

O.E. MEINZER AWARD

Presented to

D. Kip Solomon

Anaheim, California, USA
September 2024



Hydrogeology Division
The Geological Society of America

D. Kip Solomon



D. Kip Solomon is a professor at the University of Utah where he currently holds the Brown Presidential Chair and is the Interim Chair of the Department of Geology and Geophysics. His education includes a Ph.D. (1992) in Earth Sciences from the University of Waterloo, an M. S. (1985) in Geology from the University of Utah, and a B.S. (1979) in Geological Engineering from the University of Utah. He was previously employed by Oak Ridge National Laboratory in various positions ranging from Research Staff to Groundwater Group Leader. Special appointments include: National Research Council Committee on Improving Practices for Regulating and Managing Low-Activity Radioactive Waste, National Research Council Committee on Conceptual Models in Fractured Unsaturated Zones, United States Representative for various Advisory Groups at the International Atomic Energy Agency, and the editorial board for the journal Ground Water. He was also appointed as the Darcy Lectures by the National Groundwater Association and gave more than 50 lectures around the world on the use of dissolved gas tracers in groundwater. He was the Chair of the Hydrogeology Division of GSA in 2006 and has complete numerous expert missions for the International Atomic Energy Agency.

Dr. Solomon's research includes the use of environmental tracers to evaluate groundwater flow and solute transport processes in local- to regional-scale aquifers. In particular he has help develop the use of dissolved gases including helium-3, CFCs and SF₆ to evaluate groundwater ages, travel times, location and rates of recharge, and the sustainability of groundwater resources. He constructed and operates one of only a few labs in the world that measures noble gases in groundwater. His research results have been documented in more than 160 journal articles, book chapters, and technical reports.

O.E. MEINZER AWARD

I am both honored and greatly pleased to introduce Professor Kip Solomon as the 2024 recipient of the O.E. Meinzer Award in recognition for developing the $^3\text{H}/^3\text{He}$ method for groundwater dating.

Kip Solomon was a pioneer in developing the sampling and analytical techniques to transform $^3\text{H}/^3\text{He}$ dating from a dream to reality. In doing so, he fundamentally changed our ability to quantify the age and residence times of the subsurface water stores on which billions of people worldwide rely. The techniques that Professor Solomon pioneered provide independent metrics that can be used to construct and evaluate physical hydrological models underlying sustainable yield calculations, contaminant transport, and resilience to climate change. He has also used $^3\text{H}/^3\text{He}$ dating to demonstrate that the process of runoff generation is much more complex than was thought even a decade ago, involving intricate three-dimensional flow paths and widely variable, and often quite long, residence-times.

The method was initially proposed in the 1960's, but was not analytically feasible at that time, or for a long time after. It was not until Solomon's landmark 1993 paper that $^3\text{H}/^3\text{He}$ graduated from being a 'wish and a hope' to the status of a solidly established dating technique. Since 1993 Kip has forged ahead with an ever-increasing range of impressive applications for the method. The $^3\text{H}/^3\text{He}$ method is amazingly powerful.

In addition, for decades, Kip and his laboratory have served our community through analyses, interpretation, and training in these groundbreaking analyses.

The advent of $^3\text{H}/^3\text{He}$ dating can be likened to the opening of eyes formerly blind to now being able to see the quantitative dynamics of groundwater systems. Thanks so much, Kip!

—Fred M. Phillips, *Citationist*

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The O.E. Meinzer Award is presented annually to the author or authors of a published paper or body of papers of distinction that advance the science of hydrogeology or some closely related field.

PAST RECIPIENTS

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2022	Beth Louise Parker	1989	Stanley N. Davis
2021	Mark Person	1988	Isaac J. Winograd
2020	William Woessner	1987	Lynn W. Gelhar
2019	Bridget Scanlon	1986	T.N. Narasimhan
2018	Shemin Ge	1985	John A. Cherry
2017	Donald O. Rosenberry	1984	Franklin W. Schwartz
2016	Andrew T. Fisher		J. Leslie Smith
2015	Brian Berkowitz	1983	Edward P. Weeks
2014	Charles F. Harvey	1982	Gordon D. Bennett
2013	Chunmiao Zheng	1981	Richard L. Cooley
2012	David L. Parkhurst	1980	John M. Sharp, Jr.
2011	Graham E. Fogg		P.A. Domenico
2010	Mary Jo Baedeker	1979	William R. Nelson
2009	W. Mike Edmunds	1978	Jacob Rubin
2008	Donald C. Thorstenson		Ronald James
2007	Shaun K. Frape	1977	Shlomo P. Neuman
2006	Karsten Pruess		Paul A. Witherspoon
2005	Donald I. Siegel	1976	John D. Bredehoeft
2004	Ghislain de Marsily		George F. Pinder
2003	Steven E. Ingebritsen	1975	R. Allan Freeze
2002	Thomas C. Winter	1974	William Back
2001	Fred M. Philips		Bruce B. Hanshaw
2000	Francis H. Chapelle	1973	Joseph F. Poland
1999	Edward A. Sudicky		George H. Davis
1998	Mary P. Anderson	1972	George B. Maxey
1997	Leonard F. Konikow	1971	Victor T. Stringfield
1996	John L. Wilson	1970	Hilton H. Cooper, Jr.
1995	Grant Garven	1969	Madhi S. Hantush
1994	Steven M. Gorelick	1968	Robert W. Stallman
1993	Niel L. Plummer	1967	C.L. McGuinness
1992	Craig M. Bethke	1965	Józef Tóth
1991	Christopher E. Neuzil		