



Genetics and Environmental Mutagenesis Society
of North Carolina

GEMS Spring Meeting
Tuesday, May 2nd, 2017
EPA, room C111 (RTP Main Campus)

Nanomaterials and Consumer Product Safety

Program

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|---------------|--|
| 8:15 - 9:00 | Registration and poster set-up |
| 9:00 - 9:15 | Welcome
<i>Brian Chorley, GEMS President, US EPA</i>
<i>Holly Mortensen, GEMS President-Elect, US EPA</i> |
| 9:15 - 9:45 | A Framework for Evaluation of Engineered Nanomaterials
<i>William Boyes, PhD</i>
US Environmental Protection Agency, Research Triangle Park, NC |
| 9:45 - 10:30 | Nanoenabled Product Hazard and Exposure Assessment Tool (NanoPHEAT): A Custom NIKC Application
<i>Mark Wiesner, PhD</i>
Duke University, Durham, NC |
| 10:30 - 11:30 | Poster Session and Networking
<i>Snacks and beverages provided</i> |
| 11:30 - 12:15 | Addressing Nanotechnology Commercialization Implications – Challenges and Progress
<i>Trey Thomas, PhD</i>
US Consumer Product Safety Commission's Office, Washington, DC |
| 12:15 - 1:15 | Lunch at EPA Cafeteria |
| 1:15 – 2:00 | Nanomaterials in Select Consumer and Military Applications
<i>Khara Grieger, PhD</i>
RTI International, Research Triangle Park, NC |
| 2:00 - 2:45 | Data Science of Nanomaterials
<i>Alex Tropsha, PhD</i>
University of North Carolina, Chapel Hill, NC |
| 2:45 - 3:00 | Closing Remarks and Wrap-up |

GEMS Spring Meeting 2017 Speaker Biographies

William K. Boyes, PhD

U.S. Environmental Protection Agency

Dr. Boyes is a neurotoxicologist at the U.S. Environmental Protection Agency in Research Triangle Park, North Carolina. He serves as Task Leader for the Office of Research and Development (ORD) program on emerging materials and engineered nanomaterials. Formerly, he has served as Assistant National Program Director for Chemical Safety and Sustainability, Acting Director of the Neurotoxicology Division, and Chief of the Neurophysiological Toxicology Branch. Dr. Boyes has a PhD in Environmental Health from the University of Cincinnati, College of Medicine, and received postdoctoral training in neurotoxicology as a National Research Council Associate at EPA. Dr. Boyes is Past President of the International Neurotoxicology Association, Past President of the Neurotoxicology Specialty Section of the Society of Toxicology (SOT), recipient of the Carrier Achievement Award from the Ocular Toxicity Specialty Section of SOT, and a fellow of the Academy of Toxicology Sciences. His current research focuses on potential effects of environmental to engineered nanomaterials.

Mark R. Wiesner, PhD

Duke University Pratt School of Engineering

Dr. Wiesner is a James B. Duke Professor of Civil and Environmental Engineering where he is department chair. Dr. Wiesner's research interests include membrane processes, nanostructured materials, transport and fate of nanomaterials in the environment, colloidal and interfacial processes, and environmental systems analysis. He has over 200 published articles and his honors include the Clarke Water Prize from the National Water Research Institute, the Stansell Family Distinguished Research Award from Duke University, and the Pierre de Fermat Lauréat and Chair of Excellence from the L'Institut National Polytechnique. Dr. Wiesner received his Bachelor's Degree from Coe College, Master's from University of Iowa, and PhD from Johns Hopkins.

Trey A. Thomas, PhD

U.S. Consumer Product Safety Commission Office of Hazard Identification and Reduction

Dr. Thomas is the Program Manager of the Chemicals, Nanotechnology and Emerging Materials Program in the U.S. Consumer Product Safety Commission's (CPSC) Office of Hazard Identification and Reduction. His responsibilities include establishing priorities and agency activities to identify and mitigate potential health risks to consumers resulting from product use. Dr. Thomas has conducted comprehensive exposure assessment studies of chemicals in consumer products and quantified the potential health risks to consumers exposed to various chemicals. He was responsible for developing the CPSC nanotechnology program and continues to identify key emerging product areas. He has served as a CPSC representative on a number of nanotechnology committees including the Federal Nanoscale Science, Engineering, and Technology (NSET) subcommittee, and is the co-chair for the Nanotechnology Environmental and Health Implications (NEHI) working group. Dr. Thomas received a Bachelor's Degree in Chemistry from UCR, a Master's degree in Environmental Health Sciences from UCLA, and a PhD in Environmental Sciences at the UT, Health Science Center. He completed a post-doctoral fellowship in Industrial Toxicology at the Warner-Lambert Corporation (now Pfizer Pharmaceutical).

Khara D. Grieger, PhD
RTI International Risk Analysis Program

Dr. Khara Grieger is currently a risk analyst and decision support expert at RTI International's Risk Analysis Program within the Center for Health and Environmental Modelling. She is an international expert in engineered nanomaterial risk analysis and has published over 30 peer-reviewed articles on this topic since 2007. At RTI, Dr. Grieger leads the nanomaterial risk research efforts, also serving as the main representative to the U.S. Technical Advisory Group (TAG) ISO/TC 229 focused on nanotechnologies and is a Co-PI on a joint research collaborative effort with NCSU on using nanomaterials for water treatment systems. In addition to research, she also has over 5 years of experience working with US Federal agencies focused on nanomaterial risk analysis, risk ranking, and decision support of nanomaterials as well as risk prioritization and decision support projects focused on food safety. Before joining RTI, Dr. Grieger was a Postdoctoral fellow at the Technical University of Denmark, where she also obtained her PhD in 2011.

Alexander Tropsha, PhD
UNC Eshelman School of Pharmacy

Alexander Tropsha, PhD. is K.H. Lee Distinguished Professor and Associate Dean for Pharmacoinformatics and Data Science at the UNC Eshelman School of Pharmacy (recently ranked #1 in the country by US News & World Report), UNC-Chapel Hill. Prof. Tropsha obtained PhD in Chemical Enzymology in 1986 from Moscow State University, Russia and came to UNC-Chapel Hill in 1989 as a postdoctoral fellow. He joined the School of Pharmacy in 1991 as an Assistant Professor and became full professor in 2002. His research interests are in the areas of Computer-Assisted Drug Design, Computational Toxicology, Cheminformatics, and Structural Bioinformatics. He has authored or co-authored more than 200 peer-reviewed research papers, reviews and book chapters and co-edited two monographs. He is an Associate Editor of the ACS Journal of Chemical Information and Modeling. His research has been supported by multiple grants from the NIH, NSF, EPA, DOD, and private companies.

Nanomaterial Poster Presentations

Poster #1

Nanomaterial Consumer Products in a Consolidated Database

Beach BC, Thornton BL, Dionisio K, Isaacs K, Hansen SF, Rogers K, Boyes WK
Environmental Protection Agency, Research Triangle Park, North Carolina

Poster #2

NanoPHEAT model: a Nano Product Hazard and Exposure Assessment Tool

Bossa N, Hendren C, Thornton L, Tian Y, Amos J, Sipe J, Wiesner M
Duke University, Durham, North Carolina

Poster #3

SERENADE: An 8-year French Funding Safer(r) by Design Project Introducing Consumer Exposure Case Studies and a Novel Database

De Garidel-Thoron C, Masion JRA, Pekar-Bonifay A, Bottero J-Y
Duke University, Durham, North Carolina

Poster #4

NaKnowBase: The EPA Nanomaterials Research Database

Thornton BL, Mortensen HM, Al-Abed S, Boyes WK
Environmental Protection Agency, Research Triangle Park, North Carolina

Poster #5

Disposition of Silver Nanoparticles and C₆₀ in Non-pregnant and Pregnant Rats after Intravenous or Oral Exposure and the Effect on the Biochemical Profile in Urine

Mortensen NP, Snyder R, Black S, Pathmasiri W, Harrington J, Levine K, Lewin AH, Fennell TR, Sumner SCJ
Research Triangle Institute International, Research Triangle Park, North Carolina

Poster #6

Evaluation of the Respiratory Toxicity and Immunotoxicity of Fullerene C₆₀ in Wistar Han Rats and B6C3F1/N Mice Exposed via Inhalation for 13 Weeks

Shipkowski KA, Cesta MF, Germolec DR, Stout MD, Walker NJ
National Institute of Environmental Health Sciences, Research Triangle Park, North Carolina

Poster #7

The CEINT NanoInformatics Knowledge Commons: An Overview of Scope, Structure, Curation and Analytical Tool Development

Thornton L, Amos J, Tian Y, Zhang Z, Birkner N, Lowry GV, Wiesner MR, Hendren CO
Duke University, Durham, North Carolina

Poster #8

New Tools for Investigating Chemical and Product Use

Issacs K
Environmental Protection Agency, Research Triangle Park, North Carolina

You're Invited!

Join us for Happy Hour following today's meeting

Who: GEMS members, meeting attendees,
anyone interested in learning more about GEMS

When: TODAY from 4:30 - 6:00 PM

Where: Serena



**Your first drink will be provided by GEMS,
pick up a drink ticket on your way out!**

Notes

Please visit our website at www.gems-nc.org