

#CMUestp



Energy Science
Technology & Policy
Carnegie Mellon University
College of Engineering

3rd Annual Energy Careers Symposium

Monday, February 9, 2015

11:30 a.m. – 3:00 p.m.

Cohon University Center – Rangos Ballrooms

- 11:30 a.m.** **Check-in & Lunch (free hot buffet)**
- 11:50 a.m.** **Opening Remarks**
Dr. David Landis, Executive Director, EST&P
Alberto Giron, M.S. Student and Symposium Chair, EST&P
- 12:00 p.m.** **Keynote: Transportation Energy 2030: Goals and Prospects**
Dr. Chris Hendrickson, Professor,
Civil & Environmental Engineering, Carnegie Mellon University
- 12:30 p.m.** **Panel Discussion**
Energy 2030: What does it look like and how do we get there?
Panel Moderator: Dr. Costa Samaras, Assistant Professor,
Civil & Environmental Engineering, Carnegie Mellon University
- 1:30-3:00 p.m.** **Networking & Refreshments**



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Register: <https://cmuenergycareerssymposium.eventbrite.com>

Organized by the engineering students of EST&P, the Symposium will bring together the next generation of engineers, scientists and policy-makers with current energy industry leaders. The panel discussion will consider future energy technology and business landscapes, and their impact on future careers in energy. An informal networking session will conclude the event.

*Every attendee will have a chance
to win a door prize!*

3rd Annual Energy Careers Symposium

Monday, February 9, 2015

- Opening Remarks
- Keynote Speaker, Title “Transportation Energy 2030: Goals and Prospects”
- Panel Moderator, Theme “***Energy 2030: What does it look like and how do we get there?***”
- Panel Members (5 representatives)
- Networking Session (7 companies)

Opening Remarks

David L. Landis, Ph.D.

Executive Director, Masters program in Energy Science, Technology and Policy



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Effective solutions to energy problems will come from engineers and technical managers who understand the interdisciplinary challenges of energy, and who are well informed on the broad issues of energy supply, demand, storage, utilization, policy, sustainability, and the environment. The Carnegie Mellon University Energy Science, Technology and Policy (ESTP) program offers a professional masters for students who seek a distinctive Master of Science degree that is based in engineering, aligned with new discoveries in science, attuned to sustainability and the environment, and informed by a broader perspective in economics and public policy. ESTP is an interdisciplinary engineering degree program offered by the CMU College of Engineering and is an educational initiative affiliated with the Scott Institute for Energy Innovation.

Dave Landis obtained the Ph.D. in Electrical Engineering from The Pennsylvania State University, MS in Systems Engineering from the University of Pennsylvania, and BS in Electrical Engineering from Carnegie Mellon. Prior to joining CMU in 2010 he served the non-profit community for 10 years as V.P. Education and Training at The Technology Collaborative and the Pittsburgh Digital Greenhouse. He supported technology-based economic development programs by creating and managing professional development, workforce development, university curriculum and entrepreneurship programs. His previous faculty appointments included Professor of Electrical Engineering at the University of South Florida and at Penn State. His industrial experience includes work at RCA's Advanced Technology Laboratory and Honeywell's Space Systems Group.

Keynote Speaker

Chris Hendrickson, Ph.D.

Hamerschlag University Professor, Civil and Environmental Engineering, Carnegie Mellon University



Carnegie Mellon University

Civil and Environmental Engineering

Chris Hendrickson is the Hamerschlag Professor of Engineering, Director of the Traffic 21 Institute, Co-Director of the Green Design Institute at Carnegie Mellon University, member of the National Academy of Engineering and Editor-in-chief of the ASCE Journal of Transportation Engineering. His research, teaching and consulting are in the general area of engineering planning and management, including design for the environment, project management, transportation systems, finance and computer applications.

Current research projects include life cycle assessment methods (especially based on economic input/output tables such as eiolca.net), assessment of alternative construction materials, brownfield

development impacts, and congestion management strategies. He has co-authored three textbooks, *Environmental Life Cycle Assessment of Goods and Services: An Input-Output Approach* (Resources for the Future, 2005), *Project Management for Construction* (Prentice-Hall, 1989, now available on the web) and *Transportation Investment and Pricing Principles* (John Wiley & Sons, 1984) and two monographs, *Knowledge Based Process Planning for Construction and Manufacturing* (Academic Press, 1989) and *Concurrent Computer Integrated Building Design* (Prentice-Hall, 1994). In addition, he has published numerous articles in the professional literature.

Prof. Hendrickson is a member of the National Academy of Engineering, a Distinguished Member of the American Society of Civil Engineering, an Emeritus Member of the Transportation Research Board and a Fellow of the American Association for the Advancement of Science. He has been the recipient of the 2002 ASCE Turner Lecture Award, the 2002 Fenves Systems Research Award, the 1994 Frank M. Masters Transportation Engineering Award, Outstanding Professor of the Year Award of the ASCE Pittsburgh Section (1990), the ASCE Walter L. Huber Civil Engineering Research Award (1989), the Benjamin Richard Teare Teaching Award (1987) and a Rhodes Scholarship (1973).

Panel Moderator

Constantine Samaras, Ph.D.

Assistant Professor, Civil and Environmental Engineering, Carnegie Mellon University



Carnegie Mellon University

Civil and Environmental Engineering

Costa Samaras is an assistant professor in the Department of Civil and Environmental Engineering at Carnegie Mellon University. His research spans energy, climate change, infrastructure and defense analysis. Costa analyzes how energy technology and infrastructure system designs affect energy use and national security, resiliency to climate change impacts, economic and innovation outcomes, and life cycle environmental externalities. He is an affiliated faculty member in Carnegie Mellon's Scott Institute for Energy Innovation and the College of Engineering's Energy Science, Technology and Policy Program.

Costa is also an Adjunct Senior Researcher at the RAND Corporation and a Professor at the Pardee RAND Graduate School. He served on a National Academies Committee evaluating the Department of Energy's advanced transportation energy research portfolio, serves on the Transportation Research Board's Alternative Transportation Fuels and Technologies Committee, is an Associate Editor of the journal *Renewable and Sustainable Energy Reviews*, and serves on the American Society of Civil Engineers Committee on Adaptation to a Changing Climate. He has published numerous studies examining plug-in and autonomous vehicles, renewable electricity, transitions in the energy sector, conventional and low-carbon fuels, and was one of the Lead Author contributors to the *Global Energy Assessment*. Costa has also led analyses on energy security, strategic basing, and infrastructure issues faced by the Department of Defense. He has presented his research to senior appointed governmental leaders, former Cabinet Secretaries, senior federal and military decisionmakers, Congress Members and professional staff, and the leadership of major utilities, automotive companies and technology firms. From 2009 to 2014 he was a RAND Corporation researcher, most recently as a Senior Engineer. From 2008 to 2009 he was a post-doctoral fellow in the Climate Decisionmaking Center at Carnegie Mellon, working on electric transportation and low-carbon technology policy. From 1999 to 2004 he was an engineer working on several multibillion-dollar infrastructure megaprojects in New York, including the extension of the Number 7 Subway Line in Manhattan, and also worked on the rebuilding of the Subway Line underneath of the World Trade Center after the attacks of September 11, 2001.

Costa received a joint Ph.D. in Civil and Environmental Engineering and Engineering and Public Policy and from Carnegie Mellon, a M.P.A. in Public Policy from the Wagner Graduate School of Public Service at New York University, and a B.S. in Civil Engineering from Bucknell University. He also is a Leadership and Excellence in Environmental Design (LEED) Accredited Professional with a building design and construction specialty.

Panel Members

EQT-Natural Gas Industry

Andrew Place, Corporate Director of Energy and Environmental Policy



EQT Corporation is one of the largest natural gas producers in the Appalachian Basin. Headquartered in Pittsburgh, PA and operating in Pennsylvania, West Virginia, Virginia and Kentucky, EQT has used integrated air and horizontal drilling technology for more than 125 years.

Prior to joining EQT in 2011 Andrew served for eighteen months in Pennsylvania's Department of Environmental Protection, first as Special Assistant for Energy and Climate Change and second as Acting Deputy Secretary of the Office of Energy and Technology Deployment. Before working at the Department of Environmental Protection, Andrew served as a Research Fellow at Carnegie Mellon University's Department of Engineering and Public Policy with a primary focus on Carbon Capture and Sequestration among other technical, economic, and policy issues related to energy and the environment.

While remaining in his position with EQT, Andrew accepted the role of Interim Executive Director at the Center for Sustainable Shale Development (CSSD) in 2012. Andrew's role at CSSD has been to raise awareness of the Center's work while supporting continued consensus for the Center's Performance Standards and certification to those standards.

Andrew holds a B.S. in Economics from the University of Pittsburgh and an M.S. in Public Policy and Management from the H. John Heinz III College at Carnegie Mellon.

EverPower-Wind Industry

Kevin Sheen, Senior Director, Development



EverPower is a fast growing developer, owner, and operator of utility scale wind projects in the US. Wind power is one of the fastest growing sources of electricity worldwide. Our first wind farm became operational in 2008, and since then we have consistently delivered best-in-class wind projects which provide a strong foundation for continued growth into the future.

Kevin Sheen co-founded EverPower Wind Holdings in 2002. The company, which is a developer, owner and operator of utility—scale wind projects across the United States, is headquartered in Pittsburgh. EverPower currently has seven operating wind farms totaling 752MWs in four states.

Mr. Sheen is the Senior Director of Development at EverPower has he been active in developing wind projects in the Northeast, Mid-Atlantic, and Midwestern regions; he also seeks out acquisition opportunities nationwide. He also acts as the company’s Public Relations Manager and is responsible for public outreach, media relations and marketing.

Prior to his experience in wind energy, Mr. Sheen was a project manager at a thin film solar company in Brooklyn, NY, where he managed the installation of residential and small commercial systems. He also assisted in the planning and installation of commercial solar systems while at EverPower.

Mr. Sheen has served on the Board of Directors of the Alliance for Clean Energy since 2012 and he currently acts as the Chairman of the Board of Directors. He holds a degree in English and Economics from Indiana University and a Master’s Degree in Public Policy from The Ohio State University.

Booz Allen Hamilton-Consulting Industry

Jesse Goellner, Ph.D., Senior Associate



Booz Allen Hamilton, a Fortune 500 company, has been at the forefront of strategy and technology consulting for more than 100 years. Today, Booz Allen Hamilton is a leading provider of management consulting, technology, and engineering services to the US government in defense, intelligence, and civil markets, and to major corporations and not-for-profit organizations.

Jesse is a lead associate where he supports the energy infrastructure needs of various clients, particularly the U.S. Department of Energy’s National Energy Technology Laboratory (NETL). His career has been focused on the sustainable application of technology and resources in the energy arena. He has worked in technology development at Exxon Mobil, was a James Swartz Entrepreneurial Fellow at Carnegie Mellon University’s Tepper School of Business, and was involved in two early-stage companies

that focused on energy infrastructure. He holds a Bachelor's degree from the University of Delaware and a PhD from the University of California at Davis, both in chemical engineering.

BMPC- Bettis Laboratory-Nuclear Propulsion Technology Industry

S. Lee Carson, Shipboard Electrical Systems Department Manager



Bechtel Marine Propulsion Corporation (BMPC) is responsible for developing advanced naval nuclear propulsion technology, providing technical support to ensure the safety and reliability of our nation's naval nuclear reactors and training the sailors who operate those reactors in the Navy's submarine and aircraft carrier fleets. BMPC includes both the Bettis and Knolls Atomic Power Laboratories. BMPC has 6200 employees at main locations that include Pittsburgh, Pennsylvania, Schenectady, New York, West Milton, New York, Charleston, South Carolina, Idaho Falls, Idaho and more and numerous shipyard and vendor sites around the globe. BMPC operates the Bettis and Knolls Atomic Power Laboratories for the Department of Energy. BMPC is dedicated solely to the support of the United States Naval Nuclear Propulsion Program.

Lee Carson is the Manager of the Shipboard Electrical Systems Department at BMPC. Mr. Carson began his current position in September 2014. He is responsible for all BMPC power systems development and testing, and all Reactor Plant Generic Instrumentation and Control (GI&C) hardware and software development and qualification. In addition, he oversees the Electrical Systems portion of the US/UK Program. Prior to his current position, Mr. Carson was the manager of the US/UK Field Office (USFO), based out of Rolls-Royce Submarines in Derby, United Kingdom. Mr. Carson held previous positions as the Bettis Submarine Reactor Engineering Manager, Chairman of the 3-Prime Budget Facilitation Committee, and NRF Reactor Materials Engineering Manager.

Mr. Carson has a BS and MS in Mechanical Engineering from Carnegie Mellon University and joined Bettis as a summer intern in 1993 and full time in 1994.

Larson Design Group-Architecture, Engineering and Surveying Industry

Christopher Bostaph, Vice President for Energy



Larson Design Group is a growing, employee-owned company teaming with our clients to provide responsive, innovative solutions to facility, transportation, land development, and environmental needs. LDG's current energy portfolio includes operations located in the Marcellus, Utica, and Eagle Ford Shale plays, as well as wind farms in Pennsylvania and New York. The energy division provides full-support services that encompass civil, survey, environmental, GIS, permitting, and construction management for a wide array of assignments. The goal of LDG is to provide a team that fully understands the problem statement, can provide a scope of services at a reasonable price to accomplish the client's goal, and a schedule that meets expectations. LDG's understanding of the industry it works within is exemplified by the number of repeat clients and the various geographic areas that they have invited LDG into.

As Vice President for Larson Design Group's (LDG) Energy Division, Chris's role includes all responsibility and accountability for the division's operations, profit, loss, growth, strategy implementation, and oversight of client relations. This is an expanded role responsible for delivering growth that takes LDG to a broader regional and national market.

Networking Session

EQT: Andrew Place, Corporate Director of Energy and Environmental Policy, **others?**

EverPower: Kevin Sheen, Senior Director, Development, **others?**

Booz Allen Hamilton: Jesse Goellner, Ph.D., Senior Associate

Bechtel Marine Propulsion Corporation-Bettis Laboratory: Lee Carson, Shipboard Electrical Systems Department Manager and Kelly Harter, Staffing/EEO & Diversity Programs, Human Resources Representative

Larson Design Group: Christopher Bostaph, Vice President for Energy

Johnson Controls: Jeff Zacherl, PE, CEM, LEED AP, Branch General Manager

ZipCar: Erin Cooper, Marketing Manager and Lauren Perine, Marketing Associate

