

# Microplastics and Health Webinar Series: Webinar 1 – Methodologies for appropriate and improved sampling, analysis, characterization, monitoring, and reporting of microplastics

February 27th, 2024 | 11:30AM – 1:00PM ET



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FEBRUARY 27<sup>TH</sup>, 11:30AM - 1:00PM – All Times in Eastern Time

11:30am	Welcome and Meeting Overview	<b>Moderator:</b> Darrell Boverhof, Dow
11:35am	Session 1: Methodologies for appropriate and improved sampling, analysis, characterization, monitoring, and reporting of microplastics	<b>Moderator:</b> Darrell Boverhof, Dow  <b>Speakers:</b> Jeanne Hankett, BASF Imari Walker-Frankin, RTI International
12:00 pm	Q&A From the Presentations	<b>Moderator:</b> Darrell Boverhof, Dow
12:10pm	Session 2: Multisectoral panel discussion – identify gaps and propose solutions to improve research	<b>Moderator:</b> Rachel Meidl, Rice University's Baker Institute for Public Policy  <b>Panelists:</b> Jeanne Hankett, BASF Imari Walker-Frankin, RTI International Alessio Gomiero, NORCE Microplastics Center Leah Thornton Hampton, Southern California Coastal Water Research Project
12:55pm	Brief Reflections and Goals of Future Webinars	<b>Moderator:</b> Rachel Meidl, Rice University's Baker Institute for Public Policy
1:00pm	ADJOURN	

### About the Webinar

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The National Academies of Sciences, Engineering, and Medicine's Environmental Health Matters Initiative is organizing a webinar series to explore human exposure to and related health effects of microplastics in the environment.

The first webinar will promote awareness and provide a standard baseline understanding of microplastics' critical characteristics and associated future research direction. Specifically, speakers and panelists will highlight best practices and considerations for the collection, measurement, and characterization of microplastics in different media. They will also explore the latest scientific findings that could enhance the comparability, reproducibility, and transparency of future microplastic research, providing crucial insights to inform downstream decision-making.

### Example Questions that could be covered

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- What improvements are needed in methodologies for field sampling, sample preparation, laboratory analysis, measuring/quantification, identification, characterization, reporting, QA/QC, etc., to enhance our understanding of microplastics? And why is this important?
- How reliable, replicable, and standardized are current methods? What are the most critical research gaps?
- How do sampling methodologies vary across environmental matrices (e.g., water, soil, air, food, biological samples)?
- What are the most critical characteristics of microplastics that should be prioritized in risk assessments (e.g., size, shape, polymer composition, chemical additives, bioavailability)?
- In the context of characterization, what advice would you give to any researcher looking to assess the potential impact of microplastics on human health?

### Speaker Biographies

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#### Alessio Gomiero

Dr. Alessio Gomiero is an ecotoxicologist with solid competence in analytical chemistry. He has been involved in projects evaluating the effects of anthropogenic stressors associated to aquaculture, oil & gas production and municipal sewage discharges using combined chemical, biological and ecological monitoring tools. More recently, Dr. Gomiero specialized in chemical quantification and characterization of polymers in environmental matrices and their associated biological effects on model organisms. He leads research initiatives toward the method development to estimate micro and nanoplastics occurrence and composition in marine, freshwater and terrestrial environments. Dr. Gomiero is also the scientific coordinator of the North Atlantic Microplastic Centre and a member of several expert groups dealing with plastic pollution including ICES, AMAP and ISO.

#### Jeanne Hankett

Dr. Jeanne Hankett is the Sustainability Lead for the Corporate Analytical & Material Science Department at the BASF Corporation. She manages the North American Biodegradation & Microplastics Center of Excellence, the launching of regional analytics programs for sustainability, and is BASF Corp's subject matter expert for microplastics, having researched & advanced analytical methodologies for this field since 2013. Dr. Hankett collaborates daily with a diverse global network including academia, government, and external stakeholders to advance the polymeric circular economy. She has published more than two dozen peer-reviewed articles in sustainability and her academic and industrial research has spanned the topics of fuel cells, solar energy generation, sustainable plastics & polymers, molecular environmental interfaces, recycling, and of course, microplastics. Before joining BASF in 2017, she received her BS in Chemistry from the University of Illinois at Urbana-Champaign and her PhD in Analytical Chemistry from the University of Michigan, where she also conducted a research & teaching post doc.

### Leah Thornton Hampton

Dr. Leah Thornton Hampton is a Senior Scientist in the Southern California Coastal Water Research Project's Toxicology Department who specializes in characterizing the toxicological effects of environmental contaminants, including microplastics. Her current work is focused on the development and standardization of monitoring tools for microplastics, including collection and analytical methods. Dr. Thornton Hampton holds a Ph.D. in biology from the University of North Texas, an M.S. in biology from Texas Christian University and a B.S. in zoology from Miami University.

### Imari Walker-Franklin

Dr. Imari Walker-Franklin is a research chemist at RTI International that contributes research to determining human and environmental exposure to potentially harmful substances. One project includes working to understand the release and effect of microplastics and microplastic associated chemicals within simulated human fluids and tissues. In 2021, Imari completed her PhD at Duke University investigating the release, transformation and effects of polymer associated chemicals within aquatic environments. Imari Walker-Franklin and Jenna Jambeck are the co-authors of the book *Plastics* (2023), which is a part of the MIT Essential Knowledge Series. Dedicated to science communication and outreach, Dr. Walker-Franklin created a plastic pollution focused Youtube channel, participated in podcasts, provided scientific expertise to journal articles, and participated in public speaking science events for general audiences. Dr. Walker-Franklin's research interests include plastic pollution, emerging contaminants, and analytical chemistry.

### Next Webinars

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- Webinar #2: **The Distribution of Microplastics in the Environment and Human Exposure Pathways.** Date: March 20, 2025
- Webinar #3: **The Potential Hazards to Human Health and The Environment from Microplastics and the Complexity of Assessing Risks.** Date: April TBD
- Webinar #4: **The Critical Role of Risk Communication when Considering Mitigation Exposure to Microplastics to Protect Human Health.** Date: May TBD