

REPORT DOCUMENTATION PAGE			Form Approved OMB NO. 0704-0188		
The public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA, 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. PLEASE DO NOT RETURN YOUR FORM TO THE ABOVE ADDRESS.					
1. REPORT DATE (DD-MM-YYYY) 10-04-2020		2. REPORT TYPE Final Report		3. DATES COVERED (From - To) 1-Apr-2019 - 31-Mar-2020	
4. TITLE AND SUBTITLE Final Report: 2019 Environmental Nanotechnology Gordon Research Conference and Seminar			5a. CONTRACT NUMBER W911NF-19-1-0187		
			5b. GRANT NUMBER		
			5c. PROGRAM ELEMENT NUMBER 611102		
6. AUTHORS			5d. PROJECT NUMBER		
			5e. TASK NUMBER		
			5f. WORK UNIT NUMBER		
7. PERFORMING ORGANIZATION NAMES AND ADDRESSES Gordon Research Conferences, Inc. 512 Liberty Lane West Kingston, RI 02892 -1502			8. PERFORMING ORGANIZATION REPORT NUMBER		
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS (ES) U.S. Army Research Office P.O. Box 12211 Research Triangle Park, NC 27709-2211			10. SPONSOR/MONITOR'S ACRONYM(S) ARO		
			11. SPONSOR/MONITOR'S REPORT NUMBER(S) 74939-CH-CF.1		
12. DISTRIBUTION AVAILABILITY STATEMENT Approved for public release; distribution is unlimited.					
13. SUPPLEMENTARY NOTES The views, opinions and/or findings contained in this report are those of the author(s) and should not be construed as an official Department of the Army position, policy or decision, unless so designated by other documentation.					
14. ABSTRACT					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	15. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON
a. REPORT	b. ABSTRACT	c. THIS PAGE			Rebecca Klaper
UU	UU	UU	UU		19b. TELEPHONE NUMBER 414-382-1713

RPPR Final Report

as of 10-Apr-2020

Agency Code:

Proposal Number: 74939CHCF

Agreement Number: W911NF-19-1-0187

INVESTIGATOR(S):

Name: John Fortner
Email: jfortner@wustl.edu
Phone Number: 3149359293
Principal: N

Name: Rebecca Klaper
Email: rklaper@uwm.edu
Phone Number: 4143821713
Principal: Y

Organization: **Gordon Research Conferences, Inc.**

Address: 512 Liberty Lane, West Kingston, RI 028921502

Country: USA

DUNS Number: 075712877

EIN: 050300482

Report Date: 30-Jun-2020

Date Received: 10-Apr-2020

Final Report for Period Beginning 01-Apr-2019 and Ending 31-Mar-2020

Title: 2019 Environmental Nanotechnology Gordon Research Conference and Seminar

Begin Performance Period: 01-Apr-2019

End Performance Period: 31-Mar-2020

Report Term: 0-Other

Submitted By: Ph.D. Nancy Gray

Email: grants@grc.org

Phone: (401) 360-1505

Distribution Statement: 1-Approved for public release; distribution is unlimited.

STEM Degrees: 0

STEM Participants: 49

Major Goals: The goals of the Environmental Nanotechnology Gordon Conference are to draw attention to the need to proactively manage the emergence and implementation of nanotechnology into large scale commercial activities and products as to avert such problems that arose with earlier materials/chemical research and application (such as those involving DDT, leaded gasoline, PCBs, CRCs and numerous other substances – now including fluorinated surfactants) and to explore and discuss opportunities for using nanotechnology to benefit society through its role in technology development.

This is a critical research nexus for several reasons that are likely of high interest to the Army: 1.) New technologies will be developed and applied using nanotechnology by the military (and even by our adversaries), which will interface with the environment; 2) There are a number of important yet unresolved questions concerning the safety of such materials; 3) The potential exposure scenarios, and their interaction with the biological and environmental systems are still largely unknown 4) Nanomaterials and nano-enabled technologies are being created that can aid the military in the development of sensors, water treatment technologies, and environmental cleanup technologies. Other questions relate to how these materials, may transform and/or move through various environmental or biological media or from one media to another across the life cycle of nanomaterials. Finally, the tremendous success of Gordon Conferences at facilitating meetings that are in depth, intense scientific discussions involving scientific leaders in their disciplines and communities has been well documented. In this spirit, the overall objective of the 2019 Gordon Research Conference on Environmental Nanotechnology is to bring together prominent investigators who are at the forefront of their research fields and provide unique opportunities for early career investigators, postdoctoral and graduate students to present their work to and engage the larger community.

Accomplishments: The goals of the 2019 Environmental Nanotechnology Gordon Research Conference (GRC) were to highlight the potential environmental benefits of nanoscale materials and technologies while managing potential risk of implementation. There still exists a number of important unresolved questions concerning the potential environmental and health impacts of the use and production of these materials. This 5th GRC on environmental nanotechnology focused on the development of nanotechnology to minimize environmental impacts way as well as the potential of nanotechnology to solve critical environmental problems in energy, agriculture, food, and health that can have positive environmental impact. The conference also focused on topics such as in-situ measurement(s) of nanomaterials in complex matrices, cutting-edge research to determine the molecular

RPPR Final Report

as of 10-Apr-2020

interactions of these materials with biological entities and model these interactions. In addition, the meeting discussed nanomaterials that may provide new solutions to pressing environmental problems – especially those associated with the food-water-energy nexus. These included nanotechnology-based sensors for humidity, nutrients, water quality, and biological and chemical contamination as well as biosensors for pathogens, nanotechnology enabled agricultural plant-based products, and nanomaterials for remediation of contaminants in water, soil, and air. The conference also included a specific session focused on cutting-edge of nanotechnologies, taking a futuristic look at new directions in the field to inform research and engage our community. Environmental Nanotechnology Gordon Research Conference has been a tremendous forum to foster cross-disciplinary and intense scientific discussions involving leaders across scientific fields.

The Gordon Research Seminar (GRS) on Environmental Nanotechnology hosted three engaging science sessions, featuring talks from submitted student and post-doc abstracts. Topics included the design and use of nanomaterials for environmental applications, novel methodologies enabling the study of the potential negative impacts of nano-enabled products, and public policy and educational outreach as they apply to the sustainable use of nanotechnology. An important goal of the 2019 meeting was to inspire attendees to consider the broader context of their research efforts. Attendees had abundant opportunities for discussion and networking with both peers and leaders in the field from a variety of career paths during poster sessions, a mentoring session, a networking lunch, and informal social activities.

Training Opportunities: Speakers, discussion leaders, poster presenters and attendees simultaneously contributed to and benefited from the collective skills and experience shared throughout the conference. The funding provided by was invaluable to the success of the Conference.

Results Dissemination: The final program was posted on the GRC website.

Honors and Awards: Nothing to Report

Protocol Activity Status:

Technology Transfer: Nothing to Report



GORDON RESEARCH CONFERENCES

FINAL PROGRESS REPORT

Army Research Office

Environmental Nanotechnology GRC/GRS

Grant Number W911NF-19-1-0187

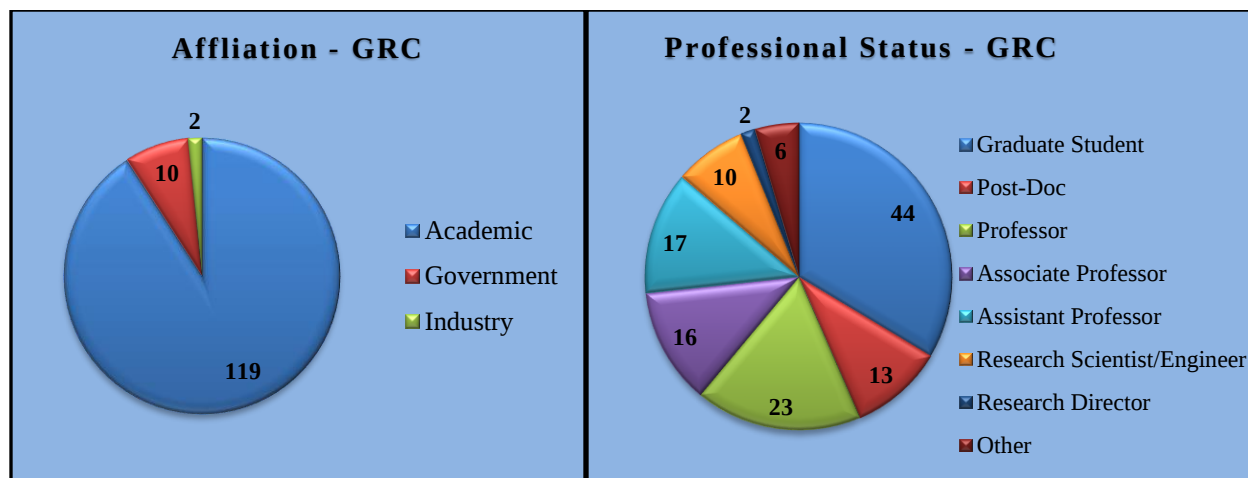
Operational Summary

The Gordon Research Conference (GRC) and Gordon Research Seminar (GRS) on Environmental Nanotechnology were held at the Jordan Hotel at Sunday River in Newry, Maine from June 1-7, 2019. The meeting covered a variety of scientific topics and the content presented was highly rated by participants.



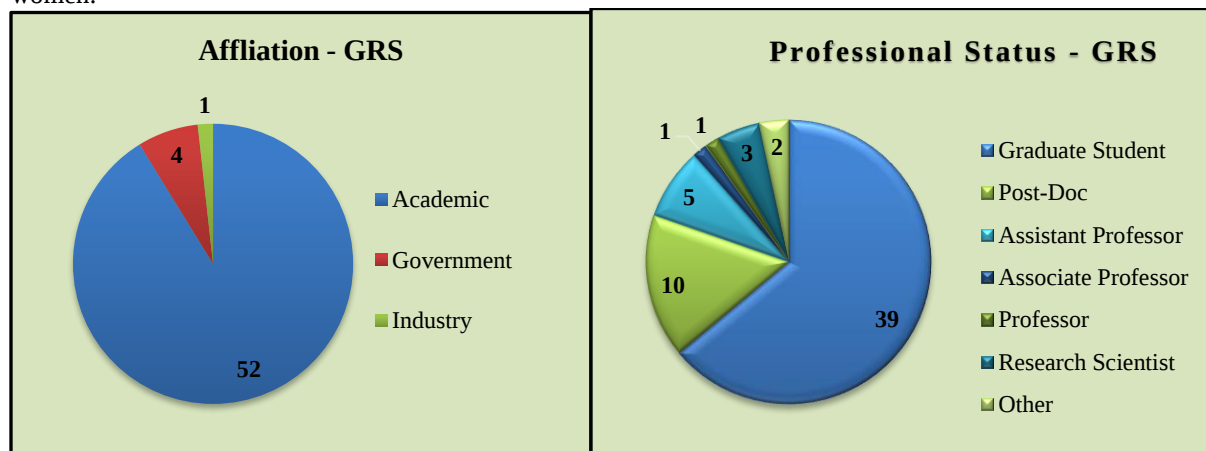
Conference Participants

The Conference was well-attended with 131 participants. Scientists from academia represented 90% of the participants while attendees from government accounted for 8% and those from industry totaled 2%. The meeting also attracted a strong mix of young investigators and senior scientists. Students and post-docs accounted for 44% of all attendees. Approximately 47% of the participants at the 2019 meeting were women.



Seminar Participants

The Conference was well-attended with 61 participants. Scientists from academia represented 91% of the participants while attendees from government accounted for 7% and those from industry represented 2%. Students and post docs combined accounted for 80% of all attendees. Approximately 51% of the participants at the 2019 seminar were women.



Conference Program

The goals of the 2019 Environmental Nanotechnology Gordon Research Conference (GRC) were to highlight the potential environmental benefits of nanoscale materials and technologies while managing potential risk of implementation. There still exists a number of important unresolved questions concerning the potential environmental and health impacts of the use and production of these materials. This 5th GRC on environmental nanotechnology focused on the development of nanotechnology to minimize environmental impacts way as well as the potential of nanotechnology to solve critical environmental problems in energy, agriculture, food, and health that can have positive environmental impact. The conference also focused on topics such as in-situ measurement(s) of nanomaterials in complex matrices, cutting-edge research to determine the molecular interactions of these materials with biological entities and model these interactions. In addition, the meeting discussed nanomaterials that may provide new solutions to pressing environmental problems – especially those associated with the food-water-energy nexus. These included nanotechnology-based sensors for humidity, nutrients, water quality, and biological and chemical contamination as well as biosensors for pathogens, nanotechnology enabled agricultural plant-based products, and nanomaterials for remediation of contaminants in water, soil, and air. The conference also included a specific session focused on cutting-edge of nanotechnologies, taking a futuristic look at new directions in the field to inform research and engage our community. Environmental Nanotechnology Gordon Research Conference has been a tremendous forum to foster cross-disciplinary and intense scientific discussions involving leaders across scientific fields.

The Gordon Research Seminar (GRS) on Environmental Nanotechnology hosted three engaging science sessions, featuring talks from submitted student and post-doc abstracts. Topics included the design and use of nanomaterials for environmental applications, novel methodologies enabling the study of the potential negative impacts of nano-enabled products, and public policy and educational outreach as they apply to the sustainable use of nanotechnology. An important goal of the 2019 meeting was to inspire attendees to consider the broader context of their research efforts. Attendees had abundant opportunities for discussion and networking with both peers and leaders in the field from a variety of career paths during poster sessions, a mentoring session, a networking lunch, and informal social activities.

Conference Budget

Funding provided by the Army Research Office supported partial registration for 7 post docs, 1 associate professor, 3 graduate student and 9 assistant professors at the GRC and partial registration for 5 assistant professors, 3 post docs, 12 graduate students, 1 administration, and 1 professor at the GRS.

Conference Feedback

Participants had an opportunity to provide feedback at the end of the Conference. The feedback collected from the meeting was extremely positive. Evaluations included numerous positive remarks regarding the diversity of speakers, networking opportunities and the discussions after each talk. Evaluations from the GRS included positive comments regarding the professional development session, informal discussions and the oral talks.

GRC would like to thank the Army Research Office for its continued support of the meetings. The contributions received have been critical to the success of the conferences and are having a measurable impact in advancing the frontiers of science worldwide.

Dr. Rebecca Klaper, GRC Chair
University of Wisconsin-Milwaukee

Dr. John Fortner, GRC Vice-Chair
Yale University

Dr. Eric Melby, GRS Chair
Columbia Basin College

Dr. Alyssa Deline, GRS Chair
Johns Hopkins University

Dr. Nancy Ryan Gray
President and Chief Executive Officer
Gordon Research Conferences

**Environmental Nanotechnology
Gordon Research Conference
Preventing and Solving Problems with Environmental Nanotechnology**

June 2 - 7, 2019

Chair: Rebecca Klaper

Vice Chair: John D. Fortner

Conference Program

Sunday

- 2:00 pm - 9:00 pm Arrival and Check-in
- 6:00 pm - 7:00 pm Dinner
- 7:30 pm - 7:40 pm Introductory Comments by GRC Site Staff / Welcome from the GRC Chair
- 7:40 pm - 9:30 pm New Ideas on Properties of Nanomaterials Related to Environmental Risk
Discussion Leader: Reginald Rogers (University of Missouri, USA)
- 7:40 pm - 7:50 pm Introduction by Discussion Leader
- 7:50 pm - 8:20 pm Anders Baun (Technical University of Denmark, Denmark)
"Nanomaterials Testing and Environmental Protection: Do We Answer the Right Questions?"
- 8:20 pm - 8:40 pm Discussion
- 8:40 pm - 9:10 pm Lisa Friedersdorf (National Nanotechnology Coordination Office, USA)
"What Have We Learned and Where Are We Going?"
- 9:10 pm - 9:30 pm Discussion

Monday

- 7:30 am - 8:30 am Breakfast
- 9:00 am - 12:30 pm Next Generation Nano-Enabled Treatment Technologies
Discussion Leader: Howard Fairbrother (Johns Hopkins University, USA)
- 9:00 am - 9:10 am Introduction by Discussion Leader
- 9:10 am - 9:40 am Nathalie Tufenkji (McGill University, Canada)
"Nanotechnologies for Water Purification and Antimicrobial Surfaces"
- 9:40 am - 10:00 am Discussion
- 10:00 am - 10:30 am Coffee Break
- 10:30 am - 11:00 am Peng Wang (King Abdullah University of Science and Technology, Saudi Arabia)
"Nano-Enabled Sunlight-Driven Clean Water Production"
- 11:00 am - 11:20 am Discussion
- 11:20 am - 11:50 am Michael Wong (Rice University, USA)
"Catalytic Converters for Water: The Nano Do's and Don'ts"
- 11:50 am - 12:10 pm Discussion
- 12:10 pm - 12:20 pm Short Talk Selected from Poster Abstracts
- 12:20 pm - 12:30 pm Discussion
- 12:30 pm - 1:30 pm Lunch
- 1:30 pm - 4:00 pm Free Time
- 3:00 pm - 4:00 pm The GRC Power Hour™
The GRC Power Hour™ is designed to address challenges women face in science and issues of diversity and inclusion. The program supports the professional growth of all members of our communities by providing an open forum for discussion and mentoring.
Organizer: Nadine Kabengi (Georgia State University, USA)
- 4:00 pm - 6:00 pm Poster Session

6:00 pm - 7:00 pm Dinner

7:30 pm - 9:30 pm Application of Nanotechnology with Environmental Implications
Discussion Leader: Man Chi Lo (Hong Kong University of Science and Technology, Hong Kong SAR China)

7:30 pm - 7:40 pm Introduction by Discussion Leader

7:40 pm - 8:10 pm Juan Pablo Giraldo (University of California, Riverside, USA)
"Turning Plants into Technology in the Field Through Nanobioengineering"

8:10 pm - 8:30 pm Discussion

8:30 pm - 9:00 pm Peter Vikesland (Virginia Tech, USA)
"Nanotechnology Enabled Environmental Sensing"

9:00 pm - 9:20 pm Discussion

9:20 pm - 9:30 pm General Discussion

Tuesday

7:30 am - 8:30 am Breakfast

9:00 am - 12:30 pm Exploring Mechanisms and Molecular Interactions of Nanoscale Materials with Biological Systems
Discussion Leader: Francois Perreault (Arizona State University, USA)

9:00 am - 9:10 am Introduction by Discussion Leader

9:10 am - 9:40 am Greg Goss (University of Alberta, Canada)
"Environmental Factors and Their Effects on Toxicity of Nanomaterials"

9:40 am - 10:00 am Discussion

10:00 am - 10:30 am Group Photo / Coffee Break

10:30 am - 11:00 am Guibin Jiang (Chinese Academy of Sciences, China)
"Environmental Nanotechnology and Impact Studies in China: Progress and Perspective"

11:00 am - 11:20 am Discussion

11:20 am - 11:50 am Christine Payne (Duke University, USA)
"TiO₂ Nanoparticle-Cell Interactions: From Molecules to Mice"

11:50 am - 12:10 pm Discussion

12:10 pm - 12:20 pm Short Talk Selected from Poster Abstracts

12:20 pm - 12:30 pm Discussion

12:30 pm - 1:30 pm Lunch

1:30 pm - 4:00 pm Free Time

4:00 pm - 6:00 pm Poster Session

6:00 pm - 7:00 pm Dinner

7:30 pm - 9:30 pm Sustainable Nano: Green Design and Life Cycle Assessment
Discussion Leader: Desiree Plata (Massachusetts Institute of Technology, USA)

7:30 pm - 7:40 pm Introduction by Discussion Leader

7:40 pm - 8:10 pm Leanne Gilbertson (University of Pittsburgh, USA)
"Designing Sustainably at the Nano-Scale"

8:10 pm - 8:30 pm Discussion

8:30 pm - 9:00 pm Audrey Moores (McGill University, Canada)
"Solvent-Free Techniques for the Design of Sustainable Nanomaterials"

9:00 pm - 9:20 pm Discussion

9:20 pm - 9:30 pm General Discussion

Wednesday

7:30 am - 8:30 am Breakfast

9:00 am - 12:30 pm Nanomaterials and Biological Systems: Modeling Interactions to Testing in Complex Environments
Discussion Leader: Vivian Feng (Augsburg University, USA)

9:00 am - 9:10 am Introduction by Discussion Leader

9:10 am - 9:40 am Claus Svendsen (Centre for Ecology & Hydrology, United Kingdom)
"Environmental Fate and Exposure Assessment of Nanomaterials: From Release into Soils, to Uptake in Organisms"

9:40 am - 10:00 am Discussion

10:00 am - 10:30 am Coffee Break

10:30 am - 11:00 am Korin Wheeler (Santa Clara University, USA)
"A Transition to Predictive Analyses in the Next Generation of Biocorona Studies"

11:00 am - 11:20 am Discussion

11:20 am - 11:50 am Catherine Murphy (University of Illinois at Urbana-Champaign, USA)
"Effects of Gold Nanoparticle Surface Chemistry: Biomolecular to Ecological Impacts"

11:50 am - 12:10 pm Discussion

12:10 pm - 12:20 pm Short Talk Selected from Poster Abstracts

12:20 pm - 12:30 pm Discussion

12:30 pm - 1:30 pm Lunch

1:30 pm - 4:00 pm Free Time

4:00 pm - 5:30 pm Poster Session

5:30 pm - 7:30 pm How Science Is Guiding Decisions About Nanotechnology and the Environment
Discussion Leader: Nadine Kabengi (Georgia State University, USA)

5:30 pm - 5:40 pm Introduction by Discussion Leader

5:40 pm - 6:10 pm Timothy Malloy (UCLA School of Law, USA)
"Mind the Gap: Aligning Risk Governance and Innovation"

6:10 pm - 6:30 pm Discussion

6:30 pm - 6:40 pm Short Talk Selected from Poster Abstracts

6:40 pm - 6:45 pm Discussion

6:45 pm - 6:55 pm Short Talk Selected from Poster Abstracts

6:55 pm - 7:00 pm Discussion

7:00 pm - 7:10 pm Short Talk Selected from Poster Abstracts

7:10 pm - 7:15 pm Discussion

7:15 pm - 7:30 pm General Discussion

8:00 pm - 9:00 pm Dinner

Thursday

7:30 am - 8:30 am Breakfast

8:30 am - 9:00 am Business Meeting
Nominations for the Next Vice Chair; Fill in Conference Evaluation Forms; Discuss Future Site and Scheduling Preferences; Election of the Next Vice Chair

9:00 am - 12:30 pm Nano-Bio Sensing Technologies
Discussion Leaders: Timothy Duncan (U.S. Food and Drug Administration, USA) and Chenzhong Li (National Science Foundation / Florida International University, USA)

9:00 am - 9:10 am Introduction by Discussion Leader

9:10 am - 9:40 am Junhong Chen (University of Wisconsin-Milwaukee, USA)

"Nanomaterials-Based Field-Effect Transistors for Rapid Chemical and Biological Sensing"

9:40 am - 10:00 am Discussion

10:00 am - 10:30 am Coffee Break

10:30 am - 11:00 am Antje Baeumner (University of Regensburg, Germany)

"Functional Nanomaterials for Biosensors and Miniaturized Bioanalytical Systems"

11:00 am - 11:20 am Discussion

11:20 am - 11:50 am Suresh Neethirajan (University of Guelph, Canada)

"Biosensors for Agro-Defense: Enabling Safety Through 2D Materials"

11:50 am - 12:10 pm Discussion

12:10 pm - 12:20 pm Short Talk Selected from Poster Abstracts

12:20 pm - 12:30 pm Discussion

12:30 pm - 1:30 pm Lunch

1:30 pm - 4:00 pm Free Time

4:00 pm - 6:00 pm Poster Session

6:00 pm - 7:00 pm Dinner

7:30 pm - 9:30 pm Advanced Nanoscale Analyses and Imaging for Environmental Systems

Discussion Leader: Frank von der Kammer (University of Vienna, Austria)

7:30 pm - 7:40 pm Introduction by Discussion Leader

7:40 pm - 8:10 pm Ralf Kaegi (Swiss Federal Institute of Aquatic Science and Technology (EAWAG), Switzerland)

"Identification of (Engineered) Nanomaterials and the Relevance of Their (Chemical) Transformation in Urban Waste Management Systems"

8:10 pm - 8:30 pm Discussion

8:30 pm - 9:00 pm Katie Moore (University of Manchester, United Kingdom)

"The Challenges and Opportunities of Detecting Environmental Nanomaterials with High Spatial Resolution SIMS Imaging (NanoSIMS)"

9:00 pm - 9:20 pm Discussion

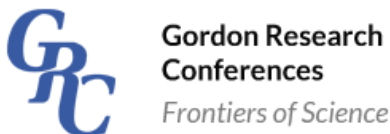
9:20 pm - 9:30 pm Closing Remarks

Friday

7:30 am - 8:30 am Breakfast

9:00 am Departure

Contributors





Environmental
Science
Nano
Editor-in-chief
Peter Vikesland



Yale



Environmental Nanotechnology

Gordon Research Seminar

Emerging Applications and Novel Methodologies to Assess Implications of Nanomaterials in the Environment

June 1 - 2, 2019

Chairs: Eric S. Melby and Alyssa R. Deline

Conference Program

Saturday

- 2:00 pm - 5:00 pm Arrival and Check-in
- 3:30 pm - 3:45 pm Introductory Comments by GRC Site Staff / Welcome from the GRS Chair
- 3:45 pm - 4:30 pm Public Policy and Outreach in Environmental Nanotechnology
Discussion Leader: Arielle Mensch (Pacific Northwest National Laboratory, USA)
- 3:45 pm - 3:50 pm Introduction by Discussion Leader
- 3:50 pm - 4:05 pm Drew Story (AAAS Science and Technology Policy Fellow, USA)
"Public and Policymaker Engagement by Scientists: Avoided at One's Own Peril"
- 4:05 pm - 4:10 pm Discussion
- 4:10 pm - 4:25 pm Fan Wu (University of Wisconsin-Madison, USA)
"A Citizen Science Approach for Estimating Titanium Dioxide Released from Personal Care Products"
- 4:25 pm - 4:30 pm Discussion
- 4:30 pm - 6:00 pm Poster Session
- 6:00 pm - 7:00 pm Dinner
- 7:30 pm - 9:30 pm Emerging Methods for Nanomaterial Detection and Quantification in Complex Environmental Matrices
Discussion Leaders: Miranda Gallagher (Rice University, USA) and Mark Surette (Oregon State University, USA)
- 7:30 pm - 7:35 pm Introduction by Discussion Leader
- 7:35 pm - 7:55 pm Aude Bechu (McGill University, Canada)
"Examining Cd-Based Quantum Dots Mechanisms of Degradation in Environmental Waters"
- 7:55 pm - 8:00 pm Discussion
- 8:00 pm - 8:20 pm Becky Curtis (School of Freshwater Sciences, University of Wisconsin-Milwaukee, USA)
"Next-Generation Battery Cathode Material Lithium Cobalt Oxide (LCO) Nanosheets and Metabolomic Impacts to Freshwater Crustacean *Daphnia magna*"
- 8:20 pm - 8:25 pm Discussion
- 8:25 pm - 8:45 pm Elizabeth Laudadio (University of Wisconsin-Madison, USA)
"pH-Dependent Interaction of Phosphate and Lithium Cobalt Oxide Nanoparticles: A Combined Spectroscopic and Calorimetric Study"
- 8:45 pm - 8:50 pm Discussion
- 8:50 pm - 9:10 pm Diamond Jones (University of Iowa, USA)
"Designed Metal Release of Complex Metal Oxides"
- 9:10 pm - 9:15 pm Discussion
- 9:15 pm - 9:30 pm General Discussion

Sunday

- 7:30 am - 8:30 am Breakfast
- 9:00 am - 11:00 am Novel Applications of Nanotechnology for the Provision of Food, Energy and Water

- Discussion Leaders: Véronique Adam (EMPA - Swiss Federal Laboratories for Materials Science and Technology, Switzerland) and Benjamin Frank (Johns Hopkins University, USA)
- 9:00 am - 9:05 am Introduction by Discussion Leader
- 9:05 am - 9:25 am Akhenaton-Andrew Jones (Northeastern University, USA)
"Statistical Classification of Dynamic Bacterial Growth with Sub-Inhibitory Concentrations of Nanoparticles and Its Implications for Disease Treatment"
- 9:25 am - 9:30 am Discussion
- 9:30 am - 9:50 am Lisa Stabryla (University of Pittsburgh, USA)
"Leveraging Nanomaterial Design for Next Generation Antimicrobials"
- 9:50 am - 9:55 am Discussion
- 9:55 am - 10:15 am Dominique Porcincula (California Polytechnic State University, San Luis Obispo, USA)
"Water Desalination Using Screen Printed Lyotropic Liquid Crystal: Carbon Nanotube Composite Membranes"
- 10:15 am - 10:20 am Discussion
- 10:20 am - 10:40 am Camrynn Fausey (Yale University, USA)
"Removal of Arsenic with Reduced Graphene Oxide-TiO₂-Decorated Nanofibrous Mats"
- 10:40 am - 10:45 am Discussion
- 10:45 am - 11:00 am General Discussion
- 11:00 am - 12:30 pm Poster Session
Coffee will be served in the poster area from 11:00 am - 11:30 am
- 12:30 pm - 1:30 pm Lunch
- 1:30 pm - 2:30 pm Mentorship Component: Professional Development Career Panels
Discussion Leader: Lisa Stabryla (University of Pittsburgh, USA)
- 1:30 pm - 1:35 pm Introduction by Discussion Leader
- 1:35 pm - 2:00 pm Panel Discussion
Careers in Academia
Adeyemi Adeleye (University of California, Irvine, USA)
Desiree Plata (Massachusetts Institute of Technology, USA)
Sharon Walker (Drexel University, USA)
Korin Wheeler (Santa Clara University, USA)
Ines Zucker (Tel Aviv University, Israel)
Francois Perreault (Arizona State University, USA)
- 2:00 pm - 2:25 pm Panel Discussion
Careers in Industry and Government
Wade Elmer (The Connecticut Agricultural Experiment Station, USA)
Robert Hamers (University of Wisconsin-Madison / Silatronix, Inc., USA)
Ronald Lankone (National Institute of Standards and Technology, USA)
Timothy Duncan (U.S. Food and Drug Administration, USA)
- 2:25 pm - 2:30 pm Closing Remarks
- 2:30 pm - 3:00 pm Evaluation Period
Fill in GRS Evaluation Forms
- 3:00 pm Seminar Concludes

Contributors



Gordon Research
Conferences
Frontiers of Science



DREXEL UNIVERSITY
College of
Engineering



Environmental Nanotechnology GRC Registration List

Name	Organization	Participation
Adam, Véronique	EMPA - Swiss Federal Laboratories for Materials Science and Technology	Poster Presenter
Adeleye, Adeyemi S	University of California, Irvine	Poster Presenter
Alimi, Olubukola S	McGill University	Poster Presenter
Allgayer, Raphaela K	McGill University	Poster Presenter
Apul, Onur G	University of Massachusetts Lowell	Poster Presenter
Aquino de Carvalho, Nathalia	University of Pittsburgh	Poster Presenter
Baeumner, Antje J	University of Regensburg	Speaker
Baun, Anders	Technical University of Denmark	Speaker
Bechu, Aude M	McGill University	Poster Presenter
Bolanos Benitez, Sandra V	University College Dublin	Poster Presenter
Borgatta, Jaya R.	University of Wisconsin Madison	Poster Presenter
Bothun, Geoffrey D	University of Rhode Island	Attendee
Brown, Richard P	University of Maryland Baltimore County	Poster Presenter
Caudill, Emily R	University of Wisconsin-Madison	Poster Presenter
Chen, Junhong	University of Wisconsin-Milwaukee	Speaker
Craver, Vinka	University of Rhode Island	Poster Presenter
Croxall, Mark	University of Toronto	Poster Presenter
Curtis, Becky	University of Wisconsin-Milwaukee	Poster Presenter
Daly, Clyde A	Johns Hopkins University	Poster Presenter
Dasné, Sylvie	McGill University	Poster Presenter
de Lannoy, Charles-François P	McMaster University	Poster Presenter
Deline, Alyssa R	Johns Hopkins University	Poster Presenter
Dong, Juyao (Ivy)	MIT	Poster Presenter
DuChanois, Ryan	Yale University	Poster Presenter
Duncan, Timothy V	U.S. Food and Drug Administration	Discussion Leader
DuToit, Marielle	Duke University	Poster Presenter
Fairbrother, Howard	Johns Hopkins University	Discussion Leader
Farmer, Jeffrey M	McGill University	Poster Presenter
Farnoud, Amir M	Ohio University /Chemical and Biomolecular Engineering Department	Attendee
Fausey, Camrynn L	Yale University	Poster Presenter
Feng, Vivian	Augsburg University	Discussion Leader
Foreman-Ortiz, Isabel U	University of Wisconsin- Madison	Poster Presenter
Fortner, John D	Yale University	Vice Chair
Frank, Benjamin P	Johns Hopkins University	Poster Presenter
Friedersdorf, Lisa	National Nanotechnology Coordination Office	Speaker
Gallagher, Miranda J	Rice University	Poster Presenter
Gao, Juan	Institute of Soil Science, CAS	Poster Presenter
Ghoshal, Subhasis	McGill University	Attendee
Gilbertson, Leanne M	University of Pittsburgh	Speaker
Giraldo, Juan Pablo	University of California, Riverside	Speaker
Goss, Greg	University of Alberta	Speaker
Hamers, Robert J	University of Wisconsin-Madison / Silatronix, Inc.	Poster Presenter
Hernandez, Laura M.	McGill University	Poster Presenter
Hicks, Andrea L	University of Wisconsin-Madison	Poster Presenter

Hicks, Ethan C	Duke University	Poster Presenter
Hofmann, Thilo	University of Vienna	Attendee
Jiang, Guibin	Chinese Academy of Sciences	Speaker
Jiang, Yi	The Hong Kong Polytechnic University	Poster Presenter
Jones, Diamond T	University of Iowa	Poster Presenter
Jones, Akhenaton-Andrew D	Northeastern University	Poster Presenter
Joo, Sung Hee	University of Miami	Poster Presenter
Kabengi, Nadine	Georgia State University	Discussion Leader
Kaegi, Ralf	Swiss Federal Institute of Aquatic Science and Technology	Speaker
Khodakovskaya, Mariya V	University of Arkansas, Little Rock	Poster Presenter
Kinsley, Paige	University of Wisconsin - Madison	Poster Presenter
Klaper, Rebecca	University of Wisconsin-Milwaukee	Chair
Lane, Mary Kate M	Yale University	Poster Presenter
Lankone, Ronald S	NIST	Poster Presenter
Laudadio, Elizabeth D	University of Wisconsin-Madison	Poster Presenter
Lawrence, Reece	University of Toronto	Poster Presenter
Li, Yao	College of Environmental Science and Engineering/Nankai University	Poster Presenter
Li, Chenzhong	National Science Foundation / Florida International University	Discussion Leader
Liu, Haizhou	University of California, Riverside	Poster Presenter
Liu, Qian	Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences	Poster Presenter
Lo, Man Chi C	Hong Kong University of Science and Technology	Discussion Leader
Mahoney, Clare M	National Nanotechnology Coordination Office	Attendee
Malloy, Timothy	UCLA School of Law	Speaker
Martínez Enríquez, Arturo I	Instituto de Ecología, A.C.	Poster Presenter
Melby, Eric S	Columbia Basin College	Attendee
Mensch, Arielle C	Pacific Northwest National Laboratory	Poster Presenter
Milyutin, Yana	Technion – Israel Institute of Technology	Poster Presenter
Mitchell, Stephanie	University of Minnesota	Poster Presenter
Moore, Katie	University of Manchester	Speaker
Moores, Audrey H	McGill University	Speaker
Murphy, Catherine J	University of Illinois at Urbana-Champaign	Speaker
Murphy, Robert F	University of Illinois at Urbana-Champaign	Attendee
Nason, Jeffrey A	Oregon State University	Poster Presenter
Nazemidashtarjandi, Saeed	Ohio University	Poster Presenter
Neethirajan, Suresh	University of Guelph	Speaker
Niemuth, Nicholas	University of Wisconsin - Milwaukee	Poster Presenter
Oney, Dylan M	Oregon State University	Poster Presenter
Ostovich, Eric	UW-Milwaukee	Poster Presenter
Pariona Mendoza, Nicolaza	Instituto de Ecología, A.C.	Poster Presenter
Payne, Christine	Duke University	Speaker
Pedersen, Joel A.	University of Wisconsin - Madison	Poster Presenter
Peinetti, Ana Sol	University of Illinois at Urbana Champaign	Poster Presenter
Perreault, Francois	Arizona State University	Discussion Leader
Plata, Desiree L	Massachusetts Institute of Technology	Discussion Leader
Porcincula, Dominique H	California Polytechnic State University, San Luis Obispo	Poster Presenter

Powell, Camilah D	Rice University	Poster Presenter
Pulizzi, Fabio	Nature Nanotechnology	Attendee
Qu, Guangbo	Chinese Academy of Sciences	Poster Presenter
Rahman, Asifur	Virginia Tech	Poster Presenter
Riley, Kathryn R	Swarthmore College	Poster Presenter
Rogers, Nicholas	Duke University	Poster Presenter
Rogers, Reginald E	University of Missouri	Discussion Leader
Rosenzweig, Zeev	University of Maryland Baltimore County	Poster Presenter
Roxbury, Daniel	University of Rhode Island	Poster Presenter
Savage, Nora	National Science Foundation	Attendee
Schwartz, Michael P	University of Wisconsin-Madison	Attendee
Sigmon, Leslie R	Johns Hopkins University	Poster Presenter
Sinsinbar, Gaurav	Nanyang Technological University	Poster Presenter
Soroush, Adel	University of Minnesota	Poster Presenter
Stabryla, Lisa M	University of Pittsburgh	Poster Presenter
Strongin, Daniel R	Temple University	Poster Presenter
Surette, Mark C	Oregon State University	Poster Presenter
Svendson, Claus	Centre for Ecology & Hydrology	Speaker
Thornton, Brittany Lila M	Duke University	Poster Presenter
Torelli, Marco	Adámas Nanotechnologies, Inc.	Poster Presenter
Tufenkji, Nathalie	McGill University	Speaker
Turner, Amalia	Duke University	Poster Presenter
Varner, Katrina E.	U.S. Environmental Protection Agency	Poster Presenter
Vikesland, Peter	Virginia Tech	Speaker
von der Kammer, Frank G	University of Vienna	Discussion Leader
Walch, Helene	University of Vienna	Poster Presenter
Walker, Sharon L	Drexel University	Attendee
Wang, Peng	King Abdullah University of Science and Technology	Speaker
Wang, Yan	University of Pittsburgh	Poster Presenter
Wang, Zhongying	UC Berkeley	Poster Presenter
Wang, Weining	Virginia Commonwealth University	Poster Presenter
Westerhoff, Paul	Arizona State University	Poster Presenter
Wheeler, Korin E	Santa Clara University	Speaker
Windgasse, Gabriele	CDPH	Attendee
Wong, Michael S	Rice University	Speaker
Wu, Fan	University of Wisconsin-Madison	Poster Presenter
Xia, Zehui	University of Massachusetts Amherst	Poster Presenter
Xie, Xing	Georgia Institute of Technology	Poster Presenter
Yao, Xiaoxiao	the University of Minnesota	Poster Presenter
Zhang, Yongqian	University of Wisconsin Madison	Poster Presenter
Zhang, Yueyang	University of Alberta	Poster Presenter
Zucker, Ines	Tel Aviv University	Poster Presenter

131 Attendees

Environmental Nanotechnology GRS Registration List

Name	Organization	Participation
Adam, Véronique	EMPA - Swiss Federal Laboratories for Materials Science and Technology	Discussion Leader
Adeleye, Adeyemi S	University of California, Irvine	Speaker
Alimi, Olubukola S	McGill University	Poster Presenter
Allgayer, Raphaela K	McGill University	Poster Presenter
Aquino de Carvalho, Nathalia	University of Pittsburgh	Poster Presenter
Bechu, Aude M	McGill University	Speaker
Borgatta, Jaya R.	University of Wisconsin Madison	Poster Presenter
Brown, Richard P	University of Maryland Baltimore County	Poster Presenter
Caudill, Emily R	University of Wisconsin-Madison	Poster Presenter
Croxall, Mark	University of Toronto	Poster Presenter
Curtis, Becky	University of Wisconsin-Milwaukee	Speaker
Daly, Clyde A	Johns Hopkins University	Poster Presenter
Dasné, Sylvie	McGill University	Poster Presenter
Deline, Alyssa R	Johns Hopkins University	Chair
DuChanois, Ryan	Yale University	Poster Presenter
Duncan, Timothy V	U.S. Food and Drug Administration	Speaker
Elmer, Wade H	The Connecticut Agricultural Experiment Station	Speaker
Farner, Jeffrey M	McGill University	Poster Presenter
Fausey, Camrynn L	Yale University	Speaker
Foreman-Ortiz, Isabel U	University of Wisconsin- Madison	Poster Presenter
Frank, Benjamin P	Johns Hopkins University	Discussion Leader
Gallagher, Miranda J	Rice University	Discussion Leader
Hamers, Robert J	University of Wisconsin-Madison / Silatronix, Inc.	Speaker
Hernandez, Laura M.	McGill University	Poster Presenter
Hicks, Ethan C	Duke University	Poster Presenter
Jones, Akhenaton-Andrew D	Northeastern University	Speaker
Jones, Diamond T	University of Iowa	Speaker
Kinsley, Paige	University of Wisconsin - Madison	Poster Presenter
Lane, Mary Kate M	Yale University	Poster Presenter
Lankone, Ronald S	NIST	Speaker
Laudadio, Elizabeth D	University of Wisconsin-Madison	Speaker
Lawrence, Reece	University of Toronto	Poster Presenter
Maker, Elliot J	University of Vermont	Poster Presenter
Masterson, Caitlin	Brown University	Poster Presenter
Melby, Eric S	Columbia Basin College	Chair
Mensch, Arielle C	Pacific Northwest National Laboratory	Discussion Leader
Mitchell, Stephanie	University of Minnesota	Poster Presenter
Nazemidashtarjandi, Saeed	Ohio University	Poster Presenter
Niemuth, Nicholas	University of Wisconsin - Milwaukee	Poster Presenter
Oney, Dylan M	Oregon State University	Poster Presenter
Ostovich, Eric	UW-Milwaukee	Poster Presenter
Perreault, Francois	Arizona State University	Speaker
Plata, Desiree L	Massachusetts Institute of Technology	Speaker
Porcincula, Dominique H	California Polytechnic State University, San Luis Obispo	Speaker
Rogers, Nicholas	Duke University	Poster Presenter

Sigmon, Leslie R
Sinsinbar, Gaurav
Soroush, Adel
Stabryla, Lisa M
Story, Drew
Surette, Mark C
Torelli, Marco
Walch, Helene
Walker, Sharon L
Wang, Yan
Wang, Zhongying
Wheeler, Korin E
Wu, Fan
Yao, Xiaoxiao
Zhang, Yongqian
Zucker, Ines

61 Attendees

Johns Hopkins University
Nanyang Technological University
University of Minnesota
University of Pittsburgh
AAAS Congressional Science & Engineering Fellow
Oregon State University
Adámas Nanotechnologies, Inc.
University of Vienna
Drexel University
University of Pittsburgh
UC Berkeley
Santa Clara University
University of Wisconsin-Madison
the University of Minnesota
University of Wisconsin Madison
Tel Aviv University

Poster Presenter
Poster Presenter
Poster Presenter
Speaker
Speaker
Discussion Leader
Poster Presenter
Poster Presenter
Speaker
Poster Presenter
Poster Presenter
Speaker
Speaker
Poster Presenter
Poster Presenter
Speaker