



U.S. Army Corps of Engineers Institute for Water Resources

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For More Information:
+1 (703) 428-9090

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Professor Eugene Z. Stakhiv Named USACE IWR Maass-White Visiting Scholar in Residence

ALEXANDRIA, VIRGINIA. IWR is delighted to announce the appointment of Dr. Eugene Z. Stakhiv as the Institute's Arthur Maass-Gilbert White Fellow for Fiscal Year 2015. This fellowship program was established in 2001 to honor Professors Arthur Maass (Harvard University) and Gilbert White (University of Colorado), perhaps the two leading 20th Century intellectuals in water resources who established much of foundation for modern water resources planning and management in the United States. Both Arthur Maass and Gilbert White donated their collected works to a library established in their honor at the Institute for Water Resources (IWR) in collaboration with the U.S. Army Corps of Engineers (USACE) Office of History and the USACE Library.

Dr. Stakhiv is currently an Associate Research Scientist in the Department of Geography and Environmental Engineering at Johns Hopkins University (JHU), where he received his PhD. He joins a long list of notable water resources academicians and practitioners who have served as Maass-White Fellows at IWR, including, in chronological order starting in 2002: Dr. Peter Loucks (Cornell University); Dr. Peter Rogers (Harvard University); Dr. Len Shabman (Resources for the Future); Dr. Gerry Galloway (University of Maryland); Dr. Yacov Haimes (University of Virginia); Dr. Kenneth Strzepek (University of Colorado, now at Massachusetts Institute of Technology); and Dr. Denise Reed (University of New Orleans, currently Chief Scientist at the Water Institute of the Gulf).

Dr. Stakhiv and these other scholars have contributed substantially to the evolution of the Corps' planning, evaluation and analytical procedures which provided for the practical implementation of the principles laid out by Professors Maass and White within a contemporary context.

Professor Stakhiv spent 35 years at IWR, after working seven years on a series of river basin studies for the Corps' North Atlantic Division (NAD, 1969-76). While at NAD, he had the privilege of working with Arthur Maass, Gilbert White and Abel Wolman, who were members of the North Atlantic Regional (NAR) water resources study advisory board. They provided the intellectual guidance for applying the evolving set of planning and evaluation principles that came to be known as the U.S. Water Resources Council 'Principles and Standards' in 1973, but were first developed and applied as part of the NAR study (1968-72).

The NAR study was the first series of river basin studies authorized by Congress as part of the Water Resources Planning Act of 1965, which also established the U.S. Water Resources Council. Two young Harvard graduates, Peter Rogers and Peter Loucks, were consultants to the NAR study, and Dr. Stakhiv worked closely with them on a hydrologic optimization model which included low flow constraints for environmental flows for each of the 21 major river basins covered in the study.

After the NAR Study was completed in 1972, Dr. Stakhiv went on to lead the Washington Metropolitan Area Water Supply Study of the Northeastern U.S. Water Supply (NEWS) Study (1973-75), and the New York Metropolitan Area Water Supply Study (1975-76).

During his career at IWR, Dr. Stakhiv served as Chief of the Policy and Special Studies Division, where he was involved in numerous policy-oriented research efforts, including five major national studies, which he managed. Prior to his retirement from the Corps on 1 February 2013, he served for 12 years as U.S. Director of two major studies for the International Joint Commission – the *Lake Ontario-St. Lawrence R study* and the *International Upper Great Lakes Study*. These two studies were successful in implementing regulation plans for the Great Lakes, both for contemporary conditions, as well for adaptation to various climate scenarios.

Concurrently, he was Technical Director of the UNESCO International Center for Integrated Water Resources Management (ICIWaRM). He initiated the idea for ICIWaRM, when he served as first Science Advisor to Louise Oliver, U.S. Ambassador to UNESCO in 2004. In 2003, he served in Iraq as the senior advisor, and de facto Minister of the Ministry of Irrigation – and managed a workforce 18,000 people to restore the marshes and upgrade all the infrastructure needed to generate power in Iraq and irrigation over three million hectares. Dr. Stakhiv was awarded the Army's Meritorious Civilian Service medal in 2004 for his work with the Ministry in Iraq.

While at IWR, Dr. Stakhiv served as co-chair and lead author for the first three United Nations Intergovernmental Panels on Climate Change, for which he shares a Nobel Prize (1989-2007). He has extensive international experience, serving as advisor to the water ministries of Iraq, Bangladesh, Ukraine, Armenia, Afghanistan and the Aral Sea Basin countries. Upon his retirement from USACE IWR, Dr. Stakhiv received a second Meritorious Civilian Service Medal from The Honorable Dr. Joe Westphal, Under Secretary of the Army, and Lieutenant General Thomas Bostick, Commander of USACE and Chief of Engineers.

Dr. Stakhiv has a broad background in water resources planning and management, including extensive water and environmental project planning experience in the U.S., Bangladesh, the Aral Sea Basin, Iraq, Afghanistan, Armenia and Ukraine. Currently he is working with the UNECE and ICIWaRM on a Ukraine-Moldova Trans-boundary Dneister River project. He was co-chair and lead author on the first three UN Intergovernmental Panels on Climate Change, and currently serves on the Steering Committee of the Global Water Partnership. Also, significantly, he was a founding member and inaugural Technical Director of IWR's International Center for Integrated Water Resources Management (ICIWaRM), under the auspices of UNESCO.

Currently, at JHU, Professor Stakhiv is teaching two courses in the Environmental Science and Policy Program: No. [420.635.51](#) *Integrated Water Resources Management*, and a section of No. [420.680.51](#) on *Special Topics in Environmental Sciences & Policy* and has the subtitle *Practical Engineering Approaches to Climate Adaptation*.

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Professor White argued in his 1942 dissertation, *Human Adjustment to Flood*, that non-structural flood damage reduction measures should be used if their costs and impacts compared favorably to structural measures. He is considered the father of floodplain management.

Professor Maass published *Muddy Waters* in 1951, an exposé of the relationship among the Corps, Congress and special interests. He led the Harvard Water Program from 1955 to 1965. In 1962, he and others from the Program published *Design of Water Resources Systems; New Techniques for Relating Economic Objectives, Engineering Analysis, and Governmental Planning*. This book promoted the use of simulation modeling and multi-objective analysis and furnished many of the ideas that were later incorporated into *Principles and Guidelines*.