

# 11th Annual Sustainable Raritan River Conference and Awards Ceremony



## Resilience and the Raritan

**Richard Weeks Hall of Engineering**

Rutgers, The State University of New Jersey

Busch Campus

500 Bartholomew Road, Piscataway

**Friday, June 7, 2019**

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## Agenda

8:15 to 9:00 **Registration, Exhibits Open, Continental Breakfast and Networking**

9:00 to 9:30 **Welcome**

Sara J. Malone, Environmental Analysis and Communications Group, Edward J. Bloustein School of Planning and Public Policy, and Sustainable Raritan River Initiative, Rutgers

Dean Thomas N. Farris, School of Engineering, Rutgers

Dean Robert M. Goodman, School of Environmental and Biological Science, Rutgers

9:30 to 10:45 **Changing Climate Conditions**

*Based upon climate projections, what does the future of the Raritan region look like?*

Dr. Anthony J. Broccoli, Department of Environmental Sciences, SEBS

**What Do Changing Climate Conditions Mean for the Raritan Region?**

*How do physical, ecological, socio-economic, and engineered systems interact to give rise to changing climate risks in the Raritan region? What are the consequences of these interactions?*

Jeanne Herb, Environmental Analysis and Communications Group, Edward J. Bloustein School of Planning and Public Policy, Rutgers – “Social Vulnerability”

Dr. David Robinson, Department of Geography, School of Arts and Sciences, and New Jersey State Climatologist, New Jersey Agricultural Experiment Station, Rutgers – “Flooding Impacts”

Dr. Ali Maher, Department of Civil and Environmental Engineering, School of Engineering – “Infrastructure Impacts”

Dr. Richard G. Lathrop, Jr., Department of Ecology, Evolution & Natural Resources, School of Environmental and Biological Sciences, and Johnson Family Chair in Water Resources and Watershed Ecology, Rutgers – “Impacts to Natural Landscapes”

10:45 to 11:00 **Break, Fresh Coffee, Exhibits, Posters, Networking**

11:00 to 12:00 **Lightning Talks (order to be determined)**

*A series of very brief (5 minutes each) presentations that highlight current research and best practices focused on Raritan River, Basin and Bay resource issues. Each presentation is supported by a poster.*

Dr. Carrie Ferraro, Department of Marine and Coastal Sciences, School of Environmental and Biological Sciences, and Coastal Climate Risk and Resilience Initiative, Institute of Earth, Ocean, and Atmospheric Sciences, Rutgers (Lightning Talk Session Moderator)

Meredith Comi, NY/NJ Baykeeper – “Living Shoreline at NWS Earl, Raritan Bay”

Dr. Subhasis Giri, Department of Ecology, Evolution & Natural Resources, School of Environmental and Biological Sciences, Rutgers – “Assessing the Potential Impacts of Climate and Land Use Change on Water Fluxes and Sediment Transport in a Coupled Natural and Human System”

Dr. Monica A. Mazurek, Department of Civil and Environmental Engineering, School of Engineering, Rutgers – “Understanding the Raritan HUC-08 Hydrologic Dynamics and Flow Responses Using an Integrated ArcGIS/USGS National Map Modeling and Geospatial Analysis Framework”

Dr. Zeyuan Qiu, New Jersey Institute of Technology, with Dr. Steve W. Lyon and Ellen Creveling, The Nature Conservancy – “Defining a Threshold for Delineating Hydrologically Sensitive Areas in a Landscape: A Regional Perspective”

Dom Wirkijowski, Ph.D. Candidate, Department of Civil and Environmental Engineering, School of Engineering, Rutgers – “Identifying Raritan River Basin Bridges Vulnerable to Hydraulic Failure”

Carrie Martin, Master of City and Regional Planning Candidate, Edward J. Bloustein School of Planning and Public Policy, Rutgers – “A Watershed-Based Approach to Flood Hazard Mitigation in the Raritan Region”

Kathy Hale, New Jersey Water Supply Authority – “A Watershed Control Plan for Cryptosporidium”

Philip Sontag, Center for Advanced Infrastructure and Transportation, Rutgers – “Development of Point-of-Use Trace Metal Sensor and In-situ Extraction in New Jersey and New York Sediment”

Dr. David A. Robinson and Mathieu R. Gerbush, Department of Geography, School of Arts and Sciences and New Jersey Agricultural Experiment Station, Rutgers – “Monitoring Weather and Climate in the Raritan Basin”

Mehdi Rahmati and Dr. Dario Pompili, Department of Electrical and Computer Engineering, School of Engineering, Rutgers – “Near-real-time Water-quality Monitoring in the Raritan River using a Hybrid Network of Autonomous Vehicles and Static Stations”

12:00 to 1:45 **Lunch, Tours and Awards**

**Tours of select labs in the Richard Weeks Hall of Engineering:**

*Laboratories that will be included on these first-come-first-served tours include the Environmental Engineering Laboratory, the Urban and Coastal Water Systems Laboratory (Fluid Mechanics Lab, Hydro-environmental Informatics Lab), Urban Systems Decision Theater, and a view of the building's green roof (see descriptions at end of agenda). Sign up for tours at the registration desk.*

**Sustainable Raritan Awards Presenters:**

William Kibler, Raritan Headwaters Association

Greg Remaud, NY/NJ Baykeeper

1:45 to 2:45 **Good Things Happening in the Raritan Region**

*What strategies and/or interventions are being implemented to reduce the risks posed by climate change to the Raritan region?*

Jeanne Herb, Environmental Analysis and Communications Group, Edward J. Bloustein School of Planning and Public Policy, Rutgers (*Moderator*)

Joe Ruggeri, State NFIP Coordinator's Office, New Jersey Department of Environmental Protection – "Community Rating System"

Michael Kolber, Office of Coastal and Land Use Planning, New Jersey Department of Environmental Protection – "Resilient NJ Planning"

Nicholas Tufaro, Comprehensive Planning & the Environment, Middlesex County – "Resilient NJ Middlesex County"

Walter Lane, Planning Division, Somerset County – "Land Use Planning"

2:45 to 3:00 **Break, Exhibits, Posters, Networking**

3:00 to 4:00 **Hazard Mitigation Planning as an Opportunity to Advance Resilience**

*How can deliberate and collaborative planning serve to reduce vulnerabilities and risks and increase resilience in the Raritan region?*

John Miller, FEMA Integration Team, New Jersey Office of Emergency Management  
(*Moderator & presenter*)

Christopher Testa, Hazard Mitigation Unit, New Jersey State Police

Laurette Kratina, Strategic Planning, Somerset County

Virginia Michelin, Planning and Preservation, Morris County

4:00 to 5:00 **Closing Remarks, Poster Session, More Tours of Weeks Hall, Reception and Networking**

Agenda is subject to change.

For more information visit [www.raritan.rutgers.edu](http://www.raritan.rutgers.edu) or contact Sara Malone: 848.932.2720 or [sara.malone@rutgers.edu](mailto:sara.malone@rutgers.edu).

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### **Special Thanks to**

Chancellor Christopher Molloy, Rutgers  
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Dean Piyushimita (Vonu) Thakuriah,  
Rutgers Edward J. Bloustein  
School of Planning and Public  
Policy

Dean Robert Goodman, Rutgers School  
of Environmental and Biological  
Sciences

The Johnson Family Chair in Water  
Resources and Watershed Ecology

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*The 11th Annual Sustainable Raritan River Conference and Awards Ceremony is co-produced by the Sustainable Raritan River Initiative, Rutgers Coastal Climate Risk and Resilience initiative, Rutgers Climate Institute, and the New Jersey Climate Change Alliance. This 2019 conference explores the impacts of climate change on Raritan basin communities and environs, and will advance watershed planning efforts that promote resilience throughout the Raritan River, Basin and Bay.*



NJ Climate Change Alliance

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## **Exhibitors**

Joe Mish, Eagle Banding  
Lawrence Brook Watershed Partnership  
Lower Raritan Watershed Partnership  
Middlesex County, Office of Planning  
Princeton Hydro, LLC  
Raritan Headwaters Association  
Rutgers Facilities & Capital Planning – Green Infrastructure around Weeks Hall  
Rutgers Raritan River Consortium – 2019 Mini-Grant Recipients

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## Descriptions of Laboratories on Tours

The **Rutgers Environmental Engineering lab** focuses on applied microbiology and chemistry to improve water quality. Current and recent projects include microbial source tracking, advancing tools to monitor antibiotic resistant bacteria, end-of-pipe treatment for combined sewer overflows, biofiltration for drinking water treatment, monitoring opportunistic pathogens in drinking water, nitrogen removal in landfill leachate, and determining sources and sinks microplastic pollution. To achieve these aims an array of tools for molecular biology and organic chemistry are used.

### **Urban and Coastal Water Systems Laboratory (Fluid Mechanics Lab, Hydro-environmental Informatics Lab).**

Urban and Coastal Water System Laboratory, consisting of fluid mechanics lab and hydro-environmental informatics lab, is dedicated to addressing water resources engineering challenges through fundamental and applied research taking the advantage of our advanced lab, field, and computational facilities. The Fluid Mechanics Lab is equipped with a hydraulic, wave, and sediment flume, hydrology apparatus, volumetric hydraulic benches with a variety of experimental modules, various field flow and water quality monitoring devices, and a stormwater green infrastructure testing platform. The Hydro-environment Informatics Lab houses environmental modeling and informatics facilities with access to the leading-edge computational clusters, a real-time environment monitoring center, and a sensor fabrication space with testing equipment. Please direct questions about the laboratory and potential collaborations to Dr. George Guo (Fluids Lab) at [qguo@rutgers.edu](mailto:qguo@rutgers.edu) or Dr. Roger Wang (Hydro-environment Informatics Lab) at [rj.wang@rutgers.edu](mailto:rj.wang@rutgers.edu).

**Urban Systems Decision Theater.** The urban systems decision theater is an immersive visualization facility for visualizing and analyzing large urban/natural data sets and for visioning future smart and resilient communities.

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