



Accelerating Precision Environmental Health: Demonstrating the Value of the Exposome

July 22, August 5, 12, 19, 26
Virtual Workshop Series

Overview

Please review this pivotal moment to catalyze the shift from defining the exposome to doing it. Together, we were shaping the future of exposomics at the intersection of environment and health/disease research.

The comprehensive and systematic analysis of the environmental drivers of health and disease requires us to solve complex challenges collaboratively and chase exciting opportunities:



- Tools, Technologies, and Methodologies (*measuring the exposome*)
- Biological Responses and Impact on Health and Disease, (*integrating multi-omics with biomarkers of exposure, response, effect, susceptibility, vulnerability, and resilience*)
- Future of Clinical & Prevention Trials, Cohorts and Epidemiology (*designing studies, calculating power, approaching pooling*)
- Social and Societal Impacts (*integrating social determinants of health, diversity, health disparities, privacy, trust, etc...*)
- Data Infrastructure, and Data Analytics (*sharing data and harmonizing it; analyzing, interpreting, visualizing, and modeling data*)

Collaboration Will be Central to Our Success.

Review expanding and catalyzing the emerging exposomics community dialogue, to discover, determine and design the best ways to operationalize every aspect of exposomics, in an effort reminiscent the evolution of genomics, from replication to genome-wide-significance to functional genomics.

A Virtual Workshop Series and In-person Summit Event.

We were holding six virtual workshops this summer, to address the challenges and opportunities in the areas described above. A subset of virtual attendees were invited to attend an in-person summit in Research Triangle Park, North Carolina in mid-September.

An Ambitious Goal and Pivotal Moment.

In these working sessions, we explored what it means to conduct exposomics experiments, develop new tools, techniques, and technologies, share data for maximizing in silico experimentation, and cultivate the research continuum from fundamental to population health. All this work will contribute to developing a framework for demonstrating the value of the exposome in environmental health.

Your Participation Is Important to Our Success!

This was also your opportunity to collaborate with a large, diverse group of scientific leaders representing a spectrum of disciplines, geographies, and perspectives. Together we designed a purposeful approach, put exposomics into action, demonstrated its value, and laid a solid foundation for advancement and widespread application and adoption.

What the Sessions Were Like? Open and Active!

You helped create our working agenda. Anything you cared about could be considered and advanced. You directed your own involvement and was able to maximize your own learning and contribution. You were able to connect personally and practically with everyone else who joins and receive copies of all the notes from all our many working, breakout conversations. During the last virtual session, you helped sort out priorities for moving forward with individual and collaborative efforts. Throughout these sessions, you had the flexibility to come and go as you needed to.

NIEHS Contacts

David Balshaw, Ph.D.

Acting Director, Division of Extramural Research and Training
balshaw@niehs.nih.gov

Yuxia Cui, Ph.D.

Health Scientist Administrator
yuxia.cui@nih.gov

Questions?

For logistical questions, please contact [Kerri Voelker](#) (or 919-794-4710).