

Open Plenary Lecture with Charles J. Vörösmarty

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The keynote plenary speaker of the IAD Conference will be hydrologist Charles J. Vörösmarty, Founding Director of the Environmental Sciences Initiative at the CUNY Advanced Science Research Center in New York. His English-language presentation will take place on **10 August at 11:15 a.m.** and will be available both in person and online via **YouTube Live stream**.

LINK: <https://youtube.com/live/33i5qth1Xlc?feature=share>

Charles J. Vörösmarty is one of the leading figures in international hydrological and environmental research. His work focuses on the interactions between the water cycle, climate change, and human activities, as well as on issues of global water security. He also maintains close professional ties with Hungary: since 2018, he has been involved in collaborative research projects with Hungarian partners and has contributed to initiatives exploring the integrated application of nature-based, engineering, and institutional solutions. In 2022, he was awarded an honorary doctorate by the University of Public Service.

In his plenary lecture, **“Sustainable Re-Development: Three Essential Infrastructures for Regional and Global Resiliency,”** Professor Vörösmarty will examine the relationship between sustainable development and regional resilience. Using water security as a case study, he will explore how the coordinated application of nature-based, engineering, and institutional infrastructures can help address the sustainability challenges of the 21st century. **Conference website:** <https://iad2026.uni-nke.hu/>

Abstract of the lecture:

Sustainable re-Development: Three Essential Infrastructures for Regional and Global Resiliency

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Sustainable development depends on creating a resilient planet serving the needs of both humankind and nature. Climate change is but one of an ensemble of growing environmental stressors that will define the future state of human health and economic well-being as well as the sustainability of the biosphere. Water security is another challenge, which demands reliable water resources, yet their traditional management has broadly failed to avoid environmental degradation and contain infrastructure costs. Using water resources as emblematic of other modern sustainability challenges, this talk assesses the global-scale feasibility of combining natural capital with engineering-based (green-gray) approaches to achieve water security in the 21st century, and leads to the conclusion that a third type of infrastructure—human institutions—are an essential part of creating durable solutions. Policies that support blended green-gray-human approaches offer a pathway to future global water security but will require a strategic commitment to preserving natural capital through wise management. Absent such stewardship, the costs of water resource infrastructure and ecosystem services are likely to rise substantially and frustrate efforts to attain universal, sustainable, and resilient water security.

