

CONSTRUCTION AND ENVIRONMENTAL ASPECTS OF DATA CENTERS

Roundtable: Connecting Industry and Academia

Data centers are rapidly expanding as critical infrastructure for AI and the digital economy, yet face growing challenges in construction, maintenance, and environmental impact. This roundtable brings together industry, academia, and expert stakeholders to explore innovative strategies and develop sustainable solutions for resilient data center infrastructure.

October 6, 2025

8:00 AM – 4:00 PM

University of Maryland

A. James Clark Hall
Zupnik Forum, 1101a-b



A. JAMES CLARK
SCHOOL OF ENGINEERING

DEPARTMENT OF CIVIL &
ENVIRONMENTAL ENGINEERING



PROGRAM AGENDA

8:00 AM Registration/Breakfast

8:30 AM Welcome

Workshop Co-Chairs:

- *Nii Attoh-Okine, Professor and Chair, Department of Civil and Environmental Engineering; Birthe Kjellerup, Professor Civil and Environmental Engineering*

8:40– 9:10 AM Opening Remarks

Samuel Graham – Dean and Nariman Farvardin Professor, A. James Clark School of Engineering

David Reid – Delegate, HD – 28 Loudoun, Virginia House of Delegates

- *Learning from the past – Designing for the Future*

9:10 AM Session I

Alimatou Seck – Interstate Commission on the Potomac River Basin

- *Integrating Data Center Water Use into Regional Water Supply Planning*

Thomas B. Wild – Pacific Northwest National Laboratory

- *Future water use associated with U.S. data center service growth*

Navid Ariaban – FTI Consulting – Capital Projects & Assets

- *Optimization of the Capital Project End to End Lifecycle in the Digital Infrastructure Arms Race*

9:55 – 10:10 AM Questions

10:10 – 10:20 AM Break

10:20 AM Session II

Alexander Erb, Menard USA – Pittsburgh Region

- *Design and Construction of Ground Improvement Solutions for Data Centers*

Mary Ellen Large, P.E., BC.GE, Nicholson Construction Company

- *Design and Construction of Deep Foundation Solutions for Data Centers*

Anna Privette, Center for Secure Water, University of Illinois at Urbana-Champaign

- *Assessing and Managing the Water Footprint of Data Centers*

PROGRAM AGENDA

Mike Dempsey and Mike Conner, Eastern Atlantic States Regional Council of Carpenters

- *Workforce Development and Hiring Needs in Data Center Construction*

Kiewit Construction

- TBD

11:35– 11:50 PM Questions

11:50 – 1:00 PM Lunch

1:00 PM – 1:30 PM Panel Discussions

1:30 – 1:50 PM Guest Speaker

Kelly Schulz, CEO Maryland Tech. Council

- *Respecting Communities, Powering our Economy*

1:50 PM Session III

Jan Drgona, Johns Hopkins University

- *Scientific Machine Learning for Modeling and Control of Data Centers*

Jha, MKJHA Consulting, Inc.

- *Securing AI Workloads in Next-Generation Data Centers: Cybersecurity, Resource Optimization, and Infrastructure Resilience*

Stephanie Morris, Pacific Northwest National Laboratory

- *The multi-sector dynamic implications of future U.S. data center service growth*

2:35 – 2:50 PM Questions

2:50 – 3:00 PM Break

3:00PM Session IV

Rachel Schwaab, Ramboll, Water Infrastructure & Climate Adaptation

- *Sustainable Water Supply in Data Center Operations*

Yunho Hwang, University of Maryland, Mechanical Engineering

- *Waste Heat Utilization for Sustainable Data Center*

Laura Gage and James Folsom, Arxada

- *Development of a Repeatable Three-Species Biofilm Model Representative of Cooling Tower Microbial Communities for Disinfection Studies*

3:45 – 4:00 PM Questions

4:00 PM Closing



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