



BIOMASS 2013:

**HOW THE ADVANCED BIOINDUSTRY
IS RESHAPING AMERICAN ENERGY**

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Breakout Speaker Biographies

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Gary Anderson

Economist, National Institute of Standards and Technology (NIST)

Dr. Gary Anderson is an economist in the Economic Analysis Office, under the Office of the Director at the National Institute of Standards and Technology. Dr. Anderson provides economic analysis related to science and technology policy to NIST's director, performs econometric evaluations of NIST and other federal science and technology programs, and provides analysis for NIST strategic planning. Prior to joining the Office of the Director, Dr. Anderson worked in the Economic Assessment Office of the NIST Advanced Technology Program (ATP). At ATP, Dr. Anderson led numerous teams to develop research and development (R&D) metrics and surveys. He also evaluated the impact of federally-funded R&D projects and managed numerous ATP research awards to small and medium businesses. Dr. Anderson came to NIST from an academic position as an Assistant Professor of Business Administration at the Instituto Tecnológico Autónomo de México in Mexico City, Mexico. Dr. Anderson received his Ph. D. from the University of Maryland in 2000, where he studied the role of tacit knowledge in technology transfer. While at the University of Maryland, Dr. Anderson was a Guest Researcher at the Inter-University Economics Center at Gadjah Madah University, located in Yogyakarta, Indonesia. His current research interests include the economics of R&D, economics of innovation, energy economics, applied econometrics, and program evaluation.

Thomas Robb
Manager of Institutional Relations, Abengoa Bioenergy



Dr. Robb is a manager of Institutional Relations for Abengoa Bioenergy Corporation. From 1981 to 1984, Dr. Robb served as Assistant Professor with North Carolina State University and was stationed in Brazil as the leader of a collaborative research program. In 1985, Dr. Robb joined IMC Corporation in its animal health division as the International Technical Service Manager. He subsequently became Project Manager in Research and Development and then Business Unit Manager for all North American cow/calf products. Dr. Robb joined Ivy Animal Health in 1999, where he led business development and acquisitions activated until 2000. In 2000, Dr. Robb joined a small start-up company (ImmTech) to lead bovine sales, marketing, and technical services, and joined Abengoa Bioenergy in 2004. Dr. Robb is a graduate of the University of Missouri (M.S. in animal husbandry, 1977) and University of Kentucky (Ph.D. in ruminant nutrition, 1980).

Rina Singh
Senior Director, Biotechnology Industry Organization (BIO)



Rina Singh is the senior director of policy, science, and renewable chemicals, at the Biotechnology Industry Organization (BIO). Prior to joining BIO, Singh served as the business development manager at Ashland Incorporated in the Growth Office. There she was appointed by the President and CEO to an innovative, corporate, ten-member team assembled to develop a new strategic direction for Ashland Incorporated, and to identify specific investment opportunities for \$1.5 billion resulting from divestiture of petroleum refining operations. She started her career at Dow Chemical Company in Central Research, as a senior research chemist in the Engineering Thermoplastics Group. Singh received a bachelor's of science degree in chemistry and a doctorate in natural products from McGill University, where she also conducted postdoctoral research in polymer science.

Elizabeth Wayman

Director, Clean Energy Manufacturing Initiative

Elizabeth Wayman is the Director of the Clean Energy Manufacturing Initiative at the U.S. Department of Energy (DOE). Prior to her role at DOE, Ms. Wayman led solar cell research and development, and the transition of the technology from R&D to pilot production at Alion Energy. Prior to Alion, Ms. Wayman was an R&D Engineer at SunPower, where she developed new products for utility-scale solar. Ms. Wayman is co-founder of STG International, a non-profit organization developing solar energy technologies for remote locations in developing countries. She earned an M.S. in mechanical engineering from the Massachusetts Institute of Technology (MIT) and a B.S. in civil and environmental engineering from MIT, and holds several patents and publications in clean energy technology.

Nate Brown

Alternative Fuel Project Manager, Federal Aviation Administration (FAA)



Nate Brown is Alternative Fuel Project Manager in FAA's Office of Environment and Energy, which is responsible for U.S. aviation environmental and energy policy, research, and development. At FAA, Nate is responsible for management of alternative jet fuel R&D under the Continuous Lower Energy Emissions and Noise program, coordination with other U.S. government agencies, and execution of international cooperative agreements. He manages FAA support for the Commercial Aviation Alternative Fuels Initiative (CAAFI), a public-private partnership to develop and deploy sustainable alternative jet fuels, for which he serves as Head Advisor for Strategy and Implementation. In the past, Nate has worked for the U.S. Department of Transportation's Research and Innovative Technologies Administration and on international climate change initiatives at the U.S. Department of State. Prior to joining the FAA, he worked in international development and was a Peace Corps Volunteer in Ecuador. He holds an M.A. in international environmental resource policy from the Fletcher School at Tufts University and a B.A. from Haverford College.

Steve Csonka
Executive Director, Commercial Aviation Alternative Fuels Initiative (CAAFI)



Steve Csonka is a commercial aviation professional with 27 years of broad, strategic airline and aviation original equipment manufacturing experience. Built upon strong technical experience that spanned the breadth of the commercial aircraft/engine life-cycle, Steve's capabilities over the last decade have led to engagements in business development and long-term, strategic planning for the aviation enterprise.

Such work has focused on the nexus of future product requirements, technology progression, and industry value propositions, including aspects of policy, advocacy, regulatory affairs, and environmental impact. He has served in leadership, committee, and board of director roles with multiple aviation industry organizations (AIA, ICCAIA, IATA, GAMA, ICAO/CAEP, ATAG) in areas of technology and environmental progression.

Steve is a strong industry advocate who seeks pragmatic solutions to the challenges of aviation growth; that advocacy has led to his current role as Executive Director of CAAFI, where Steve leads this public-private partnership working toward the advancement and commercialization of renewable jet fuel. His significant engagement with multiple entities in this work has also led to his recent appointment to the Technical Advisory Committee for the DOE-U.S. Department of Agriculture Biomass Research and Development Board.

Casey Howard
Military Legislative Assistant, U.S. Senator Mark Udall



Casey Howard is the Military Legislative Assistant to Senator Mark Udall (D-CO), advising the Senator on defense issues and national security policy. Prior to joining the Senator's staff, Casey served as an Army medical evacuation pilot and platoon leader with tours of duty in Iraq, Kosovo, and Korea. He holds a B.S. from the University of Portland and an M.A. from the University of Colorado at Colorado Springs.

Jill Stuckey
**Director of Biomass Development, Georgia Southern University Herty Advanced
Materials Development Center**



Ms. Stuckey previously was Director of the Georgia Center of Innovation for Energy and is currently serving as the Director of Biomass Development for the Herty Advanced Materials Development Center. She previously served as Georgia’s Director of Alternative Fuels. Herty Advanced Materials Development Center is one of the premier organizations for driving innovative development and accelerated commercialization for materials-driven and materials-dependent manufacturers, covering a wide spectrum of existing and emerging materials.

Jill Stuckey started her career at Triangle, Inc., where she became part owner and built one of the largest fuel maintenance companies in the state. She traded private industry for state employment when she sold her company interest in 1992 and went to work for the Environmental Protection Division, in the Underground Storage Tank Program. During her tenure, Stuckey developed the concept of combining all state owned fuel tanks into one agency’s control—the Georgia Environmental Facilities Authority (GEFA). At GEFA, she was able to save the state more than \$100 million in environmental remediation and capital costs by implementing her ideas. Her focus then turned to alternative fuels, in which she worked to develop fueling infrastructure and guide business owners interested in locating or expanding alternative fuels companies in Georgia. Jill earned a bachelor’s degree in business administration from Ohio University.

Chris Tindal

Director for Operational Energy, Office of the Deputy Assistant Secretary of the Navy for Energy



Chris Tindal joined Naval Facilities Engineering Command (NAVFAC) in Charleston, South Carolina, in 1988, working in Facilities Management, Operations, and Energy Management. Early in his job as the Utilities and Energy Management Division Director, Chris created, developed, and led the innovative Utilities and Energy Cost Saver Tiger Team. This program helped save the Navy over \$10 million in energy reductions. He moved up to NAVFAC Headquarters in Washington, D.C. in 2006 to work in the Department of Navy's Energy Program as the Energy Operations Director.

In 2008, Chris became the Director for Operational Energy working for the Deputy Assistant Secretary of the Navy for Energy. In this position, Chris is in charge of setting energy policy and direction for the Department of the Navy, and promoting alternative fuels and renewable energy resources.

Additionally he is developing inter-service and inter-agency relationships throughout the energy field. Chris is the main Department of Navy principal on the Memorandum of Understanding (MOU) with the U.S. Department of Agriculture. This pioneering MOU between the agencies is advancing the development of the biofuel industry.

Larry Baresi
Professor of Biology, California State University: Northridge



Dr. Baresi is a microbial physiologist/geneticist specializing in anaerobic microbiology. His main focus has been methanogenic bacteria, their processes, and, more recently, their viruses. He has investigated the alteration of carbon flow by bacterial intervention, focusing on how it relates to anaerobic digestion and obesity. He has also carried out research involving dual culturing of yeast and methanogens for the enhanced production of ethanol, the mineralization of metals by *Shewanella* using continuous cultivations techniques, the isolation of extremophilic organisms, and the study of mixed populations using the chemostat. Previously, while at the Jet Propulsion Laboratory, he was a Deputy Field Manager and Technical Monitor for the Catalysis and Biocatalysis Program (CBP). CBP was a multidisciplinary program directed toward high-risk, long-term research and development to improve energy efficiency and enhanced fuel flexibility. Dr. Baresi's responsibilities included initiation of research topics, preparation of responses to requests for proposals, development of review process, preliminary review of proposals, identification of review panel participants (both academic and industrial), technical monitoring of the research projects (including chemistry, biology, physics, and engineering), and editorial duties involved in assimilating technical reports and publication of final annual report.

Mark F. Davis

Thermochemical Platform Program Manager, National Renewable Energy Laboratory (NREL)



Dr. Davis is currently the NREL Thermochemical Platform Program Manager and directs research focused on developing pyrolysis and gasification processes to produce cost-effective fuels and products from biomass. He also coordinates the Enabling Technologies Focus Area activities for the BioEnergy Research Center, including high throughput recalcitrance assays, 'omics research, computational modeling, pretreatment research, and biomass characterization activities. His research group is currently focused on integrating multivariate statistical data analysis and spectroscopic methods such as nuclear magnetic resonance (NMR) and pyrolysis-molecular beam mass spectrometry (PyMBMS) to follow changes in plant cell wall chemistry due to transgenic modification. His research group has also developed NMR and PyMBMS methods to rapidly analyze cell wall chemistry and teamed with plant geneticists to use the results of these analyses to identify quantitative trait loci in *populus*, switchgrass, and loblolly pine. They have developed several NMR methods to characterize pyrolysis oil and liquid products from lignin. Before coming to NREL, Dr. Davis was a staff spectroscopist at the National NMR facility at Colorado State University, developing novel experiments for both liquid and solid-state NMR spectroscopy. He has authored or co-authored over 50 peer-reviewed publications and 3 book chapters.

Ramon Gonzalez
Program Director, Advanced Research Projects Agency-Energy (ARPA-E), U.S.
Department of Energy



Dr. Ramon Gonzalez serves as a Program Director at the Advanced Research Projects Agency-Energy (ARPA-E) at the U.S. Department of Energy. His areas of technical focus include biological conversion of natural gas and other sources of methane to liquid fuels, as well as direct synthesis of liquid fuels from carbon dioxide and energy sources (such as electricity and hydrogen). In addition to his role at ARPA-E, Dr. Gonzalez is an Associate Professor in the Department of Chemical and Biomolecular Engineering and the Department of Bioengineering at Rice University, where he leads the Metabolic Engineering and Synthetic and Systems Biology Laboratory. In 2007, he co-founded Glycos Biotechnologies, Inc., with the goal of commercializing sustainable chemicals produced from renewable feedstocks. Dr. Gonzalez has published over 50 articles in leading scientific journals and is the lead inventor in four patents or patent applications. He is also Senior Editor of the *Journal of Industrial Microbiology & Biotechnology* and a member of the Editorial Board of *Applied & Environmental Microbiology*, *Applied Biochemistry & Biotechnology*, and *Food Biotechnology*. Dr. Gonzalez holds a Ph.D. in chemical engineering from the University of Chile, an M.S. in biochemical engineering from the Pontifical Catholic University of Valparaíso (in Chile), and a B.S. in chemical engineering from the Central University of Las Villas (in Cuba).

Dan Robertson
Chief Scientific Officer, Joule Unlimited



Dan Robertson trained as a biochemist at the University of Pittsburgh, receiving a Ph.D. in 1976 with a thesis focus on bacterial membrane transport systems. His postdoctoral work was done at the Roche Institute focusing on energy transduction for membrane transport, and at the University of Pennsylvania studying mechanisms of electron and proton transport in photosynthetic systems. He spent seven additional years at the University of Pennsylvania as a research assistant professor. In 1994 he moved to Diversa Corporation, where he led R&D efforts to develop industrial enzyme catalysts, including enzymes for biomass saccharification. In 2007 he joined Joule, where he leads R&D efforts to develop an industrial process for photosynthetic fuels production.

Suresh P. Babu

Global and Regional Solutions (GARS) Directorate, Brookhaven National Laboratory (BNL)



Dr. Babu has over 38 years of advanced energy research and technology development (R&TD) experience with biomass and coal gasification and natural gas utilization. He worked for 33 years with the Gas Technology Institute (GTI). There he held various R&D positions including Assistant Vice-President, R&D. From 2006 to 2010, Dr. Babu has been associated with TERI in New Delhi, India; E4tech, Ltd., in the United Kingdom; the German Council for Sustainable Development; the Swedish Energy Agency; and Battelle Science and Technology in Malaysia, pursuing renewable energy technology and sustainability initiatives. Dr. Babu served for 20 years as the Task Leader for Thermal Gasification of Biomass for the International Energy Agency, Bioenergy Agreement. He joined the GARS Directorate at BNL in September 2010. Dr. Babu has a B.S. and an M.S. in chemical engineering from India and a Ph.D. from the Illinois Institute of Technology in Chicago. In 2004, he was awarded the David Hall World Prize for Bio-Energy and in 2011, the Don Klass Award for Excellence in Thermochemical Conversion. He is a Fellow of GTI.

Vann Bush

Managing Director for Energy Conservation, Gas Technology Institute (GTI)



Vann Bush is Managing Director for Energy Conversion at GTI, an independent, not-for-profit, applied R&D business. He oversees all matters relating to the thermochemical conversion of coal, biomass, and raw natural gas into power, chemicals, and liquid fuels production. Work spans technology invention, bench-scale testing, process design innovation, pilot-scale evaluation, and techno-economic assessment. The team under Mr. Bush supports commercial deployments of gasification, biofuels, and gas processing processes developed at GTI, and serves as a solutions development partner for industry. Active R&D topics include biomass pretreatment, advanced coal gasification, integrated processes for drop-in biofuels production, a compact process for natural gas upgrading and CO₂ capture, and natural gas-to-liquids processes.

Christodoulos A. Floudas
Professor of Chemical and Biological Engineering, Princeton University



Dr. Floudas is the Stephen C. Macaleer '63 Professor in Engineering and Applied Science; Professor of Chemical and Biological Engineering at Princeton University; Faculty in the Center for Quantitative Biology at Princeton University's Lewis-Sigler Institute; and Associated Faculty in the Program of Computational and Applied Mathematics, in the Department of Operations Research and Financial Engineering and the Andlinger Center for Energy and the Environment. He earned his B.S.E. in 1982 at Aristotle University of Thessaloniki, Greece, and completed his Ph.D. in December 1985 at Carnegie Mellon University. Professor Floudas is a world-renowned authority in mathematical modeling and optimization of complex systems. His research interests include chemical process synthesis and design, process control and operations, discrete-continuous nonlinear optimization, local and global optimization, and computational chemistry and molecular biology. Professor Floudas is the author of two graduate textbooks, and the recipient of numerous awards that include the National Science Foundation's Presidential Young Investigator Award, 1988; the Bodossaki Foundation Award in Applied Sciences, 1997; the 2001 AIChE Computing in Chemical Engineering Award; the 2007 Graduate Mentoring Award, Princeton University; Member of National Academy of Engineering, 2001; and SIAM Fellow, 2013.

Chris Perkins
Director of Research and Development, Sundrop Fuels



Chris Perkins is Director of R&D at Sundrop Fuels, where he manages the development program for the proprietary RPreactor™ biomass gasification process and technology strategy for the company. Prior to joining Sundrop Fuels, he founded Copernican Energy, which focused on high-flux solar thermochemical reactors for biomass gasification. Copernican Energy was acquired by Sundrop Fuels in 2008 and its core reactor technology became the RPreactor™ process.

Chris earned his Ph.D. at the University of Colorado in Boulder, with work focusing on solar thermochemical hydrogen production cycles, and he holds B.Ch.E. and B.S. (physics) degrees from the University of Dayton. He lives in Boulder, Colorado, with his wife and daughter.

Dick Bratcher
Senior Principal Consultant, DNV KEMA Energy & Sustainability



Dick Bratcher's professional experience includes more than 35 years working on environmental issues associated with the electric power industry. Dick's practice is currently focused on development and delivery of consulting services that help clients assess risks, develop strategies, and implement mitigation and adaptation measures to minimize risks associated with greenhouse gas and other emissions.

During his career, Dick has held technical, management, and executive-level positions within public agency, electric utility, and R&D organizations. He has more than 20 years of experience working on the science, engineering, public policy, and economic aspects of climate change pertaining to the electricity sector. He holds a bachelor's degree in environmental engineering and a master's degree in environmental chemistry, both from the University of Michigan, Ann Arbor.

Dick is presently managing a case study application of a DNV-developed framework for evaluating the risks to power systems of severe storms and climate change, and to perform a cost-benefit analysis of alternative risk management measures. The case study focuses on near-term storm hardening measures and longer term climate change adaptation.

Seth Ginther
Executive Director, U.S. Industrial Pellet Association



M. Seth Ginther is Executive Director of the U.S. Industrial Pellet Association (USIPA) and Co-Managing Partner of Hirshler Fleischer's Renewable Energy Group.

As Executive Director of USIPA, Seth represents the interests of the U.S.-based industrial pellet industry with a focus on issues such as specification, certifications, sustainability, uniformity of spot trading contracts, shipping, and other exporting issues such as safety, port infrastructure, and transportation.

In the energy area, Seth routinely represents renewable energy businesses in project finance, negotiating and drafting power purchase agreements, recapitalizations, mergers and acquisitions, and multi-state and federal legislative and regulatory matters as they relate to renewable energy. Seth, together with other members of the Firm's Renewable Energy Practice Group, has advised clients involved in broad spectrum of renewable and alternative energy-related projects, and closed in excess of \$1 billion in renewable energy transactions in the last 36 months.

Tim Portz
Executive Editor, *Biomass Magazine*



Tim Portz is the Vice President of Content for BBI International and the Executive Editor of *Ethanol Producer Magazine*, *Biodiesel Magazine*, and *Biomass Magazine*. In this role, Tim is responsible for the agenda development process for all of BBI International's conferences, including organizing the call for abstracts, forming review committees, working with the review committees to rate all received abstracts, and establishing the program agenda. He also works closely with the editorial teams at BBI International to determine the content of the online and print outlets of BBI's media products. Prior to beginning his career in renewable energy with BBI International, Tim worked both as an educator and selling professional. Tim was born and raised in central Iowa and holds a B.F.A from the University of Iowa.

Patrick Serfass
Executive Director, American Biogas Council



Patrick Serfass has led the American Biogas Council (ABC) since its creation in early 2010, when 22 companies came together to form a new biogas organization. Patrick co-led the formal creation of the ABC in close coordination with these companies, laying the foundation for the first U.S. biogas trade association dedicated to building business in biogas and anaerobic digestion. In its first year, ABC grew to more than 60 companies and by the end of the second, more than 140. In 2011, the Board of Directors elected Patrick to serve as Executive Director where he continues today. He provides guidance to the Board of Directors and, with his staff, manages the activities of the American Biogas Council. Patrick is a member for the Canadian Standards Association Technical Committee for Digester/Landfill/Biogas Generation and Utilization, an advisory committee for the Innovation Center for U.S. Dairy and the Transportation Advisory Committee for the American Council on Renewable Energy.

Patrick has more than 12 years of clean energy, engineering, and marketing experience, mostly through Technology Transition Corporation (TTC), which provides ABC's staff and management. As Vice President and Chief Operating Officer of TTC, Patrick has managed trade associations focused on hydrogen, fuel cells, and solar energy, and served in a variety of technical, communications, and management roles within them. Patrick holds a bachelor's in engineering sciences from Dartmouth College.

Johnathan Burbaum
Program Director, ARPA-E



Jonathan Burbaum's focus at ARPA-E is in advanced biotechnology applications for biofuels and the production of biologically-based chemical feedstocks.

Prior to joining ARPA-E, Burbaum was a San Diego-based biotechnology consultant focusing on realizing value from novel technologies, products, and commercial strategies in the life sciences. He is the founder of two companies, Azure Therapeutics and Gnosys Consulting, and has worked extensively for corporate, venture, and government clients. Before entering consulting, he played seminal roles with two venture-backed startup companies, Pharmacoepia (from inception, through initial public offering, and commercial launch) and ActivX Biosciences (now a division of Kyorin Pharmaceuticals). He began his industrial career at the Merck Research Laboratories in Rahway, New Jersey, in 1991.

Burbaum received his B.S. in chemistry from Rensselaer Polytechnic Institute in 1981, and his Ph. D. from Harvard University—where he worked for Jeremy R. Knowles on the energetics of enzymatic catalysis—in 1988. From 1988 to 1991, Burbaum conducted postdoctoral work at the Massachusetts Institute of Technology with Paul Schimmel, focusing on protein structure, function, and folding. He received his M.B.A. from the Rady School of Management at the University of California, San Diego, in 2009.

Pamela Peralta-Yahya
Assistant Professor, Georgia Institute of Technology



Dr. Pamela Peralta-Yahya received her B.A. in chemistry and biology from Macalester College. She received her Ph.D. in chemistry at Columbia University, where she studied in the field of chemical biology and developed the first high-throughput selection for cellulase catalysts. Dr. Peralta-Yahya then joined the Lawrence Berkeley National Laboratory's Joint BioEnergy Institute as a postdoctoral researcher, where she identified novel terpene-based advanced biofuels and developed platforms for their microbial production. Dr. Peralta-Yahya's current research interests, at the Georgia Institute of Technology, include the engineering of enzymes and metabolic pathways for the production of novel chemical compounds that can be used as potential biofuels, specialty chemicals, or pharmaceuticals.

Pablo Rabinowicz
Program Manager, DOE Biological and Environmental Research (BER)



Pablo Rabinowicz obtained his B.S. and M.S. in biology and his Ph.D. in plant molecular biology at the University of Buenos Aires, Argentina. He then moved to Cold Spring Harbor Lab in New York, as a postdoctoral fellow to work on plant genomics. In 2004, he took a Plant Genomics Faculty position at the Institute for Genomic Research (now the J. Craig Venter Institute), working on corn, castor bean, cassava, and other plant genomes. In 2007, he moved to the University of Maryland School of Medicine at Baltimore, where he held a faculty position at the Institute for Genome Sciences, continuing work on plant genomics and diatom epigenomics. Since 2011, Dr. Rabinowicz has been the Program Manager in the Department of Energy Biological and Environmental Research Program, managing the Biosystems Design Program and participating in the management of the Systems Biology Knowledgebase and the Joint Genomics Institute.

Heike Winter-Sederoff

Associate Professor, Department of Plant and Microbial Biology, North Carolina State University (NCSU)



Dr. Heike Winter-Sederoff is an Associate Professor in the Department of Plant and Microbial Biology at North Carolina State University (NCSU). Dr. Sederoff received her Ph.D. in plant biochemistry from the University of Göttingen in Germany, focusing on the regulation of carbon allocation in crops. She was awarded a Lynen Fellowship from the Humboldt Foundation to study the regulation of carbon and nitrogen metabolism in symbiotic plant/bacterial systems at the University of Western Australia in Perth. She gained experience in plant and microbial genetics and genomics, biotechnology, and computational biology during her postdoctoral research at the National Aeronautics and Space Administration's Specialized Center for Research and Training at NCSU. Dr. Sederoff established a successful research program at NCSU investigating signaling and genomic regulation of abiotic stress responses in plants, which included experiments on the International Space Station. Her lab is working on the genomic and metabolic regulation of oil biosynthesis in marine microalgae and their cell cycle regulation in response to abiotic stresses (NSF-EFRI). She is also leading a large interdisciplinary project funded by DOE (ARPA-e "PETRO") using synthetic biology to "re-design" carbon flux in plants.

John Eichberger
Vice President, Governmental Relations, National Association of Convenience Stores



John Eichberger is Vice President of Government Relations for the National Association of Convenience Stores (NACS), where he oversees the association’s government relations activities; represents the convenience and petroleum retailing industry before Congress, the Administration, and the media; and directs the association’s petroleum-related activities. Eichberger joined the association in 2000 as Director of Motor Fuels and was named to his current position in 2006.

NACS represents an industry operating more than 148,000 retail locations, of which more than 120,000 sell motor fuels, accounting for 80 percent of the gasoline sold in the country. In 2011, the industry generated \$681.9 billion in sales—one of every \$22 spent in the United States—and employed more than 1.8 million workers.

In 2013, Eichberger was named Executive Director of the Fuels Institute, a non-profit, independent think-tank founded and managed by NACS.

The Fuels Institute, founded in 2013, draws together various stakeholders from the vehicle and fuels industries, including public interest community and academia, to collaborate on the critical issues facing the transportation market. The Institute produces credible, independent analytical reports to better inform business leaders and policymakers about opportunities and challenges in the vehicles and fuels markets.

Paul Machiele
Center Director for Fuel Programs, Environmental Protection Agency



Paul Machiele is the Center Director for Fuel Programs in the Assessment and Standards Division of the Environmental Protection Agency (EPA) in Ann Arbor, Michigan. Throughout his 27 year career at EPA, he has been responsible for a wide range of regulations and initiatives covering gasoline, diesel fuel, and alternative fuels, as well as non-road engines and heavy-duty highway engines. Most recently he led the development of the renewable fuel standard regulations and is currently leading the team developing EPA's Tier 3 vehicle and fuel standards. In 2009, Mr. Machiele was the recipient of SAE's Barry D. McNutt Award for Excellence in Automotive Policy Analysis and in 2011 became an SAE Fellow. He received his bachelor's and master's degrees in mechanical engineering from the University of Michigan.

Robert L. McCormick
Principal Engineer, Fuels Performance, National Renewable Energy Laboratory



Robert L. McCormick is a Principal Engineer in the Fuels Performance group of the Transportation and Hydrogen Systems Center at the National Renewable Energy Laboratory. The Center is focused on reducing energy use and greenhouse gas emissions from transportation. Dr. McCormick leads a team focused on utilization of advanced biofuels. This research includes biofuel and blending component quality and quality specifications, fuel stability and handling, compatibility with modern engines and infrastructure, pollutant emissions effects, and impact on engine and emission control system durability. Over the past decade, a major focus of this work has been utilization issues for biodiesel and ethanol. The current research portfolio also includes next generation biofuels, such as isobutanol and other long-chain alcohols, non-ester renewable diesel, and biofuels from biomass pyrolysis and from algal biomass.

Dr. McCormick holds a Ph.D. in chemical engineering from the University of Wyoming, an M.S. in chemical engineering from Iowa State University, and a B.S. in chemical engineering from Oklahoma State University.

Following graduate school, Dr. McCormick worked for a Fortune 500 company performing research on coal conversion technology. In 1994, he joined the faculty of the Department of Chemical Engineering and Petroleum Refining at the Colorado School of Mines as a research professor, where he pursued research in heterogeneous catalysis and in understanding fuel chemistry effects on diesel engine emissions. He joined the staff at NREL in 2001.

Brian West

Deputy Director; Fuels, Engines, and Emissions Research Center, Oak Ridge National Laboratory (ORNL)



Brian West is Deputy Director of the Fuels, Engines, and Emissions Research Center at Oak Ridge National Laboratory (ORNL). His research at ORNL has involved vehicles, fuels, engines, and emissions control technologies. Brian's work with Lean NO_x Traps was cited by EPA in the 2000 diesel sulfur rule, which required refiners to lower diesel sulfur concentration from below 500 parts per million to below 15 parts per million beginning in 2006. More recently, Brian helped lead DOE's Intermediate Ethanol Blends Program, which enabled EPA's approval of the waiver allowing E15 to be used in vehicles from 2001 and newer.

Brian joined ORNL in 1988 after receiving a B.S. and M.S. degree in mechanical engineering from Clemson University and Virginia Tech, respectively. Brian is an active member of the Society of Automotive Engineers, where he was recently elected to the grade of Fellow.

Bill Wuebkenberg
Fuels Technical and Regulatory Affairs Senior Engineer, Mercedes-Benz



Bill Wuebkenberg has had a career in the automotive industry spanning more than 25 years, including his current responsibilities as a Fuels Technical and Regulatory Affairs Senior Engineer at Mercedes-Benz Research and Development North America. Previously, he served as vehicle powertrain and noise, vibration, and harshness development Technical Specialist at Ford Motor Company and Hyundai-Kia Technical Center, Inc., as well as exhaust system acoustic component and emissions after-treatment design/development Program Manager at ArvinMeritor.

Arunas Chesonis
CEO and Chairman of the Board, Sweetwater Energy



Mr. Chesonis most recently served as Chairman and Chief Executive Officer of PAETEC Holding Corp., a Fortune 1000 telecommunications company. He previously served as President of ACC Corp., until it was purchased by TCG/AT&T in 1998.

Mr. Chesonis received the Ernst & Young Entrepreneur of the Year Award, received the Herbert W. Vanden Brul Entrepreneurial Award by the College of Business at Rochester Institute of Technology, and was elected to the Rochester Business Hall of Fame.

Mr. Chesonis has a long history in renewable energy. His private philanthropic organization, the Chesonis Family Foundation, supports environmental and renewable energy research projects, and has given \$10 million to the Massachusetts Institute of Technology to support breakthrough technology research to address climate change and sustainability.

He holds a B.S. in civil engineering from the Massachusetts Institute of Technology, an M.B.A from the William E. Simon Graduate School of Business at the University of Rochester, and an Honorary Doctorate of Laws from the University of Rochester. Mr. Chesonis is also a member of the MIT Corporation and is a trustee of the University of Rochester and the Harley School.

Harrison F. Dillon
Co-Founder & President, Solazyme



Harrison Dillon is the President and co-founder of Solazyme. He and Jonathan Wolfson started Solazyme in a Palo Alto garage at a time when few in Silicon Valley had heard of the concept of biofuels. Taking on a variety of roles through the evolution of the company, from garage startup to a sector leader, Dr. Dillon has guided the company's renewable oil production technology development through numerous phases. In 2010, Dr. Dillon was the highest ranked scientist in *Biofuels Digest's* "Top 100 People to Know in Bioenergy." He is an inventor on over 30 of Solazyme's patents and patent applications.

Dr. Dillon's scientific training in the field of microbial genetics began in the Microbiology and Immunology Department at Emory University, and he received his Ph.D. from the Department of Human Genetics at the University of Utah. Dr. Dillon went on to manage the biotechnology patent portfolio of the University of Utah's Technology Transfer Office. Dr. Dillon received a J.D. from Duke University School of Law and is licensed to practice before the United States Patent and Trademark Office. Dr. Dillon has authored articles in scientific, business, and legal journals.

Andrew Held
Senior Director Feedstock Development, Virent, Inc.



Andrew Held leads the feedstock development efforts at Virent, Inc.—a biofuels and bioproducts technology company in Madison, Wisconsin. He joined Virent in 2007 and his current role combines commercial and technology aspects for feedstock development across the supply chain. He also plays an instrumental role in Virent’s contracts and relationships with industrial, national lab, and university parties under numerous awards and collaboration agreements. Prior to joining Virent, Andrew had ten years of operations and R&D experience at Cargill, an international provider of food, agricultural, and risk management products and services, where he played instrumental roles on technical, engineering, and operations management teams scaling production processes for commercialization. His work has included the manufacture of organic acids and edible polyols by fermentation, lactic acid for polymers, and natural polyols for polyurethanes. Andrew specializes in the integration of biological and chemical processes and has worked extensively with natural feedstocks and biocatalytic conversion methods.

Carl Wolf
Business Development Manager, LanzaTech



Carl Wolf is a Business Development Manager at LanzaTech, where he focuses on development and management of business relationships, project management, and overall strategy development and implementation. Mr. Wolf previously was an analyst at BCS, Incorporated, where he served as a consultant to the Department of Energy's Office of Energy Efficiency and Renewable Energy's International and Biomass Offices. There, he supported the management and implementation of various technology development projects. Mr. Wolf holds a B.A. in political science from University of Maryland, Baltimore, and an M.S. in energy management from the New York Institute of Technology.

Alan A. Del Paggio

Vice President of Upstream & Renewables, CRI Catalyst Company

Alan Del Paggio is currently Vice President of CRI Catalyst Company located in Houston, Texas. Alan has 27 years of experience with petrochemical and refinery catalytic processes. His current focus is on commercial deployment of the IH₂[®] biomass-direct-to-hydrocarbon fuel technology developed by Gas Technology Institute. Other responsibilities include delivery of commercial catalysts for acidic whole crude and unconventional heavy oil processing, and the Shell Gas-To-Liquids process. Dr. Del Paggio received his B.S. Degree in chemistry from Purdue University in 1982 and his Ph.D. in inorganic chemistry from the University of California, Berkeley, in 1986. During his education at Berkeley, Alan was a pre-doctoral fellow of the National Science Foundation.

Thomas Foust

Director, National Bioenergy Center, National Renewable Energy Laboratory (NREL)



Dr. Thomas Foust is an internationally recognized expert in the biomass field. His areas of expertise include feedstock production, biomass-to-fuels conversion technologies, and environmental and societal sustainability issues associated with biofuels. He has more than 20 years of research and research management experience, specializing in biomass feedstocks and conversion technologies.

As National Bioenergy Center Director, Dr. Foust guides and directs NREL's research efforts to develop biomass conversion technologies via biochemical and thermochemical routes, as well as critical research areas addressing the sustainability of biofuels. This research focuses on developing the necessary science and technology for converting biomass to biofuels, bioproducts, and biopower in an economical and environmentally sustainable manner.

Dr. Foust holds a Ph.D. in mechanical engineering from the University of Idaho, an M.S in mechanical engineering from Johns Hopkins University, and a B.S. in mechanical engineering from Pennsylvania State University.

E. Thomas (Tom) Habib, Jr.
Director, Customer Research Partnerships



E. Thomas (Tom) Habib, Jr. is currently the Director of Customer Research Partnerships and Technology Licensing Manager for Refining Technologies, in the Grace Catalysts Technologies Division of W. R. Grace & Co. He was previously R&D Director for Refining Technologies, General Manager of Davison Refining Services, Research Director for Petroleum Chemicals, and Technical Service Manager for Petroleum Chemicals, all with W. R. Grace. Prior to his career at W. R. Grace, he worked for Mobil Oil Corporation as a Research Engineer, Senior Research Engineer, and Project Leader. He has more than 35 years of experience in the refining and refining support industries.

Mr. Habib holds a B. S. in chemical engineering from Bucknell University and a M. S. in chemical engineering from the University of Delaware. Mr. Habib has authored or co-authored numerous technical papers, presentations, and lectures, and is co-author of the book *Fluid Catalytic Cracking with Zeolite Catalysts*, and the corresponding author for the chapter “Fluid Catalytic Cracking” in *The Handbook of Heterogeneous Catalysis*. He is listed as a co-inventor on six U. S. patents.

Corinne Valkenburg
Staff Engineer, Pacific Northwest National Laboratory (PNNL)

Ms. Valkenburg is an Engineer in the Chemical and Biological Process Development group, within the Energy and Environment Directorate at the Pacific Northwest National Laboratory, a Department of Energy Office of Science Laboratory. Her primary research focus is availability and thermochemical conversion of biomass and municipal solid wastes. Her expertise is in applied research including design, build, and operation of test stands, as well as process modeling for techno-economic analysis of conversion pathways and carbon capture.

John Jechura

Process Department Manager / Technology Director, URS



Mr. Jechura provides a technical resource for the process technologies provided by URS to their clients. For bio/renewable fuels clients, he has a background in conversion technologies appropriate for various feedstocks ranging from sugar and starch, to cellulosic biomass, as well as conversion technologies based on both biochemical and thermochemical operations. He also has had a long history of support to oil and gas operations, from well-site gas and oil processing, to support of petroleum-refining operations. In addition, Mr. Jechura maintains an ongoing association with the Colorado School of Mines, where he is an Adjunct Assistant Professor of Chemical Engineering, teaching courses in petroleum refining and introduction to energy technologies.

Jody M. Endres
Assistant Professor, The University of Illinois at Urbana-Champaign



Jody Endres is an Assistant Professor of Law in the Department of Natural Resources and Environmental Sciences at the University of Illinois at Urbana-Champaign, and an affiliate at the University's Energy Biosciences Institute (EBI). She received her J.D. from the University of Illinois' College of Law. Her research focuses on the nexus between agricultural, environmental, and energy policies in forming sustainable energy alternatives. Her papers have examined various facets of sustainability policy, including operationalizing sustainability standards from technology and legitimacy perspectives, land use classifications, sustainable contracting theories, the role of law in bioenergy modeling, and whether existing forestry regulations can protect forests in an era of increasing demand from bioenergy. Her current work applies institutional and comparative approaches to building sustainability legal regimes in Brazilian agricultural landscapes. Jody teaches courses on renewable energy law, natural resources law, environmental law, and science and regulatory policy. She has chaired the board of the U.S. Council for Sustainable Biomass Production, participates in the Midwestern Aviation Sustainable Biofuels Initiative and the California Low Carbon Fuel Standard's Sustainability Work Group, and co-chairs the environmental subcommittee within Leonardo Academy's ANSI Sustainability Standard for Agriculture. Jody sits on the Executive Committee of the EBI.

Alan A. Lucier

Senior Vice President, National Council for Air and Stream Improvement (NCASI)



Alan Lucier is Senior Vice President with the National Council for Air and Stream Improvement, Inc., (NCASI) in Research Triangle Park, North Carolina. He earned his Ph.D. From North Carolina State University and was employed by International Paper prior to joining NCASI.

Dennis Ojima

Professor, Ecosystem Science and Sustainability Department and Natural Resource Ecology Laboratory, Colorado State University



Dr. Dennis Ojima is a professor in the Department of Ecosystem Science and Sustainability and a Senior Research Scientist in the Natural Resource Ecology Laboratory, both within the Warner College of Natural Resources at Colorado State University. He is also a senior scholar at the Heinz Center for Science, Economics, and the Environment. Professor Ojima received his B.A. and M.A. in botany from Pomona College in 1975 and the University of Florida in 1978 respectively, and his Ph.D. from the Rangeland Ecosystem Science Department at Colorado State University in 1987. His research area includes global change effects on ecosystems around the world. His research addresses climate and land use changes on ecosystems, carbon accounting methods for forest carbon sequestration, and adaptation and mitigation strategies to climate change. He is the Aldo Leopold Leadership Fellow and has received recognition for his international contributions and involvement in the Millennium Ecosystem Assessment, which received the 2005 Zayed International Prize for the Environment and the International Panel on Climate Change 2007 Nobel Peace Prize. He is a member of the Board of Environmental Change and Society, as well as a past member of the Board on International Science Organizations for the National Academies of Sciences.

Nathan L. Rudgers

Senior Vice President; Director, Business Development, Farm Credit East



Nathan L. Rudgers is a Senior Vice President for Farm Credit East, a position he has held since December 2005. In his capacity as Director of Business Development, Nathan is responsible for bringing resources to Farm Credit's clients that are planning or undergoing major business changes. He is a frequent speaker in state, national, and international forums on such topics as renewable energy, food safety, international trade, agriculture policy, and economic development. He also currently serves on the national steering committee for 25 X 25, a group of industry leaders dedicated to fostering agriculture and forestry's role in U.S. energy independence; he also chairs their Carbon Work Group and serves on their CLEAN energy task force. Nathan also serves as a member of the Food Foresight Blue Ribbon Panel, the design team of the Solutions from the Land Dialogue, and on the board of the New York Biomass Energy Alliance.

Prior to joining Farm Credit, Nathan served as Commissioner of Agriculture and Markets for the State of New York. He was appointed Commissioner by Governor George E. Pataki in 1999. He began his tenure with the Department in 1995, serving as Deputy Commissioner, First Deputy Commissioner, and then Acting Commissioner. Nathan also served as President of the National Association of State Departments of Agriculture in 2005.

Preceding joining the Department, Nathan worked for several agri-business firms in the Northeast. Much of his experience in the private sector has involved the dairy industry and agricultural economics.

Nathan was born and raised on a dairy and cash crop farm in Pavilion (Wyoming County), New York, and is a 1982 graduate of Cornell University, receiving a bachelor's degree in agricultural economics. Nathan currently lives in Pavilion with his wife Eileen.