

2020 U.S.-EU NanoEHS COR Workshop

Bridging Insights and Perspectives

September 16–17

Daily runtime: 6:30 (Pacific)/9:30 (Eastern)/15:30 (Central Europe) – 10:30/13:30/19:30

The U.S. National Nanotechnology Initiative (NNI) and European Commission have organized the ninth annual meeting of the nanoEHS Communities of Research (CORs) as a virtual workshop on September 16–17, 2020. As the nanoEHS research ecosystem continues to evolve, this event will identify future needs and opportunities. Conversations will further address how the lessons learned from nanoEHS research can be applied to other areas such as emerging technologies and incidental nanomaterials. The workshop will foster high-level discussions of nanoEHS and related areas to explore connections and synergies that will drive responsible development of nanotechnology into the coming decades.

The event will run for four hours each day. Webcast plenaries (🎤) will include live Q&A portions. Breakout sessions (👥) will feature interactive discussion.

Wednesday, September 16

PDT/EDT/CEST

Agenda

6:30/9:30/15:30

Welcome and Program Overview 🎤

Lisa Friedersdorf, U.S. National Nanotechnology Coordination Office (NNCO)

6:45/9:45/15:45

Working Towards a Harmonized Nanosafety E-Infrastructure for Data and *In Silico* Tools 🎤

Thomas Exner, Edelweiss Connect GmbH

7:15/10:15/16:15

Breakout Discussions 👥

- **Databases and informatics**

Co-chairs: Fred Klaessig (Pennsylvania Bio Nano Systems, LLC) and Vladimir Lobaskin (University College Dublin). Discussions will explore technical needs to support database integration and interoperability, including ontologies and data exchange formats, and a U.S.-EU case study on incorporating FAIR principles in research.

Format: Introductory comments by co-chairs, followed by open discussion.

- **Applying lessons learned from engineered nanomaterials (ENMs) to incidental materials**

Co-chairs: Wouter Fransman (TNO), Socorro Vazquez (Leitat Technological Center), and Paul Westerhoff (Arizona State University). This session will identify key successes and opportunity areas—including the availability of assessment tools, methods, and assays—for characterizing incidental nanomaterials and for distinguishing their source. The aim is to understand which lessons learned regarding engineered nanomaterials can be applied to, or taken from, monitoring, testing, and regulation of incidental nanomaterials.

Format: Discussion.

- **Developing and adapting risk assessment frameworks for novel risks**

Co-chairs: Andrew Byro (U.S. Environmental Protection Agency) and Danail Hristozov (University Ca' Foscari of Venice). The conversation will address the needs, requirements, and conditions for adapting and adopting the maturing nanomaterial risk assessment frameworks to cope with novel risks.

Format: Discussion.

FINAL AGENDA

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Agenda

- **Integrating molecular approaches in risk assessment**

Co-chairs: Arno Gutleb (Luxembourg Institute of Science and Technology) and Christie Sayes (Baylor University). Many tools, methods, and computational resources exist and are routinely used to investigate molecular mechanisms behind nanomaterial effects. Endpoints related to mechanisms of action include gene and protein expression, cytokine and chemokine production, triggered repair mechanisms, and molecular pathway perturbations. This session will examine resources available and share experiences integrating molecular biology in nanomaterial-specific hazard identification. Because there are only a few examples of risk assessments integrating molecular bio-signatures induced after nanomaterial exposure, this session will also discuss possible avenues of new collaborations to aid in precise and targeted decision-making frameworks. Format: Discussion prompted by engagement tool questions.

9:00/12:00/18:00

Break

9:25/12:25/18:25

Breakout Session Reports & Discussion

9:50/12:50/18:50

Detecting and Characterizing Nanoplastics in Real-World Samples

Julien Gigault, French National Centre for Scientific Research
Souhail Al-Abed, U.S. Environmental Protection Agency

10:30/13:30/19:30

Day 1 Concludes

FINAL AGENDA

Thursday, September 17

PDT/EDT/CEST [Agenda](#)

- 6:30/9:30/15:30 **Day 2 Welcome** 
Stacey Standridge, NNCO
- 6:35/9:35/15:35 **NNI Overview & Updates** 
Lisa Friedersdorf, NNCO
- 7:05/10:05/16:05 **Breakout Discussions** 
 - **Assessing mixtures – nanoplastics and beyond**
Co-chairs: Adeyemi Adeleye (University of California, Irvine) and Susana Loureiro (University of Aveiro). This session will examine progress and key barriers to assessing the environmental fate and toxicity of complex mixtures, including nanoplastics and other (emerging) contaminants. There will be an opportunity to discuss the potential for approaches from other disciplines to tackle hazard and risk assessment of the increasing diversity of novel materials.
Format: Opening presentation by Christie Sayes (Baylor University), followed by open discussion.
 - **Applying nanoEHS lessons to other emerging contaminants**
Co-chairs: Janeck Scott-Fordsmand (Aarhus University) and Mark Wiesner (Duke University). Discussions will cover how the body of nanoEHS knowledge, including tools and methods, has the potential to advance assessments of a range of emerging contaminants, including complex, hybrid materials and structures.
Format: Discussion
 - **Evaluating governance frameworks to make risk-based decisions on ENMs**
Co-chairs: Khara Grieger (NC State University) and Ulla Vogel (Danish National Research Centre for the Working Environment). The session will provide a landscape view of ENM risk-based decision frameworks, followed by a facilitated discussion on best practices for developing and using these frameworks for ENMs and other emerging contaminants.
Format: Introductory remarks by Khara Grieger followed by presentation by Keld Alstrup Jensen (EU H2020 caLIBRAte and the Danish National Research Centre for the Working Environment), followed by open discussion.
- 8:50/11:50/17:50 **Break**
- 9:15/12:15/18:15 **Breakout Session Reports & Discussion** 
- 9:45/12:45/18:45 **Horizon Europe Overview** 
Aleksandra Malyska, European Commission
- 10:15/13:15/19:15 **Workshop Wrap-Up Discussion** 
Stacey Standridge, NNCO
- 10:30/13:30/19:30 **Workshop Concludes**