



Keynote & Guest Speaker Biographies

KEYNOTE SPEAKERS



Blake Marshall
Technology Manager
Advanced Manufacturing Office, Department of Energy

Blake manages research and development programs that advance the state of the art in additive manufacturing technologies for the Advanced Manufacturing Office, U.S. Department of Energy. These programs aim to increase U.S. manufacturing competitiveness, save energy, and develop novel technologies that meet the cost, rate, and performance requirements of industry. Technical focus areas include directed energy deposition, fused deposition modeling, binder jetting, and large-scale industrial system integration.



Dr. Jo Anne Shatkin
President
Vireo Advisors

Dr. Jo Anne Shatkin, Ph.D. is President and founder of Vireo Advisors, LLC. Jo Anne and @Vireo_Advisors advise public and private organizations on market and regulatory requirements toward advancing adoption of safer and more sustainable bio-based product development through risk management strategies and state of the art analyses. Dr. Shatkin is an environmental health scientist and recognized expert in environmental aspects of novel and emerging ingredients, bio-based and nanoscale technologies, health risk assessment, emerging substance policy and environmental science and policy. Areas of expertise include food safety, composites, public/private models of cooperation and 21st century testing strategies.

Since 2005, Jo Anne has provided leadership on the responsible development of nanotechnology. She served as an expert to several international committees on nanotechnology safety, including the National Academy of Sciences, Canadian Council of Academies and others. Her book, *Nanotechnology Health and Environmental Risks Second Edition* (CRC Press 2012) describes the use of LCRA - life cycle thinking in risk analysis for nanomaterials. Jo Anne is a fellow of the Society for Risk Analysis and serves on the boards of the Center for Environmental Policy at American University and the University of Maine Forest Bioproducts Research Institute. She and the team at Vireo Advisors work internationally on the safety and sustainability of nanotechnologies and bio-based products.



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INVITED GUEST SPEAKERS



Dr. Soydan Ozcan
Senior R&D Scientist
Oak Ridge National Laboratory

Dr. Soydan Ozcan is a Senior R&D Scientist in the Manufacturing Science Division of Oak Ridge National Laboratory (ORNL). He is currently the Thrust Lead for Development of Bio-Derived Materials & Manufacturing at the ORNL's Manufacturing Demonstration Facility (MDF). His research addresses the broad and vital issue of identifying novel, high-value biomaterials from renewable sources, and viable processes for their preparation for composite and additive manufacturing applications towards zero waste. Dr. Ozcan also leads the Composite Recycling Effort for Institute for Advanced Manufacturing Composite Innovation (IACMI). IACMI is the national Composite Institute within Manufacturing USA, helps U.S. manufacturers employ leading-edge technology to become more competitive.



Dr. Meghan E. Lamm
R&D Associate Staff Member
Oak Ridge National Laboratory

Dr. Meghan Lamm is an R&D Associate Staff Member in the Manufacturing Science Division of Oak Ridge National Laboratory (ORNL). She received her B.A. in Chemistry from Illinois Wesleyan University and PhD in Organic Chemistry from the University of South Carolina. Her doctoral research focused on macromolecular engineering of biomass polymers and their applications in stimuli-responsive materials. Dr. Lamm joined ORNL in January 2020. Her current research interests include development of novel polymeric materials for a range of applications including composite materials, biopolymers, polymer upcycling, and stimuli-responsive materials.



Dr. Katie E. Copenhaver
Postdoctoral Research Associate
Oak Ridge National Laboratory

Dr. Katie Copenhaver is a Research Associate Manufacturing Science Division of the Oak Ridge National Laboratory specializing in bio-based composites and large area additive manufacturing. She received her PhD in Materials Science and Engineering from the Georgia Institute of Technology. Dr. Copenhaver's background is in polymer and fiber engineering with focus on bulk polymer characterization and surface science, particularly in the areas of structured materials and adhesives.



Keynote & Guest Speaker Biographies



Dr. Susan MacKay

Sr. R&D Program Manager

Advanced Structures and Composites Center, University of Maine

Dr. Susan MacKay is a Senior R&D Program Manager at the UMaine Advanced Structures and Composites Center. She has 25 years' experience in materials chemistry, product development, and manufacturing at both large corporations and early-stage companies. Prior to joining UMaine, Dr. MacKay was the founder and CEO of Cerahelix, Inc. where she led the commercialization of their ceramic nanofiltration technology based on a patented DNA ceramic nanotechnology coating.



Dr. Douglas Gardner

Professor, Forest Operations, Bioproducts & Bioenergy

School of Forest Resources, University of Maine

Dr. Doug Gardner's research, teaching, and service activities focus on polymer and interfacial science aspects of wood-polymer hybrid composite materials. Through research in the areas of adhesion and surface science, extruded wood plastic composites, cellulose nanofiber and adhesive bonding actions, he focuses on the use of cellulosic fibers rather than glass fibers in polymer composites, processing wood with engineering thermoplastics such as nylon to provide WPCs with improved thermal stability, and the manufacture of thermoplastics with biopolymers obtained from wood. Dr. Gardner's research goals are to better understand how wood-based products bond as the result of an adhesion or gluing process and to utilize conventional and novel wood components into new wood composite materials by better understanding the chemistry and molecular interactions contribution to the adhesion process across a range of length scales from the nano to micron level.



Dr. Islam Hafez

Assistant Research Professor

School of Forest Resources, University of Maine

Dr. Islam Hafez is a member of the Laboratory of Renewable Nanomaterials (LRN) at UMaine. The lab specializes in alternative applications of cellulose nanomaterials, with an emphasis on large-volume production and end uses. The research group has been awarded more than \$3.2 million in grant funding to advance the science and technology of renewable nanomaterials.



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Dr. William Gramlich
Associate Professor
Department of Chemistry, University of Maine

Dr. Will Gramlich is an Associate Professor in the Chemistry Department at the University of Maine specializing in polymer chemistry. His group focuses on the design of complex polymer architectures and chemistries that allow for the temporal and spatial control over materials and their surfaces while using sustainable polymers. They utilize controlled polymerization techniques, post-polymerization functionalization, and renewably sourced materials to create block copolymers, graft copolymers, hydrogels, and stimuli responsive materials.



Dr. Lu Wang
Assistant Research Professor
Advanced Structures and Composites Center, University of Maine

Dr. Lu Wang has been working at the Advanced Structures and Composites Center using cellulose nanofibrils in polypropylene composites for extrusion-based additive manufacturing. Although additive manufacturing, or 3D printing, has developed drastically in the past few years, not all materials are compatible with this technology. Dr. Wang's research goals are to identify a solution for printing polypropylene (a very common plastic, but experiences great difficulty in 3D printing) and to make printed polypropylene comparable to injection molded counterparts via fiber reinforcement.



Dr. Ling Li
Assistant Professor of Sustainable Bioenergy Systems
School of Forest Resources, University of Maine

Dr. Ling Li joined the School of Forest Resources in 2018 as an Assistant Professor of Sustainable Bioenergy Systems. Before joining SFR, Dr. Li worked as a Research Scientist at the Wood Science and Technology Center, the University of New Brunswick, Canada.

Her research areas in SFR include: Innovative technologies to improve the energy efficiency of energy-intensive wood industry and timber-based building sector; Advanced carbon-neutral bioproducts, such as engineered wood products and mass timber panel products; Numerical analysis of hydrothermal behavior of wood and engineered wood products; and Utilization of sustainable and renewable biomass as bioenergy resources.



Keynote & Guest Speaker Biographies



Dr. Maria Soledad Peresin
Assistant Professor of Forest Biomaterials
School of Forestry and Wildlife Sciences, Auburn University

Dr. Soledad Peresin started her appointment as an Assistant Professor at the School of Forestry and Wildlife Sciences, Forest Products Development Center at Auburn University in 2016.

Dr. Peresin has established a solid multidisciplinary research platform that gathers expertise in the areas of chemistry, pharmacy, materials sciences and engineering, as well as product development, encompassing the needs for stimulating new businesses in food, pharmaceutical, biotechnology and medicine sectors, through novel value-added products from biomass (wood, annual crops, agro-forestry, sericulture, etc.). She is co-editor of a book titled “Lignocellulosics. Renewable Feedstock for (Tailored) Functional Materials and Nanotechnology” (Elsevier, 2020).



David Cowles
Global Market Development Manager, Nanotechnologies
Valmet

David Cowles is a graduate of Miami University majoring in Paper Science & Engineering. He has worked for various suppliers and paper mills in a host of positions for over 35+ years. Now as Global Market Development Manager-Nanotechnologies, David works with a team of Valmet professionals in micro-fibrillated cellulose creation and promotion. Working with our alliance partner, University of Maine and the team of Valmet experts and researchers, he hopes to bring the next great opportunity to the paper industry.



Bob Hamilton
Owner
Stirling Consulting, Inc.

Robert (Bob) Hamilton is the President of Stirling Consulting, Inc. His career has spanned more than 50 years in the North American and European pulp & paper industry in technical, operations and product development assignments and as a consultant in process, product and market development projects for the industry.

He is a University of Maine graduate and has often worked closely with the University of Maine Process Development Center where he has been active in pilot and commercial trials of NFC and is a joint patent holder regarding the use of NFC in release base papers.