

Measurement strategies for nanomaterials – applicability to the environment

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Industry Consortium for Environmental
Measurement of Nanomaterials (ICEMN)

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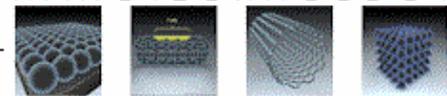


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ICEMN – who we are

- A consortium of 35 stakeholders (industry, academia) involved with the production, assessment, and use of nanomaterials.
- Sectors represented:
 - Academia in California
 - Metal oxide, silver, quantum dot manufacturers
 - Experts from related industries

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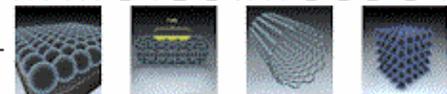


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- AECOM
- BASF
- Bergeson & Campbell, P.C.
- Cristal Global
- Croda
- Department of Defense
- DuPont
- ePatentManager
- Evonik
- HeiQ
- Huntsman Corporation
- NanoHorizons Inc.
- Nanophase
- Nanotechnology Industries Association
- nanoTox, Inc.
- OSO BioPharmaceuticals Manufacturing LLC
- P&G
- PerkinElmer
- QD Vision RTI, International
- Silver Nanotechnology Working Group
- SCAS Europe S.A./N.V. (SCASE)
- Titanium Dioxide Stewardship Council Nano Work Group
- Toxic Use Reduction Institute
- University of California -- Berkley
- University of California -- Irvine
- University of California -- Los Angeles
- University of California -- Santa Barbara
- University of Massachusetts

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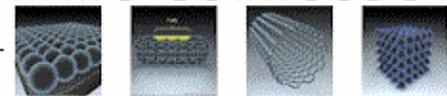


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ICEMN – what we do

- Our mission:
 - to provide the California Department of Toxic Substances Control (DTSC) or other regulatory bodies information that could be used to measure nanoscale materials in air, surface water, and soil.
 - To ascertain if methodologies used to identify, quantify, or characterize certain nanoscale materials in other media can be adapted to measurement in the environment.
 - To establish collaborative activities with academic investigators/institutions that can provide expertise and/or research activities on the environmental measurement of certain nanoscale materials.
 - To support – either financially or with expertise – field studies that quantify the level of certain nanoscale materials in the environment.

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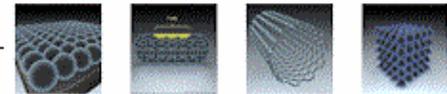


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- Our goal for this symposium
 - To provide an understanding of the how metal oxides are measure in various media under controlled conditions,
 - To explore if those strategies are adaptable to the uncontrolled environment and what might be required.

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Program

Topic	Speaker
Examples of measurement strategies for air	M. Ostraat, RTI
Examples of measurement strategies for water and liquid media	M. Montes, UCSB
Use and Testing of Nanomaterials for SPF Applications	G. Grune, ePatentManager
The importance of background measurements	M. Ostraat, RTI
Technology constraints and Confounding factors	A. Salamon, PerkinElmer
Current methods used in controlled environmental studies	I. Ji, UCLA

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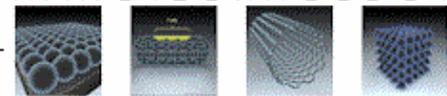


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Discussion questions

- How adaptable of these benchtop methods to field work?
Will strategies need to include grab sampling?
- What standards should be used for calibration (e.g., is P25 representative of any TiO_2 ?).
- How can background levels be distinguished from contaminant? Do levels vary with season?
- What new developments will be needed in metrology?
Will metrology need to change to fit the characteristics of each nanomaterial?
- Should biological media be included in field studies?

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