



P3: People, Prosperity, and the Planet Student Design Competition for Sustainability 2009 Judging Panel

Victor A. Atiemo-Obeng

Scientist

The Dow Chemical Company

Victor Atiemo-Obeng, who currently holds the rank of Dow Scientist, is among the top one hundred technical staff of The Dow Chemical Company, the biggest chemical company in North America. He serves on the leadership teams of the Process Sciences and Fluid Mechanics & Mixing disciplines within the Research & Engineering Sciences department of the company's Core Research and Development (CR&D) function. He provides leadership and technical consulting services to people working in the research, engineering and manufacturing functions of The Dow Chemical Company on a wide variety of projects where he leverages his expertise in chemical process synthesis and development, scale-up, process engineering and fluid mechanics and mixing.

Victor was a lead process engineer for several multimillion-dollar capital projects that were recognized with the company's Global Engineering Excellence Awards. He was a key contributor to the Global Project Methodology, Scale-up Checklist, and the Mixing Manual. Victor is a co-editor as well as contributing author of several chapters of the world-acclaimed "Handbook of Industrial Mixing: Science and Practice" published in 2004 by John Wiley & Sons, Inc. Victor was invited by the Board on Chemical Sciences and Technology of the National Academies to serve on the committee that organized the workshop which resulted in the publication "Sustainability in the Chemical Industry: Grand Challenges and Research Needs - A Workshop Report (2005)."

Victor is an active senior member of the American Institute of Chemical Engineers (AIChE), the North American Mixing Forum (NAMF), and the National Organization of Black Chemist and Chemical Engineers (NOBCCHE). In AIChE he currently serves as the Dow Director for the Mid-Michigan Section. He previously served as the Chair of the section, and on the nominations committee of the national organization. He served on the NAMF Executive Board for several years.

Victor holds a doctorate degree in Chemical Engineering from the University of Wisconsin, Madison, and a bachelor degree in Chemical Engineering from The Catholic University of America, Washington DC.

Justin Barone

Assistant Dean for Sustainability and Strategic Planning, Warner College of Natural Resources
Colorado State University

Justin Barone works in the area of renewable materials with a focus on developing new biopolymeric systems. Dr. Barone has a background in materials and polymer science. He received his BS degree in Materials Science and Engineering from Lehigh University, his MS degree in Engineering Science from New Jersey Institute of Technology, and his PhD degree in Macromolecular Science and Engineering from Case Western Reserve University. Prior to joining Virginia Tech, he was a Research Chemist with the Agricultural Research Service of the United States Department of Agriculture in Beltsville, Maryland.

Gillian Bowser

Associate Professor, Biological Systems Engineering Dept.
Virginia Tech

Dr. Gillian Bowser is the Assistant Dean for Sustainability and Strategic Planning in the Warner College of Natural Resources at Colorado State University. Her responsibilities include sustainability issues for the College, working on outreach and internships. She came to Colorado State University after five years at Texas A&M University as the National Park Service's Cooperative Ecosystem Studies Unit leader. In that



capacity, she worked with parks throughout the Gulf Coast area from Florida to Texas. She has over 20 years of National Park Service experience at parks as a wildlife ecologist.

Dr. Bowser's career with the National Park Service as an ecologist has included work on a range of organisms from butterflies to bison to tortoises. She has worked in seven national parks including Yellowstone National Park, Grand Teton National Park, Badlands National Park, Joshua Tree National Park, Fort Clatsop National Memorial, Wrangel St. Elias National Park and Preserve, and the main NPS office along the Gulf Coast including Padre Island National Seashore, Big Thicket National Preserve and Washington DC. Her current projects include all taxa biodiversity inventories (ATBI) in nine national parks, and stakeholder engagement at Great Smoky Mountain National Park. She has an undergraduate degree from Northwestern University in Chicago, and a Master's from University of Vermont. Her PhD research was on protein isozymes of prairie dogs in Badlands National Park.

James L. Buizer

Senior Advisor to the President
Executive Director for Strategic Institutional Advancement, Office of the President
Arizona State University

James L. Buizer is Senior Advisor to Arizona State University President Michael M. Crow and Executive Director for Strategic Institutional Advancement in the Office of the President. Jim advances ASU through visioning, strategic direction, institutional positioning and the management of presidential investments, particularly those that are aimed at transforming ASU as a model for the New American University, an institution directly engaged in the economic, social, and cultural vitality of its region, and a university focused on building a sustainable environment and economy.

As Director of Strategic Institutional Advancement in the Office of the President, Mr. Buizer oversees transformative design efforts and development of new interdisciplinary academic units across the University. Until July 2007 he served as Executive Director of the Office of Sustainability Initiatives in the Office of the President, where he led the conceptualization, design and initiation of the University-wide Global Institute of Sustainability and its School of Sustainability, launched fall 2006 as the first of its kind in the world.

Prior to this, he served as Director of the Climate and Societal Interactions Office at the National Oceanic and Atmospheric Administration (NOAA) in Washington, D.C., where he was responsible for providing programmatic vision, design and leadership of NOAA's integrated, multidisciplinary research and applications program positioned at the climate and societal interface.

Mr. Buizer serves on numerous boards and leadership councils throughout the university. In his personal capacity he serves on the Board of Directors of Second Nature; Member, National Academies of Sciences Study: America's Climate Choices, Panel on Adapting to Impacts of Climate Change; Member, Board of Directors, National Council for Science and the Environment, among others. Buizer has published extensively on institutionalizing the science-to-action interface, and upon invitation has served as reviewer of many University-based Sustainability programs across the United States. He received his degrees in Oceanography, Marine Resource Economics, and Science Policy from the University of Washington, Seattle, Washington.

Sandra Brasfield

Environmental Laboratory
U.S. Army Engineer Research and Development Center

Dr. Sandra Brasfield serves in the role of Research Biologist for the U.S. Army Engineer Research and Development Center (ERDC), Environmental Laboratory (EL), located in Vicksburg, Mississippi. Her key responsibilities are to propose, manage, execute, and report aquatic and terrestrial ecotoxicological research in support of military and civil projects for the Army Corps of Engineers and other entities. Since joining ERDC in November of 2005, Sandra has acted as laboratory lead for several projects addressing the exposure and effect pathways for aquatic and terrestrial vertebrates and applying this information to



environmental risk assessment. Dr. Brasfield received a bachelor's degree in Biology and Chemistry cum laude from Middle Tennessee State University in 1999. She earned a masters degree in Zoology and Environmental Toxicology from Oklahoma State University in 2002, working with a new reptile model for laboratory toxicology research. Sandra completed her doctoral degree in Ecosystem Health Assessment as a member of the Canadian Rivers Institute from the University of New Brunswick, Saint John. Her doctoral research dealt with reduced reproductive activity with fish populations near agricultural activities. Current research includes assessing novel routes of exposure of military relevant compounds using a model laboratory reptile species, chemistry of emerging contaminants and climate change on military installations. Dr. Brasfield has published her research in leading journals such as Environmental Science and Technology, Environmental Toxicology and Chemistry, Chemosphere, and Zoo Biology.

Anja Caldwell

Principal
ecoipso LLC

Anja S. Caldwell is an architect born and founder of ecoipso LLC, which provides consulting on sustainable design, LEED and greening the operation and construction of schools and hotels. Recent projects include the greening of the design and construction guidelines for DC Public Schools and coordinating green schools makeovers for EcoMedia and CBS in Miami, San Francisco and Chicago.

In 2007 the Governor of Maryland appointed Anja to the new Maryland Green Building Council and a LEED Silver mandate for schools in Maryland was passed in early 2008. From 2003 to 2008 Anja established and directed the Green Building Program for Montgomery County Public Schools (MCPS) in Maryland, the 17th largest school system in the US, and received the Board of Educations "Distinguished Service to Public Education Award" of 2006, given annually to three of the school systems more than twenty thousand staff members. She introduced and implemented a program for high performance design and the LEED (Leadership in Energy and Environmental Design) rating system for school construction at MCPS, and coordinated the greening of the MCPS Standard Architectural Design Guidelines.

Anja is a member of the US Green Building Council's core committee that created LEED for Schools and member of several green building committees in Montgomery County and Washington, DC working on green building legislation. She was also part of the Green Building Task Force of DC Council Member Jim Graham in 2006 to help draft the DC Green Building Act. She is a founding member of the Intergovernmental Green Building Group (IGBG) that coordinates green building policies, training and events for the Metropolitan Washington Council of Governments (COG).

Caldwell was trained as an architect in Stuttgart, Germany, and holds a Masters degree from the University of Miami, where she studied traditional neighborhood and urban design under Duany and Plater-Zyberk as a Fulbright scholar. She is a licensed member of the German Institute of Architects (Deutsche Architektenkammer) since 1994.

Maurie J. Cohen

Associate Professor, Department of Chemistry and Environmental Science
New Jersey Institute of Technology

Dr. Maurie Cohen is Associate Professor of Environmental Policy and Sustainability in the Department of Chemistry and Environmental Science at the New Jersey Institute of Technology, a member of the NJIT Graduate Program in Environmental Policy Studies, and an Associate Faculty Member in the Division of Global Affairs at Rutgers University. His current work is at the intersection of environmental social science, sustainability science, and innovation studies and centers on sociotechnical transitions toward alternative systems of transportation and mobility. Dr. Cohen is the editor of *Sustainability: Science, Practice, and Policy*, an open-access e-journal supported by the National Biological Information Infrastructure (a part of the United States Geological Survey) devoted to the wide dissemination of academic research and professional insights on sustainability.



He is also actively involved in several international and domestic projects related to the field of sustainable consumption. He is a member of scientific advisory board of the Sustainable Consumption Research Exchange (SCORE!) Project (funded under the European Union's Sixth Framework Programme) and is working with the Boston-based Tellus Institute to launch a research and policy network on sustainable consumption in the United States. Dr. Cohen has held prior academic positions at the University of Leeds (UK), Binghamton University (State University of New York, Mansfield College of Oxford University (UK), and Indiana University.

His books include *Exploring Sustainable Consumption: Environmental Policy and the Social Sciences* (with Joseph Murphy), *Risk in the Modern Age: Social Theory, Science, and Environmental Decision Making*, and *The Exxon Valdez Disaster: Readings on a Social Problem* (with J. Steven Picou and Duane Gill). He holds a Master's degree in urban and regional planning from Columbia University and a PhD in regional science from the University of Pennsylvania.

Craig Farkos

Program Manager
Michael Baker Jr., Inc.

Craig Farkos, PE M. ASCE, is an engineering Program Manager and member of the Carbon Emissions Working Group with Michael Baker Jr., Inc. His 19 years of domestic and international project experience includes project planning and sustainable design that incorporates consideration of possible impacts and risks of climate change. In his role with the Carbon Emissions Working Group, Craig monitors policies and initiatives related to climate change from the perspective of existing and new services provided by Michael Baker Jr., Corp.

Craig is also the Founder and current President of the 80-member Washington, DC Professionals Chapter of Engineers Without Borders (EWB). Combining his training and experience in public policy and international development and civil and environmental engineering, Craig has spent the last 19 years focusing on identifying and promoting multidisciplinary approaches to improving community health and infrastructure development. He has directed integrated infrastructure development programs in Madagascar, Kenya and several Latin American countries, as well as rural aquaculture development programs in North Eastern Thailand and Western Kenya.

Craig is currently the Chair for the ASCE Task Committee on Sustainable Design. The committee charge is to reinforce the civil engineer's developing role and public perception as a policy leader, life-cycle planner, designer, constructor, operator and maintainer of a *sustainable*, built environment that includes global water supply, energy availability and disaster mitigation. Craig is also a member of the ASCE Task Committee on Engineers Without Borders. The Committee is charged with identifying the components of an Action Plan to successfully implement the ASCE/EWB affiliation as it relates to ASCE's geographical and technical units.

Craig holds a BS in Economics from Allegheny College, a BS and Master's Degree in Civil and Environmental Engineering from Carnegie Mellon University and Cornell University, respectively, and a Master's Degree in Public Administration and International Development from Harvard.

Peter Haas

Founder and Executive Director
Appropriate Infrastructure Development Group (AIDG)

Peter Haas founded AIDG in 2005 as a technology research and business incubation NGO for entrepreneurs in Guatemala. AIDG has a goal of getting appropriate technology out of research and NGO environments and into commercial production. Since 2005 AIDG's work has supported companies providing affordable renewable energy and sanitation services to thousands of people living under \$4 a day. AIDG has been featured in Forbes, Fast Company, Popular Mechanics, Discover and NPR. Since founding AIDG, Peter has become an active voice for poverty issues speaking at the World Bank,



Harvard, MIT, and other forums on technology, entrepreneurship and SME finance. He received a BA in 1998 from Yale University in philosophy and psychology.

Klein E. Ileleji

Assistant Professor & Extension Engineer, Ag. & Biological Engineering
Purdue University

Klein E. Ileleji, PhD, is an Assistant Professor and Extension Engineer in Agricultural and Biological Engineering at Purdue University. He earned a B.S. in Agricultural Engineering from the University of Ilorin, Nigeria; an MPS in Applied Economics and Business Management at the Institute of Economic Studies in Nitra (a joint program between Cornell University, Ithaca and The Slovak Agricultural University in Nitra), and a PhD in Agricultural Engineering at the Slovak Agricultural University in Nitra, Slovakia.

Dr. Ileleji's research focus and interest at Purdue University is in the area of biomass feedstock logistics, processing, particulate flows and handling, and biofeedstock engineering systems for food, feed, fuel and fiber production. Current research activities are related to the development of logistics analysis simulation and tools for biomass feedstock, investigation of flow behavior of biologically active particulates, determination of feedstock quality parameters, feedstock processing and handling, and fuel preparation for the production of heat and power via combustion and gasification. He also has extensive research experience in post-harvest handling of grains and oilseeds, especially with respect to stored product protection.

Dr. Ileleji teaches Biomass Feedstock Systems Engineering (ABE591K), Electric Power and Controls (ASM420) and coordinates an online distance education course in fuel ethanol production administered through GEAPS-Purdue Distance Education Program. He has extensive international experience, and currently in collaboration with the State Key Laboratory for Clean Energy Utilization at Zhejiang University in Hangzhou, China. He has an extension engineer role in bioenergy and biofuels in the Agricultural and Biological Engineering Department at Purdue University and serves on the board of Biotown USA Development Authority.

Dr. Ileleji is a 14 year member of both the American Society of Agricultural and Biological Engineers (ASABE) and International Commission of Agricultural Engineering (CIGR), and a member of the Grain Elevators and Processing Society (GEAPS).

James A. LaGro, Jr.

Professor of Urban and Regional Planning
University of Wisconsin-Madison

James LaGro is currently on sabbatical in Washington, DC as a 2008-09 AAAS Science & Technology Policy Fellow with the U.S. EPA's Global Change Research Program. Climate mitigation and adaptation are the focus of his current work, with special emphasis on "smart growth" strategies for the sustainable redevelopment of the built environment.

LaGro earned both a Master's degree in landscape architecture and a PhD in natural resource policy and planning from Cornell University. He joined the faculty of the University of Wisconsin-Madison in 1991. In addition to his research and outreach, LaGro regularly teaches service-learning courses that give students opportunities to confront real-world urban policy, planning, and design challenges. He was Chair of the Department of Urban and Regional Planning from 2002 to 2008.

With over 25 years of professional experience in industry and academia, LaGro has been a frequent advisor to the H. John Heinz III Center for Science, Economics, and the Environment on the "State of the Nation's Ecosystems" project. LaGro's recent book – *Site Analysis: A Contextual Approach to Sustainable Land Planning and Site Design* – was selected by *Planetizen* (an online planning and development network) as one of the top planning books in 2008.



Colleen Layman

Manager of Water Treatment Engineering
Bechtel Power Corporation

Colleen Layman has over 15 years of experience in the power industry, with special focus on water and wastewater treatment for power generating facilities. Her wide variety of experience includes engineering design, construction, and startup of power generating facilities; field service and engineering of water and wastewater treatment equipment and water quality control programs; and experience in the day-to-day operations of a power plant burning waste anthracite coal. Currently, as manager of Bechtel Power's water treatment engineering group in Frederick, Maryland, she is responsible for the conceptual design, process engineering, startup and operational support of the water/wastewater treatment systems and the steam/water chemistry issues for Bechtel projects world-wide.

Ms. Layman holds a BS in Mechanical Engineering Technology and a MS in Water Resources and Environmental Engineering and is a registered Professional Engineer. She is an active member of both the American Society of Mechanical Engineers and the Society of Women Engineers. Colleen currently serves as a member of ASME PTC 31 – High-Purity Water Treatment Systems, as a member of the ASME Research and Technology Committee on Water and Steam in Thermal Systems, and as President of the Baltimore-Washington Section of the Society of Women Engineers. She is also the author or co-author of nine technical publications in the field of water/wastewater treatment for power generating facilities.

Jacob Park

Associate Professor of Business Strategy and Sustainability
Green Mountain College

Professor Park specializes in the teaching and research of global environment & business strategy, corporate social responsibility, and community-based entrepreneurship & social innovation with a special expertise/interest in Japan, China, and the Asia-Pacific region. A former lead author in the Scenarios Working Group of the Millennium Ecosystem Assessment, he is a Senior Fellow of the Environmental Leadership Program and serves on the Board of Directors, Vermont Businesses for Social Responsibility; International Planning Board of the Greening of Industry Network; the Advisory Council of the Association for the Advancement for Sustainability in Higher Education, and other organizations.

He has served as the POSCO Visiting Fellow at the East-West Center (2008); Erasmus Mundus Scholar at Central European University Business School (2007); International Visiting Research Fellow at University of Sydney's Faculty of Business and Economics (2007), and has worked as an ethical research consultant for Green Cay Asset Management, a socially responsible hedge fund/financial investment company, and as a senior research consultant and a Japanese and Asian equity specialist in the Governance and Socially Responsibility Investment Group of ISIS Asset Management (now F&C Asset Management), a London-based investment company.

Gary S. Silverman

Chair and Professor, Department of the Environment and Sustainability
Bowling Green State University (Ohio)

Gary S. Silverman has been at Bowling Green State University for 23 years, directing the academic program in environmental health. He is the founding chair of a new academic department, begun in January 2009, bridging programs in environmental health, environmental science and environmental policy. This department has the mission of integrating sustainability into the preparation of environmental professionals and of leading efforts throughout the university to help students understand the concepts of sustainability as it applies to their professions and lives.

Gary's research experience has focused on water quality issues, including urban runoff, septic system management, drinking water quality, and wetlands construction and treatment. He is very interested in international issues, having been awarded Fulbright grants to serve in Malaysia and in Costa Rica. He is



an active member of the National Environmental Health Science and Protection Accreditation Council, and has done considerable work on curriculum development and outcome measurement. He holds a Doctorate in Environmental Science and Engineering from UCLA.

Matt. C. Smith

Research Leader, Environmental Management and Byproduct Utilization Laboratory
USDA, Agricultural Research Service

Matt Smith is the Research Leader for the USDA-ARS Environmental Management and Byproduct Utilization Laboratory (EMBUL) in Beltsville, MD. The mission of EMBUL is:

“To reduce the footprint of agricultural production on the environment through advances in science and engineering. To discover innovative technologies that address the environmental concerns in the production of food, fiber, feed, and fuel, and To develop environmentally-responsible uses for agricultural and industrial byproduct/waste streams.”

As the Research Leader he supervises 12 Research Scientists and their associated staff. The scientific disciplines in EMBUL include agronomy, soil science, plant physiology, organic and physical chemistry, biology, microbiology, engineering, and more. His personal research is in the areas of animal manure management and bioenergy. Prior to joining ARS in December 2004, he was an Associate Professor of Biological and Agricultural Engineering at the University of Georgia. At UGA he conducted research in the areas of natural wastewater treatment systems and water quality and quantity as impacted by human activities. Dr. Smith is a registered Professional Engineer in Maryland and Georgia.

Claire Williams

CEO
Silver Springs LLC

Dr. Claire Williams is currently CEO of Silver Springs LLC, Chapel Hill, NC, an environmental education company that produces games-based learning curricula for career professionals. She served as AAAS Fellow in Science Diplomacy 2007-08 in the U.S. Department of State on energy and environment. Dr. Williams has authored over 115 publications, of which more than half are peer-reviewed journals, books and book chapters. Her recent book, *Conifer Reproductive Biology* is forthcoming in spring 2009 with Springer Publishers. Dr. Williams has worked in timberlands R&D, been promoted to full professor in the Faculty of Genetics and in Forestry at Texas A&M University then was a visiting professor at Duke University. Over the past 20 years, Dr. Williams' research in forestry-related R&D has won recognition as a Guggenheim Fellow, a Senior Fulbright Scholar and other awards.