 1a

- ***Modulating the DNA polymerase beta reaction equilibrium to dissect the reverse reaction.*** *Shock DD (DIR), BD Freudenthal (DIR), WA Beard (DIR) and SH Wilson (DIR). Nature chemical biology* (2017) v. 13 (10): pp. 1074-1080
  http://dx.doi.org/10.1038/nchembio.2450
  SP Goal 1a

- ***Intragenic Enhancers Attenuate Host Gene Expression.*** *Cinghu S (DIR), P Yang (DIR), JP Kosak (DIR), AE Conway (DIR), D Kumar (DIR), AJ Oldfield (DIR), K Adelman (DIR) and R Jothi (DIR). Mol Cell* (2017) v. 68 (1): pp. 104-117.e6
  http://www.sciencedirect.com/science/article/pii/S1097276517306585
  SP Goal 1b

- ***Pathogenic Th17 inflammation is sustained in the lungs by conventional dendritic cells and TLR4 signaling.*** *Shalaby KH (DIR), MR Lyons-Cohen (DIR), GS Whitehead (DIR), SY Thomas (DIR), I Prinz, H Nakano (DIR) and DN Cook (DIR). J Allergy Clin Immunol (2017)*
  http://dx.doi.org/10.1016/j.jaci.2017.10.023
  SP Goal 1, 4

- ***Bedroom allergen exposures in US households.*** *Salo PM (DIR), J Wilkerson, KM Rose, RD Cohn, A Calatroni, HE Mitchell, ML Sever, PJ Gergen, PS Thorne and DC Zeldin (DIR). The Journal of allergy and clinical immunology* (2017) [In Press]
  http://dx.doi.org/10.1016/j.jaci.2017.08.033
  SP Goal 3a

- ***GLIS3 is indispensable for TSH/TSHR-dependent thyroid hormone biosynthesis and follicular cell proliferation.*** *Kang HS (DIR), D Kumar (DIR), G Liao (DIR), K Lichti-Kaiser (DIR), K Gerrish (DIR), XH Liao, S Refetoff, R Jothi (DIR) and AM Jetten (DIR). The Journal of clinical investigation* (2017) [ePub]
  http://dx.doi.org/10.1172/jci94417
  SP Goal 1

- ***Time-lapse crystallography snapshots of a double-strand break repair polymerase in action.*** *Jamsen JA (DIR), WA Beard (DIR), LC Pedersen (DIR), DD Shock (DIR), AF Moon (DIR), JM Krahn (DIR), K Bebenek (DIR), TA Kunkel (DIR) and SH Wilson (DIR). Nature communications* (2017) v. 8 (1): 253
  http://dx.doi.org/10.1038/s41467-017-00271-7
  SP Goal 1a

- ***TNF is required for TLR ligand-mediated but not protease-mediated allergic airway inflammation****. Whitehead GS [DIR], SY Thomas [DIR], KH Shalaby [DIR], K Nakano [DIR], TP Moran [DIR], JM Ward [DIR], GP Flake [NTP], H Nakano [DIR] and DN Cook [DIR]. The Journal of clinical investigation* (2017) v. 127 (9): pp. 3313-3326
  http://dx.doi.org/10.1172/jci90890
  SP Goal 1, 4a

- ***Structural accommodation of ribonucleotide incorporation by the DNA repair enzyme polymerase Mu.*** *Moon AF (DIR), JM Pryor, DA Ramsden, TA Kunkel (DIR), K Bebenek (DIR) and LC Pedersen (DIR). Nucleic Acids Res* (2017) v. 45 (15): pp. 9138-9148
  http://dx.doi.org/10.1093/nar/gkx527
  SP Goal 1

- ***Rif1 promotes a repressive chromatin state to safeguard against endogenous retrovirus activation.*** *Li P (DIR), L Wang, BD Bennett (DIR), J Wang (DIR), J Li, Y Qin (DIR), M Takaku (DIR), PA Wade (DIR), J Wong and G Hu (DIR). Nucleic Acids Res* (2017) v. 45 (22): pp. 12723-12738
  http://dx.doi.org/10.1093/nar/gkx884
  SP Goal 1b

- ***Complementation of aprataxin deficiency by base excision repair enzymes in mitochondrial extracts.*** *Çağlayan M (DIR), R Prasad (DIR), R Krasich (DIR), MJ Longley (DIR), K Kadoda, M Tsuda, H Sasanuma, S Takeda, K Tano, WC Copeland (DIR) and SH Wilson (DIR). Nucleic Acids Res* (2017) v. 45 (17): pp. 10079-10088
  http://dx.doi.org/10.1093/nar/gkx654
  SP Goal 1a

- ***Methionine metabolism is essential for SIRT1-regulated mouse embryonic stem cell maintenance and embryonic development.*** *Tang S [DIR], Y Fang [DIR], G Huang, X Xu [DIR], E Padilla-Banks [DIR], W Fan [DIR], Q Xu [DIR], SM Sanderson, JF Foley [NTP], S Dowdy [NTP], MW McBurney, DC Fargo [DIR], CJ Williams [DIR], JW Locasale, Z Guan and X Li [DIR]. The EMBO journal* (2017) v. 36 (21): pp. 3175-3193
  http://dx.doi.org/10.15252/embj.201796708
  SP Goal 1b, 2a

- ***Serum Vitamin D and Risk of Breast Cancer within Five Years.*** *O'Brien KM (DIR), DP Sandler (DIR), JA Taylor (DIR) and CR Weinberg (DIR). Environ. Health Perspect.* (2017) v. 125 (7): 077004
  http://dx.doi.org/10.1289/ehp943
  SP Goal 2

- ***House Dust Endotoxin and Peripheral Leukocyte Counts: Results from Two Large Epidemiologic Studies.*** *Fessler MB [DIR], MU Carnes [DIR], PM Salo [DIR], J Wilkerson, RD Cohn, D King [NTP], JA Hoppin, DP Sandler [DIR], G Travlos [NTP], SJ London [DIR], PS Thorne and DC Zeldin [DIR]. Environmental health perspectives* (2017) v. 125 (5): 057010
  http://dx.doi.org/10.1289/ehp661
  SP Goal 1

- ***Respiratory, Dermal, and Eye Irritation Symptoms Associated with Corexit EC9527A/EC9500A following the Deepwater Horizon Oil Spill: Findings from the GuLF STUDY.*** *McGowan CJ (DIR), RK Kwok (DIR), LS Engel (DIR), MR Stenzel, PA Stewart and DP Sandler (DIR). Environmental health perspectives* (2017) v. 125 (9): 097015
  http://dx.doi.org/10.1289/ehp1677
  SP Goal 4a

- ***Indoor Wood-Burning Stove and Fireplace Use and Breast Cancer in a Prospective Cohort Study.*** *White AJ (DIR) and DP Sandler (DIR). Environ. Health Perspect.* (2017) v. 125 (7): 077011
  http://dx.doi.org/10.1289/ehp827
  SP Goal 4

- ***KO of 5-InsP7 kinase activity transforms the HCT116 colon cancer cell line into a hypermetabolic, growth-inhibited phenotype.*** *Gu C (DIR), HN Nguyen (DIR), D Ganini (DIR), Z Chen, HJ Jessen, Z Gu, H Wang (DIR) and SB Shears (DIR). Proc Natl Acad Sci U S A* (2017) 114 (52): 13786-13791
  http://dx.doi.org/10.1073/pnas.1702370114
  SP Goal 1c

DERT

- ***Perinatal Lead (Pb) Exposure Results in Sex and Tissue-Dependent Adult DNA Methylation Alterations in Murine IAP Transposons.*** *Montrose L, C Faulk, J Francis and DC Dolinoy. Environ Mol Mutag* (2017) v. 58 (8): pp. 540-550
  http://dx.doi.org/10.1002/em.22119
  SP Goal 1, 2

- ***Association of Short-term Exposure to Air Pollution with Mortality in Older Adults.*** *Di Q, Dai L, Wang Y, Zanobetti A, Choirat C, Schwartz JD, Dominici F. JAMA.* 2017 Dec 26;318(24):2446-2456. doi: 10.1001/jama.2017.17923.
  https://www.ncbi.nlm.nih.gov/pubmed/29279932
  SP Goal 3, 5

- ***The effect of the Environmental Protection Agency maximum contaminant level on arsenic exposure in the USA from 2003 to 2014: an analysis of the National Health and Nutrition Examination Survey (NHANES).*** *Nigra AE, Sanchez TR, Nachman KE, Harvey D, Chillrud SN, Graziano JH, Navas-Acien A.* Lancet Public Health. 2017 Nov;2(11):e513-e521.
  https://www.ncbi.nlm.nih.gov/pubmed/29250608
  SP Goal 3, 5

- ***Uncovering neurodevelopmental windows of susceptibility to manganese exposure using dentine microspatial analyses.*** *Claus Henn B, Austin C, Coull BA, Schnaas L, Gennings C, Horton MK, Hernández-Ávila M, Hu H, Téllez-Rojo MM, Wright RO, Arora M. Environ Res.* 2018 Feb;161:588-598.
  https://www.ncbi.nlm.nih.gov/pubmed/29247915
  SP Goal 2, 3

- ***Paternal urinary concentrations of organophosphate flame retardant metabolites, fertility measures, and pregnancy outcomes among couples undergoing in vitro fertilization.*** *Carignan CC, Mínguez-Alarcón L, Williams PL, Meeker JD, Stapleton HM, Butt CM, Toth TL, Ford JB, Hauser R; EARTH Study Team. Environ Int.* 2017 Dec 11;111:232-238.
  https://www.ncbi.nlm.nih.gov/pubmed/29241080
  SP Goal 3

- ***Exposure to Magnetic Field Non-Ionizing Radiation and the Risk of Miscarriage: A Prospective Cohort Study.*** *Li DK, Chen H, Ferber JR, Odouli R, Quesenberry C. Sci Rep.* 2017 Dec 13;7(1):17541.
  https://www.ncbi.nlm.nih.gov/pubmed/29235463
  SP Goal 3, 5

- ***The mediating role of sleep in the fish consumption - cognitive functioning relationship: a cohort study.*** *Liu J, Cui Y, Li L, Wu L, Hanlon A, Pinto-Martin J, Raine A, Hibbeln JR. Sci Rep.* 2017 Dec 21;7(1):17961.
  https://www.ncbi.nlm.nih.gov/pubmed/29269884
  SP Goal 2, 3

- ***Association of air particulate pollution with bone loss over time and bone fracture risk: analysis of data from two independent studies.*** *Prada D, Zhong J, Colicino E, Zanobetti A, Schwartz J, Dagincourt N, Fang SC, Kloog I, Zmuda JM, Holick M, Herrera LA, Hou L, Dominici F, Bartali B, Baccarelli AA. 2017. Lancet Planet Health* 1(8):e337−e347.
  http://www.sciencedirect.com/science/article/pii/S2542519617301365
  SP Goal 3, 6

- ***Burden of higher lead exposure in African-Americans starts in utero and persists into childhood.*** *Cassidy-Bushrow AE, Sitarik AR, Havstad S, Park SK, Bielak LF, Austin C, Johnson CC, Arora M. 2017. Environ Int* 108:221–227.
  https://www.ncbi.nlm.nih.gov/pubmed/28886415
  SP Goal 2, 3, 6

- ***Inflammation-induced IgA plus cells dismantle anti-liver cancer immunity.*** *Shalapour S, Lin XJ, Bastian IN, Brain J, Burt AD, Aksenov AA, Vrbanac AF, Li W, Perkins A, Matsutani T, Zhong Z, Dhar D, Navas-Molina JA, Xu J, Loomba R, Downes M, Yu RT, Evans RM, Dorrestein PC, Knight R, Benner C, Anstee QM, Karin M. 2017. Nature* 551(7680):340–345. https://www.ncbi.nlm.nih.gov/pubmed/29144460
  SP Goal 1

NIEHS News and Highlights

Staff Updates

NIEHS

- **Deputy Scientific Director** – Paul Doetsch, Ph.D.

NTP:

- **Scientific Director of the Division of the NTP** – Brian Berridge, D.V.M., Ph.D., D.A.C.V.P.
- **NTP Senior Specialist –** John Bucher, Ph.D. (former Scientific Director)
- **Acting Branch Chief of the NTP Toxicology Branch** – Nigel Walker, Ph.D.

Office of Management

- **Acting Deputy Executive Officer –** Mitch Williams was named to this position following the retirement on January 3, 2018, of Laurie Johnson (31-year career at NIEHS)
- **Financial Management Branch Chief –** Scott Redman**,** NIEHS Budget Officer
- **Acting Operations and Security Branch Chief** – Don Jackowski

Facilities

- NIEHS held the Grand Opening & Ribbon Cutting Ceremony for our **Net Zero Energy Warehouse** on December 11, 2017. Known as a net-zero energy building because of its ability to produce at least as much energy as it uses, the facility is the only one of its kind in the U.S. Department of Health and Human Services (HHS). Special guests included:
  - David Price, U.S. Representative from N.C., 4th District,
  - Michael Regan, Secretary, N.C. Department of Environmental Quality,
  - Steve Schewel, Mayor, City of Durham,
  - Scott Levitan, President and CEO, Research Triangle Foundation
  - Dan Cushing, Senior Architect, NIH Office of Research Services

- NIEHS has launched the **Environmental Health and Safety Assistant**, a comprehensive database for managing worker training, hazardous material permits, material inventories, safety equipment, room hazard placards, and worker exposures. The system is PI centric and designed to ease the administrative burden to both the researcher and HSB staff, as well as save time and reduce environmental impacts while allowing the management of sophisticated and varied research with potentially hazardous substances.

- NIEHS has become a **"Fragrance Free"** workplace to provide for the health and comfort of employees with sensitivities.

Strategic Planning and Government Reform

ReImagine HHS

On April 12, the Office of Management and Budget (OMB) released a memo directing federal agencies to develop plans to submit to a "Comprehensive Plan for Reforming the Federal Government and Reducing the Federal Civilian Workforce." On June 30, HHS Director Tom Price submitted to OMB "ReImagine HHS," a draft of a plan to optimize how the Department operates. On the same day, he also submitted a draft 5-year HHS Strategic Plan. Price has stated he sees the two plans as being complementary.

ReImagine HHS is being led by a steering committee of members including the HHS Assistant Secretary for Planning and Evaluation, Assistant Secretary for Preparedness and Response and Assistant Secretary for Administration. The bulk of the work is being done by five working groups, each focused on a crucial HHS mission: the healthcare delivery system, the public health system, economic and social well-being, scientific advancement and management and stewardship. The process focuses on six "strategic shifts" and 10 initiatives within them:

Leveraging the Power of Data

1.Get Better Insights from Better Data

Establish enterprise-wide data governance to generate efficiencies and improve analytical capabilities.

Restoring Market Forces

2. Accelerate Clinical Innovation

Focus on "bench to bedside," streamline coordination of scientific and clinical innovation to accelerate market access.

3. Bringing Common Sense to Food Regulation

Address overlapping and burdensome food regulations.

Putting People at the Center of HHS Programs

4. Aim for Independence

Integrate human services and self-sufficiency programs to better support Americans in reaching their full potential.

Making HHS More Innovative and Responsive

5. Optimize NIH

Determine how to best modernize and organize NIH.

6. Optimize Regional Performance

Review the Regional Office structure to best support the mission of the Department.

7. Optimize Coordination Across HHS

Streamline overlapping Office of the Secretary and Operating Division functions.

Generating Efficiencies through Streamlined Processes

8. Reinvent Grants Management

Re-engineer grants management process to eliminate duplication and waste, and reduce burden on grant applicants/recipients.

9. Buy Smarter

Enhance acquisitions process to generate purchasing efficiencies and cost savings.

Moving to a 21st Century Workforce

10. Maximize Talent

Modernize recruiting, hiring, retention, and performance systems to attract and sustain a high-functioning HHS workforce.

To provide feedback: ReimagineHHS@hhs.gov

Optimize NIH

As an Operating Division of HHS, NIH has launched *Optimize NIH* (www.nih.gov/optimize-nih) to improve organizational effectiveness and performance in support of the NIH mission. Headed by NIH leadership, including NIH Principal Deputy Director Larry Tabak and Team Lead Janet Shorback, this initiative seeks to increase efficiency and effectiveness of administrative functions within NIH; improve NIH operations, business processes, and coordination; and maximize employee feedback in this process. NIH will initially focus on optimizing three administrative areas that recently underwent some measure of centralization.

- Committee Management – Claire Harris (Acting Lead)
- Ethics – Holli Beckerman-Jaffe (Deputy Ethics Counselor)
- Freedom of Information Act – Gorka Garcia-Malene (FOIA Director)

NIH will approach the optimization effort in a data-driven, scientific manner. Representatives from each of these functional areas will help identify operating procedures and processes that can be improved. After a detailed process of review and input, NIH expects to implement changes to these three functional areas in 2018.

To provide feedback: OptimizeNIH@od.nih.gov

NIEHS Strategic Plan

Input received in response to the NIEHS *Insights & Trends* survey has been analyzed, NIEHS Leadership has determined the framework for the new plan, and a draft will be posted online for public comment in mid-February 2018. This draft will be discussed at the February NAEHS Council meeting. Following consideration of the public comment, the plan will be finalized by late May. The final plan will be presented to Council at the meeting in early June. Graphic and web design for the

new plan will take place over the summer, with a final plan launch anticipated for September 2018.

Hurricane/Disaster Response

NIEHS has coordinated closely with HHS Assistant Secretary for Preparedness and Response and other partners to respond to these recent disasters.

- Efforts continue by the NIEHS Worker Training Program (WTP) and Disaster Research Response (DR2) Program to facilitate clean-up worker training in TX, FL, PR, USVI, and CA. Workers who have gone through "train-the-trainers" under NIEHS grantees continue to do community outreach among day laborers and displaced workers. Local community partners in Texas, led by the organization Fe Y Justicia, held a public forum on December 14, 2017 in Houston to highlight the role of day laborers, construction, domestic, and other migrant workers as second responders to climate change disasters, and to build a more grounded understanding of what support second responders need as they rebuild their cities and homes, as well as what support is already available, and what is missing.
- WTP staff headed to Puerto Rick in late January to facilitate worker training efforts there and to coordinate with other federal agencies under HHS leads in the Joint Field Office.
- NIEHS centers and grantees are continuing to collaborate on a range of environmental health related data collection and research projects, including environmental sampling, exposure assessments, and health evaluations in Texas.
- NIEHS has held multiple calls with environmental health researchers and other stakeholders to discuss ongoing and planned research efforts in Texas to understand environmental exposures and human health impacts associated with Hurricane Harvey including data collection and research projects, environmental sampling, exposure assessments, and health evaluations. A number of academic centers are working together, along with other agencies and partners, to perform studies and develop new proposals for research.
- NIEHS released a notice for acceptance of time-sensitive research applications related to exposures and health outcomes as a consequence of the recent hurricanes of 2017: *Notice Announcing Use of RFA-ES-16-005 "Mechanism for Time-Sensitive Research Opportunities in Environmental Health Sciences (R21)" for Hurricane Response Research.* Under this RFA, the last time-sensitive applications focusing on recent hurricanes were accepted on December 1, 2017 and are under review.

Surge Capacity Force

- This was the first time in the history of the Department of Homeland Security (DHS) Federal Emergency Management Agency (FEMA) that response and recovery activities were required for two category 4 or higher hurricanes at the same time. To meet the challenge, FEMA requested assistance from other Federal employees to be part of their Surge Capacity Force. Out of many NIH volunteers only two, James Williams and Julie

Nixon, both NIEHS employees, were chosen. Williams and Nixon made sure registrants understood how to apply for FEMA assistance and referred registrants to community service organizations, Small Business Administration, IRS, USDA, and the Red Cross, as needed.

- CDR Mark Miller, NIEHS Chief of Staff, ran medical operations units in three different Florida locations, ensuring that displaced persons with medical needs, primarily the elderly, were well cared for. His efforts included making sure medications were properly dispensed and patients received vital Dialysis treatments.
- CDR John McLamb, Environmental Health Officer, was part of an Applied Public Health team to Puerto Rico to support response efforts in the wake of Hurricane Maria. He conducted environmental health and safety assessments in hospitals and evaluated drinking water systems on the island. His mission operational period was 14-plus hours a day. He worked in and around areas where the critical infrastructure was heavily damaged, including areas where it was common that four out of five utility poles were knocked out.

GenX in North Carolina

The Chemours Chemical plant began discharging GenX as a byproduct in 1980. GenX, a next-generation perfluoroalkyl substance was detected in the Cape Fear River and Wilmington, NC's finished drinking water in 2017. Efforts were made to prevent GenX discharge from the chemical plant, and exposure has been reduced, but the community is concerned about the health impacts. NIEHS has provided grant funding to the North Carolina State University Center for Human Health and the Environment to study the health effects of GenX exposure in humans, as well as factors that influence GenX concentration.

Meetings and Events

Past

- On September 15, NIEHS held its second annual **Global Environmental Health Day**. In order to foster a greater connection among NIEHS and other global health organizations and initiatives located throughout Research Triangle Park, the agenda included significant time for audience questions and discussion. The keynote address was given by Sujata Saunik, former secretary for the Department of Health and Family Welfare for the state of Maharashtra, India, which includes Mumbai and extensive rural areas. The program also included panel discussions on community-engaged research and citizen science, as well as a poster session featuring "Voices from the Field." **SP Goals 5, 6, 8, 9**
- NIEHS and NTP scientists served as speakers and committee members for the **8th Annual RTP Rodent Pathology Course: Current Topics in Rodent Pathology** held in Raleigh, NC on September 17-19. This state-of-the-art biennial course focused on the reproducibility of animal research studies, developmental pathology and embryology, microbiota, humanized mouse models, and various techniques. It is designed to provide useful information on current issues and techniques in rodent pathology to research and diagnostic pathologists, pathologists-in-training and interested members of the research community. **SP Goals 1, 2**

- The **Engaging Diverse Partners: Strategies to Address Environmental Public Health: A Joint NIEHS meeting of the Partnerships for Environmental Public Health (PEPH) network and Disaster Research Response (DR2) program** was held at NIEHS on September 18-20. The annual workshops were held back to back because of their common focus on community engagement. The workshop highlighted successful approaches to engaging diverse partners and effective partnerships in the aftermath of disasters. **SP Goals 5, 6, 11**
- The **6th Annual American Society for Cellular and Computational Toxicology Meeting** was held in College Park, MD on September 21-22 to coincide with the Science Advisory Committee for Alternative Toxicological Methods (SACATM) in an effort to increase the cooperation and dialog between toxicologists from government, industry, academic, and non-profit organizations. The meeting focused on acute systemic toxicity and updates on efforts to modernize regulatory toxicology. The program also included panel discussions providing feedback on the EPA's development of a strategic plan for developing and implementing methods which reduce and replace vertebrate animal testing. **SP Goals 1, 2, 7**
- "Health places, healthy people – where are the connections?" was the theme of the **29th Annual Conference of the International Society for Environmental Epidemiology** in Sydney, Australia on September 24-28. ISEE17 specifically addressed healthy places and healthy people connections in the Asia-Pacific region. NIEHS was an event co-sponsor. NIEHS and NTP scientists contributed to oral presentations. NIEHS epidemiologist Kelly Ferguson, Ph.D., presented a talk titled "Environmental phenol associations with repeated fetal growth measures exhibit sex differences." **SP Goals 2, 4, 5, 6**
- NIEHS and National Toxicology Program Director Linda Birnbaum, Ph.D., spoke Sept. 28 at the fourth annual **Triangle Global Health Consortium 2017 Annual Conference** in Raleigh, NC. The conference, titled "Making a Difference: Global Health and Its Social, Economic, and Political Impact," was held at North Carolina State University. Speakers addressed ways the global health community is working to change lives in North Carolina and around the world. Birnbaum spoke on the economic impact of global health research. NIEHS is the first federal member of TGHC. **SP Goals 5, 8, 9, 10**
- NIEHS and the Campion Fund sponsored the **Advances in Andrology: The Basic Science Behind Fertility** meeting held at NIEHS on October 13. Humphrey Yao, Ph.D., head of the NIEHS Reproductive Developmental Biology Group, partnered with Phyllis Leppert, M.D., Ph.D., co-founder of the Campion Fund, to host the meeting. The symposium covered the medical aspects of fertility, basic science of different cell types, and the role of environmental exposures. Two keynote speakers, eight talks, and a poster session presented attendees with the latest research on these varied topics. **SP Goals 1, 2, 3**
- David Balshaw, Ph.D., chief of the NIEHS Exposure, Response, and Technology Branch, co-chaired the **International Society of Exposure Science (ISES) Annual Meeting** with Jennifer Lantz, Ph.D., from Bayer CropScience; and NIEHS grantee Jane Hoppin, Ph.D., from North Carolina State University. The meeting was held in Research Triangle Park on October 15-19. Much of the conference was focused on new tools for measuring exposure to environmental pollutants. **SP Goals 1, 3, 4**

- Disaster response, with a focus on responding to this year's hurricanes, was the topic of the annual **NIEHS Worker Training Program: 2017 Fall Awardee Meeting and Workshop**, held at NIEHS on October 16-18. The workshop focused on updating he program's minimum training criteria. The criteria provide guidance to awardees and their partners who offer training. Attendees weighed in on the origins of the program and the priorities for future directions. **SP Goals 5, 8, 9**
- Several NTP scientists served on the planning committee for the **North Carolina Society of Toxicology Annual Meeting** held at NIEHS on October 30. The annual meeting showcased the development of novel *in vivo* models for toxicology. The meeting also focused on the next generation of toxicologists with a career networking breakfast, and afternoon poster session which provided trainees the opportunity to present their current research and network with peers, and awarded outstanding contributions. **SP Goals 1, 2, 8**
- The **Research Triangle Environmental Health Collaborative 10th Annual Summit** was titled "When Facts are not Enough: Getting from Good Science to Good Decisions in a New Age of Environmental Science." The event was held in Durham, NC on October 30-31. During the meeting, environmental health experts strategized about how best to inform policy decisions at local, state, and national levels. Participants also discussed how to improve the translation of scientific knowledge into actions to protect public health. Rick Woychik, Ph.D., NIEHS deputy director, moderated "Perspectives from Outside the Bubble," a panel of experts in disciplines outside of environmental science who use such science to make decisions, about how to best move scientific findings from the laboratory or publication into the public realm. Congressman David Price also participated on the panel. **SP Goals 5, 11**
- The 15th annual **NIEHS Science Days** was a celebration of scientific research across the institute, featuring a mini-symposium on how prenatal and early life exposures contribute to diseases later in life. The symposium was held at NIEHS on November 2-3. The symposium highlighted all facets of NIEHS scientific research, with presentations from researchers in the Divisions of Intramural Research and National Toxicology Program (NTP), as well as a Division of Extramural Research and Training grantee, and former NIEHS trainee. Oral presentations and two poster sessions, featuring over 90 posters, rounded out the activities. Awards were given for the best trainee talk and poster, and mentor and trainee of the year. **SP Goals 1, 2, 4, 8**
- The **2017 APHA Annual Meeting and Expo** – "Creating the Healthiest Nation: Climate Changes Health," was held in Atlanta, GA on November 4-8. Participants from NIEHS presented key talks, panels, posters, and provided information to other attendees through the institute's exhibit booth. The NIEHS exhibit booth received hundreds of visitors. The conference theme connected with NIEHS programs such as children's health, disaster research, and worker training. NIEHS Senior Advisor for Public Health John Balbus, M.D., served as a panelist on the APHA President's Session: Climate Change and Health: The 21st Century Challenge. Kimberly Thigpen Tart, J.D., moderated a session on how the vulnerability of children to health risks from climate change differs from adults. Several other NIEHSers participated throughout the conference with oral presentations and panel discussions. **SP Goals 4, 5, 8, 9**

- Dr. Linda Birnbaum received the Distinguished Scientist in Toxicology Award at the **American College of Toxicology 38th Annual Meeting** in Palm Springs, CA on November 5-8. The goal of the meeting is to provide a venue for keeping abreast of emerging trends in toxicology. Dr. Birnbaum provided the keynote address at the awards ceremony and luncheon. **SP Goals 1, 4, 9**
- Scientists who study how an individual's genetic makeup may affect sensitivity to environmental chemicals were featured at the **Genetics and Environmental Mutagenesis Society of North Carolina (GEMS) Fall Meeting** held at the NC Biotechnology Center in Research Triangle Park, NC on November 7. The meeting was organized by incoming GEMS President Holly Mortensen, Ph.D., from the U.S. Environmental Protection Agency (EPA). Speakers emphasized collaborations between federal, academic, and industrial sectors to identify genetically susceptible populations and create and validate scientific tools for the task. Topics included high-throughput screening of chemicals using genetically diverse human cell lines, and identifying susceptible populations using databases on human exposures to toxicants. Keynote speaker Richard Paules, Ph.D., from the National Toxicology Program (NTP), focused on efforts to rapidly screen human cells for changes in gene expression, using the latest toxicogenomics technology. **SP Goals 2, 7, 8, 9**
- NIEHS staff and grantees shared their expertise and discussed ways to address pressing environmental health issues at the **Pacific Basin Consortium Conference** in Delhi on November 12-17. The conference was sponsored in part by the NIEHS Superfund Research Program (SRP). Organizers invited scientists, engineers, policy-makers, industry representatives, and government officials to present research and discuss effective, affordable solutions to problems of environmental contamination. With the theme of Environmental Health and Sustainable Development, the meeting centered around solutions and sustainable policies for managing environmental and health issues around the world. Experts from the U.S., India, the Pacific Basin, and beyond spoke on topics such as understanding the risks of air and water pollutants, and managing and reducing exposure to hazardous waste. **SP Goals 4, 5, 6**
- City of Hope was the local sponsor of the **12th Annual BCERP Meeting and Community Forum** held in Duarte, CA on November 16-17. Researchers outside of the consortium and members of the public were welcomed to the talks and poster session. The meeting agenda featured speakers from within BCERP and beyond, addressing a wide range of topics, from the role of endocrine disruptors, community contributions to research the role of epigenetics, and susceptible stages of human development. A focus on breast cancer drew upwards of 100 people to the latest NIEHS community forum. NIEHS and NTP Director Linda Birnbaum, Ph.D., holds several such forums each year to hear from local residents about their environmental health concerns with an emphasis on two-way exchange. **SP Goals 1, 4, 6, 11**
- The National Academies of Sciences, Engineering, and Medicine sponsored the **Understanding Pathways to a Paradigm Shift in Toxicity Testing and Decision-Making** workshop in Washington, DC on November 20-21. John Bucher, Ph.D., NIEHS associate director of the National Toxicology Program (NTP), served on the planning committee, as

did several NIEHS grantees. The workshop explored the paradigm shift required for successful adoption of advanced test methods. **SP Goals 1, 7**

- The **Inflammation, Aging, and Chronic Disease Conference** was organized by the Institute for Immunity, Transplantation and Infection (ITI) at Stanford School of Medicine. During the conference, held in Stanford, CA on November 27-28, attendees discussed critical aspects of the exposome and its relation inflammation, possible mechanisms that trigger both its onset and resolution and the links between maladaptive immune responses and tissue damage in aging. Dr. Nicole Kleinstreuer, Deputy Director of NICEATM, gave a talk entitled "Translational Systems Toxicology: Chemical-Disease Interactions." **SP Goals 1, 2, 3**
- The NIEHS was one of the organizers of the **Impact of Environment on Women's Health** conference in Lucknow, India held on November 29-December 1. The goal of the conference was to broaden the thought process of society towards women's vulnerability to environmental challenges alongside related issues such as the implications of the rapid spread of HIV/AIDS among women and the growing danger to young mothers and their babies from toxic chemicals. The focus was on the impact of recent developments on varied issues related to women's health including special vulnerability to environmental toxicants, effects of global climate change, factors influencing the health of women in developing countries, specific diseases and diagnostics, societal pressures, wage inequality and poverty, mental health, and social policy. **SP Goals 4, 5, 6**
- At the **2017 Annual Grantees Meeting NIH-EPA Center of Excellence on Environmental Health Disparities Research** held in Albuquerque, NM on December 4-5, grantees met to share their progress during the 2 years they have been researching and connecting communities. During presentations and a poster session, research teams from the five centers discussed progress and shared early findings. Participants also broke into small groups to focus on specific approaches to maximizing the impact of their work. **SP Goals 4, 6, 11**
- The NIEHS Superfund Research Program (SRP) marked its 30th anniversary at the annual meeting December 6-8 in Philadelphia. The **Superfund Research Program (SRP) 30th Anniversary Conference** was hosted by the University of Pennsylvania SRP Center. SRP researchers, administrators, trainees, and other partners shared findings and discussed experiences with community engagement and research translation. The opening message was delivered by Director Linda Birnbaum, Ph.D. who praised SRP as a problem-solving program that produces tangible results. Complementing the theme of the meeting, SRP researchers and trainees shared important progress in detecting and measuring contaminants in environmental samples, such as water and sewage sludge, and in biological samples, such as blood. Presenters also spoke about moving fundamental research into the field. **SP Goals 4, 5, 8, 11**
- On December 11, NIEHS celebrated the **Grand Opening Ceremony for the NIEHS Net Zero Energy Warehouse** with a ribbon cutting and dedication. The warehouse has the ability to produce at least as much energy as it uses, and is the only of its kind in the U.S. Department of Health and Human Services. The event was attended by NIEHS and many dignitaries, including U.S. Representative David Price; Michael Regan, secretary of the North Carolina Department of Environmental Quality; Durham Mayor Steve Schewel, Ph.D.; and Scott

Levitan, the new president and CEO of the Research Triangle Foundation. Senator Richard Burr was represented by staff member Betty Jo Shepheard. **SP Goals 5, 11**

- **The Promise of Genome Editing Tools to Advance Environmental Health Research** was a 2-day workshop that brought together experts in molecular biology, toxicology, and public health to explore opportunities for using genome editing technologies in environmental health research. The event was held in Washington DC on January 10-11. Participants discussed genome editing tools such as CRISPR/Cas9 and their applications to help unravel the mechanisms through which environmental stressors affect human health, including developing models of health and disease, testing chemicals for toxicity, and determining mechanisms of toxicity. The workshop was sponsored by NIEHS and organized by the NAS Emerging Science for Environmental Health Decisions committee. **SP Goals 1, 2, 4**
- The National Toxicology Program hosted the webcast for the **Peer Review of the Draft Report on Carcinogens Monograph on Antimony Trioxide and other Antimony Compounds** at NIEHS on January 24. Antimony trioxide is used mainly in fire-retardant formulations for plastics, rubbers, textiles, paper and paints and in combination with other flame retardants on furniture, draperies, wall covers, carpets, and printed circuit boards. The report will help EPA assess the effects of antimony trioxide on human health and determine whether regulations should be updated. **SP Goals 1, 4, 11**
- NIEHS and NTP scientists took on speaking and moderator roles, in addition to serving on the organizing committee for t**he Toxicology Forum 42nd Annual Winter Meeting** held in Washington, DC on January 29-31. Brian Berridge, D.V.M., Ph.D., the associate director of NTP and scientific director of DNTP presented on alternative strategies for carcinogenicity testing in chemical and pharmaceutical risk assessment. Cynthia Rider, Ph.D., toxicologist in the NTP served on the organizing committee, as well as presenting and moderating. Mark Miller, Ph.D., also served as a moderator. Linda Birnbaum, Ph.D., and Chad Blystone, Ph.D., also presenting during the meeting. **SP Goals 2, 4, 5, 11**
- The Center for Human Health and the Environment **2nd Annual Symposium: Epigenetics, Environment, and Human Health explored the importance of epigenetics in linking environmental** exposures to human health and disease, covering the spectrum from fundamental biological mechanisms to novel therapeutic approaches. The symposium was held in Raleigh, NC on February 8. It featured guest speakers at the forefront of the field, and showcased the breadth of epigenetics research within CHHE. Many of the CHHE investigators are supported by NIEHS grants. **SP Goals 1, 2, 3**

Upcoming

- 27th Annual Meeting of the Triangle Consortium for Reproductive Biology (TCRB), NIEHS, February 10
- Informing Environmental Health Decisions Through Data Integration, Washington DC, February 20-21
- 3rd Annual Consortium for Canine Comparative Oncology Seminar, Durham NC, February 23
- Endocrine Disrupting Chemicals Research in North Carolina (EDC-NC) Meeting, NIEHS, February 23

- American Academy of Allergy Asthma and Immunology/World Allergy Organization Joint Congress, Orlando FL, March 2-5
- Society of Toxicology 57th Annual Meeting and ToxExpo, San Antonio TX, March 11-15
- 9th Annual Consortium of Universities for Global Health Annual Conference, New York, March 15-18
- 7th Young Environmental Scientists Meeting, Madison WI, March 25-29
- Understanding the combined effects of environmental chemical and non-chemical stressors: Atherosclerosis as a model workshop, NIEHS, April 3-4
- Women's Health Awareness Day, Durham NC, April 7
- Keystone Symposia on Molecular and Cellular Biology: Organs- and Tissues-on-Chips, Big Sky MT, April 8-12
- GEMS 2018 Spring Meeting: "Assessing Genetic Toxicity Across the Biological Spectrum," RTP, April 12
- Global Health and Innovation Conference, New Haven CT, April 14-15
- High-Throughput Screening and Environmental Risk Assessment, Durham NC, April 16-18
- Nexus 2018: Water, Food, Energy, and Climate, Chapel Hill NC, April 16-18
- Science and Music Event, Durham NC, April 22
- Toxicology and Risk Assessment Conference, Cincinnati OH, April 23-26
- 3rd International Conference on One Medicine One Science (iCOMOS 2018), Minneapolis MN, April 29-May 2
- NIEHS Career Symposium, NIEHS, May 4
- PPTOX: International Conference on Fetal Programming and Developmental Toxicity, Faroe Islands, May 28-30

Awards and Recognition

NIEHS

- **NIEHS Awardees 2018**
    - **<u>Merit Award – Individual</u>**
        - Suzanne Fenton (*DNTP): For notable efforts addressing nationwide concerns regarding exposure to poly- and perfluorinated alkyl substances*
    - **<u>Merit Awards – Group</u>**
        - **Scholars at Work Group (Cross-NIEHS)***: For outstanding contributions in support of innovative NIEHS-hosted STEM initiatives, including the Scholars at Work program, STEMposium, and Athens Drive High School Professional Development Workshop* **[This is actually three awards in one: for the Scholars at Work Program, STEMposium, and the Athens Drive High School Professional Development Workshop]**
            - **OD**: Huei-Chen Lao, Ericka Reid
            - **OM:** Terrance Saulter, Debi Del Corral, Megan Irias, Don Jackowski, Charles Lipford, Danny Sanders, Joel Vannorman, Mitch Williams, Lois Wyrick
            - **DERT**: Abee Boyles, Heather Henry

- **DIR:** Terry Blankenship, Molly Comins, Angela Dickerson, Lori Edwards, Jennie Foushee, Neil Grove, Essie Jones, Jacqueline Locklear, Wendy Montague, Tanya Whiteside, Ronald Cannon, Kat McCann, Bob Petrovich
- **DNTP:** Quashana Brown, Natasha Clayton, Willie Cunningham, Heather Jensen, Pamela Ovwigho, Debra King
- **HR:** Angela Davis
- **NIH OD:** Sarah O'Donnell

- **NTP Website Redesign Team (DNTP):** *For successful implementation of the NTP website redesign*
  Beth Bowden, Mark Colebank, Michelle Hooth, Michael Lee, Scott Masten, Nigel Walker, B. Alex Merrick, Shawn Jeter, Michelle Cora, Cori Vella, Mary Wolfe
- **Integrated Testing Strategies for Developmental Neurotoxicity Workshop Team (DNTP):** *For outstanding efforts in the collection, analysis and presentation of data at the NTP workshop on Integrated Testing Strategies for Developmental Neurotoxicity*
  Mamta Behl, Brad Collins, Jui-Hua Hsieh, Elizabeth Maull, Fred Parham, Kristen Ryan, Andrew Shapiro
- **Warehouse Transition Team (OM):** *For preparing and completing a seamless move to the new Building 110 Warehouse*
  Alex Braswell, Derrick Bronson, Rhonda Carroll, Kenneth Coffey, Nathan Coletta, Debi Del Corral, Ronald Faison, Janice Hester, Donald Jackowski, Kecia Jacobs, Paul Johnson, Kimberly Jones, Peter Larcher, Rob Levine, Versal Mason, Stan McKenzie, Bill Mears, Antares Nicklow, John Palmieri, April Parker, Kelly Powell, Nancy Powell, Roy Reter, Savalas Rountree, Terrance Saulter, Carranza Smith, James Tarleton, Amanda Thompson, Amanda Weaver, Rick Weaver, Mitch Williams
- **NRSA Training Program Increase Team (Cross-NIEHS):** *For outstanding implementation of FLSA stipend-level increases on the NIEHS NRSA Training Programs*
  - **OM**: Benny Encarnacion
  - **DERT**: Elizabeth McNair, Helena Kennedy, Robbie Majors, Molly Puente, Carol Shreffler, Ashley Singh, Michelle Victalino
- **SharePoint Migration Team (Cross-NIEHS):** *For exemplary teamwork and project management in migrating the Institute to SharePoint 2016*
  - **OM**: Tamu Whitfield, Tyler Wright, Ralph French
  - **DERT**: Liz Ruben
- **Translational Research Framework Team (Cross-NIEHS)***: For outstanding leadership in development of a Translational Research Framework specifically tailored to the environmental health sciences*

- **DERT**: David Balshaw, Gwen Collman, Cristina Drew, Michelle Heacock, Alfonso Latoni, Kimberly McAllister, Liam O'Fallon, Claudia Thompson, Kristianna Pettibone, Demia Wright
- **DNTP**: Nigel Walker, Mary Wolfe,
- **OD**: Janet Hall

▪ **Ruffin and Collinson Team (DERT):** *For excellence and dedication to the mission of the Division of Extramural Research and Training*
Barbara Ruffin, Joel Collinson

▪ **Spirit Lecture Team (Cross-NIEHS):** *For sustained volunteerism to increase recognition of outstanding women in science through coordination of the Spirit Award lecture*

- **DNTP**: Brad Collins, Angela King-Herbert, Kembra Howdeshell, Eli Ney, Veronica Godfrey Robinson, Kristen Ryan, Diane Spencer, Molly Vallant
- **OD**: Ericka Reid

▪ **Cryo-electron Microscopy Solutions Group (Cross-NIEHS):** *For excellence in design and implementation supporting cryo-electron microscopy at NIEHS*

- **OM**: Chris Losack, Stanford McKenzie
- **DIR:** Frank Day, John Grovenstein, Christopher Lavender, Lars Pedersen, Christopher Stone

▪ **Hurricane Deployment Group (Cross-NIEHS):** For extraordinary dedication in supporting hurricane recovery efforts

- **OD**: Mark Miller
- **OM**: Charletta Fowler, Andrea Lynn, John McLamb, Julie Nixon
- **DERT:** James Williams
- **DNTP:** Debra King

o **<u>Unsung Hero Awards</u>**

▪ **Bill Steinmetz (OM)***: For exceptional customer service, professionalism, and dedication to NIEHS's health, safety, and environmental missions*

▪ **Deborah Jones (DERT)**: *For exceptional efficiency and integrity in administering the Scientific Review and Evaluation Activities Reports of the Scientific Review Branch*

▪ **Debbie Wilson (*DIR)**: For exemplary organization and effectiveness in administering the NIEHS Summer Internship Program*

▪ **Debbie Gaffney (*DIR)**: For outstanding management of the Animal Resources Section, ensuring AAALAC site visit readiness*

o **<u>Peer Awards</u>**

▪ **For notable and extraordinary assistance to coworkers, as recognized by** peers

- **Mike Tyson (OM)**
- **Elizabeth Ruben (DERT)**
- **Michael Johnston (DIR)**
- **Chad Blystone (DNTP)**

- **Molly Vallant (DNTP)**

- **NIEHS Summer Internship Program Poster Session**
  - **High School — Sofia Pauca**, from Mount Tabor High School in Winston-Salem, North Carolina, presented "Deciphering the Role of Norepinephrine in Neocortical Development." Patricia Jensen, Ph.D., from the Neurobiology Lab, mentored Pauca.
  - **Undergraduate — Megan Stefkovich**, from the University of Wisconsin at Madison, researched "Non-genomic Estrogen Receptor Alpha Involvement in Metabolic Regulation." She worked under the mentorship of Ken Korach, Ph.D., from the Reproductive and Developmental Biology Lab.
  - **Graduate — Adrienna Bingham**, from the College of William and Mary, discussed "Using Tumor Sample Gene Expression Data to Infer Tumor Purity Levels." Her mentor was Leping Li, Ph.D., from the Biostatistics and Computational Biology Branch.
- **Diplomates of the American College of Veterinary Pathologists**
  - Drs. **Gregory A. Krane** and **Janice B. Harvey**, IRTA fellows in the NTP Pathology Group, CMPB, DNTP
- **Diplomate of the American Board of Toxicology**
  - **Kristen Ryan**, Ph.D., Toxicology Branch
- **Kelly Ferguson, Ph.D.,** investigator in the Perinatal and Early Life Epidemiology Group, was named one of the Collaborative on Health and the Environment's 20 Pioneers Under 40 in Environmental Public Health
- The **NIEHS animal care program** received an exemplary rating for an unprecedented fourth straight period from AAALAC International, the body that certifies laboratory animal care at research institutions. Plus, for the second rating period in a row, the site visit team returned no suggestions for improvement (SFI) in the NIEHS program.
- **NIEHS Science Days Awards**
  - Mentor of the Year: **Paul Foster**, Ph.D., Toxicology Branch (Retired)
  - Fellow of the Year: **Natalie Saini**, Ph.D., Genome Integrity and Structural Biology Laboratory
  - Best Poster Presentation by a Fellow or Technician
    - **Yufeng Qin**, Ph.D., Epigenetics and Stem Cell Biology Laboratory, "An obesity-associated gut microbiome reprograms the intestinal epigenome and leads to altered colonic gene expression."
    - **Jessica Wojtaszek**, Ph.D., Genome Integrity and Structural Biology Laboratory, "Structural analysis of the 3'→5' exonuclease Apn2 of *Saccharomyces cerevisiae*."
    - **Daisy Lo**, Ph.D., Signal Transduction Laboratory, "Structural Analysis Reveals the Features of Ribosome Assembly Factor WDR74 Important for Localization and Interaction with the AAA-ATPase NVL2."
    - **Barbara Nicol**, Ph.D., Reproductive and Developmental Biology Laboratory, "RUNX1 and FOXL2 play synergistic roles in maintaining the identity of fetal granulosa cells in mice."

        - **Rajneesh Pathania**, Ph.D., Epigenetics and Stem Cell Biology Laboratory, "Identification and Characterization of Metastasis-Initiating Cells in Triple Negative Breast Cancer."
        - **Kathryn McClelland**, Ph.D., Reproductive and Developmental Biology Laboratory, "Loss of COUP-TFII (NR2F2) Affects Fetal Testicular Development."
        - **Xiaoqiu Wang**, Ph.D., Reproductive and Developmental Biology Laboratory, "Cistromic Analysis and Genome Editing Identify an Uterine Specific Enhancer Critical for Indian Hedgehog Expression."
        - **Jian Liu**, Ph.D., Reproductive and Developmental Biology Laboratory, "Lkb1 inactivation drives lung squamous cell carcinoma development governed by JNK1/2 pathway."
        - **Douglas Ganini Da Silva**, Ph.D., Immunity, Inflammation, and Disease Laboratory, "Switch of mitochondrial superoxide dismutase into a prooxidant peroxidase in manganese-deficient cells and mice."
        - **Monica Pillon**, Ph.D., Signal Transduction Laboratory, "Grc3 Programs the Essential Endoribonuclease Las1 for Specific RNA Cleavage."
    - Best Poster Presentation by a Post-Baccalaureate Student
        - **Jeffrey Ramsey**, Reproductive and Developmental Biology Laboratory, "Steroid receptor hormonal actions of Lavender and Tea Tree oil components."
    - Best Oral Presentation:
        - **Sreenivasa Ramaiahgari**, Ph.D., Biomolecular Screening Branch, "High Throughput Transcriptomics (S1500+ gene set) on Differentiated and Undifferentiated Hepatocytes Identifies Deficiencies in Tissue Modeling and Molecular Mechanisms Potentially Associated with Compound-induced Liver Injury."
- **American College of Toxicology**
    - **Dr. Linda Birnbaum** was awarded the Distinguished Scientist in Toxicology Award at the American College of Toxicology annual meeting. This award recognizes an individual (not necessarily a member of ACT) who has made outstanding contributions to toxicology and improvement of public health and/or the environment. The DSA winner becomes the keynote Awards Ceremony and Luncheon Speaker at the Annual Meeting.
- **Association for the Advancement of Science (AAAS) Fellow**
    - **David Resnik, J.D., Ph.D.,** NIEHS bioethicist
- **Endocrine Society's Early Investigator Award**
    - **Natalie Shaw, M.D., MMSC.,** Pediatric Neuroendocrinology Group, will be presented with the Endocrine Society's Early Investigator Award at the Endocrine Society's Annual Meeting and Expo on March 17-20, 2018 in Chicago, IL. The award provides monetary support to assist in the development of early career investigators and recognition of their accomplishments in areas of general endocrinology.

- **Clarice Weinberg, Ph.D.,** won the second annual NIEHS Scientific Director's Award for Outstanding Intramural Research. The award recognizes a scientist reviewed by the Division of Intramural Research (DIR) Board of Scientific Counselors (BSC) the previous year. Weinberg is the acting chief of the Biostatistics and Computational Biology Branch.
- **GEMS Councilors**
    - **Alison Harrill, Ph.D.** from NTP and **Natalie Saini, Ph.D.**, NIEHS visiting fellow
- Amity University in Lucknow, India conferred an honorary doctorate on **Linda Birnbaum, Ph.D.** and four others Nov. 30, during the International Conference on the Impact of Environment on Women's Health.
- **Society of Toxicology**
    - **Linda Birnbaum, Ph.D.,** was selected for the 2018 SOT Arnold J. Lehman Award. This award is given each year to a society member who has made a major contribution to risk assessment or regulation of chemical agents. The contribution results from research that has significantly influenced the regulatory process or from the application of sound scientific principles to regulation. The Arnold J. Lehman Award will be presented March 11 at the society's annual meeting in San Antonio. Birnbaum is the second NIEHS and NTP director, and the fifth woman, to receive the Lehman award.
    - **Sreenivasa Ramaiahgari**, Ph.D., is lead author of a study recognized by the SOT Postdoctoral Assembly as a 2018 Best Postdoctoral Publication. Ramaiahgari was the lead author of "Three-dimensional (3D) HepaRG spheroid model with physiologically relevant xenobiotic metabolism competence and hepatocyte functionality for liver toxicity screening," which appeared in the SOT journal Toxicological Sciences. The study was also recognized by NTP in the November 2017 issue of the Environmental Factor as a paper of the month.

Grantees/Others

- NIEHS grantee **Howard Chang, M.D., Ph.D.,** Director of Stanford University's Center for Personal Dynamic Regulomes, received the 2018 National Academy of Science (NAS) Award in Molecular Biology for his discovery of long noncoding RNAs (lncRNAs). The honor also recognizes his invention of certain genomic sequencing technologies. Chang was funded in part under the NIEHS TaRGET I grant program for studies of how DNA transcription is affected by exposures to toxicants.
- **CHE 20 Pioneers Under 40 in Environmental Public Health**
    - **Brooke Anderson, Ph.D.** — Colorado State University
    - **Joseph Braun, Ph.D.** — Brown University
    - **Joan Casey, Ph.D.** — University of California at Berkeley
    - **Allan Just, Ph.D.** — Mount Sinai Health System
    - **Amy Padula, Ph.D.** — University of California at San Francisco
    - **Laura Vandenberg, Ph.D.** — University of Massachusetts Amherst
    - **Ami Zota, Sc.D.** — George Washington University

- **Toxicity Testing Challenge: Innovating for Metabolism – Stage 2 Winners**
    - **Brian Johnson, Ph.D., Onexio Biosystems, LLC.** Johnson created a system that uses the natural metabolic activity of human liver cells to generate chemical metabolites and then deliver these metabolites to existing assays. Called Metabolism Integrated Cell RepOrter MicroTiter plate (MICRO MT), the system is technically simple and requires little additional equipment.
    - **Moo-Yeal Lee, Ph.D., Cleveland State University and Rayton Gerald, Solidus Biosciences.** Lee and Gerald developed a 384-well plate that supports three-dimensional cell cultures. It includes an array of human liver cells for both gene expression and high-content toxicity screening.
    - **Albert Li, Ph.D., In Vitro ADMET Laboratories (IVAL), LLC.** Li developed the MetMax Human Hepatocytes system to serve as an external liver metabolism system. The test chemical is added to allow metabolism by liver cells. Both the parent chemical and its metabolites then migrate across a semi-permeable membrane to interact with the target cells.
    - **Lawrence Vernetti, Ph.D., University of Pittsburgh Drug Discovery Institute.** Vernetti developed a system to supply rodent or human liver cells for co-culture with a second cell or cell-free assay. It allows both test agents and metabolites to be transferred directly to the test plates.
    - **Hongbing Wang, Ph.D., University of Maryland School of Pharmacy.** Wang developed a cell culture model that uses a type of cell called human primary hepatocyte. The platform can be scaled up to an HTS format, which allows current cell culture-based assays to produce physiologically relevant metabolites.
- **Helmut Zarbl**, Ph.D., a professor in the Department of Environmental & Occupational Health (ENOH) at Rutgers University's School of Public Health and an environmental carcinogenesis and chemoprevention researcher, has been named director of the university's Environmental & Occupational Health Sciences Institute (EOHSI). Zarbl also will serve as chair of the Department of Environmental & Occupational Health.
- **Aimen Chen, M.D., Ph.D.,** associate professor in the Department of Environmental Health, was recognized by the University of Cincinnati College of Medicine for his accomplishments as a Mid-Career Research Scientist during its Research Recognition Program. He is a key collaborator of the Health Outcomes for Measurement of the Environment (HOME) study established with a Children's Environmental Health Center grant in 2001 awarded by the National Institute of Environmental Health Sciences and the Environmental Protection Agency.
- **AAAS Fellows**
    - **David Cortez**, Ph.D., Professor of Biochemistry at Vanderbilt University School of Medicine
    - **Eric D. Kolaczyk**, Ph.D., Professor of Mathematics at Boston University
    - **Paige Lawrence**, Ph.D. — University of Rochester.
    - **Bhramar Mukherjee**, Ph.D. — University of Michigan.
    - **David Warburton**, O.B.E., M.D., D.Sc. — Children's Hospital of Los Angeles.

- **Mark D. Zylka**, Ph.D., Professor at the University of North Carolina Chapel Hill Neuroscience Center

- **2017 Tony McMichael Awardee (ISEE)**
  - **Dr. Veronica Vieira** is an Associate Professor of Public Health at University of California, Irvine. This award was created in Dr. Tony McMichael's memory to recognize mid-career scientists. Tony was a world-renowned epidemiologist known not only for his scientific work, but also for has compassionate mentoring of junior colleagues. He was President of ISEE from 2008-2009.
- **ISES Awards**
  - **Stephanie Hammel, Ph.D.** student at Duke University (Heather Stapleton advisor) was awarded the IPA/DGUV Award for Young Exposure Scientists at the ISES annual meeting. The purpose of this award is to foster research in exposure areas with linkages to biomonitoring for superior doctoral students working on their dissertation or superior first-year postdoctoral exposure scientists. Her dissertation work focuses on characterizing and validating silicone wristband use as an exposure metric for various semi-volatile organic compounds (SVOCs). Her research interests also include identifying sources and routes of exposure for SVOCs commonly used in consumer products. The award from the DGUV Institute for Prevention and Occupational Medicine (IPA) was created to represent its high regard for the work of Professor Jüergen Angerer in furthering biomonitoring in exposure sciences in Europe and the rest of the world.
  - **Ed Avol, M.S.**, Professor of Clinical Preventive Medicine at USC Keck School of Medicine, was awarded the Constance L. Mehlman Award In recognition of outstanding contributions in exposure analysis research that helped shape a national or state policy or that provided new approaches for reduction or prevention of exposures. Myron Mehlman, the Society's first President and former managing editor of the Journal of Exposure Science and Environmental Epidemiology, endowed a new ISES award in 1999 in honor of his late wife, Constance Mehlman, an environmental attorney. His research focus has been on how people of variable susceptibilities get exposed to air pollution, on documenting those exposures, and on understanding the short and long-term health impacts of those exposures.
  - Best JESEE Paper Award: This is an annual award for the best paper authored by a current ISES member in the Journal of Exposure Science and Environmental Epidemiology in the prior volume year. This award recognizes innovative and creative exposure science research and scholarship from the ISES membership. **Zota, Ami R.,** Anne M. Riederer, Adrienne S. Ettinger, Laurel A. Schaider, James P. Shine, Chitra J. Amarasiriwardena, Robert O. Wright, and John D. Spengler. "Associations between metals in residential environmental media and exposure biomarkers over time in infants living near a mining-impacted site." Journal of Exposure Science & Environmental Epidemiology 26, no. 5 (2016): 510-519.

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- **APHA Awards**
  - Two NIEHS grantees from Wake Forest School of Medicine, **Thomas A. Acury, Ph.D**., **and Sara A. Quandt, Ph.D.**, received the Alice Hamilton Award from the APHA Occupational Health and Safety Section. This award recognizes the life-long contributions of individuals who have distinguished themselves through a career of hard work and dedication to improve the lives of workers.
  - **José Cordero, M.D., M.P.H.,** chair of the University of Georgia College of Public Health's Department of Epidemiology and Biostatistics, will receive the Sedgwick Memorial Medal for Distinguished Service in Public Health for his career as a public health researcher, mentor and leader whose work epitomizes the translation of epidemiologic science to public health practice and policy. The *Sedgwick Memorial Medal*, APHA's oldest and most prestigious award, was established in honor of the late Professor William Thompson Sedgwick and was first awarded by APHA for distinguished service and advancement of public health knowledge and practice in 1929.
  - **Claire Barnett, M.B.A.,** executive director of Healthy Schools Network Inc., is being honored with the David P. Rall Award for Advocacy in Public Health for protecting children's health in schools and her work to improve environmental conditions of schools in the U.S. and abroad. The *David P. Rall Award for Advocacy in Public Health* is awarded to an individual who has made an outstanding contribution to public health through science-based advocacy.
- **Angela Gutierrez** is the 20th recipient of the Karen Wetterhahn Memorial Award. The award, which annually recognizes one outstanding SRP graduate student or postdoctoral researcher who exemplifies qualities of scientific excellence, was presented December 7 at the Superfund Research Program (SRP) 30th Anniversary Annual Meeting in Philadelphia. Gutierrez is pursuing a doctoral degree at the University of Kentucky under the mentorship of Zach Hilt, Ph.D., and Thomas Dziubla, Ph.D. She was recognized for her innovative research to develop magnetic nanoparticles coated with polyphenols from plants. The nanoparticles are designed to capture and remove polychlorinated biphenyls (PCBs) from water.
- **Society of Toxicology Awards**
  - **Anna Lowit,** Ph.D., of the U.S. Environmental Protection Agency (EPA) will be awarded the Society of Toxicology (SOT) 2018 Enhancement of Animal Welfare Award. Lowit, a Senior Scientist in the EPA Office of Pesticide Programs, has been serving as co-chair of ICCVAM since 2013.
  - **Dana Dolinoy**, Ph.D., from the University of Michigan School of Public Health will be presented with the SOT Achievement Award.
  - **Judith Zelikoff**, Ph.D., from the New York University School of Medicine will be presented with the SOT Education Award.

    - **Dr. Jia-Sheng Wang**, Professor of Public Health at the University of Georgia, will be honored with the Translational Impact Award
- **Chuck Hebert**, Ph.D., principle investigator at Southern Research, was awarded the Southern Research President's Award. Hebert was acknowledged for leading teams to achieve excellence in study quality, delivery, and budget adherence for high-profile programs including the National Toxicology Program, the National Institute of Mental Health, as well as multiple National Cancer Institute programs. As part of his award, Hebert was presented with the Thomas Wesley Martin Medal. A limited number of these coins were made in 1961 as a gift to the board of trustees to show appreciation for a select number of scientists who have made phenomenal achievements in their respective fields.