

2016 National Nanotechnology Initiative (NNI) Strategic Planning Stakeholder Workshop

Speaker and Panelist Bios

Michael A. Meador



Michael A. Meador is Director of the National Nanotechnology Coordination Office (NNCO) and leads the NNCO's efforts to promote the goals of the National Nanotechnology Initiative in fostering cutting-edge nanotechnology R&D; establishing world-class testing, characterization and fabrication facilities; facilitating commercialization of nanotechnology-based products and promoting the responsible development of nanotechnology. He is on detail from the NASA Glenn Research Center where, since 1983 he has been involved in planning, executing and managing materials R&D including serving as the Chief of the Polymers Branch (1988 to 2011). From 2011 to 2014, he initiated and led a NASA/industry/university project to mature and demonstrate high payoff nanotechnologies for use in future NASA missions under the Space Technology Mission Directorate's Game Changing Development Program. Meador received the NASA Equal Opportunity Employment Medal (2002) for his efforts to increase participation of students and faculty from minority serving institutions in NASA's materials R&D and the NASA Exceptional Service Medal (2014) in recognition of his proactive leadership of NASA nanotechnology R&D. Dr. Meador is a Fellow of the American Chemical Society, and Adjunct Faculty Member in the Department of Materials Science and Engineering at Clemson University, and serves on several advisory boards for university departments and institutes. He received a BA in Chemistry from Ithaca College and a PhD in Organic Chemistry from Michigan State University.

Lisa Friedersdorf

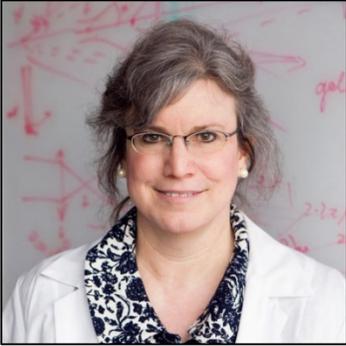


Lisa Friedersdorf is the Deputy Director of the NNCO. She has been involved in nanotechnology for nearly twenty years, with a particular interest in advancing technology commercialization through university-industry-government collaboration. She is also a strong advocate for science, technology, engineering, and mathematics (STEM) education, and has over two decades of experience teaching at both the university and high school levels. Prior to working with the NNCO, she was the Managing Director of the Institute for Nanoscale and Quantum Scientific and Technological Advanced Research (nanoSTAR) at the University of Virginia, where she fostered a campus-wide nanotechnology community, facilitated new collaborative research opportunities, and built external awareness of University capabilities and accomplishments in the field.

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Goal 1: Advance a world-class nanotechnology research and development program

Michelle Bradbury



Michelle S. Bradbury is the Director of Intraoperative Imaging and an Associate Attending Physician and Associate Member of the Department of Radiology at Memorial Sloan Kettering Cancer Center. She is board certified in Diagnostic Radiology with a Certificate of Added Qualification in Neuroradiology, holds a Joint Appointment in the Molecular Pharmacology Program at Sloan Kettering Institute, and is an Associate Professor of Radiology at Weill Medical College of Cornell University. She has more than 16 years of experience in translational molecular imaging/radiological sciences, coupled with 10 years of applied nanomaterials research. During this time, she has co-developed and translated ultrasmall (<10 nm diameter) dual-modality silica nanoparticles (C dots) for diagnostic and therapeutic applications in surgical/medical oncology. For surgical applications, fluorescent imaging device co-development has been crucial. For therapeutically-driven studies, dual-modality C dots are being evaluated as targeted vehicles for delivering small molecule inhibitors to human EGFRmt+ and PDGF-B driven malignant brain tumor models. Dr. Bradbury serves as a Principal Investigator of multiple clinical trials involving the C dot platform. A first-in-human clinical trial has already been completed in metastatic melanoma patients using FDA IND approved molecularly-targeted C dot tracer. Additional open clinical trials are intraoperative in nature, either utilizing fluorescent C dots and real-time optical imaging guidance to surgically treat cancer-bearing lymph nodes in melanoma and breast cancer patients or to assess targeted uptake and histologic distributions of the particle tracer in brain tumor patients for therapeutic management. At the other end of the spectrum, nanobiological evaluations, in particular, particle fate studies have addressed endocytotic pathway transport and lysosomal function in a concentration-dependent manner. Recent work has also addressed cell death programs activated in particle-exposed cancer cells.

Dr. Bradbury has and continues to serve as a member of several national and international Scientific Advisory Boards in Nanomedicine and Drug Discovery and Development, and is a member of the Nanomedicine Drug Delivery Clinical Trial Working Group at the National Cancer Institute. She is the founding member of Claymore Technologies, Inc., a start-up focused on particle-based clinical trials.

Katia Karalis



Katia Karalis is currently the Vice President of Research at Emulate, a start up company based on technology from the Wyss Institute for Biologically Inspired Engineering at Harvard University. At Emulate, which is developing an organ-on-chip technology to facilitate our understanding of how diseases, medicines, chemicals, and foods affect human health, her goal is to establish relevant models of human diseases, develop new methods for human stem cell-derived terminally differentiated cells, and work with collaborators across academia and industry to further develop and validate the organ-on-chip technology. In addition, she holds an appointment with Biomedical Research Foundation of the Academy of Athens (BRFAA) and Harvard Medical School. She was trained as an MD at Athens University Medical School and in Medical Molecular Genetics at Harvard Medical School.

Furthermore, she received training in basic and translational research at Cedars-Sinai Medical Center, the University of California Los Angeles (UCLA), the National Institutes of Health (NIH), and at Boston Children's Hospital as a postdoctoral fellow in Pediatrics and Medicine. Her expertise lies in the fields of physiology and

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pathophysiology; the biology of the stress response in mammals and the crosstalk between the endocrine, nervous, and immune system in the development and progress of the inflammatory response and associated metabolic dysfunction. She has significant experience with mouse models of human disease, primary human cells as the closest approximation to further understand human physiology and disease to human genetics and related diagnostics. She has received several federal and non-federal grants. As the principal investigator and coordinator of a European Union –funded multiinvestigator, interdisciplinary award she was in charge to develop a center of excellence within BRFAA for preclinical translational research in obesity and neurodegeneration.

Zhen Gu



Zhen Gu received his B.S. degree in Chemistry and M.S. degrees in Polymer Chemistry and Physics from Nanjing University. In 2010, he obtained Ph.D. degree at the University of California, Los Angeles, under the guidance of Prof. Yi Tang in the Department of Chemical and Biomolecular Engineering. He was a postdoctoral associate working with Prof. Robert Langer at MIT and Harvard Medical School during 2010 to 2012. He is currently an Associate Professor in the Joint Department of Biomedical Engineering at the University of North Carolina at Chapel Hill and North Carolina State University. He also holds joint positions in the Eshelman School of Pharmacy and Endocrinology and Department of Medicine at UNC. His group studies controlled drug delivery, bio-inspired materials and nanobiotechnology. He has published over 70 research papers and applied over 30 patents. He is a co-founder of two startup companies. Dr. Gu is the recipient of the Sloan Research Fellowship (2016), Pathway Award (2015) and Junior Faculty Award (2014) of the American Diabetes Association (ADA), Young Innovator Award in Cellular and Molecular Engineering of the Biomedical Engineering Society (BMES, 2015) and the Sigma Xi Young Faculty Research Award (2014). *MIT Technology Review* listed him in 2015 as one of the global top innovators under the age of 35 (TR35). *GOOD Magazine* listed him in 2016 as one of GOOD 100- “100 individuals who are improving the world through creativity and innovation”. His invention- “Smart Insulin Patch” was selected as one of the top 10 images in 2015 by *Science*.

Paul Weiss



Paul S. Weiss leads an interdisciplinary research group that includes chemists, physicists, biologists, materials scientists, mathematicians, electrical and mechanical engineers, and computer scientists. Their work focuses on the ultimate limits of miniaturization, exploring the atomic-scale chemical, physical, optical, mechanical, and electronic properties of surfaces and supramolecular assemblies. He and his students have developed new techniques to expand the applicability and chemical specificity of scanning probe microscopies. They have applied these and other tools to the study of catalysis, self- and directed assembly, and molecular and nanoscale devices. They work to advance nanofabrication down to ever smaller scales and greater chemical specificity in order to operate and to test functional molecular assemblies, and to connect these to the biological and chemical worlds. He has written over 300 publications, holds over 20 patents, and has given over 600 invited, plenary, keynote, and named lectures.

Weiss received his S.B. and S.M. degrees in chemistry from MIT in 1980 and his Ph.D. in chemistry from the University of California at Berkeley in 1986. He was a postdoctoral member of technical staff at Bell Laboratories from 1986-1988 and a Visiting Scientist at IBM Almaden Research Center from 1988-1989. He is a distinguished professor of chemistry & biochemistry and materials science & engineering at UCLA. From 2009-2014, he was

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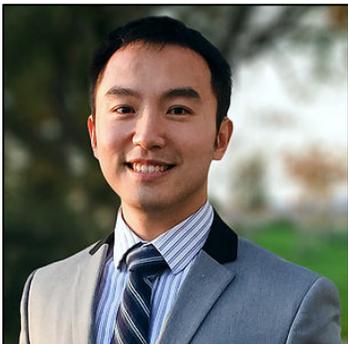
the director of the California NanoSystems Institute and Fred Kavli Chair in NanoSystems Sciences. Before coming to UCLA, he was a distinguished professor of chemistry and physics at the Pennsylvania State University, where he began his academic career as an assistant professor in 1989. He is the founding and current editor-in-chief of *ACS Nano*.

Deji Akinwande



Deji Akinwande is currently an Associate Professor with the University of Texas at Austin. He obtained a PhD in electrical engineering from Stanford University. His research explores materials and electronic systems based on 2D atomic layers. Prof. Akinwande has been honored with the 2016 Presidential PECASE award, the inaugural IEEE Nano Geim and Novoselov Graphene Prize, the IEEE "Early Career Award" in Nanotechnology, the NSF CAREER award, the Army and DTRA Young Investigator awards, the 3M Nontenured Faculty Award, and was a past recipient of fellowships from the Ford Foundation, Alfred P. Sloan Foundation, and Stanford DARE Initiative. He co-authored a textbook on carbon nanotubes and graphene device physics by Cambridge University Press, 2011. His recent results on silicene have been featured online by NPR, Time magazine among other media outlets. His work on flexible 2D electronics was selected as among the "best of 2012" by the nanotechweb news portal and has been featured on MIT's technology review and other technical media outlets. He is an Editor for the IEEE Electron Device Letters.

Xiaoyu Rayne Zheng



Rayne X. Zheng is an Assistant Professor of Mechanical Engineering and directs Advanced Manufacturing and Metamaterials Laboratory at Virginia Tech. He also holds an affiliate position at the Macromolecules and Innovation Institute at Virginia Tech. Prior to joining Virginia Tech in September 2015, he had been a Principle Investigator and Staff Scientist in the Materials Engineering Division, DOE Lawrence Livermore National Laboratory, Livermore, California. He received his Ph.D. degree in Mechanical Engineering from Boston University in 2011 with the Best Dissertation Award. From 2011 to 2012, he was a postdoc research fellow at Lawrence Livermore National Laboratory developing disruptive high volume additive manufacturing technologies and architected materials by design. In 2013, Dr. Zheng was promoted to Staff Scientist developing low density hierarchical metamaterials and advanced additive manufacturing processes capable of three-dimensional features at the micro- and nano-meter scale with a range of materials from polymer, metal, ceramic to composites. His work, entitled "Ultralight, Ultrastiff Mechanical Metamaterials" was published on the June 20 2014 issue of *Science* and featured on front cover and editorial highlights. He has diverse background in engineering new materials and systems at the micro- and nano-scale for advanced applications in lightweight components, energy conversion, biomaterials and in-situ mechanical characterizations. He has published over 40 journal articles, proceeding papers and book chapters. He received Best Paper Award at 2010 IEEE Sensor Conference, Best Poster Award at Materials Research Society and the President Award at Boston University and Directorate Publication Excellence Award at Lawrence Livermore National Laboratory in 2013 and 2015. His work has been widely reported by *R&D Magazine*, *MIT Technology Review*, *Materials Today*, *Nano Today*, *MRS Bulletin*, *American Physics Society*, etc.

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Sharon Glotzer



Sharon C. Glotzer is the John Werner Cahn Distinguished University Professor of Engineering and the Stuart W. Churchill Collegiate Professor of Chemical Engineering, and Professor of Materials Science and Engineering, Physics, Applied Physics, and Macromolecular Science and Engineering at the University of Michigan in Ann Arbor. She is a member of the National Academy of Sciences and the American Academy of Arts and Sciences, and a fellow of the American Physical Society and the American Association for the Advancement of Science. She received her B.S. degree from the University of California, Los Angeles, and her Ph.D. degree from Boston University, both in physics. Prior to joining the University of Michigan in 2001, she worked for eight years at the National Institute of Standards and Technology where she was co-founder and Director of the NIST Center for Theoretical and Computational Materials Science.

Professor Glotzer's research on computational assembly science and engineering aims toward predictive materials design of colloidal and soft matter, and is sponsored by the NSF, DOE, DOD and Simons Foundation. She runs a large computational research group of 35 students, postdocs, and research staff, and has published over 200 refereed papers and presented over 300 plenary, keynote and invited talks around the world. Glotzer has provided leadership and input on roadmapping for federal granting agencies on many research topics, including simulation-based engineering and science, and three of her reports are among the first six references cited by the Materials Genome Initiative. She serves on several boards and advisory committees of the National Science Foundation, the Department of Energy, and the National Research Council. Glotzer was the co-recipient of the 2014 MRS Medal awarded by the Materials Research Society. She was the recipient of the Charles M.A. Stine Award in Materials Science and Engineering from the American Institute of Chemical Engineers, and was named a Simons Investigator in 2012.

Goal 3: Develop and sustain educational resources, a skilled workforce, and a dynamic infrastructure and toolset to advance nanotechnology

Oliver Brand



Oliver Brand received his undergraduate degree in Physics from Technical University Karlsruhe, Germany in 1990, and his Ph.D. degree (Doctor of Natural Sciences) from ETH Zurich, Switzerland in 1994. He was a postdoctoral fellow at Georgia Tech from 1995-1997 and a lecturer at ETH Zurich in Zurich, Switzerland and deputy director of the Physical Electronics Laboratory (PEL) from 1997 to 2002. In January 2003, Dr. Brand joined the Electrical & Computer Engineering faculty at Georgia Institute of Technology. Dr. Brand has co-authored more than 190 publications in scientific journals and conference proceedings. His research interests are in the areas of CMOS-based microsystems, microsensors, MEMS fabrication technologies, and microsystem packaging.

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Brian Jamieson



Brian Jamieson has over twenty years of experience in hardware-oriented research and development. He is particularly interested in the application of micro- and nano-technology to challenging problems in medicine, biology, and defense. From 2002-2006 Jamieson was the MEMS Group Leader at NASA/Goddard Space Flight Center, where he developed analytical instruments for unmanned space missions. Prior to returning to graduate school in 1996, Jamieson held research and supervisory positions at the Naval Research Laboratory and the DOE's Savannah River Site. Jamieson's doctoral thesis focused on improving practical aspects of the use of silicon neural probes in neurophysiology research, and resulted in the first report of reliable long term in vivo neuronal recordings using active (integrated CMOS) neural probes.

Jamieson serves as an industrial advisor to the Georgetown University Graduate Physics Program and as the chairman of the Mid-Atlantic MEMS Alliance, a consortium of government agencies, private companies and Universities dedicated to the commercialization of miniaturization technologies. He also serves as a member of the Scientific Advisory Board of the Maryland Science Center.

Saniya LeBlanc



Saniya LeBlanc's research goals are to utilize nano- and micro-structuring techniques to improve energy systems. She uses scalable manufacturing techniques to create nanostructured materials for energy and thermal management applications and creates techno-economic models for emerging energy technologies. Dr. LeBlanc obtained a PhD in mechanical engineering with a minor in materials science at Stanford University. She earned her BS with highest honors from Georgia Institute of Technology and a Master's of Philosophy in Engineering from Cambridge University as a Churchill Scholar. Dr. LeBlanc has received fellowships from the National Science Foundation, Sandia National Labs, and Stanford's Diversifying Academia, Recruiting Excellence program. With a strong commitment to educational equity, she served in Teach For America as a high school math and physics teacher in Washington, D.C., and she was co-founder of the American Society for Engineering Education's Stanford chapter. Dr. LeBlanc joined GWU from Alphabet Energy, a San Francisco Bay Area startup company, where she created research, development, and manufacturing characterization solutions for thermoelectric technologies and evaluated the potential of new power generation materials.

Richard Hennig



Richard Hennig received his Diploma in Physics at the University of Göttingen in 1997 and his Ph.D. in Physics from Washington University in St. Louis in 2000. After working as a postdoctoral researcher and research scientist at Ohio State University, he joined the faculty of the Department of Materials Science and Engineering at Cornell in 2006 as an Assistant Professor. In 2014 he moved to the University of Florida as an Associate Professor.

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Goal 4: Support responsible development of nanotechnology

Greg Lowry



Greg Lowry is the Walter J. Blenko, Sr. Professor of Civil and Environmental Engineering at Carnegie Mellon University. He is the Deputy Director of the NSF/EPA Center for Environmental Implications of Nanotechnology (CEINT), and an Associate Editor of *Environmental Science: Nano*. Dr. Lowry holds a B.S. in Chemical Engineering from the University of California at Davis, an M.S. and Ph.D. in Civil and Environmental Engineering from the University of Wisconsin at Madison and Stanford University, respectively. His research and teaching focuses on understanding the environmental fate and effects of engineered nanomaterials, and how the unique properties of engineered nanomaterials can be safely leveraged for applications in water treatment and food production. He has authored or co-authored more than 100 peer-reviewed journal articles. Dr. Lowry has received awards from the ASCE (Walter L. Huber Civil Engineering Research Award), the AEESP (Malcolm Pirnie/AEESP Frontiers in Research Award), and the ACS (Best Feature Article in *ES&T* for 2012). He was recognized as a highly cited researcher (top 1%) in the area of environment and ecology by Thompson Reuters in 2014 and 2015. Dr. Lowry has served as PI or Co-PI on grants from the National Science Foundation, U.S. Department of Defense, U.S. Department of Energy, and U.S. Environmental Protection Agency, and from industry. He currently serves on the EPA Science Advisory Board (Environmental Engineering committee), the AEESP board, and advisory boards for two international research Centers, NanoFASE and NANOREM. He served on the National Research Council Committee to Develop a Research Strategy for Environmental Health and Safety Aspects of Engineered Nanomaterials.

Brian Thrall



Brian Thrall is Associate Director within the Biological Sciences Division, Group Manager for Health Impacts & Exposure Science at Pacific Northwest National Laboratory, and Directs PNNL's Center for Nanotoxicology. He has led several multidisciplinary research programs funded by NIEHS and other agencies, focused on understanding the interaction mechanisms between engineered nanomaterials and cells and tissues, employing 'omics, imaging and computational biology approaches to identify the pathways they modulate and their implications for human health. Dr. Thrall received his Ph.D. in Pharmacology & Toxicology from Washington State University.

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Matthew Hull



Matthew Hull is Associate Director for Entrepreneurship and Business Engagement with Virginia Tech's National Center for Earth and Environmental Nanotechnology (NanoEarth). He also manages the nanotechnology and engineered health research portfolios within Virginia Tech's Institute for Critical Technology and Applied Science (ICTAS). He received his Ph.D. in Civil and Environmental Engineering from Virginia Tech in 2011 and an M.S. in Biology from Virginia Tech in 2002. He received his B.S. In Environmental Science from Ferrum College in 2000. Hull is also President and Owner of NanoSafe, Inc., a provider of nanotechnology human and environmental health and safety (EHS) services he founded in 2007.

Debra L. Kaiser



Debra L. Kaiser is the Technical Program Director for Advanced Materials in the Material Measurement Laboratory at the National Institute of Standards and Technology, Gaithersburg, Maryland, U.S.A., where she has worked since 1988. For the past five years, she has led NIST's Nanotechnology Environment, Health, and Safety Program, with responsibility for internal program coordination and external interactions, particularly with other Federal agencies. From 2003 to 2012, Dr. Kaiser was Chief of the Ceramics Division and led the transformation of the Division to an organization focused on structure and mechanical property measurements and standards for advanced inorganic materials and structures, particularly nanoparticles and thin films. She is currently Chair of ASTM

Committee E56 on Nanotechnology. In 2008, she received a U.S. Department of Commerce Silver Medal for Scientific/Engineering Achievement for her role in the development of the first gold nanoparticle reference materials for biomedical applications.

Dr. Kaiser received a BS from Lehigh University, a MS from Colorado School of Mines, and an ScD from the Massachusetts Institute of Technology, all in materials science and engineering. After completing her graduate studies, she was a Postdoctoral Research Fellow at IBM Research conducting work on newly discovered high temperature superconductors.

Timothy Malloy



Timothy Malloy teaches Environmental Aspects of Business Transactions, Regulatory Lawyering, Regulation of the Business Firm, Environmental Policy and Politics, and Contracts. With Dr. John Froines of the School of Public Health, Malloy is Faculty Director of the interdisciplinary UCLA Sustainable Technology and Policy Program. After receiving his law degree, Professor Malloy clerked for Judge Donald W. VanArtsdalen of the U.S. District Court for the Eastern District of Pennsylvania. He joined the UCLA faculty in 1998, after spending a combined 11 years in practice at private firms and at the United States Environmental Protection Agency, Region III. Professor Malloy's research interests focus on environmental, chemical and nanotechnology policy, regulatory policy, and

organizational theory and decision analysis, with particular emphasis on the relationship between regulatory design and implementation and the structure of business organizations. In addition, he has worked and written extensively in the area of risk governance and prevention-based regulation, melding together his academic interests with his work in the Sustainable Technology Policy Program.

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Goal 2: Foster the transfer of new technologies into products for commercial and public benefit

Marcie Black



Marcie Black is CEO and co-founder of Advanced Silicon Group. Prior to founding ASG, Marcie was the President and co-founder of Bandgap Engineering, which focused on increasing the deployment of solar generation by lowering the cost of solar technologies. Dr. Black has dedicated her career to making renewable energy more cost effective. She has more than twenty years' experience in the solar energy, semiconductor, and the opto-electronic industries. Before joining Bandgap, Marcie was a technical staff member at Los Alamos National Laboratory and worked on a variety of nanotechnology and optical systems. She began at Los Alamos National Labs as a prestigious Director's Funded Post Doc, developing organic and nano solar cells. Marcie has a Ph.D. from MIT in Electrical Engineering, under the supervision of Institute Professor, Mildred Dresselhaus. Prior to her Ph.D. work, Marcie was a device engineer at Motorola where she was on a small team responsible for combining non-volatile memory and logic onto the same chip. She improved the manufacturing yields by working with the process engineer to improve silicide formation. In 2009, she was awarded an R&D 100 award for her contributions to work at LANL. Marcie also was honored as one of the ten "Women-to-Watch in 2010" by Mass High Tech. Marcie has over 30+ papers and more than 15 issued patents with many more pending.

Dr. Black has expertise in building strong teams, managing development projects, patents, IP strategy, encouraging a healthy company culture, cost modeling, and running a startup. In addition, Marcie has a strong technical background in the areas of electronic materials, optics, semiconductors, solar cells/photovoltaics, batteries, renewable energy, nanotechnology, device design, and opto-electronics.

Frank Malinoski



Dr. Malinoski has more than 20 years of executive experience in the biotech and pharmaceutical industries, including work in clinical and global business development, regulatory evaluation, and post-approval oversight for numerous vaccines and immunotherapy products. Dr. Malinoski has extensive background in the fields of vaccines, immunology, oncology, infectious disease and other key therapeutic areas. Prior to joining Liquidia in 2010, Dr. Malinoski held senior positions in clinical research, business development, and medical affairs at Wyeth, MedImmune, Nabi and currently is Chief Medical Officer at Liquidia Technologies, Inc. and is Chair of the Nanomedicines Alliance industry group. Dr. Malinoski received his B.A. from Colby College, his M.D. from Albany Medical

College, and his Ph.D. in microbiology from Rutgers University.

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Joe Sprengard, Jr.



Joe is an accomplished entrepreneur, leader and executive who has demonstrated success in professional environments ranging from startups, Fortune 500 companies, consulting firms, and the United States Congress. Since co-founding General Nano in 2008, Joe has built the company from a \$100k Small Business Research and Innovation (SBIR) grant into a trusted partner to some of the world's most respected companies and institutions. General Nano is the exclusive manufacturer of Veelo™, a new class of lightweight multifunctional materials that improve Size, Weight and Power (SWaP) of commercial aerospace and defense applications. Joe loves working with innovators and high-integrity professionals, delighting customers, and serving others. He is a graduate of the University of Illinois, Urbana-Champaign, a scholarship athlete, and a two-time

Big Ten Baseball Champion. Joe is a proud husband and father. He enjoys sports, skiing and traveling with his family and friends.

Recent Accomplishments:

- The Boeing Company Awards General Nano 2015 Supplier of the Year in Technology Category (April 2016)
- Cincinnati Business Courier Awards General Nano 2015 Outstanding Advanced Engineering Innovation Award (April 2016)
- General Nano's Veelo BLAC selected by OEM for NASA CubeSat (March 2016)
- General Nano Receives Follow-On Investment from Air Force Commercialization Readiness Program (February 2016)

World Nieh



World Nieh is the Forest Products National Program Lead in the R&D Deputy Area, U.S. Forest Service. Dr. Nieh represents the Forest Service in the National Nanotechnology Initiative (NNI) and co-chairs the interagency Sustainable Nanomanufacturing Signature Initiative. He is also active in international standards development of cellulose nanomaterials and currently leads the ISO TC229 Nanotechnologies cellulose nanomaterial terminology standards development project. Dr. Nieh's other focus areas as the Forest Products National Program Lead for the U.S. Forest Service include green buildings, biorefinery, renewable polymers, mass timber and wood utilization.

Prior to joining the U.S. Forest Service in 2006, Dr. Nieh held research, technical support and marketing positions in forest products companies and chemical supplier companies to the forest products industry. His industrial experience included wood adhesives, wood preservation, wood composites, building materials and pulp and paper products. Dr. Nieh received his Ph.D. from Mississippi State University, M.S. from Virginia Tech and studied Polymer Science at the University of Southern Mississippi as part of his Ph.D. curriculum. He was named Mississippi State University College of Forest Resources 2014 Alumni Fellow. Dr. Nieh is a member of the American Chemical Society (ACS), the Forest Products Society (FPS), the Society of Wood Science and Technology (SWST), the Technical Association of the Pulp and Paper Industry (TAPPI), and the American Association for the Advancement of Science (AAAS).