



2024 National Capital Region Water Resources Symposium

Federal Funding Access for Emerging Water Resources and Water Infrastructure Challenges

Friday, April 12, 2024

8:00 a.m. – 5:00 p.m.

University of the District of Columbia (UDC)
UDC Student Center – Level 1
4200 Connecticut Ave., NW, Washington DC 20008

Introduction

This one-day symposium brings together experts from governmental agencies, academia, the private sector, and non-profits to present and discuss innovations in water research, technology, policy and management to respect and reflect the value of water in the National Capital Region, as well as nationally and internationally. We hope that you will make the most of the opportunity to meet other water resources professionals across the region.

The National Capital Region, encompassing the District of Columbia, and parts of Maryland, Virginia and West Virginia, has unique and challenging opportunities for sustainable & resilient management of water resources and infrastructure. The region makes up a large portion of the watershed for the Chesapeake Bay, the largest estuary in the U.S; contains rivers which provide for the water needs of nearly six million people; and hosts many organizations and entities that consider water resources as their primary focus. The role of the AWRA-National Capital Region Section is to focus water resources professionals on water resources issues in the National Capital Region.

The 2024 Water Resources Symposium theme is **Federal Funding Access for Emerging Water Resources and Water Infrastructure Challenges**, which is an essential topic that will be discussed by our featured speakers during the plenary session.



**April 12 NCR Water Symposium Program
UDC Student Center – Level 1**

8:00 a.m.	~~ REGISTRATION ~~	Auditorium
8:45 a.m.	Opening & Welcome <ul style="list-style-type: none">• Dr. Tamim Younos, AWRA-NCR Section President, Fellow Member AWRA; Founder & President, Green Water-Infrastructure Academy; Adjunct Professor, CAUSES, University of the District of Columbia• Dwane Jones, PhD, Dean, College of Agriculture, Urban Sustainability & Environmental Sciences (CAUSES), University of the District of Columbia• Norelis Florentino, P.E., MBA, PMP, Symposium Chair & Vice President AWRA-NCR Section, Board Member AWRA, Water Infrastructure Practice Leader and Program Manager, Kleinfelder	Auditorium
9:15 a.m.	Morning Keynote Ben Grumbles , Executive Director at The Environmental Council of the States (ECOS)	Auditorium
10:00 a.m. – 10:30 a.m.	~~ Break ~~ Please visit posters on display	Auditorium



<p>10:30 a.m. – 11:50 a.m.</p>	<p style="text-align: center;">Symposium Theme & Invited Panel</p> <p style="text-align: center;"><u>Federal Funding Access for Emerging Water Resources and Water Infrastructure Challenges</u></p> <p>Panelists:</p> <ul style="list-style-type: none"> • Michael Deane, Chief, Clean Water State Revolving Fund, U.S. Environmental Protection Agency (EPA) • Samantha A. Medlock, Assistant Administrator for Resilience Strategy, Federal Emergency Management Agency (FEMA) • Mary Kay Foley, P.E., PMP, Director, Maryland-Delaware-D.C. Water Science Center, U.S. Geological Survey (USGS) • Michelle Lorah, PhD Research Hydrologist, Maryland-Delaware-D.C. Water Science Center, U.S. Geological Survey (USGS) • Becky Hammer, Senior Attorney & Deputy Director of Federal Water Policy, Natural Resources Defense Council (NRDC) <p>Moderator: <i>Arash Massoudieh, PhD, Professor and Chair, Civil and Environmental Engineering, The Catholic University of America</i></p>	<p>Auditorium</p>
<p>Noon</p>	<p>Luncheon Keynote Speaker:</p> <ul style="list-style-type: none"> • Charles Fishman, Journalist and Author of “The Big Thirst” <p>Lunch (provided)</p>	<p>Auditorium</p>

Concurrent Sessions at a Glance

<p>1:00 p.m. – 1:30 p.m.</p>	<p style="text-align: center;">Poster Presentations and Awards</p>	<p>Auditorium</p>
<p>1:30 p.m. – 3:00 p.m.</p>	<p>Session 1 (Auditorium): Advances in Water Resources Management <i>Moderator: Shane Putnam, PhD, Hydrologist, Dewberry</i></p> <p>Session 2 (Meeting Room): Climate Change and Impacts <i>Moderator: Laura Chap, Senior Engineer, AtkinsRéalis</i></p>	<p>Auditorium</p> <p>Meeting Room</p>



3:00 p.m. – 3:30 p.m.	Coffee Break & Networking	Auditorium
3:30 p.m. – 4:45 p.m.	<p>Session 3 (Auditorium): Advances in Water Quality Management <i>Moderator: Keara Moore, Environmental Program Manager, Loudoun County Government</i></p> <p>Session 4 (Meeting Room): Water Workforce Forum <i>Moderator: David Conrad, Water Resources Policy Advisor, CFM, Association of State Floodplain Managers</i></p>	Auditorium Meeting Room

**Concurrent Sessions
1:30 p.m. – 3:00 p.m.**

<p>Session 1: Advances in Water Resources Management (Auditorium at 1:30 p.m.)</p> <p><i>Moderator: Shane Putnam, PhD, Hydrologist, Dewberry</i></p> <p>1:30 pm – 1:50 pm Prediction of Catchment-Scale Efficiency of Stormwater Control Measures in an Urban Watershed Using a Process-Based Modelling Approach Presenter: <ul style="list-style-type: none"> Arash Massoudieh, PhD, Professor and Chair, Civil and Environmental Engineering Department, The Catholic University of America </p> <p>1:50 pm – 2:10 pm Interagency Cooperation to Develop the DC Integrated Flood Model Presenters: <ul style="list-style-type: none"> Alireza Parhami, PE, Director Digital Transformation, DC Water Lily Cheng, LED, AP, CPHD, Flood Resilience Planner, DC Department of Energy and Environment Christine Estes, PE, PMP, CFM, Vice President, Engineering Department Manager – AECOM </p>	<p>Session 2: Climate Change and Impacts (Meeting Room at 1:30 p.m.)</p> <p><i>Moderator: Laura Chap, Senior Engineer, AtkinsRéalis</i></p> <p>1:30 pm – 1:50 pm Future Climate-Informed NOAA Precipitation Frequency Atlas of the United States Presenter: <ul style="list-style-type: none"> Mark Glaudemans, Chief, Water Resources Services Branch, National Weather Service </p> <p>1:50 pm – 2:10 pm Do Weather-Related Trends in Virginia Road Closures Correspond to Social Inequities and a Changing Climate? Presenter: <ul style="list-style-type: none"> P. J. Ruess, PhD, Postdoctoral Research Fellow, Virginia Climate Center, George Mason University </p> <p>2:10 pm – 2:30 pm Impact of Different Spatial Scales on Precipitation Trends and Patterns in the US Mid-Atlantic Region Presenters:</p>
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<p>2:10 pm – 2:30 pm Mapping Evapotranspiration and Recharge Flux from Satellite-Based Observations Presenter:</p> <ul style="list-style-type: none"> Asif Mahmood, Graduate Student, George Washington University <p>2:30 pm – 2:50 pm Mitigating Capacity Loss due to Sedimentation through Active Reservoir Management Presenters:</p> <ul style="list-style-type: none"> Josh Weiss, PhD, Director of Water Resources Innovations, Hazen and Sawyer Phoebe Aron, PhD, Principal Scientist, Hazen and Sawyer Hans Figueroa, PE, BCEE, ENVSP, Pre-Construction Manager, CSA Group 	<ul style="list-style-type: none"> Ridwana Binte Sharif, PhD, Graduate Research and Teaching Assistant, Department of Civil, Environmental, and Infrastructure Engineering, George Mason University Viviana Maggioni, PhD, Assistant Professor, Department of Civil, Environmental, and Infrastructure Engineering, George Mason University <p>2:30 pm – 2:50 pm Without Water There Is No Agriculture: USDA-NIFA—Working to Solve Agricultural Water Issues Presenter:</p> <ul style="list-style-type: none"> James Dobrowolski, PhD, National Program Leader for Water and Natural Resources, United States Department of Agriculture, National Institute of Food and Agriculture (USDA-NIFA)
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Break/Poster Awards – 3:00 p.m. – 3:30 p.m.

**Concurrent Sessions
3:30 p.m. – 4:50 p.m.**

<p>Session 3: Advances in Water Quality Management (Auditorium at 3:30 p.m.)</p> <p><i>Moderator: Keara Moore, Environmental Program Manager, Loudoun County Government</i></p> <p>3:30 pm – 3:50 pm Assessing Water Quality Trends and Impact of Clean River Projects in Restoring DC Water Ways</p>	<p>4:30 pm – 4:50 pm Re-Evaluating Toxics Impairments in the District of Columbia Presenters:</p> <ul style="list-style-type: none"> Timothy Schmitt, Principal and Senior Environmental Scientist, LimnoTech Jonathan Champion, Associate Director, Water Quality Division, Department of Energy & Environment
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Presenters:

- Tolessa Deksissa, PhD, Director of Water Resources Research Institute, University of the District of Columbia
- Maureen Mitchell, Program Manager, Anacostia River Keeper

3:50 pm – 4:10 pm

Comparing Methods for Evaluating Water Quality Indicator Bacteria: Case Study on Municipal Water and Harvested Rainwater.

Presenter:

- Brienna Anderson-Coughlin, PhD, Postdoctoral Associate, School of Public Health, Maryland Institute for Applied Environmental Health, University of Maryland

4:10 pm – 4:30 pm

Drinking Water Equity Issues in the US using Spatial Analytics

Presenter:

- Juneseok Lee PhD, PE, BC.WRE, F.EWRI, Associate Professor, Department of Civil and Environmental Engineering, Manhattan College, NY

Session 4: Water Workforce Forum (Meeting Room)

3:30 pm – 4:30 pm

Moderator: David Conrad, Water Resources Policy Advisor, CFM, Association of State Floodplain Managers

Solving the Water Workforce Crisis with Returnships and Other Career Re-Entry Programs

Presenter:

- Cat Shrier, Ph.D., P.G., Founder, WaterCitizen Institute
- Tami Forman, Founding Executive Director, PathForward

Poster Displays

Auditorium

A Comprehensive Look at Spatiotemporal Water Quality Variations in the Delaware River

- Gianna Gervino, Megan Heffernan, Sofia Rivera, and Isabel Vasquez, Department of Civil and Environmental Engineering, Manhattan College, Riverdale, NY

Adapting Agriculture to Climate Change: Integrated Assessment and Sustainable Strategies in Viticulture

- Janani Kandasamy, Viviana Maggioni, Sid and Reva Dewberry Department of Civil, Environmental, and Infrastructure Engineering, George Mason University, Fairfax, VA
- Christian Massari, Istituto di Ricerca per la Protezione Idro-geologica, Consiglio Nazionale delle Ricerche (CNR), Perugia, Italy
- Paul Houser, Department of Geography and Geoinformation Science, George Mason University, Fairfax, VA

Advancing the Circular Nexus Solution: Future Technologies and Methods for PFAS Remediation in the Reduce, Reuse, Recycle Framework

- Theresa Mason Ford and Tolessa Deksissa, University of the District of Columbia, Washington, D.C.

Augmenting Coastal Water Level Estimation by Merging Nadir-only Satellite Observations into a Storm Surge Model

- Soelem Aafnan Bhuiyan, Graduate Research Assistant, Viviana Maggioni, Associate Professor, and Celso Ferreira, Associate Professor, George Mason University, Fairfax, VA

Automated Trash Detection with Computer Vision

- Andrew Heller and Matthew Jacobs, Computer Science Department, The Catholic University of America, Washington, D.C.
- Jessica Beck, Anna Basola, and Jason Davison, Civil and Environmental Engineering Department, The Catholic University of America, Washington, D.C.

Drinking and Irrigation Water Quality in Nepal: A Scoping Review

- Alexander Choiniere, Leena Malayil, Suhana Chattopadhyay, and Nedelina Tchangalova, University of Maryland, College Park, MD

E. coli bacteria concentrations in District of Columbia Waters: An examination of environmental water quality predictors in 2023

- Claire Barlow, Cher Dallal, and Jaime Trevitt, Department of Epidemiology & Biostatistics, University of Maryland, College Park, MD
- Rachel Elizabeth Rosenberg Goldstein, Maryland Institute for Applied Environmental Health, University of Maryland, College Park, MD
- Maureen Mitchell and Petra Baldwin, Anacostia Riverkeeper, Washington, D.C.

Identification and categorization of microplastics in the waters of the Anacostia and Potomac Rivers, Washington, DC

- Ava Hanson, Alexis Lashbaugh, Andrew Wilps, and Dejun Chen, Environmental Metrology and Policy Program, Georgetown University, Washington, D.C.
- Jesse Meiller, Earth Commons Institute, Georgetown University, Washington, D.C.

Indicator Bacteria in PG County Stream Samples

- Riya Raikar, Brienna Anderson-Coughlin, PhD, Nick An, Taeilorae Levell-Young, and Rachel Elizabeth Rosenberg Goldstein, PhD, Water Quality, Outreach, and Wellness (WOW) Lab, Maryland Institute of Applied Environmental Health, University of Maryland School of Public Health, College Park, MD
- Priscila B. R. Alves, PhD and Marccus D. Hendricks, PhD, Stormwater Infrastructure Resilience and Justice (SIRJ) Lab, School of Architecture, Planning, and Preservation, University of Maryland, College Park, MD

Interdisciplinary Perspectives in Watershed Management and Water Ecosystems

- Bassan Nondohou, University of the District of Columbia, Washington, D.C.

Monitoring Trace Metals in DC Water Ways as a Tool for Water Quality Trend Analysis

- Munu Momodu, Tolessa Deksissa, Sania Rose, and Sebhat Tefera, University of the District of Columbia, Washington, D.C.
- Maureen Mitchell, Anacostia River Keeper, Washington, D.C.

Optimal Pump Operations in Building Water Systems

- Jesus Mendez and Juneseok Lee, Civil and Environmental Engineering, Manhattan College, Riverdale, NY
- Adell Moradi Sabzkouhi, Department of Hydraulic Engineering, Agricultural Sciences and Natural Resources University of Khuzestan, Iran.

Social and Environmental Vulnerability to Flooding: Investigating Cross-Scale Hypotheses

- Selena Hinojos and Caitlin Grady, Department of Engineering Management and Systems Engineering, The George Washington University, Washington, D.C.
- Lauren McPhillips, Departments of Civil and Environmental Engineering, Agricultural and Biological Engineering, The Pennsylvania State University, University Park, PA
- Peter Stempel, Department of Landscape Architecture, The Pennsylvania State University, University Park, PA



Temporal and Spatial Variability of Radon Emissions from Wetland and Upland Ecosystems at the Smithsonian Environmental Research Center

- Glory Ade Iorliam, Dr. Karen Knee (Thesis Advisor), American University Washington, D.C.

The Impact of Sanitary Sewer Overflows and Basement Backup Events on Bacterial Exposure in Urban Maryland from Summer - Fall 2023

- Kathryn P Dixon, PhD Student, Maryland Institute for Applied Environmental Health, School of Public Health, University of Maryland, College Park, MD

Urban Agriculture in Baltimore, Maryland: Documenting Current Irrigation Practices and Rainwater Harvesting

- Julie Yang, Marina Costa, Abriana Segal, Niya Khanjar, Rachel Rosenberg Goldstein, University of Maryland, College Park, MD
- Kelsey Brooks, Marcus Williams, Neith Little, and Andrew Lazur, University of Maryland Extension, College Park, MD

4:50 p.m. – 5:00 p.m.	Closing	Auditorium
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Registration

Please register online by Monday, April 1st for the early bird discount. Payment is accepted online by credit card or by cash/ check payment at the event.

Step 1: Go online to the link: <https://connect.clickandpledge.com/w/Form/d89a84e4-a60d-4d6c-9ddc-515785adf000>

Step 2: Fill out the registration fee section

Step 3: Fill out the contact information section

Step 4: Scroll down and click “SUBMIT” to complete the registration and payment.



Registration Fees (includes lunch & coffee breaks)	Professionals		Students	
	Member or Presenter/Moderator	Non- Member	Member or Presenter	Non- Member
On-line thru April 1, 2024	\$35	\$50	\$15	\$25
On-site April 12, 2024	\$50	\$75	\$25	\$35

Event Sponsor Fee
\$100

**The American Water Resources Association National Capital Region Section Leadership
2023-2024**

<p style="text-align: center;">AWRA-NCR Section Program Planning Committee</p> <p>Laura Chap David Conrad Tolessa Deksissa Norelis Florentino Arash Massoudieh David Powers Shane Putnam Siva Selvanathan Tamim Younos</p>	<p style="text-align: center;">Board of Directors</p> <p>President: Tamim Younos, PhD, Green Water - Infrastructure Academy</p> <p>President Elect: Shane Putnam, PhD, Dewberry</p> <p>Vice President/Program Committee Chair: David Powers, CDM Smith</p> <p>Vice President/Symposium Committee Chair: Norelis Florentino, Kleinfelder</p> <p>Outreach Chair: David Conrad, Consultant</p> <p>Membership Chair: Laura Chap, Atkins</p> <p>Secretary: Tolessa Deksissa, UDC; Arash Massoudieh, Civil and Environmental Engineering, Catholic University</p>
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	<p>Treasurer: Shane Putnam, PhD, Dewberry</p> <p>Website Chair: Siva Selvanathan, PhD, Dewberry</p> <p>Board Members-at-Large: Arash Massoudieh and Jason Davison, Civil and Environmental Engineering, Catholic University</p>
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American Water Resources Association
National Capital Region Section

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