

John S. Selker  
Oregon State University Dept of Biological and Ecological Engineering  
Corvallis, Oregon, USA

### **History of Academic Employment**

May 2017 - present	Distinguished Professor, Oregon State Univ., Corvallis, OR.
July 2000 – May 2017	Professor, Oregon State University, Corvallis, OR.
July 1995 - June 2000	Associate Professor, Oregon State University, Corvallis, OR.
July 1991 - June 1995	Assistant Professor, Oregon State University, Corvallis, OR.
Jan 1991 - June 1991	Post-Doctoral Research, Cornell University, Ithaca NY.
Sept 1988 - Dec 1990	Ph.D. Unstable Flow. Cornell University, Ithaca, New York.
Sept 1987 – Dec 1988	M.S. Precipitation and Erosion. Cornell University, Ithaca, NY.

### **History of Professional Experience**

2008-present	Owner, SelkerMetrics, environmental sensing (annual sales \$250,000)
1990-present	Owner, Childers, Selker and Associates, Engineering Consulting
1986 - 1990	Consulting: Electric Power Research Institute (EPRI); Sensor Link Corp; Intermediate Technology Development Group; German Agency for Technical Coop.; Volunteers in Tech. Assist.; UNICEF; CARE
1984	Optoelectronics design, Mouse Systems Corp., Santa Clara, CA.
1982 - 1983	Electronics Design, U.S. Dept. of Agriculture, Corvallis, OR.
Summer 1979 & 80	Analog and Digital Electronics design, Brookhaven & SLAC.

### **Degrees**

Ph.D., Agricultural Engineering, Hydrology, Cornell University, Ithaca, New York, 1991.  
M.S., Agricultural Engineering, Hydrology, Cornell University, Ithaca, New York, 1989.  
B.A., Physics (thesis), Reed College, Portland, Oregon, 1981.

### **Narrative of Research Experience**

**Key activities:** professor (25% teaching; 65% research; 10% service); builder of scientific community in USA and Africa; translation of hydrologic research to practice through consulting. Co-directs (with Dr. van de Giesen) the Trans-African Hydro-Meteorological Observatory (TAHMO.org) in 23 countries we have installed 625 GSM weather stations across. Placed in secondary schools, provides basis for science and math education, and data for climate science and management. Co-PI (with Dr. Tyler) of the Center for Transformative Environmental Monitoring Programs (CTEMPs.org): trained over 600 people to use fiber optic and unmanned aerial vehicles in environmental sensing, leading to publication of over 100 peer-review publications under NSF funding since 2009. International work from Canada to Chile in the Americas; Somalia to Malawi and Senegal in Africa; Sri Lanka, Israel, China, and 10 European countries. Water resources research focus (e.g., editor of WRR 2009-2013), with substantial work in vadose zone processes, rainfall statistics, instrument design, irrigation and water systems, mechanical design, and rural development. Published 215 peer-reviewed articles (Google h-index =52, 82 in AGU journals), spanning: hydro-ecological restoration, erosion, evaporation, rainfall, streamflow, vadose-zone processes, snow physics, and environmental monitoring. Author of one US patent. Currently writing second textbook, to be published open-access. Leads the Openly Published Environmental Sensors Laboratory (OPeNS, Open-

Sensing.org) where 40 undergraduates lead the development of new open-source environmental sensing technologies.

**Key Publications (of 215, google h = 52; google citations = 10,100)**

Selker, J.S., L. Thévenaz, H. Huwald, A. Mallet, W. Luxemburg, N. van de Giesen, M. Stejskal, J. Zeman, M. Westhoff, and M.B. Parlange. Distributed Fiber Optic Temperature Sensing for Hydrologic Systems. *Water Resour. Res.* DOI:10.1029/2006WR005326. 2006. (550 citations).

Selker, J.S., N. van de Giesen, M. Westhoff, W. Luxemburg, and M. Parlange. Fiber Optics Opens Window on Stream Dynamics. *Geophys. Res. Let.* DOI:10.1029/2006GL027979. 2006. (283 citations).

Selker, J.S., J. Y. Parlange, and T.S. Steenhuis. Fingered Flow in Two Dimensions Part 2: Predicting Finger Moisture Profile. *Water Resour. Res.* 28(9); 2523-2528. 1992. (190 citations).

Rupp, D.D. and J.S Selker. On the use of the Boussinesq equation for interpreting recession hydrographs from sloping aquifers. *Water Resour. Res.* DOI:10.1029/2006WR005080. 2006. (131 citations).

Selker, J.S. Analytical estimation show low depth-independent water loss due to vapor flux from deep aquifers, *Wat. Resour. Res.*, 53, 4562–4563, doi:10.1002/2017WR021014. 2017.

Nash, C, P. Noel, G. Grant, and J.S. Selker, A physical framework for evaluating net effects of wet meadow restoration on late summer streamflow, *Ecohydrology*, 11:e1953. <https://doi.org/10.1002/eco.1953>, 2018.

Selker, J.S., Further analysis of the development of vadose water profiles over deep aquifers with minimal recharge. *Water Resources Research*, 55, 7929– 7938. <https://doi.org/10.1029/2018WR023424>, 2019.

**Selected Honors and Awards**

Young Faculty Fellow, U.S. Department of Energy, \$100,000 over two-year period (1992); Gamma Sigma Delta Agricultural Honor Society (1994); State of Oregon ESP Team Award for participation in water quality programs in Lane County (1994); OSU Search for Excellence Award, OSU Extension Service (1994); OSU Nominee for NSF Presidential Faculty Fellow (of two on campus) (1995); OSU Search for Excellence Award, OSU Extension Service (1997); Cited by Transactions of the ASAE for excellence in Editorial Review (1998); 2010 Community Service Award, Consortium of Universities for the Advancement of Hydrological Sciences Incorporated (CUAHSI); 2013 Fellow of the American Geophysical Union; 2013 National Ground Water Association Jim Heim Award for Science and Technology; Century Medallion, Univeristy of Concepcion, Chile, 2020. Invited Lectures: 50 in 12 countries.

**Professional Society Memberships**

American Society for the Advancement of Science (Life Member); American Geophysical Union (Life Member), Soil Science Society of America.