

In 2014, Science Days are bigger than ever

By Ernie Hood

The 12th annual Science Days Nov. 6-7 at NIEHS marked a day-and-a-half devoted to celebrating the depth, breadth, and remarkable quality of scientific exploration being carried out across the institute.

“It’s one of the few times in the year when all of the research being conducted at the institute is on display,” said Joel Abramowitz, Ph.D., special assistant to the Deputy Scientific Director, who leads the organizing of the event each year. “It allows everyone to get a feel for what everybody else is doing, so that there is awareness of the types of research and questions being addressed, along with opportunity for potential collaborations between scientists whose interests may overlap.”

Growing interest, growing participation

The scope of the celebration is expanding every year. This year, Science Days attracted 96 posters (see [text box](#) for a list of the nine winners) submitted by fellows, students, and technicians, in addition to 12 oral presentations by trainees selected by their branch and laboratory heads. The best oral presentation award went to Georgia Alexander, Ph.D., of the Neurobiology Laboratory, for her presentation titled “Manipulating hippocampal network oscillations critical to cognition: implications for schizophrenia.”

Judges for the competitions included 64 NIEHS/National Toxicology Program (NTP) scientists and nine regional environmental health researchers who donated their time to help recognize the outstanding science being conducted at the Institute. Winners of the Mentor of the Year and Fellow of the Year awards were also honored (see [story](#)).

As NIEHS and NTP Director Linda Birnbaum, Ph.D., noted in her welcoming remarks, it was the third year that Science Days took a One NIEHS approach, actively including participation by representatives of the Division of Intramural Research (DIR), the Division of Extramural Research and Training (DERT), and the Division of the National Toxicology Program (DNTP).

A mini-symposium on neurobiology in environmental health sciences was one of the highlights of the Science Days proceedings, featuring in-depth presentations by speakers from each of the NIEHS divisions. DNTP scientist Mamta Behl, Ph.D., spoke on “Screening compounds with developmental and neurotoxic potential: flame retardants, a case example.” Patricia Jensen, Ph.D., from DIR described “Central noradrenergic neuron subtype development and function,” and DERT scientist Kimberly Gray, Ph.D., presented “Don’t breathe that: air pollution and the brain.”

Attendees also enjoyed a talk by former NIEHS trainee Kirill Lobachev, Ph.D., who is now a faculty member at the Georgia Institute of Technology.

Trainees in the spotlight

Abramowitz stressed that the focus of Science Days is mainly on the trainees whose work is showcased and recognized. “One of the key things that we do during Science Days is to acknowledge their contribution to the science that’s being conducted here,” he said. “Since they are the ones who do most of the bench work in the labs, we really want to highlight the trainees.”



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Abramowitz chairs the Science Day Committee, which plans and organizes the Science Days event every year. (Photo courtesy of Steve McCaw)



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Representing DNTP during the mini-symposium, Mamta Behl, Ph.D., described a novel approach for screening compounds with the potential for development of neurotoxicity, citing the use of flame retardants to evaluate the screen. (Photo courtesy of Steve McCaw)



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NIEHS Scientific Director Darryl Zeldin, M.D., center right, and DERT Director Gwen Collman, Ph.D., center, enjoyed one of the oral presentations. (Photo courtesy of Steve McCaw)



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Raja Jothi, Ph.D., of the Systems Biology Group, posed a question following Behl's presentation. (Photo courtesy of Steve McCaw)



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In her presentation for the mini-symposium, Kimberly Gray, Ph.D., of the DERT Population Health branch, provided evidence from numerous researchers about the potential role that air pollution may have in general brain health, and the potential role of early exposures leading to life-long changes in normal brain functioning. (Photo courtesy of Steve McCaw)



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Haruhiro Yamashita, Ph.D., a guest researcher in the Investigative Pathology Branch, makes a point to judges Robert Oakley, Ph.D., left, and Leping Li, Ph.D., about his group's poster on experiments with mice treated with ginkgo biloba leaf extract. (Photo courtesy of Steve McCaw)



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Senthilkumar Cinghu, Ph.D., a visiting fellow in the Genome Integrity and Structural Biology Laboratory, presents his team's poster on nucleolin and embryonic stem cell homeostasis to judge Douglas Bell, Ph.D. (Photo courtesy of Steve McCaw)



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The 96 posters occupied a great deal of floor space in the winding corridors at NIEHS and took several hours for the judges to inspect. At least three judges reviewed every poster. (Photo courtesy of Steve McCaw)



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As part of the neurobiology mini-symposium, DIR scientist Patricia Jensen, Ph.D., spoke about new mouse strains for manipulating genetically defined subpopulations of central noradrenergic neurons. (Photo courtesy of Steve McCaw)



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Former NIEHS trainee Kirill Lobachev, Ph.D., from the School of Biology and the Institute for Bioengineering and Bioscience at the Georgia Institute of Technology, described his lab's work on chromosomal repeats. (Photo courtesy of Steve McCaw)



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Lobachev was introduced by Michael Resnick, Ph.D., his training supervisor at NIEHS. "I find this a particularly exciting part of this Science Days series, because we get to see the successes – the successes of our mentorship, and the successes of the people who go out and really do some exciting things," Resnick said. (Photo courtesy of Steve McCaw)



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Alexander and Abramowitz are all smiles as she accepts her award for best oral presentation. (Photo courtesy of Steve McCaw)

(Ernie Hood is a contract writer with the NIEHS Office of Communications and Public Liaison.)

Showcasing trainees

- Nine winning posters were selected by the panel of judges, with the first five receiving a \$1,000 travel award in addition to the certificates awarded to all.
- Sara Andres, Ph.D., Genome Integrity and Structural Biology Laboratory, “Ctp1 tetramers orchestrate DNA end binding and bridging in DNA double strand break repair”
- Hideki Nakano, Ph.D., Immunity, Inflammation, and Disease Laboratory, “Chemokines coordinate differentiation and trafficking of dendritic cells”
- Katie Burns, Ph.D., Reproductive and Developmental Biology Laboratory, “Chemoattractants and cytokines play key roles in the early initiation of endometriosis-like disease in an immunocompetent mouse model”
- Douglas Ganini da Silva, Ph.D., Immunity, Inflammation, and Disease Laboratory, “Incorporation of iron to MnSODs leads to the formation of a peroxidase: possible implications for iron toxicity”
- Hrisavgi Kondilis-Mangum, Ph.D., Epigenetics and Stem Cell Biology Laboratory, “DNA methyltransferases play non-redundant roles during B cell maturation and activation”
- Jennifer Bradbury, Immunity, Inflammation, and Disease Laboratory, “Soluble epoxide hydrolase regulates macrophage phagocytosis and lung bacterial clearance of streptococcus pneumoniae”
- Sophia Harlid, Ph.D., Epigenetics and Stem Cell Biology Laboratory, “Early life exposure to genistein and downstream effects on DNA methylation and gene expression”
- Matthew Schellenberg, Ph.D., Genome Integrity and Structural Biology Laboratory, “Recognition of poly-ubiquitin by the DNA-damage repair protein Tdp2”
- Natacha Steinckwich-Besancon, Ph.D., Signal Transduction Laboratory, “Role of the calcium sensor protein, STIM1, in neutrophil chemotaxis and infiltration into psoriatic inflamed skin”

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