

SCOTT W. TYLER
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EDUCATION

B.S. Mechanical Engineering, University of Connecticut; Storrs, Connecticut. June 1978

M.S. Hydrology, New Mexico Institute of Mining and Technology; Socorro, New Mexico
Thesis Title: *Field Results of Borehole Infiltration Tests*. June 1983

Ph.D. Hydrology/Hydrogeology, University of Nevada, Reno, Nevada
Dissertation Title: *Fractal Applications to Soil Hydraulic Properties*. August 1990

PROFESSIONAL ASSIGNMENTS

2010-Present **Director**, Centers for Transformative Environmental Monitoring Programs
2011-Present **Foundation Professor**, Department of Geological Sciences and Engineering
2005 **Visiting Professor**: Catholic University of Chile and EPFL, Lausanne Switzerland
2000-2005 **Professor and Director**, Department of Natural Resources and Environmental Sciences
and the Department of Geological Sciences, Graduate Program of Hydrologic Sciences
1998 - 1999 **Professor**, Desert Research Institute and Department of Environmental and Resource
Sciences,
1992 - 1998 **Associate Professor**, Desert Research Institute and Department of Environmental and
Resource Sciences
1986 - 1992 **Assistant Research Soil Scientist**, Water Resources Center, Desert Research Institute,
University and Community College System of Nevada.
1983 - 1985 **Staff Hydrologist**, Water Resources Center, Desert Research Institute
1982 - 1983 **Research Engineer**, Battelle Pacific Northwest Laboratory.

PROFESSIONAL APPOINTMENTS (PARTIAL LISTING)

2013-2014 Chairman of the Board of Directors of the Consortium for the Advancement of
Hydrologic Sciences (Board member since 2009)
2007-2008 Chairman, Hydrogeology Division of the Geological Society of America
2005-2009 Editor, Water Resources Research (member of editorial board from 1995-2009)
2009-2011 National Academy of Sciences Panel member: Challenges and Opportunities in the
Hydrologic Sciences
1994-1995 National Academy of Sciences Panel member (1994-1995) to review the proposed low-
level nuclear waste disposal site at Ward Valley, California.

AWARDS AND RECOGNITION

Fellow of the American Geophysical Union (2015)
Recipient, Hydrology Days Lecturer, Colorado State University (2015)
Recipient John Hem Award for Excellence in Science and Engineering, National Ground Water
Association (2013)
University of Nevada Foundation Professor (2012)
Geological Society of America Hydrogeology Division Outstanding Service Award (2010)
Mackay School of Mines Faculty Achievement Award (2010)
University of Nevada System Regents Outstanding Graduate Advisor (2005)
Fellow of the Soil Science Society of America and Agronomy Society of America (2003)
Fellow of the Geologic Society of America (1997)

Distinguished Darcy Lecturer, National Ground Water Association (1999)
University and Community System of Nevada Regents Outstanding Employee Award (1999)
University and Community System of Nevada Regents Outstanding Employee Award (1998)

RESEARCH SUMMARY

Dr. Tyler has conducted field research on hydrologic cycles in a wide variety of climates and environments, and has extensive experience developing interdisciplinary field teams and field experiments. Recently, he has become a leader in the application of Raman spectra fiber-optic temperature measurements (DTS), working on shelf glacier basal melting, stream/groundwater interactions, soil temperature and mixing in deep lakes and is the co-director of NSF's Center for Transformative Environmental Monitoring Programs (www.ctemps.org). He has conducted research on vadose zone transport and the development of paleoclimate reconstructions from deep arid unsaturated zones, conducted quantitative assessment of root dynamics using micro-Computed X-ray Tomography (XMT), design and operation of salinity-gradient solar ponds coupled with membrane distillation for the development of low-cost desalination and the impacts of forest management practices on snow hydrology in snow-dominated Mediterranean climates.

HIGHLIGHTED PUBLICATIONS (109 Total)

Fisher, A.T., K. Mankoff, S. Tulaczyk, S. Tyler, N. Foley, and the WISSARD Science Team. (2015). High Geothermal Heat Flux Measured below the West Antarctic Ice Sheet. *Science Advances*. DOI: 10.1126/sciadv.1500093

Hausner, M. B., K. P. Wilson, D. B. Gaines, F. Suarez, G. Gary Scopettone, and S. W. Tyler (2014), Life in a fishbowl: Prospects for the endangered Devils Hole pupfish (*Cyprinodon diabolis*) in a changing climate, *Water Resour. Res.*, doi: 10.1002/2014WR015511.

Kobs, S., D.Holland, V. Zagorodnov, A. Stern, and S. Tyler (2014), Novel monitoring of Antarctic ice shelf basal melting using a fiber-optic distributed temperature sensing mooring, *Geophys. Res. Lett.* 41, doi:10.1002/2014GL061155.

Tyler, S. W., J.S. Selker, M.B. Hausner, C.E. Hatch, T. Torgersen and S. Schladow (2009), Environmental temperature sensing using Raman spectra DTS fiber optic methods. *Water Resources Res* doi: 10.1029/2008WR007052.

Hartsough, P., S.W. Tyler, J. Sterling and M. Walvoord (2001), A 14.6 kyr record of nitrogen flux from desert soil profiles as inferred from vadose zone pore waters. *Geophysical Research Letters*. Vol. 28(15): 2955-2958.

Cooper, C., R.J. Glass and S.W. Tyler (2001), The effect of buoyancy ratio on the development of double diffusive finger convection in a Hele-Shaw cell. *Water Resources Research*, 37(9): 2323-2331.

Tyler, S.W., J. B. Chapman, S. Conrad, D. Hammermiester, D. Blout, J. Miller, M. Sully and J. Ginanni (1996), Soil Water Flux on the Nevada Test Site: Temporal and Spatial Variations over the Last 120,000 Years. *Water Resources Research*. Vol. 32(6): 1481-1499.

Wheatcraft, S.W. and S.W. Tyler (1988), An Explanation of Scale-Dependent Dispersivity in Heterogeneous Aquifers using Concepts of Fractal Geometry. *Water Resources Research*, Vol. 24(4): 566-578.

PROFESSIONAL AFFILIATIONS

American Geophysical Union
Geological Society of America
Soil Science Society of America
International Soil Science Society