

Applications of Nanotechnology for Safe and Sustainable Environmental Remediations

Nano-4-Rem

ANSSER_s

INAUGURAL WORKSHOP

Understanding and meeting information and technology needs, including prevention of occupational and environmental exposures to engineered nanoparticles

Hammond, Louisiana

June 5-7, 2013

<http://selu.edu/nano-4-rem-anssers>

Organized by **Southeastern Louisiana University**

In cooperation with government, industry, academic, and occupational partners

Background: Groundwater or soil contamination is present at most Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and Resource Conservation and Recovery Act (RCRA) corrective action sites. Traditional technologies, such as pump-and-treat (P&T) and permeable reactive barriers (PRBs), have been used for decades to remediate such sites. In recent years, remediation strategies involving engineered nanoparticles (ENPs) such as zero-valent iron and titanium dioxide have been demonstrated as viable time-saving and cost-effective alternatives to traditional remediation. In addition, advances in nanotechnology-enabled assessment and monitoring methods such as nano-sensors may support more extensive, reliable, and cost effective assessment and management of remediation activities.

At the same time that applications of nano-enabled strategies and methods for environmental remediation are increasingly promising, there is a growing body of evidence linking exposure to certain nanomaterials with adverse health effects in animals at the laboratory scale. The challenge is to ensure that such applications are both safe and sustainable. Thus, scientific and technical information about toxicological properties of nanomaterials, work practices associated with the handling and use of nanomaterials, the communities in and around the contaminated sites, and other aspects of safe and proper use is needed to help environmental cleanup practitioners anticipate, recognize, evaluate, control, and confirm the safe management of potential risks associated with occupational and environmental exposures to nanomaterials.

Workshop objectives: This is the first national workshop that provides an opportunity for representatives from the environmental remediation community, industry, academia, and government to:

- Share their perspectives, pose questions, and develop ideas for design of good guidelines, selection criteria, and work practices to support safe and sustainable nano-enabled environmental remediation;
- Become acquainted with other U.S. nanotechnology stakeholders, including vendors, transporters, and contractors of the remediation sites and communities; and
- Share case studies of nano-enhanced clean up technologies, including selection criteria for alternative remediation strategies and methods, job planning, job tasks, and nanomaterial handling practices.

Furthermore, in the context of [nanoinformatics](#) (*Nanoinformatics 2020 Roadmap*), the workshop will present:

- Occupational and environmental regulatory issues as they relate to remediation, synthesis and characterization, and application of nanoinformatics for safe and sustainable use of nanomaterials during remediation;
- Data to support evaluation of the fate and transport of nanomaterials during and after remediation;

- Risks, including contributions from both toxicological properties of nanomaterials (hazard) and potentials for occupational and environmental exposure, where hazard x exposure = risk;
- Results of the recent nanoinformatics survey of state agencies and programs described on the workshop website; and,
- Opportunities for developing and sustaining continuing advances and collaborations.

Call for Presenters and Deadlines: Participants will be invited from the industry; site contractors, nanomaterial vendors; laboratories that synthesize and characterize ENPs for environmental remediation; regulatory authorities (local, state, and federal government) and academia (faculty and students). Presenters should submit titles and abstracts for podium or poster presentations by the new, extended deadline of **January 31, 2013**. Please email titles and abstracts directly to Dr. Ephraim Massawe, nano-4-rem-anssers@selu.edu. The workshop or program schedule will be finalized by **February 20, 2013**. Event date: **June 5-7, 2013**. Students are encouraged to submit proposals for podium or poster presentations. “Best student” poster and presentation awards will be given.

Workshop Format: The main workshop will be held from 8:30 am - 4:30 pm on Wednesday and Thursday. Friday morning will be used for interested participants and the organizing committee to synthesize workshop findings and develop plans for follow-on activities. Sign-in and light continental breakfast will be provided each day starting at 7:30 am. Posters and exhibits will be viewable throughout the workshop. A reception on Thursday evening will provide participants with an additional opportunity for networking.

Hotel Accommodations: The hotel and meeting details will be provided on the workshop website. Event participants may select from a number of local hotels in and around the city of Hammond, LA. A special rate will be negotiated with area hotels.

Participant Registration Fee: \$250

(exhibitor registration and sponsorship details can be obtained from the contact at the bottom of this announcement)

Students Fee: \$50

Planning Committee: Ephraim Massawe (SELU); Michael Gill (U.S. EPA Region 9); Gregory Gervais (U.S. EPA OSWER); Mark D. Hoover (NIOSH); Martha Otto (U.S. EPA ORD); Janet Carter (U.S. OSHA); Sebastian van Delden (SELU); Daniel McCarthy (Dean-College of S&T, SLU); Dr. Su Chumming (EPA ORD).

Organized by: Southeastern Louisiana University in cooperation with government, industry, academic, and occupational partners, with partial financial support from the Louisiana Board of Regents for Higher Education.

Participants: The workshop is intended to attract approximately 100-150 attendees representing a wide spectrum of stakeholders both in the nanotechnology and environmental remediation communities: contractors of superfund sites; environmental and occupational health specialists; industrial hygienists, researchers, toxicologists, government research and regulatory agencies, industry, health, safety and environmental organizations, manufacturers and secondary users of nanomaterials, and consumer health advocates.

Sponsorship Opportunities: The workshop provides a valuable opportunity for companies to showcase their instruments, equipment, and new technologies, and to underwrite workshop activities. Exhibits/booths will be provided for exhibitor registrants. Please contact the workshop office for details.

For more information, contact Dr. Ephraim Massawe, (nano-4-rem-anssers@selu.edu)