Shirley Anne Papuga

formerly Shirley Anne Kurc

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History of Employment

Associate Professor	**Wayne State University**, Detroit, MI *Department of Geology & Environmental Science Program*	2017-present
Associate Professor	**University of Arizona**, Tucson, AZ • *School of Natural Resources & the Environment* • *Department of Hydrology & Water Resources* • *Department of Soil, Water & Environmental Science*	2013-2017
Program Chair	**University of Arizona,** Tucson AZ *Watershed Management & Ecohydrology Program* *School of Natural Resources & the Environment*	2013-2016
Assistant Professor	**University of Arizona,** Tucson AZ • *School of Natural Resources & the Environment* • *Department of Hydrology & Water Resources* • *Department of Soil, Water & Environmental Science*	2007-2013
Post-Doctoral Scholar	**University of Michigan,** Ann Arbor, MI *School of Natural Resources*	2006
G Research Assistant	**University of Colorado,** Boulder, CO *Department of Geological Sciences*	2002-2006
G Research Assistant	**New Mexico Tech,** Socorro, NM *Department of Earth & Environmental Science*	2000-2002
G Research Assistant	**University of Virginia,** Charlottesville, VA *Department of Environmental Sciences*	1998-2000
G Research Assistant	**Los Alamos National Lab,** Los Alamos, NM *Earth & Environmental Science*	1998
UG Research Assistant	**Los Alamos National Lab,** Los Alamos, NM *Earth & Environmental Science*	1997

Degrees

2006 PhD	Geological Sciences (Hydrology Focus)	University of Colorado – Boulder, CO
1998 BA	Mathematics *Cum Laude*	Kalamazoo College – Kalamazoo, MI

Research Narrative

My research focuses on improving our understanding of ecohydrologic processes and their role in land surface – atmosphere interactions in natural and human-impacted environments, especially as it relates to global change. The majority of my research has made contributions to building paradigms in semiarid regions. Recently I have pivoted to using what we have learned in water-limited regions to better understand the role of ecohydrologic processes in more energy-limited urban systems. I have always had the pleasure of working at the interfaces of many disciplines. There is no question that working at these interfaces can be challenging with respect to, for instance, time and space scales (e.g. geologic time versus the lifecycle of a plant). However, bridging these disciplines is highly rewarding because it has enabled me to help address complex global change issues, which increasingly intertwine social, economic and environmental dimensions. I enjoy working on these issues with teams that bring together researchers from physical, biological, and social sciences.

Key Publications:

The publications I selected below highlight different types of contributions I have made. These include examples of those for which I was the lead author, those for which one of my students was the lead author, and those for which I was part of a collaborative and interdisciplinary team.

Note: underline indicates a student for whom I served as the major advisor with the superscript denoting the student degree seeking status at the time of initial manuscript preparation.

Tague, C.L., **Papuga, S.A.,** Gerlein-Safdi, C., Dymond, S., Morrison, R.R., Boyer, E.W., Riveros-Iregui, D., Agee, E., Arora, B., Dialynas, Y.G., Hansen, A., Krause, S., Kuppel, S., Loheide II, S.P., Schymanski, S.J., and S.C. Zipper. (2020) Adding our leaves: A community-wide perspective on research directions in ecohydrology. *Hydrological Processes*.

Luketich, A.M.[MS], **Papuga, S.A.**, and M.A. Crimmins. (2019) Ecohydrology of urban trees under passive and active irrigation in a semiarid city. PLOS ONE 14, (11), e0224804.

Brantley, S.L., Eissenstat, D.M., Marshall, J.A., Godsey, S.E., Balogh-Brunstad, Z., Karwan, D.L., **Papuga, S.A.**, Roering, J., Dawson, T.E., Evaristo, J., Chadwick, O., McDonnell, J.J., and K. Weathers. On the role of trees in building and plumbing the Critical Zone, *Biogeosciences* 14, 5115–5142.

Novick, K.A., Ficklin, D.L., Stoy, P.C., Williams, C.A., Bohrer, G., Oishi, A.C., **Papuga, S.A.**, Blanken, P.D., Noormets, A., Sulman, B.N., Scott, R.L., Wang, L. and R.P. Phillips. (2016) The increasing importance of atmospheric demand for ecosystem water and carbon fluxes. *Nature Climate Change*: 6:1023-1027.

Field, J.P., Breshears, D.D., Law, D.J., Villegas, J.C., López-Hoffman, L. Brooks, P.D., Chorover, J., Barron-Gafford, G.A., Gallery, R.E., Litvak, M.E., Lybrand, R.A., McIntosh, J.C., Meixner, T., Niu, G.-Y., **Papuga, S.A.**, Pelletier, J.D., Rasmussen, C.R., and P.A. Troch. (2015) Critical zone services: Expanding context, constraints, and currency beyond ecosystem services. *Vadose Zone Journal*.

Sanchez-Mejia, Z.[PhD] and **S.A. Papuga** (2014) Observations of a two-layer soil moisture influence on surface energy dynamics and planetary boundary layer characteristics in a semiarid shrubland, Water Resources Research, 50: 306–317. 4.

Cavanaugh, M.L.[MS], **Kurc, S.A.**, and R.L. Scott (2011). Evapotranspiration partitioning in semiarid shrubland ecosystems: a two-site evaluation of soil moisture control on transpiration. Ecohydrology 4:671-681.

Kurc, S.A. and E.E. Small (2007), Soil moisture control on ecosystem scale fluxes of water and carbon in semiarid grassland and shrubland*, Water Resources Research* 43(6): W06416, doi:10.1029/2006WR005011.

Turner, D.P., Ritts W.D., Cohen W.B., Maeirsperger T.K., Gower S.T., Kirschbaum A.A., Running S.W., Zhao M.S., Wofsy S.C., Dunn A.L., Law B.E., Campbell J.L., Oechel W.C., Kwon H.J., Meyers T.P., Small E.E., **Kurc S.A.** and J.A. Gamon (2005), Site-level evaluation of satellite-based global terrestrial gross primary production and net primary production monitoring, *Global Change Biology*, 11(4): 666-684.

Kurc, S.A. and E.E. Small (2004), Dynamics of evapotranspiration in semiarid grassland and shrubland during the summer monsoon season, central New Mexico, *Water Resources Research*, 40, W09305, doi:10.1029/2004WR003068.

Honors and Awards

2020	ELATES at Drexel® National Leadership Program Fellow
2015	UA SNRE Outstanding Faculty Award
2015	UA SNRE Outstanding Dissertation Award (*for Guido*)
2014	UA SNRE Outstanding Dissertation Award (*for Sanchez-Mejia*)
2013	NSF CAREER Award in Hydrologic Sciences
2013	AGU 2013 Editor's Citation for Excellence in Refereeing (*Water Resources Research*)
2012	UA College of Ag and Life Sciences Research Career Development Award
2011	UA SNRE Outstanding Scholarly Achievement Award
2008	Wakonse College Teaching Fellow

Professional Society Membership

American Geophysical Union (AGU)
- Ecohydrology Technical Committee Past Chair, 2020 -present
- Ecohydrology Technical Committee Chair, 2017-2020
- Ecohydrology Technical Committee Deputy Chair, 2016-2017