International epidemiology conference shares NIEHS research themes

By Joe Balintfy

More than a dozen NIEHS staff and numerous grantees were among the 1,100 attendees and presenters at the 26th Annual International Society for Environmental Epidemiology (ISEE) Conference *(http://depts.washington.edu/uwconf/isee2014/)*, Aug. 24-28 in Seattle, Washington. Scientific work presented at the conference highlighted the theme of understanding environmental health from local to global perspectives, with a particular emphasis on research that informs policy, according to organizers from the Department of Environmental and Occupational Health Sciences at the University of Washington School of Public Health.

"There was a big emphasis on trying to get students and trainees to the meeting," said conference co-chair, Joel Kaufman, M.D., professor of environmental and occupational health sciences, medicine, and epidemiology at the university, and an NIEHS-funded researcher. He added that the society wanted to include a diverse group of researchers, not only from North America and Europe, where the society has major representation, but also from less developed countries.

Collman said that the online tools described in presentations on the global burden of disease were impressive and showed how epidemiological and population data could be shared. (Photo courtesy of Steve McCaw)

Aligned with NIEHS goals

There were more than 120 sessions, symposia, and meetings throughout the conference. NIEHS scientists from across the institute gave presentations about their work, including studies of respiratory symptoms in oil spill clean-up workers in the Gulf Long-term Follow-up Study *(https://gulfstudy.nih.gov/en/index.html)*, a symposium about integrating the microbiome, a morning session on using personal monitoring tools to measure exposure, and a presentation about the complexity of environmental exposures and their links to health effects.

"Environmental epidemiology research makes up more than 25 percent of all research supported by NIEHS," said Gwen Collman, Ph.D., director of the NIEHS Division of Extramural Research and Training (DERT). "Research grants from NIEHS also provide a training environment for many graduate students and postdocs," she continued. "ISEE is the one scientific meeting which brings together all of these population scientists and trainees and allows for intense interaction between program and review staff and our grantees."

Kimberly Gray, Ph.D., NIEHS health scientist administrator, spoke of the cookstove presentation by Anindita Dutta, Ph.D., from the Energy and Resources Institute, New Delhi, India. "It dovetailed nicely with the most recent National Toxicology Program cookstove meeting, NIH efforts in cookstoves, and the scientific emphasis area of the World Health Organization-NIEHS Collaborating Centre." (Photo courtesy of Steve McCaw)

Connecting with the epidemiology community

Many NIEHS grantees contributed to ISEE sessions and oral poster presentations. Presentations by NIEHS grantees included Carmen Marsit, Ph.D., of Darmouth College, who discussed the approaches that the Dartmouth Children's Environmental Health and Disease Prevention Research Center uses to look at the effects of arsenic on behavior, through placental DNA methylation.

Christine Loftus, a student in the University of Washington School of Public Health, presented work on ammonia exposures in an agricultural community and pediatric asthma mortality. Her research was funded by one of the original NIEHS Research to Action grants *(http://www.niehs.nih.gov/research/supported/dert/programs/peph/prog/rta/karr/index.cfm)*, to Catherine Karr, M.D., Ph.D., an associate professor of Environmental and Occupational Health Sciences and Pediatrics at the university.

Allan Just, Ph.D., of the Harvard School of Public Health, discussed a poster on an approach to reconstructing long- and short-term exposure to air pollution, for epidemiological studies in highly polluted areas.

The next ISEE conference is scheduled for Aug. 30-Sept. 3, 2015, Sao Paulo, Brazil.

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Kaufman, echoing Collman, said of the global burden of disease plenary, "[It was] very interesting and exciting and highlighted a lot of new visualization tools which are available." (Photo courtesy of University of Washington)

In his plenary talk, former NIEHS Director Kenneth Olden, Ph.D., pointed out although genetic changes happen over thousands of years, epigenetic changes allow for faster adaptations, and almost every human disease is associated with epigenetic changes. (Photo courtesy of University of Washington)

Richard Kwok, Ph.D., right, of the NIEHS Chronic Disease Epidemiology Group, said the meeting was also a great way to network with fellow epidemiologists, share best practices, and get help and ideas for collaboration and problem solving. Sara Mishamandani, left, of MDB, Inc., an NIEHS contractor, and Danielle Carlin, Ph.D., from the Superfund Research Program at NIEHS also attended the meeting. (Photo courtesy of Joe Balintfy)

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