

Ellen Mantus Selected as New Director of Science

The Health Effects Institute is very pleased to announce the appointment of Ellen K. Mantus as its new Director of Science. She will begin her work at HEI on May 3.



Ellen K. Mantus

Mantus comes to HEI after a distinguished career at the National Academies of Sciences, Engineering, and Medicine (NASEM) in Washington, DC, where she served on the Board on Chemical Sciences and Technology and the Board on Environmental Studies and Toxicology. She brings

more than two decades of senior-level experience in the fields of toxicology, chemistry, risk assessment, and science review and management.

In her capacity as Scholar at NASEM, Mantus directed more than 20 studies that were central to science and that advanced scientific understanding and the public health of the nation, including ones on toxicity testing strategies, health risks associated with various chemicals, the health benefits of air quality

Continued on page 4

Sign Up! HEI's Virtual Annual Conference 2021

The 2021 HEI Annual Conference will be held virtually with a series of eight targeted and timely webinars in April and May. The series kicks off on April 6. The schedule and registration links follow; for more information, including the speakers, click [here](#).

WEBINAR 1 — April 6, 10 AM–12 noon EDT

Climate Change, Air Quality, and Health
 Click here to [Register](#)

WEBINAR 2 — April 13, 10 AM–12 noon EDT

Environmental Health Research and Communities: Stories of Successes and Challenges
 Click here to [Register](#)

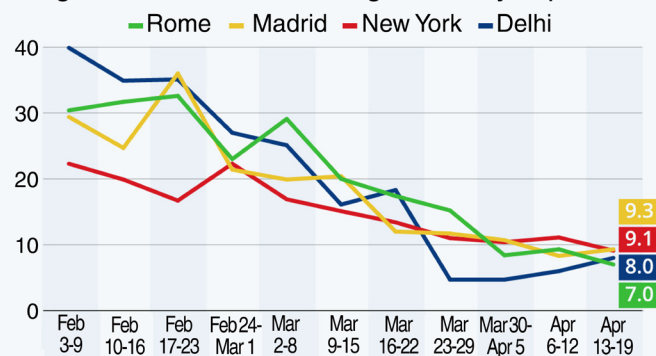
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Five New HEI Studies to Examine Intersection of Air Pollution Exposure, COVID-19

The COVID-19 pandemic has challenged public health across the globe. It has also created unprecedented conditions that call for timely and novel air pollution research aimed at exploring just what may or may not be exacerbating the pandemic, and other key policy-relevant questions. Stay-at-home

Continued on page 3

Nitrogen dioxide levels during February–April 2020



Central locations. 95% of NO₂ in the air is caused by fossil fuel combustion. Source: World Air Quality Index (WAQI) [Statista graphic](#); Creative Commons License [CC BY-ND 3.0](#)

Also in This Issue

Transition in HEI's Global Health Program.....	2
Global Health Oversight Committee Appointed.....	2
In Memoriam: Jane Warren.....	3
Walter A. Rosenblith New Investigator Awards.....	4
Annual Report Published.....	4
Communicating the Science.....	5
David Eaton Receives NAM Award.....	5
HEI Hosts Non-Tailpipe Emissions Workshop.....	5
Three Welcomed to HEI Science Staff.....	6

Transition in HEI's Global Health Program



Katy Walker

Katy Walker Retires After Exemplary Service to HEI

After more than a decade of outstanding work at HEI, Principal Scientist Katy Walker retired at the end of December. Walker has been a member of HEI's science staff since 2009, serving in both the core program and, more recently, the Global Health program.

Walker led several landmark reviews at HEI, including a [Special Report on diesel emissions and lung cancer studies](#) and their use

in quantitative risk analysis and a [review of the health effects of ultrafine particles](#). She has led HEI's Global Health program since 2016, and under her tenure the program has grown to include the [State of Global Air](#) report and website and major studies conducted in China, Ghana, and India.

Walker has also represented HEI science in numerous national and international venues, including the U.S. Environmental Protection Agency, Institute for Health Metrics and Evaluation, European Commission, and World Health Organization.

"Katy Walker has brought the highest standards of scientific inquiry, and a deep understanding of how science can help inform public health policy

decisions, to everything she has done at HEI," said HEI President Dan Greenbaum. "She leaves us with a legacy of excellent contributions whose impact will endure for many years to come."

Reflecting on her tenure at the Institute, Walker said, "I was drawn to HEI because of its commitment to taking on hard questions, to truly independent critical review of important studies, to making all data openly available, and to explaining methods and results clearly for scientists and non-scientists alike. It's a role that's more important than ever."

Walker's contributions to HEI's mission and scientific program will be greatly missed. HEI wishes her all the best.

HEI Senior Scientist Pallavi Pant took the helm of the Global Health program in January. Pant has been a member of HEI's science staff for the past two years and brings more than a decade of experience dealing with air pollution exposure and health issues in South Asia, the United Kingdom, and the United States. She has a PhD in environmental health from the University of Birmingham, United Kingdom, and an MSc in Environmental Studies from TERI School of Advanced Studies, India. [HEI](#)



Pallavi Pant

HEI Appoints Global Health Oversight Committee

For nearly 20 years, the Health Effects Institute has had an active Global Health program supported by a range of international foundations and agencies. Last fall, HEI constituted a new Global Health Oversight Committee, chaired by Jonathan Samet. The Committee is charged with advising HEI on existing global projects, assisting with the design and oversight of research programs, and providing strategic advice to HEI on the growth of the program. The current members are as follows:

Jonathan M. Samet, Chair Professor, Department of Environmental & Occupational Health, and Dean, Colorado School of Public Health, Department of Epidemiology

Kalpana Balakrishnan Associate Dean (Research), Department of Environmental Health Engineering, Sri Ramachandra University, and Director, World Health Organization Collaborating Center for Occupational and Environmental Health, ICMR Centre for Advanced Research on Air Quality, Climate and Health, India

Kiros Berhane Professor and Chair, Department of Biostatistics, Mailman School of Public Health, Columbia University, and Member of HEI Review Committee

Michal Krzyzanowski Visiting Professor, Imperial College London, United Kingdom

Eloise Marais Associate Professor in Physical Geography, Department of Geography, University College London, United Kingdom

VIRTUAL CONFERENCE (Continued from page 1)

WEBINAR 3 — April 20, 10 AM–12 noon EDT

From Global to Local: Informing Air Quality Policies and Decision-Making

Click here to [Register](#)

WEBINAR 4 — April 27, 10 AM–12 noon EDT

The COVID-19 Pandemic, Air Pollution, and Health: Lessons from Around the Globe

Click here to [Register](#)

WEBINAR 5 — May 4, 10 AM–12 noon EDT

From Evidence to Action: Synthesizing Air Quality Evidence Relevant to Public Health

Click here to [Register](#)

WEBINAR 6 — May 11, 10 AM–12 noon EDT

Non-tailpipe Emissions: Impacts on Urban Air Quality and Health

Click here to [Register](#)

WEBINAR 7 — May 13, 10 AM–12 noon EDT

Early Career Researcher Spotlight

Click here to [Register](#)

WEBINAR 8 — May 25, 10 AM–12 noon EDT

What We Have Learned about Effects on Health at Low Levels of Exposure: Evidence from the United States, Canada, and Europe

Click here to [Register](#)

In Memoriam: Jane Warren, longtime HEI Director of Science

Current and former HEI staff members were saddened to learn of the death of friend and former colleague Jane Warren on January 5. Warren served on HEI's scientific staff for more than 25 years, including as Director of Science, retiring in 2008. She worked with hundreds of researchers across the United States and around the world to advance scientific understanding on the health effects of air pollution and inform evidence-based decisions by policy makers.

"Jane was a signal contributor to many of HEI's accomplishments in science and a very important part of building its reputation for scientific quality, integrity, and independence," said HEI President Dan Greenbaum, who served with her from 1994 to 2008. "Among her many science

contributions was the initiation of the HEI Rosenblith New Investigator Awards, which have gone on to jump-start the careers of dozens of up-and-coming scientists," he added.



Jane Warren

Rashid Shaikh, HEI Director of Science Emeritus, said, "Jane was a wonderful and longtime colleague, first at Harvard School of Public Health and then at HEI. We did many things together in the exciting early years of HEI. And I fondly remember staff

gatherings at her home in Lexington, where Jane's hospitality and generosity were always on full display."

In Warren's honor, HEI has initiated the Jane Warren Trainee Conference Award. Up to six award recipients will be invited to give a talk on their research and attend a related virtual networking event as part of HEI's 2021 Annual Conference Webinar series.

Applications are currently under review. Awardees will be selected on a competitive basis after a review of the application and a 500-word abstract. This award previously was known as the HEI Travel Award.

More details of Jane Warren's life can be found [here](#).

AIR POLLUTION EXPOSURE AND COVID 19 (Continued from page 1)

orders have reduced traffic volumes and industrial productivity, resulting in lower emissions and possibly benefits to human health. At the same time, important questions — and some early analyses — have surfaced about possible relationships between air pollution exposure and susceptibility to the effects of COVID-19 infections, although such links remain unclear.

HEI expects to make a valuable contribution to this rapidly expanding new field of research with the launch of five new studies funded after rigorous competition under [RFA 20-1B](#), "Air Pollution, Covid-19, and Human Health." These studies in the United States, Europe, and Asia will focus on two key areas:

- Accountability studies will evaluate how interventions to control the pandemic may have impacted emissions, air pollution, and human health.
- Susceptibility studies will evaluate how air pollution exposure may impact the COVID-19 disease course, as well as differences in health outcomes by race, ethnicity, and socioeconomic status.

Accountability

Kai Chen of Yale University and colleagues will conduct a multicountry study to evaluate whether changes in mortality are associated with changes in ambient NO₂ and PM_{2.5} levels before, during, and after the lockdown and disentangle the short-term effects of NO₂ versus PM_{2.5} on mortality. The analysis will be conducted in four countries: China, Germany,

Italy, and the United States.

Susceptibility

Zorana Andersen of the University of Copenhagen and colleagues will investigate whether exposure to air pollution increases the risk of severe COVID-19 outcomes, and identify the most susceptible groups by socioeconomic status, ethnicity, and comorbidities. Between March and December 2020, the investigators followed more than 3 million adults in Denmark. They will evaluate whether long- (40 years) and short- (1 year) term exposure to several common air pollutants increased the risk of COVID-19 hospitalization and mortality.

Michael Kleeman of the University of California-Davis and colleagues will study the chronic and acute effects of air pollution exposure on COVID-19 incidence, mortality, and long-term complications, including onset of disease formation. Long- (2017–2018) and short- (2020) term exposures will be linked to a large medical records database in Southern California, with assessments at both the neighborhood and individual level.

Jeanette Stingone of Columbia University and colleagues will conduct a retrospective evaluation of the interactions between long-term exposure to air pollution and neighborhood vulnerability to adverse COVID-19 outcomes. They will investigate both single and multipollutant air pollution exposures in relation to COVID-19 hospitalization, inpatient length of stay, ICU admission, ventilator use, and death among a

racially diverse population in New York City.

Cathryn Tonne of ISGlobal and colleagues will test whether long- or short-term exposure to air pollution increases the risk of COVID-19 hospital admissions or mortality and identify vulnerable subgroups among 6 million residents of Catalonia, Spain. They will link air pollution exposures to residents' addresses and inpatient and outpatient electronic medical records.

These one- and two-year studies will be underway early in 2021 under intensive oversight and quality assurance from HEI. For more information contact [Hanna Boogaard](#) or [Eva Tanner](#). [HEI](#)

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HEI is a nonprofit organization funded jointly by government and industry to research and evaluate the health effects of air pollution. An overview of HEI, information on its current research program, and all published HEI reports are available for downloading, free of charge, from the website.

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Three New Rosenblith Awardees Selected for 2020

HEI's Research Committee has selected three applicants from a field of highly qualified candidates to receive the Institute's 2020 **Walter A. Rosenblith New Investigator Award**. The recipients are **Heresh Amini**, assistant professor in the Department of Public Health at the University of Copenhagen; **Joseph Antonelli**, assistant professor in the Department of Statistics at the University of Florida; and **Raphael Arku**, assistant professor in the Department of Environmental Health Sciences at the University of Massachusetts, Amherst.



Heresh Amini

Amini was awarded funding for his proposal "COUPH: Copenhagen Ultrafine Particles and Health." This project seeks to provide novel exposure-response functions for the effects of long-term exposure to ultrafine particles on several mortality and morbidity outcomes, while adjusting for exposures to other traffic-related air pollutants, road traffic noise, and socioeconomic status. The study makes use of a new Danish cohort of 650,000 adults.

Antonelli received his award to explore "Robust statistical approaches to understanding the causal effect of air pollution mixtures." This project seeks to develop statistical methodology



Joseph Antonelli

that allows for complex relationships between air pollution and health outcomes to be used to estimate causal effects of multivariate exposures. Additionally, the proposed methodology will allow for evaluation of separate subgroups in the population to identify the most vulnerable subgroups.

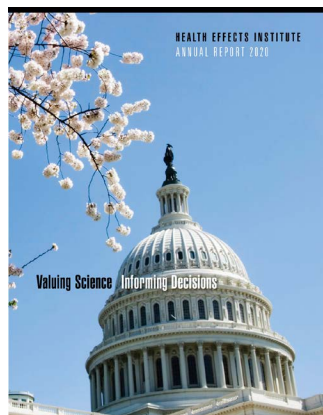


Raphael Arku

Arku was awarded funding to study "Urban air pollution in sub-Saharan Africa: A study of prenatal exposures, birth outcomes, and lower-respiratory infections in infants." This study seeks to examine associations of long-term maternal exposures to PM_{2.5}, NO₂, and environmental noise with adverse birth outcomes in Accra, Ghana. The study also seeks to determine the effect of these exposures on the risk of lower-respiratory infections in infants.

Applying for 2021 Rosenblith Awards

Preliminary applications for the 2021 Walter A. Rosenblith Award are due on March 24. Full applications (by invitation only) will be due on September 1. The award provides funding for up to three years at a total budget of \$500,000. Eligible candidates should be at the assistant professor or equivalent level and within two to seven years of achieving their highest degree. Applicants should contact HEI to check their eligibility before applying. To apply, see [RFA 20-2](#) on the HEI website. [HEI](#)



Annual Report for 2020 now available

The HEI [Annual Report for 2020](#), *Valuing Science, Informing Decisions*, describes how HEI provides high-quality, impartial, and relevant science to inform public policy on air quality and public health.

The report highlights HEI's latest achievements and initiatives, including:

- Four decades of progress at HEI;
- Our strong vision for the future: HEI's Strategic Plan 2020–2025;
- New accountability and exposure studies launched in 2020, and five COVID-19 studies selected more recently;
- How HEI's science has contributed to important U.S. and European decisions on air-quality policy;
- Our targeted Global Health Science program across the world; and
- The strides HEI-Energy is making to examine the potential impact on exposure and health from unconventional oil and natural gas development operations. [HEI](#)

HEI WELCOMES NEW DIRECTOR OF SCIENCE (Continued from page 1)

regulations, electric vehicle deployments, and health impact assessment. As a study director, she successfully oversaw all aspects of scientific assessment and report production from committee selection, operation, peer review, and publication, through communication.

Mantus also brings experience in the private sector as a project manager for ICF Consulting. She received her PhD in chemistry from Cornell University.

"All of us in the extended science family of HEI very much look forward to working with Dr. Mantus in the years ahead as we continue to pursue a robust and challenging research and review agenda," said HEI President Dan Greenbaum. "We are also deeply thankful to Dr. Annemoon van Erp for her outstanding and dedicated leadership as HEI's Acting Director of Science and her continued commitment to HEI during and following Dr. Mantus's transition into the job." [HEI](#)

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Communicating the Science

Webinar Explores “Air Pollution and COVID-19”


The Health Effects Institute, European Respiratory Society, and International Society for Environmental Epidemiology–Europe jointly organized a webinar in December to discuss environmental health research needs and policies to inform the European Green Deal. The virtual meeting, titled “Air Pollution and COVID-19: Clearing the Air and Charting a Post-Pandemic Course,” was chaired by Arzu Yorgancıoğlu of Celal Bayar University in Turkey and HEI President Dan Greenbaum.

Webinar participants discussed air pollution and health in the context of the pandemic, during which disruptions of normal human activity, including lockdowns and travel restrictions, have led to reductions in emissions and improvements in air quality in some locations.

Click here for the [recording](#) and [agenda](#).

Abstracts Wanted: Workshop on New Transportation, Health

The National Academies of Science, Engineering, and Technology are convening a July 2021 workshop, “How We Move Matters.” The workshop will bring together experts in transportation, consumer behavior, and environmental health to share perspectives on the environmental health impact of evolving mobility options.


HEI President Dan Greenbaum is chair of the workshop’s planning committee. Abstract submissions are welcome through April 15. For more information click [here](#). 

NAM Honors David Eaton for Distinguished Service

David Eaton, former chair of the HEI Research Committee, has received the 2020 [David Rall Medal](#) from the National Academy of Medicine (NAM). The award recognizes distinguished leadership and a commitment to Academy work “substantially above and beyond the usual expectations.”



David Eaton

Besides citing his many scientific accomplishments, the NAM notes that “Eaton is known for encouraging camaraderie among committee members, allowing for collective thinking to evolve while balancing the need to bring ideas into a cohesive report, helping facilitate agreement among members by drawing them back to the evidence, and bringing together the talents and expertise of all involved to the final product.” 

Click [here](#) for more information about the award.

Experts Explore Non-Tailpipe Emissions, Exposure

In November, HEI held a [virtual scientific workshop](#) on the air quality and exposure impacts of non-tailpipe particulate emissions from on-road vehicular traffic.

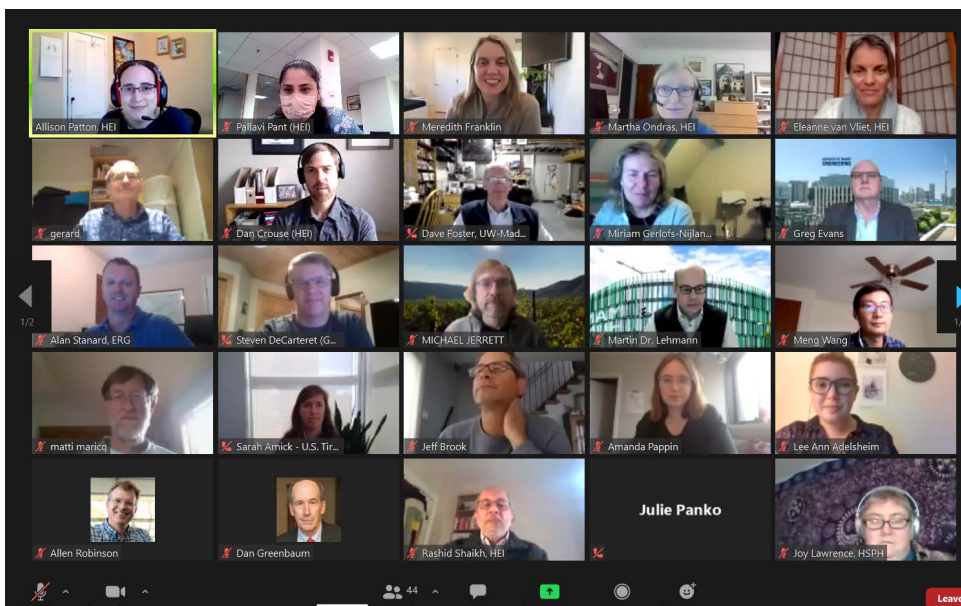
With recent and ongoing substantial reductions in tailpipe emissions, there is increasing interest in non-tailpipe emissions and their potential health effects, specifically particles from tire and brake wear and road dust.

To understand the state of the science and identify priorities for future research in this important area, HEI brought together experts representing research organizations, government, and industry from the United States, Europe, and Japan. Over two days of interactive sessions, participants discussed achievements and knowledge gaps in non-tailpipe emissions characterization, exposure assessment, and assessment of potential health risks.

The workshop was chaired by Allen Robinson of Carnegie Mellon University and the HEI Research Committee, and Meredith Franklin of the

University of Southern California.

The workshop agenda and slide presentations can be found [here](#). 





Health Effects Institute

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HEI Welcomes Three to Science Staff

In recent months three scientists have joined HEI, bringing a range of research interests and professional expertise.

Palak Balyan, an HEI consulting staff scientist based in Delhi, India, works in HEI's Global Health program. She received her PhD from the University of Delhi, where she worked on measurement of bioaerosols and their impact on



Palak Balyan

human health. Before joining HEI she was a postdoctoral fellow at the Center for Atmospheric Sciences at Indian Institute of Technology—Delhi, where she worked on a number of topics including application of satellite data/remote sensing in air quality monitoring, calibration and deployment of low-cost sensors, and exposure assessment. She has a special interest in researching the health effects of air pollution. Balyan is deeply connected with several of HEI's key Indian collaborators.

Martha Ondras is a research fellow at HEI, working with the traffic literature review team. Prior to studying environmental health and joining HEI, she was the director of design at Harvard Business School, responsible for oversight of campus planning and architecture. While serving in this role, she introduced or expanded programs for sustainable design, accessibility, climate resilience, and healthy building materials. In three decades as a practicing architect and planner, Ondras served on the boards of national and state professional societies and led an award-winning architectural firm.



Martha Ondras

Ondras holds a master's degree in environmental health and engineering from Tufts University, a Master of Architecture from the Massachusetts Institute of Technology, and a bachelor's degree in environmental design from the University of California at Berkeley.

Eva Tanner is an HEI consulting staff scientist based in New York. Her areas of expertise include environmental epidemiology and biostatistics. She received an MPH and PhD in environmental health from the University at Albany School of Public Health, where she studied persistent organic pollutants and neuropsychological function among older adults. As a postdoctoral fellow in biostatistics at the Icahn School of Medicine at Mount Sinai, she studied prenatal exposure to endocrine disrupting chemical mixtures in relation to child growth and neurodevelopment. At HEI she contributes to research oversight, review, and science communication. [HEI](#)



Eva Tanner