



2022

ANNUAL REPORT

Climate &
Health Institute

THE GEORGE WASHINGTON UNIVERSITY

THE GW CLIMATE AND HEALTH INSTITUTE

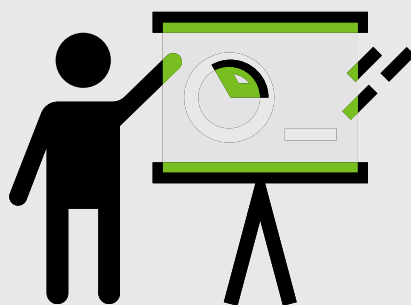
Leading at the intersection of climate change, human health, and equity.

The George Washington University Climate and Health Institute (CHI) was chartered in May 2021 and envisions an evidence-based global response by governments and stakeholders to mitigate the climate crisis and equitably improve public health. The CHI is a university-wide collaboration at GW prioritizing cross-disciplinary research, training, and action to address challenges associated with climate change.

Research



Training



Action



The CHI engages over

40 faculty members across

10 schools at GW

Research

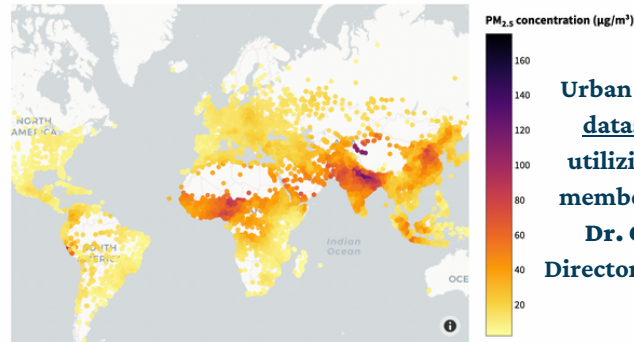


Members of the CHI are engaged in research at the intersection of climate change and human health, encompassing disciplines and focus areas such as air pollution, infectious disease, sustainability, extreme weather, social movements around climate change, risk assessment, occupational health, mental health, food systems and nutrition, and equity and environmental justice.



CHI member and Director of the GW SmartGrid Laboratory, **Dr. Payman Dehghanian**.

Annual Average PM_{2.5} Concentration (µg/m³)



Urban Air quality and health dataset for 13,000 cities, utilizing research from CHI members **Dr. Dan Goldberg**, **Dr. Gaige Kerr**, and CHI Director, **Dr. Susan Anenberg**.

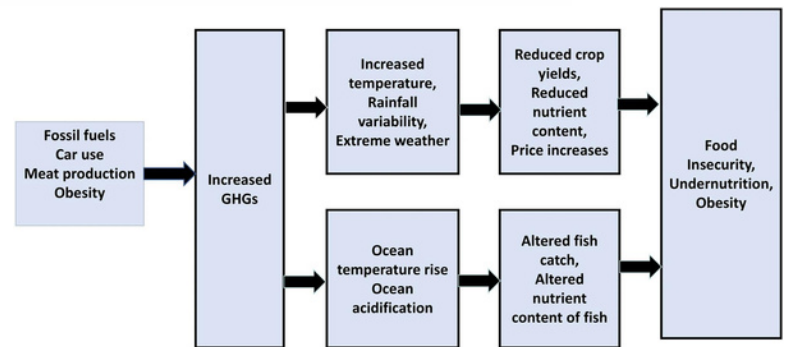
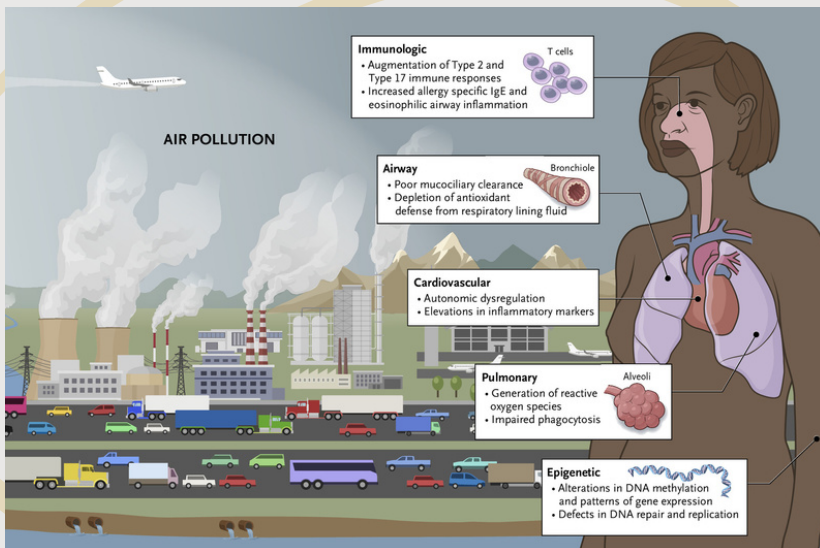


Figure from a recent publication by CHI members, **Dr. Bill Dietz** and **Sydney Pryor**, demonstrating pathways by which increased greenhouse gases affect food insecurity and undernutrition.

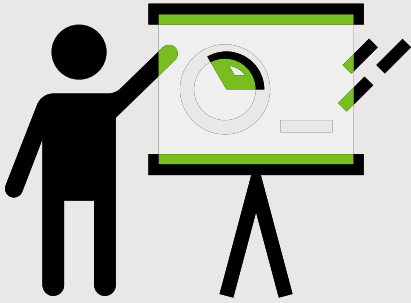


Publication Spotlight

Health and Clinical Impacts of Air Pollution and Linkages with Climate Change

Published in *NEJM Evidence*, this review authored by **Dr. Anjeni Keswani**, **Dr. Hana Akselrod**, and **Dr. Susan Anenberg** synthesizes the state of the science regarding the health impacts of air pollution and climate change, with a particular focus on aspects that can inform patient care and clinician engagement in broader societal initiatives to lessen the health consequences of climate change.

Training



Training the next generation in addressing the health consequences of climate change, as well as providing continuing education for professionals in the field, is at the forefront of the GW Climate and Health Institute's mission.

The George Washington University offers a variety of courses and programs, across multiple schools, to empower leaders in equitably minimizing climate change and its health consequences.

Internal Medicine Grand Rounds:

In May 2022, several CHI members including **Dr. Anjeni Keswani** and **Dr. Hana Akselrod** from the School of Medicine and Health Sciences, and **Dr. Susan Anenberg** from the School of Public Health, facilitated Grand Rounds in Internal Medicine on the topic of climate change and human health effects.

Course Offerings:

Milken Institute School of Public Health

THE GEORGE WASHINGTON UNIVERSITY

Sustainable Energy and the Environment

Social Dimensions in Climate Change and Health

Researching Climate Change and Human Health

Global Climate Change and Air Pollution

School of Medicine & Health Sciences

THE GEORGE WASHINGTON UNIVERSITY

Wilderness Medicine

Occupational and Environmental Medicine

Disaster Medicine

Environmental Health Track Medicine

Climate and Health Research and Practice Webinar Series

The CHI held a webinar series on a monthly basis throughout the course of the academic year. Engaging over **583** participants in **8** webinars, the series was successful in facilitating discussions on a range of topics in the climate and health space.

Webinar Schedule

September 2021: The Fifth National Climate Assessment; Allison Crimmins

October 2021: Introduction of the Office of Climate Change and Health Equity; Dr. John Balbus

November 2021: Our Climate Emergency: A Costly Public Health Burden; Dr. Vijay Limaye

December 2021: Introduction of the 2021 Lancet Countdown; Dr. Renee N. Salas

January 2022: Climate Change and Health - Challenges and Opportunities; Dr. Madeleine Thomson

February 2022: Climate Change and Mental Health: Research to Action; Dr. Susan Clayton | Dr. Lise Van Susteren | Dr. Arthur C. Evans, Jr. | Dr. Lynn Goldman | Meighen Speiser

March 2022: Health in the Social Cost of Carbon: Recent Advances to Fill a Critical Gap; Dr. Kevin Cromar | Dr. Noah Scovronick | Dr. Tamma Carleton | Dr. Susan Anenberg | Dr. Jay Shambaugh

April 2022: The Role of Climate Change in Clinician Education; Dr. Rebecca Philipsborn | Dr. Gaurab Basu | Dr. Cecilia Sorensen | Dr. Neelu Tummala

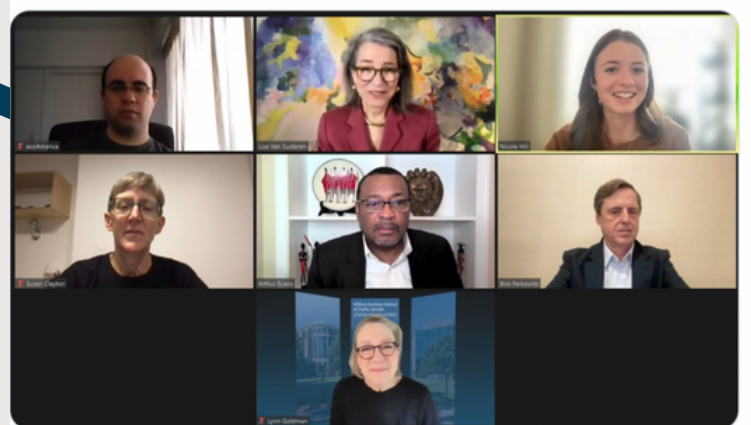
In partnership with EcoAmerica, the CHI co-led a webinar titled, **Climate Change and Mental Health: Research to Action**. The panel discussion evaluated the current state of the science regarding climate change and mental health, examined how this public health threat is being addressed in clinical practice, and concluded with a discussion on societal solutions to mitigate greenhouse gases.

 **ecoAmerica**
@ecoAmerica

"We have to not only recognize that climate change is a threat, but realize that it is also an opportunity for us to recognize the interdependence of human & ecosystem health." - Susan Clayton, PhD at the Climate Change & Mental Health webinar with [@gwclimatehealth](#) & [@ecoAmerica](#)




Why focus on mental health?
Mental health as part of overall wellbeing



Faculty and Student Roundtable Discussions

During the Spring semester, the CHI initiated a series of faculty-led discussions, aiming to foster engagement between GW students and faculty. Discussions included a range of topics and were facilitated by faculty members across multiple GW schools. Roundtable discussions engaged 122 GW faculty and students over two sessions.



Dr. Sabrina McCormick, CHI Co-Director and Associate Professor in the Environmental and Occupational Health Department at the Milken Institute School of Public Health, led a participatory discussion on the 2021 Netflix film "**Don't Look Up.**"



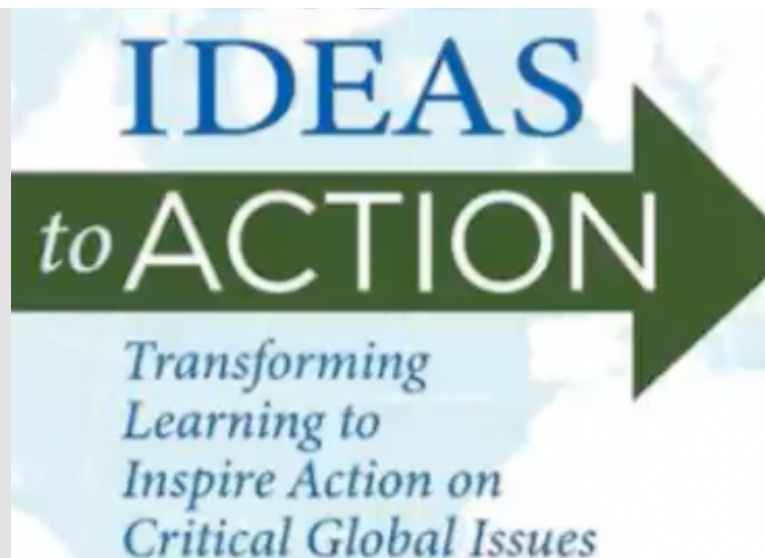
Professor Robert L. Glicksman, J. B. and Maurice C. Shapiro Professor of Environmental Law at the George Washington University Law School, led a participatory discussion on the Supreme Court Case, *West Virginia v. Environmental Protection Agency*, examining the effect this decision would have on the EPA's authority to regulate greenhouse gases.

BROADER ENGAGEMENT

In addition to events facilitated by the CHI, members are active in organizing and participating in cross-departmental and university-wide events.

Education for Global Sustainability: From Ideas to Action

CHI Member and co-chair of the GW UNESCO Chair in International Education for Development, **Dr. Laura Engel**, along with the Smithsonian Science Education Center, hosted a virtual webinar about the teaching of sustainability and environmental science. Discussion centered around the role of education in solving the climate crisis, effects of climate change around the globe, and the United Nation's Sustainable Development Goals.

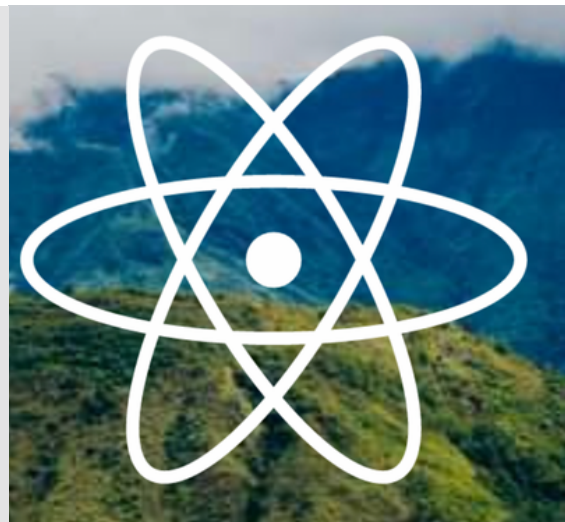


Worldwide Climate Teach-in: D.C.

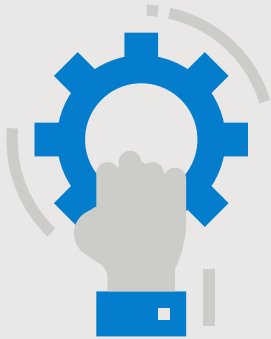
CHI member and Director of the Sustainability Minor Program at GW, **Dr. Tara Scully**, helped to organize the DC Climate Teach-in. The aim of the teach-in is to bring together Universities in the area (Georgetown, George Mason, American University, Howard University, University of the District of Columbia, Trinity Washington University, and Catholic University) to engage in discussion on climate solutions. GW events included several panels which involved CHI members, such as **Dr. Royce Francis**, **Dr. Anjeni Keswani**, **Dr. Bill Dietz**, and CHI Co-Director **Dr. Neelu Tummala**.

Investable Nuclear Energy: Building a Secure, Safe, Environmentally and Socially Just, and Investable Nuclear Energy Fuel Supply Chain for the Future (A GW Energy Law Conference)

CHI Member and GW Energy Law Program Director, **Donna Attanasio**, was involved in organizing a 4-day conference to consider challenges and build strategies for better integration of environmental and social justice measures, as framed by the investment community, with focus areas of energy security and safety.



Action



CHI members are active in the climate and health space in a variety of ways, including providing comments in response to requests for information from federal agencies, co-signing an Amicus Brief submitted to the Supreme Court, and engaging in public testimony.

Submitted Comments

- National Institutes of Health (NIH)
- Agency for Healthcare Research and Quality (AHRQ)
- U.S. Environmental Protection Agency

Nos. 20-1530, 20-1531, 20-1778, and 20-1780

IN THE
Supreme Court of the United States

STATE OF WEST VIRGINIA, ET AL., *Petitioners,*

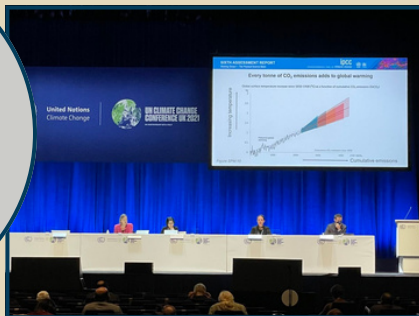
v.

U.S. ENVIRONMENTAL PROTECTION AGENCY, ET AL.,
Respondents.

On Writs of Certiorari to the United States Court of
Appeals for the District of Columbia Circuit



Members of the CHI, including the Michael and Lori Milken Dean, Dr. Lynn Goldman, and CHI Director, Dr. Susan Anenberg, co-signed an Amicus Brief that was submitted to the Supreme Court in support of the Environmental Protection Agency's ability to regulate climate-warming greenhouse gases.



CHI Member and Research Director of Sustainable GW, Dr. Robert Orttung, attended the COP26 summit as a GW faculty representative to observe key policy conversations on how to reduce climate change. Academic professionals were invited to discuss ways to reform curriculum and promote teaching about climate change.

Council of the District of Columbia
Committee on Transportation & the Environment

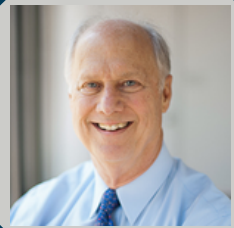
Public Hearing

B24-565 - Safe Routes to School Expansion Regulation
Amendment Act of 2021

B24-566 - Walk Without Worry Amendment Act of 2021

Mary M. Cheh, Chair

Monday, March 14, 2022



CHI member and Director of the Sumner M. Redstone Global Center for Prevention and Wellness, Dr. Bill Dietz, gave public testimony before the D.C. Council's Committee on Transportation & the Environment on the climate and health benefits of the Walk Without Worry Amendment Act, which would require design and engineering standards for safer pedestrian infrastructure in the District of Columbia.



Testimony Before the
Committee on Education
Performance Oversight Hearing on
District of Columbia Public Schools
Council of the District of Columbia

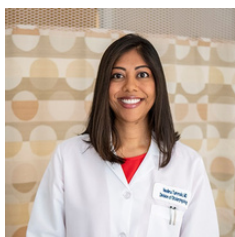
Rachel Clark
Policy Director, Redstone Global Center for Prevention & Wellness
Milken Institute School of Public Health
The George Washington University

March 1, 2022

CHI member and Policy Director of the Sumner M. Redstone Global Center for Prevention and Wellness, Rachel Clark, gave public testimony before the Committee on Education Performance Oversight Hearing on the benefits of promoting sustainable food procurement for DC Public Schools.

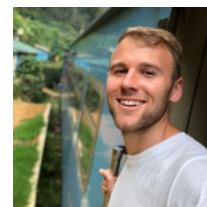
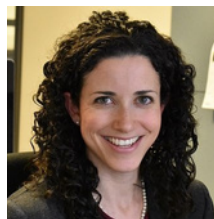
CHI Members in the News

Op-Eds



CHI Co-Director, **Dr. Neelu Tummala**, wrote several op-eds throughout the year:

- Published in *The Hill* titled, "Senate's proposed clean energy standard is a major win for health."
- Published in *The Virginia Mercury* titled, "Governor should reconsider policy decisions that will hurt the environment."



CHI member and Postdoctoral Research Scientist, **Dr. Gaige Kerr**, and CHI Director, **Dr. Susan Anenberg**, wrote an op-ed published in *STAT* titled, "The pandemic made clear who doesn't get to breathe clean air. Now what?"

News

CHI member and Associate Professor in the Environmental and Occupational Health Department at GWSPH, **Dr. Sabrina McCormick**, contributed to a WUSA9 segment titled, "New United Nations Health Agency report declares 99% of global population breathes air that exceeds quality limits."



CHI member and Assistant Research Professor in the Environmental and Occupational Health Department at GWSPH, **Dr. Dan Goldberg**, contributed to a WUSA9 segment titled, "Humans are driving climate change but they can also fight against it."



Collaborations, Partnerships, and Funding

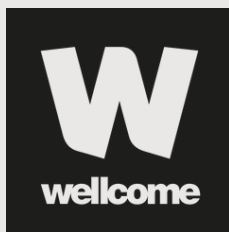
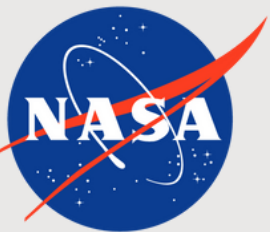


In April 2022, the GW Climate and Health Institute was officially announced as being a part of the NAM Climate Collaborative, declaring their commitment to mitigate climate change and protect human health, well-being, and equity. The CHI, along with more than 100 other organizations around the world, aim to collectively activate all parts of the health sector for sustainable change.



In November 2021, the GW Climate and Health Institute joined The Medical Society Consortium on Climate and Health as a new affiliate, aiming to advance our shared commitment to mitigate the harmful effects of climate change on human health.

In addition to the GW Cross-Disciplinary Research Fund, CHI members receive grant funding from the following:



Robert Wood Johnson Foundation



Milken Institute School
of Public Health
THE GEORGE WASHINGTON UNIVERSITY

Sumner M. Redstone
Global Center for
Prevention & Wellness

BELMONT
FORUM



The CHI received a generous donation from Emeritus Harvard University Professor, and Adjunct Professor in the Department of Environmental and Occupational Health at the Milken Institute School of Public Health, **Dr. Ralph Mitchell**. As an Environmental Microbiologist, Dr. Mitchell has done seminal research on the effects of climate change on microbial processes.



Climate & Health Institute

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