



EBC Climate Change Program Series Part Six: Adaptation and Resiliency Programs at Electric Utilities

Thursday, February 15, 2018

Massachusetts Division of Fisheries & Wildlife Headquarters | Westborough, MA

Thank you to our Sponsors:



AGENDA

- 9:00 a.m.** **Welcome:** Jackson Bailey, Communications and Marketing Coordinator, EBC
- Program Introduction and Overview**
- Julie Eaton, Program Chair and Moderator
 Lead Resiliency Engineer, Weston & Sampson
- 9:15 a.m.** **Increased Summer Heat Stress on the Electric Grid: A Case Study for a Large Power Transformer in the Northeast**
- Adam Schlosser, Senior Research Scientist, Center for Global Change Science
 Deputy Director, MIT Joint Program for Global Change
- 9:40 a.m.** **A Multifaceted Approach to a More Resilient Electric System**
- Paul Renaud, Vice President, Massachusetts Engineering, Eversource
- 10:05 a.m.** **Climate Change Initiatives at National Grid**
- Jonathan Gonyon, Director, T&D O&M Services, National Grid
- 10:30 a.m.** **Networking Break**
- 10:50 a.m.** **Electricity Resilience & Climate Change: Adaptation & Mitigation Approaches for Your Facility**
- Geoff Gunn, Associate, Electrical, ARUP
- 11:15 a.m.** **Panel Discussion**
- Moderator:** Julie Eaton, Weston & Sampson
- Panel Members:**
- Xiang Gao, MIT
 - Jonathan Gonyon, National Grid
 - Geoff Gunn, ARUP
 - Eric Morgan, MIT
 - Paul Renard, Eversource
 - Adam Schlosser, MIT
- 12:00 p.m.** **Closing Remarks – Adjourn**

PROGRAM CHAIR

Julie A. Eaton, EIT, Lead Resiliency Engineer
Weston & Sampson
5 Centennial Drive, Peabody, MA 01960
O: (978) 532-1900 ext.2223 | M: (978) 818-9008 | eatonj@wseinc.com

Julie Eaton is the lead resiliency engineer at Weston & Sampson. For over a decade, her professional and academic ventures have focused on looking at climate change resiliency and adaptation from policy and design perspectives. She specializes in using a risk-based approach to identify and prioritize adaptation strategies. Her experiences have taken her abroad to the Netherlands to look at international best practices and solutions that can be applied to the New England area. Her recent projects include the coastal vulnerability and risk assessment for the Economic Development and Industrial Corporation of Lynn, Massachusetts, the Massachusetts Division of Capital Asset Management and Maintenance (DCAMM) Statewide Resiliency Master Plan, and she is currently working on climate resilience for sections of the MBTA Blue Line and engineering resilience guidelines for the City of Boston. In addition to the resiliency program, Julie is also a Geotechnical and Dam Safety Engineer with Weston & Sampson. She has Bachelor's degrees in Political Science (University of Rochester) and Civil Engineering (UMass Lowell), and a Master's degree in Civil Engineering (UMass Lowell).

SPEAKERS

Xiang Gao, Research Scientist
Center for Global Change Science
Massachusetts Institute of Technology
77 Massachusetts Ave, E19-439F, Cambridge, MA 02139-4307
(617) 253-9474 | xgao304@mit.edu

Dr. Xiang Gao is currently a research scientist in the Center for Global Change Science at the Massachusetts Institute of Technology. Prior to joining MIT, Dr. Gao was a research scientist at the Center for Ocean-Land-Atmosphere Studies. Her primary research interests are to understand the role of the land in shaping weather, climate, hydrology, biogeochemistry, and water resources on local to global scales using powerful methodologies such as supercomputing model simulations and satellite remote sensing. She had conducted the research in a wide range of topics, including the development and application of land-surface models, remote sensing of vegetation biophysical parameters, characterizing climate extremes (heavy precipitation, heat wave) and their responses to shifts in climate regimes, global hydrological cycle, arctic permafrost degradation and associated biogeochemistry impacts, and risk-based water resource assessment. She has actively involved in several national and international projects of different disciplines, including the NASA Earth Observing System (EOS) Moderate Resolution Imaging Spectroradiometer (MODIS), the 2nd Global Soil Wetness Project (GSWP-2), the NASA Energy and Water Cycle Study (NEWS), and Science Utilization of Soil Moisture Active Passive (SUSMAP) and serves as a member of Permafrost Carbon Network.

Jonathan Gonynor, Director, T&D O&M Services
National Grid
40 Sylvan Road, Waltham, MA 02451
(781) 907-3260 | jonathan.gonynor@nationalgrid.com

Jon Gonynor has worked for National Grid (formally Massachusetts Electric) for over 28 years. He has worked in many Engineering capacities over his career including Substation Operations & Maintenance, Planning Engineering, Design Engineering, Reliability, and Electric Standards and Work Methods. He is a member of IEEE, and an active participant in the Electric Power Research Institute's Grid Resiliency Work.

Additionally he is an active member of the Edison Electric Institute (EEI) in the review, development and updates to the National Electric Safety Code (NESC).

Jon has a BS degree in Electrical Engineering and has his Master's Degree in Business.

Geoff Gunn, PE, LEED AP, Associate, Electrical

Arup

60 State Street, Boston, MA 02109

O: (617) 349-9289 | M: (415) 691-5573 | geoff.gunn@arup.com

Geoff is an Associate and Electrical Engineer in Arup's Boston office. Geoff leads both the electrical and energy teams, and has a particular focus on distributed energy systems and energy resilience. Geoff has significant experience with analysis and design of solar photovoltaic systems and other renewable, and distributed, energy systems, such as CHP, energy storage, and demand response. He has performed energy resilience assessments and provided electrical design with energy resilience in mind. Geoff has experience in a range of projects, including healthcare, laboratories, zero net energy buildings, data centers, educational facilities, and hospitality. He has worked on complex projects with diverse, multi-disciplinary teams and is committed to understanding his clients' needs and delivering projects specifically aimed at satisfying these requirements.

Eric Morgan, Technical Staff

Lincoln Laboratory

Massachusetts Institute of Technology

244 Wood Street, Lexington, MA 02421-6426

(781) 981-4994 | eric.morgan@ll.mit.edu

Eric Morgan is a member of the Technical Staff in the Energy Systems Group at MIT Lincoln Laboratory. At LL, Eric works on adding renewable energy and energy storage to tactical DoD microgrids and has researched microgrid development for the City of Boston. Additionally, Eric does research on novel direct energy conversion devices, renewable fuel synthesis and cutting edge solid fuel-powered systems. Prior to working at LL, Eric worked as a post-doctoral researcher at Northern Arizona University, where he helped pioneer marine energy harvesting techniques for ocean sensing, designed and assembled a mobile methanol synthesis unit, researched solar irradiance smoothing in large photovoltaic plants and analyzed wind power systems for the production of ammonia fertilizer.

Paul Renaud, PE, Vice President, Massachusetts Engineering

Eversource

247 Station Drive, SE300, Westwood, Massachusetts 02090

(781) 441-8900 | paul.renaud@eversource.com

Paul Renaud is Vice President of Massachusetts Engineering at Eversource Energy. In this role, Paul is responsible for distribution engineering, distributed energy resource interconnection, substation design, and protection and control for the Eversource Massachusetts operating areas.

Paul previously held positions of Director of System Planning, Engineering, and Telecommunication for the Vermont Electric Power Company where he provided strategic and day-to-day direction on all engineering and planning activities related to Vermont's high voltage transmission system; and, Vice President of Transmission Asset Management for National Grid where he managed over 9000 miles of transmission assets in New York and New England.

Paul holds a Bachelor of Science degree in Electrical Engineering (University of Bridgeport) and a Master of Science degree in Power Systems (Northeastern University) and is a registered Professional Engineer in the state of Massachusetts.

C. Adam Schlosser, Senior Research Scientist
Center for Global Change Science
Deputy Director, MIT Joint Program for Global Change
50 Ames Street, Building E19-439L, Cambridge, MA 02139-4307
(617) 253-3983 | casch@mit.edu

Dr. C. Adam Schlosser is currently a Senior Research Scientist in the Center for Global Change Science, and also serves as the Deputy Director for the Joint Program at MIT. Prior to his appointment at MIT, Dr. Schlosser was an Associate Research Scientist at the NASA Goddard Space Flight Center (2001-2003), a Research Scientist at the Center for Ocean Land Atmosphere Studies (1997-2001). He conducted his postdoctoral work (1995-1997) at NOAA's Geophysical Fluid Dynamics Laboratory. His primary interests are the modeling, prediction, and risk assessment of the natural, managed, and built water-energy-land systems using the MIT's Integrated Global Systems Model (IGSM) that includes model development the Global Land System (GLS) and Water Resource System (WRS). Dr. Schlosser has also undertaken studies of hydrology, weather, and climate and their predictability and limits-to-prediction. In doing so, he has worked with a wide range of numerical models, ranging from process-level to global-scale models, as well as observational data for evaluation and complementary analyses. He also has participated in and led international experiments aimed to assess the performance of Earth-system model simulations and predictions. In earlier work, he served as a member of the NASA Energy and Water Cycle Study (NEWS) Science Integration Team to improve our observational capabilities for monitoring, understanding and predicting the Earth's global water and energy cycles. His current collaborative research activities also include: the study of extreme events and associating their potential changes and risks on the natural, managed, and built environments; water-resource assessments to inform mitigation and adaptation strategies; and renewable-energy resource and intermittency assessments.

Upcoming EBC Programs

FEBRUARY 2018

February 15 – EBC & BBA Briefing from Newly Appointed EPA Regional Administrator Alexandra Dunn
February 21 – Ascending Professionals Charity Networking Night
February 27 – Site Redevelopment and Remediation Program: Evaluation and Closure of NAPL Sites

MARCH 2018

March 1 – Solid Waste Program: Talking Trash in Southern New England
March 6 – Rhode Island Program: Legislative Briefing on Energy and Environmental Initiatives
March 7 – Water Resources Program: NPDES Primacy for MassDEP and NHDES
March 7 – Ascending Professionals Introductory Program Series: Navigating Chapter 91
March 13 – Energy Resources Program: Update from the MassCEC Leadership
March 14 – Evening Program with MassDEP Commissioner Martin Suuberg
March 15 – Climate Change Program Series: Adaptation and Resiliency Programs for Natural Resources
March 21 – EBC/NECA/YPE Site Visit to the Schneider Electric Research & Development Headquarters
March 28 – Noise Program: Update on Massachusetts Noise Regulations
March 28 – Ascending Professionals Introductory Program Series: Navigating MEPA
March 31 – Business Development Opportunities in the Energy & Environmental Industry

APRIL 2018

April 3 – MassDEP Bureau of Waste Site Cleanup Leadership Team
April 4 – Ascending Professionals Program: The Five Biggest Mistakes Presenters Make
April 6 – Solid Waste Program: Talking Trash in Northern New England
April 13 – Innovative Financing for Adaptation & Resiliency

Environmental Business Council of New England, Inc.
375 Harvard Street, Suite 2 | Brookline, MA 02446
(617) 505-1818 | ebc@ebcne.org | @ebcne | www.ebcne.org