

2011 Executive Conference Speaker Biographies

Dean Benjamin, NewPage Corporation

Director of Research

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Dean Benjamin is Director of Research, NewPage Corporation. He joined NewPage in 2008.

Prior to NewPage Corporation, he joined Consolidated Papers, Inc., as a Senior Research Engineer at the R&D facility in Wisconsin Rapids, WI. His research focused on developing new coating and finishing equipment and he eventually became the manager of the Coater Research & Engineering Department. He also worked in the areas of coating color preparation, paper finishing technology, high-speed coaters, fountain applications, corrosion engineering, kraft chemical recovery systems and product development. Dean then became the manager of the Product Development - Publication Papers, where he worked on a variety of product developments including high bulk paper, alternative finish paper, and high brightness, carbonate- based paper coatings.

Oliver Brand, Georgia Institute of Technology

Professor, Bioengineering and Microsystems

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Dr. Brand will discuss the state of the art in the application of sensors in packaging, highlighting the use of microelectro-mechanical systems in potential packaging applications.

Oliver Brand is a Professor in the School of Electrical and Computer Engineering at the Georgia Institute of Technology. He received his diploma degree in Physics from Technical University Karlsruhe, Germany, in 1990 and his Ph.D. degree from ETH Zurich, Switzerland in 1994. From 1995 to 1997, he worked as a postdoctoral fellow at the Georgia Institute of Technology. From 1997 to 2002, he was a lecturer at ETH Zurich in Zurich, Switzerland and deputy director of the Physical Electronics Laboratory (PEL).

Dr. Brand has co-authored more than 150 publications in scientific journals and conference proceedings. He is a co-editor of the Wiley-VCH book series

Advanced Micro and Nanosystems, a member of the editorial board of Sensors and Materials, a member of the steering committee of the IEEE MEMS Conference, and has served as General Co-Chair of the 2008 IEEE International Conference on Micro Electro Mechanical Systems (MEMS 2008). Dr. Brand is a senior member of the IEEE and a co-recipient of the 2005 IEEE Donald G. Fink Prize Paper Award. His research interests are in the areas of silicon-based microsystems, microsensors, MEMS fabrication technologies, and microsystem packaging.

Marilyn Brown, Georgia Institute of Technology

Nobel Laureate and Professor, School of Public Policy

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Dr. Brown will discuss current energy policy drivers in the U.S., their potential to generate competition for forest resources, and options that may make economic sense for companies.



Marilyn A. Brown is an endowed Professor of Energy Policy in the School of Public Policy at the Georgia Institute of Technology, and a Visiting Distinguished Scientist at the Oak Ridge National Laboratory.

She was designated a co-recipient of the Nobel Peace Prize in 2007 for her work on the Intergovernmental Panel on Climate Change. She is the co-editor with Benjamin K. Sovacool of *Energy and American Society: Thirteen Myths* (2007) and is the lead author of *Climate Change and Global Energy Security* (MIT Press, 2011). In October 2010, she was nominated by President Barack Obama and subsequently sworn in to the Board of Directors of the Tennessee Valley Authority, the nation's largest public power provider.

Deepak Divan, Georgia Institute of Technology

Professor, Intelligent Power Infrastructure Consortium

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Dr. Divan will discuss emerging technologies such as *SmartGrid* for managing power generation, distribution, and consumption.



Deepak Divan is the director of the Intelligent Power Infrastructure Consortium (IPIC), a university-industry-utility consortium that has been formed to provide a focal point for the academic teaching and research program in advanced power technologies at Georgia Tech. IPIC provides a mechanism to foster and accelerate the development and adoption of early-stage pre-competitive high-risk and high-impact technologies in power applications.

Deepak joined Georgia Tech in 2004 to create a strong program in the application of power electronics and related technologies to power systems and demanding defense and industrial applications. He holds 32 patents, has

published approximately 200 technical papers, including over 12 prize papers, and has given many invited presentations at technical and business-oriented meetings.

Gopal C. Goyal, International Paper

Chair, Research Advisory Committee; Manager, Fiber Technology Solutions

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Gopal did his graduate studies at University of Washington, Seattle, WA in the chemical engineering and pulp and paper program. After finishing his graduate studies, he worked as a research scientist for Repap Technologies, where he had a key role in starting up the Alcell demonstration plant. He moved to

Potlatch Corporation's research and development as a team leader in pulping, bleaching and recovery research.

Gopal joined International Paper in 2003 and is currently managing the Fiber Technology Solutions group. He has over 35 publications and 20 patents. He is also a TAPPI fellow.

Marko Hakovirta, Georgia Institute of Technology

Associate Director, Institute of Paper Science & Technology

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Marko J. Hakovirta, is associate director of research in the Institute of Paper Science & Technology (IPST) at the Georgia Institute of Technology.



Previously Dr. Hakovirta worked for 10 years in several R&D, technology and business development leadership positions in Metso Corporation. Most recently Marko was Metso's corporate vice president for technology, environment and quality.

Before joining Metso Corporation, Dr. Hakovirta worked both in academia and large international research institutes. He worked as a fellow at the European Center for Particle Physics (CERN) in Geneva, Switzerland in several projects dealing with superconductive coating for RF cavities and related materials synthesis, modification and characterization, and at the Los Alamos National Laboratory (LANL), New Mexico, USA

Mike Harris, Georgia Institute of Technology

Associate Director, GTRI

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Mr. Harris will discuss a case history of commercialization of nanomaterials, suggesting important steps in the process and challenges to be addressed.



Mike Harris is the Associate Director of the Electro-Optical Systems Laboratory of the Georgia Tech Research Institute (GTRI). He is also head of the Microelectronics and Nanotechnology Group. His research team is producing carbon nanotubes and discovering applications for these nanomaterials.

He is a Fellow of the Institute of Electrical and Electronic Engineers (IEEE) and has served on the Administrative Committee of the Microwave Theory and Techniques Society of IEEE.

Phil Jones, Imerys

Director, New Ventures, Pigments for Paper

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J. Philip E. Jones is Director of New Ventures, IMERYS Pigments for Paper, Roswell, Georgia. He has served 2 terms as a member of the Board of Directors of the Technical Association of Pulp & Paper Industries (Tappi), as well as on the Executive Committee; he is a Tappi Fellow and past chairman of the Tappi Research Management Committee. He previously served on the Board of the Empire State Research Associates at Syracuse.

He has been, until recently, Vice-Chairman of the Industry Advisory Board of the Sloan Center for Paper Business Industry Studies at Georgia Tech. He was also a member of the Board of Executives of the Institute of Paper Science and Technology (IPST) @ Georgia Tech. He has been a member of the NSF visiting committee to the Nano-fabrication Center at Pennsylvania State University and also on the AF&PA/TAPPI review committee at the Forest Products Lab in Madison WI.

He is Co-Chair of the Nano-technology subcommittee of the Agenda 2020 program at AF&PA and a member of the Consultative Board for Advancing Nanotechnology (CBAN) in the Forest Products Industry which interfaces with government agencies such as OSTP, DoE, NSF, USDA and DoD through the National Nanotechnology Initiative (NNI).

Stylianos Kavadias, Georgia Institute of Technology

Associate Professor, Operations Management

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Dr. Kavadias will discuss case studies of how companies have successfully responded to industry transformations, how ideas “happen” in companies, and how to manage innovation given existing businesses.

Stylianos (Stelios) Kavadias is the Edward J. Brown Jr. associate professor of Technology and Operations Management in the College of Management at



Georgia Tech. His research focuses on new product development and the management of technology. In particular, he is interested in the challenges that arise during new product development portfolio selection decisions, and in the managerial problems that emerge during new product co-development efforts, irrespective of whether these lie within the firm (e.g. in management of new product development teams) or take place across firms (technology licensing and management of co-development projects). Stelios' work has been awarded the 2nd prize in the George B. Dantzig Best Dissertation Competition organized by INFORMS, and it has appeared in Management Science and Production and Operations Management.

Bernard Kippelen, Georgia Institute of Technology

Director, Center for Organic Photonics and Electronics

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Dr. Kippelen will discuss printed electronics and flexible display technologies applicable to consumer packaging.



Bernard Kippelen is currently a professor in the School of Electrical and Computer Engineering at the Georgia Institute of Technology. His research interests range from the investigation of fundamental physical processes (nonlinear optical activity, charge transport, light harvesting and emission) in organic-based nanostructured thin films, to the design, fabrication and testing of light-weight flexible optoelectronic devices based on hybrid printable materials.

He serves as Director of the Center for Organic Photonics and Electronics and as Associate Director of CIS:HSEM, an Energy Frontier Research Center funded by the Department of Energy (DoE).

Norman Marsolan, Institute of Paper Science & Technology

Director

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Dr. Marsolan will show how IPST is evolving to meet the needs of today's forest products companies, and how it can enable forest products companies to transform themselves to meet the future.



Norman Marsolan is Director of the Institute of Paper Science & Technology (IPST) at the Georgia Institute of Technology. As director, Dr. Marsolan is responsible for engaging the research capacity of Georgia Tech in the service of the IPST industrial consortium.

After twenty years of service, Norman retired from International Paper Company in 2008, where he last served as director of research & development.

Norman held assignments as mill manager and as director of technology manufacturing solutions responsible for the worldwide support of pulp and paper manufacturing.

Dr. Marsolan is chair of the Technical Association of the Pulp and Paper Industry (TAPPI) and is a member of its board of directors and executive committee. Additionally, he previously served on the Georgia Tech IPST Board of Executives.

Pat McCarthy, Georgia Institute of Technology

Professor, Economics
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Dr. Patrick McCarthy joined Georgia Tech in 2000 as Professor and Chair of the School of Economics, Ivan Allen College of Liberal Arts. Pat is also Director of the Center for Paper Business and Industry Studies (CPBIS). He is an Associate Editor of *Transportation Research E*. Pat is the author of *Transportation Economics Theory and Practice: A Case Study Approach* (Blackwell Publishers 2001). He has published widely in academic journals and edited volumes, and conference proceedings. The Sloan Foundation Industry Centers Program, Federal Aviation Authority, the National Science Foundation, and the National Institutes of Health have supported his research.

Robert McGrath, Georgia Tech Research Institute

Vice President
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Dr. Robert T. McGrath serves as vice president at the Georgia Institute of Technology and director of the Georgia Tech Research Institute (GTRI). GTRI is an applied research organization providing an array of technology solutions for the U.S. Department of Defense, U.S. Department of Homeland Security, other federal agencies and industry.

McGrath also worked for Sandia National Laboratory in Albuquerque, New Mexico, where he directed programs such as cooperative research and development with SEMATECH on microelectronics manufacturing, high performance computing applications, and international collaborations with Japan, Europe and the former Soviet Union on plasma-materials interactions and engineering of high heat flux components for magnetic fusion reactors.

Carson Meredith, Georgia Institute of Technology

Associate Professor, Chemical and Biomolecular Engineering
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Dr. Meredith will provide an introduction to nanomaterials, discussing why forest-based nanomaterials make sense and offering some near- and long-term opportunities for nanomaterials.



Dr. Carson Meredith is an Associate Professor in Chemical and Biochemical Engineering at Georgia Tech. He has been at GT since 2000. His research interests include polymer interfaces, nanocomposites, biomimicry, and sustainable materials. He also serves as the Coordinator for New Forest Biomaterials with IPST and leads a DoD MURI Center focused on biomimicry of natural adhesives and bioluminescent compounds.

Art Ragauskas, Georgia Institute of Technology

Professor, Chemistry and Biochemistry

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Dr. Ragauskas will show how pulp properties can be selectively enhanced for improved products through fiber modification.



Arthur Ragauskas held the first Fulbright Chair in Alternative Energy and is a Fellow of the International Academy of Wood Science and of TAPPI.

Art's research program at the Georgia Institute of Technology is seeking to understand and exploit innovative sustainable bioresources. This multifaceted program is targeted to develop new and improved applications for nature's premiere renewable biopolymers for biomaterials, biofuels, biopower, and bio-based chemicals. His research program is sponsored by NSF, USDA, DOE, GA Traditional Industry Program, the IPST consortium of industry partners, and several fellowship programs. His Fulbright-sponsored activities at Chalmers University of Technology, Sweden, were focused on the forest biorefinery and new biofuel conversion technologies for lignocellulosics.

William Rouse, Georgia Institute of Technology

Executive Director, Tennenbaum Institute

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Dr. Bill Rouse will discuss the challenges faced by executives of companies in transformation who must balance the companies they have with the companies they are trying to create.



William B. Rouse is the Executive Director of the Tennenbaum Institute at the Georgia Institute of Technology. He is also a professor in the College of Computing and School of Industrial and Systems Engineering. Among many advisory roles, he has served as Chair of the Committee on Human Factors of the National Research Council, a member of the U.S. Air Force Scientific Advisory Board, and a member of the DoD Senior Advisory Group on Modeling and Simulation.

Rouse is a member of the National Academy of Engineering, as well as a fellow of four professional societies - The Institute of Electrical and Electronics Engineers (IEEE), The International Council on Systems Engineering (INCOSE), The Institute for Operations Research and Management Science, and The Human Factors and Ergonomics Society. He has received the Joseph Wohl Outstanding Career Award and the Norbert Wiener Award from the IEEE Systems, Man, and Cybernetics Society; a Centennial Medal; and a Third Millennium Medal from IEEE.

Bhima Sastri, US Department of Energy

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Dr. Sastri will discuss the importance of energy needs and initiatives in the forest products industry, as well as the role of DOE initiatives taken to help this industry.



Bhima Sastri is a Technology Manager in the Department of Energy where he manages the Forest Products, Cement, and Water portfolios for the Industrial Technologies Program. In his role, he helps develop partnerships with stakeholders in the forest products and chemical industries and participates in research & development projects, review, oversight, and feedback to DoE. He has a Ph.D. in chemical engineering from Rensselaer. Before his current position with DoE, he worked in the forest products industry for over 17 years and held a visiting faculty position at the University of Maryland in College Park.

David Sholl, Georgia Institute of Technology

Professor, Chemical and Biomolecular Engineering

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Dr. Sholl will discuss potential process improvements enabled by emerging membrane and other separation technologies.



David Sholl is Michael E. Tennenbaum Family Chair and GRA Eminent Scholar in Energy Sustainability in the School of Chemical &

Biomolecular Engineering at Georgia Tech. He has held this position since January 2008.

Prior to his appointment at Georgia Tech, David was on the faculty at Carnegie Mellon University for 10 years. David's research uses computational materials modeling to accelerate development of new materials for energy-related applications, including generation and storage of gaseous and liquid fuels and carbon dioxide mitigation. He has published over 160 peer-reviewed papers. He has also written a textbook on Density Functional Theory, a quantum chemistry method that is widely applied through the physical sciences and engineering. David is a Senior Editor of the ACS journal Langmuir, and is an Associate Director of Georgia Tech's Strategic Energy Institute. More information on David's research group is available from www.chbe.gatech.edu/sholl

Preet Singh, Georgia Institute of Technology

Professor, Materials Science and Engineering

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Dr. Singh will review advances in capital equipment preservation, corrosion and the challenges emerging from the on-going operational changes in the pulp and paper industry.

Preet M. Singh is Professor at the School of Materials Science and Engineering at Georgia Tech.

Preet's research is focused on different forms of environmental degradation of metallic materials including aqueous corrosion, stress corrosion cracking (SCC), corrosion fatigue and high temperature corrosion. He received his Ph.D. from the University of Newcastle Upon Tyne, UK in 1989. Prior to joining Georgia Tech in 2003, Prof. Singh was an assistant professor and then associate professor at the Institute of Paper Science and Technology (IPST) since 1996. He has published over 100 papers in peer reviewed journals, books, and conference proceedings. His current research areas include corrosion and SCC of steels in ethanol fuels, SCC and corrosion fatigue (CF) of duplex stainless steels in pulping liquors, carbon steel tubes in high purity boiler water, corrosion-resistant reinforcement steels for pre-stressed concrete structures, high-temperature corrosion in recovery boilers, and bio-gasifiers.

Mark Watkins, MWV Corp.

Senior Vice President

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Mark Watkins is senior vice president of MeadWestvaco (MWV) Corporation with



responsibility for corporate engineering, stewardship, sustainability, safety, health and environmental. Previously he served as vice president of technology for the Mead Corporation.

Mr. Watkins joined Mead in 1997 as vice president of Michigan operations for the Publishing Paper Division, where he had oversight of the Escanaba, Michigan paper mill and related woodland and sawmill operations. In 1999, he was promoted to vice president of human resources and organizational development for the newly combined Paper Division. Beyond his duties to ensure a successful reorganization of the division, he served as the lead management sponsor for the division's ERP implementation project. Mr. Watkins was appointed vice president of technology for Mead in 2000. As a member of the corporate executive management committee, his responsibilities included the functions of central research, central engineering, and the corporate safety, health and environmental group.