Environmental Scientist Joins Review Committee

The HEI Board of Directors has appointed Jana B. Milford, professor of mechanical engineering and environmental engineering at the University of Colorado–Boulder, to the HEI Review Committee. The committee, which has no role in selecting or overseeing projects, evaluates all completed HEI studies and prepares a commentary or critique of each study’s results and interpretations that puts them in a broader scientific and policy context. Milford replaces Ted Russell, who recently stepped down from the committee after completing two four-year terms, the maximum length of service allowed by HEI bylaws.

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Sign Up Now for HEI’s Annual Conference 2016

Join HEI on May 1–3 for the institute’s Annual Conference in Denver, Colorado, the “Mile-High City” just east of the snow-capped Rocky Mountains. A multinational audience of scientists, institute sponsors, and policymakers will join HEI at the historic Brown Palace Hotel, where lively sessions will feature the latest research on air pollution and health. Technical sessions include the following:

Preconference Workshop: Demystifying Causal Inference in Air Pollution Epidemiology

Causal modeling techniques have been proposed as alternatives to conventional epidemiological methods for making inferences about the relationships between air pollution exposures and public health outcomes. This preconference workshop, open to all conference attendees, is intended to provide a basic introduction to causal modeling methods and, drawing on details from recent HEI-funded research, offer useful insight into the conceptual benefits and practical challenges in their application and interpretation.

The Heat Is On: Climate, Air Pollution, and Health

Air pollution and climate are intricately linked. Changes in global climate may alter temperature, precipitation, wildfire, and dust storm patterns, all of which may affect air pollution and public health. Correspondingly, air pollutant levels may affect climate. Regulations aimed at reducing specific air pollutants could

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Milford holds a master’s degree in civil engineering and a Ph.D. in engineering and public policy, both from Carnegie Mellon University, and a J.D. from the University of Colorado School of Law. Her research interests include mathematical modeling and design of control strategies for photochemical air pollution, air pollution exposure assessment and source apportionment, and environmental law and policy analysis. Milford also has a strong interest in public policy and has published extensively in that area. She has previously worked as a Congressional Fellow and analyst at the Congressional Office of Technology Assessment, an assistant professor in the Department of Civil Engineering at the University of Connecticut, and a senior scientist and staff attorney at the Environmental Defense Fund.

Milford serves on the Colorado Air Quality Control Commission. She previously served on the U.S. Environmental Protection Agency’s Science Advisory Board and as a member of the National Research Council’s Board on Environmental Studies and Toxicology.

“The Review Committee welcomes Jana Milford and looks forward to working with and learning from her,” said Review Committee Chair James Merchant. “At the same time we are extraordinarily grateful for the insights and expertise that Ted Russell provided to our deliberations over these past eight years.”

ANNUAL CONFERENCE (Continued from page 1)

either work in concert with or counteract efforts to reduce potential climate-forcing agents. In this session, speakers will explore recent developments in climate research, including health effects from heat, droughts, and forest fires, and discuss how air pollution and climate interact.

How Low Should We Go? New Research on Low-Level Air Pollution

Although pollutant levels are declining in high-income regions, epidemiological studies continue to report associations of air pollution with adverse health effects in the general population even at levels below current air quality standards, providing a continuing impetus for lower standards. This session will review those epidemiological studies, highlight HEI’s new efforts on this topic, and include discussion of critical study design considerations and challenges that the studies will need to confront.

The Global Burden of Disease from Air Pollution and Its Major Sources

The Global Burden of Disease 2013 study estimated that exposure to fine particulate air pollution contributed to some 2.9 million premature deaths in 2013, with nearly two-thirds of those deaths occurring in China, India, and other developing Asian countries. This session will present the most recent estimates of the burden attributable to air pollution in 2013 and trends from 1990 to 2013, as well as new estimates — from HEI’s Global Burden of Disease Major Air Pollution Sources project — of the current and future projected burden of disease from coal-burning and other major pollutant sources in China and India.

Ozone and Cardiovascular Effects: Where Is “MOSES” Leading Us?

Many areas struggle to meet the ozone standard, and changing climate and emissions profiles for ozone precursors paint a complicated picture. HEI recently completed the Multicenter Ozone Study in Elderly Subjects (MOSES), which examined cardiovascular effects at low exposures to ozone. In this session, the MOSES Review Panel will discuss the science behind the 2015 ozone regulations in the United States and the current knowledge — based on the results of MOSES and other human clinical studies — linking ozone to cardiovascular and respiratory effects.

Traffic and Health: Air Pollution, Noise, and Interactions with Socioeconomic Status

This session will explore important factors related to the design and interpretation of health studies of traffic-related air pollution. Speakers will discuss differences in traffic and vehicle mixes around the world and the complex interactions between socioeconomic status and traffic noise in health studies of traffic-related air pollution.

Conference program updates and hotel registration information are available at www.healtheffects.org/annual.htm.

HEI’s New Home

HEI Director of Finance and Administration Jackie Rutledge consults with a construction manager from Garland Building amidst the renovation of HEI’s new home in an art deco building adjoining its current offices on Federal Street in Boston. “HEI’s move to the new space in March will enable a much more efficient operation and save significant funds that can be invested instead in HEI’s science,” said HEI President Dan Greenbaum. “We look forward to welcoming visitors to our new office soon.” HEI’s telephone numbers and e-mail addresses will not change; look for details on the new postal address in the coming weeks.
Support for Awareness in India

At the invitation of the U.S. Department of State’s Speaker Program, HEI Director of Science Rashid Shaikh spent a week in India in early November. During a very packed schedule in the cities of Delhi and Chennai, Shaikh gave seminars about air pollution and health at several academic institutions, including the All India Institute of Medical Science, TERI University, and Sri Ramachandra University, where he also met with many researchers and students. He also gave well-received talks at the American Centers in both Delhi and Chennai and spoke with others in government, nongovernmental organizations, and the media. “After years of notoriety for having some of the most polluted cities in the world,” Shaikh said, “there is now a great deal of awareness and concern in India about air pollution and about steps to control it. I was excited to be in India at such a time and to meet with a wide cross-section of people interested in these issues.”

Annual Report for 2015 Now Available

The 2015 Annual Report — Vision 2020 — describes HEI’s partnership with government and industry to provide high-quality science to inform policy decisions about air quality and public health. The report highlights the vision underlying HEI’s Strategic Plan for Understanding the Health Effects of Air Pollution 2015-2020 and outlines HEI’s contributions in the past year to important questions posed by its sponsors: effects at low pollution levels, traffic pollution, the risk of lung cancer from exposure to diesel engine emissions, and global effects of air pollution. The report also describes how HEI has employed its model for balanced science to design a research agenda for studying unconventional oil and gas development, using separate funding. The report is available for downloading at www.healtheffects.org.

Calculating Air Pollution’s Impact on Health

Members of HEI’s Global Burden of Disease Major Air Pollution Sources (GBD MAPS) Working Group met at the Indian Institute of Technology Bombay (IITB) on January 18 and 19. Participants in the meeting, hosted by GBD MAPS collaborators at IITB’s Interdisciplinary Program in Climate Studies, included Working Group members from India, China, the United States, and Canada. The scientists reviewed the most recent estimates of emissions from major sources of air pollution in India and preliminary estimates of their contribution to current and future PM\(_{2.5}\) levels. These data will be combined with estimates of the Indian burden of disease attributed to PM\(_{2.5}\) (compiled through the efforts of the parent GBD project; see HEI Update, Fall 2014) to estimate, under a range of policy-relevant scenarios developed by the Working Group, the burden of disease from major air pollution sources in India in 2015 and in 2050. HEI expects to issue a report of these new estimates in early 2017. The first GBD MAPS report, Burden of Disease Attributable to Coal-Burning and other Major Sources in China, is now under review and an Executive Summary will be released this spring. GBD MAPS estimates will also be featured in an HEI-organized symposium, “The Burden of Disease from Air Pollution,” at the February meeting of the American Association for the Advancement of Science (details are available at https://aaas.confex.com/aaas/2016/webprogram/Session11601.html).
Road Work for Scientists

In an HEI-funded study, atmospheric scientist Xiaoliang Wang of the Desert Research Institute in Reno, Nevada, and his colleagues are measuring motor vehicle emission rates in the Fort McHenry Tunnel in Baltimore, Maryland (pictured), as well as in the Shing Mun Tunnel in Hong Kong, China. The U.S. and Chinese investigators aim to characterize current real-world mobile source emissions and, given that each of these tunnels has been studied before, to track reductions in emissions over time that have occurred over the past two decades as a result of environmental regulations and improving technology.