

Christa A Kelleher

Assistant Professor, Department of Earth Sciences and Department of Civil Engineering, Syracuse University
e: ckellehe@syr.edu p: 315.443.1402 , w: <http://asfaculty.syr.edu/pages/ear/kelleher-christa.html>

EDUCATION

PhD, 2013, Civil Engineering, **The Pennsylvania State University**, University Park, PA.
MS, 2009, Civil Engineering, **The Pennsylvania State University**, University Park, PA.
BS, 2008, Civil Engineering, **Lafayette College**, Easton, PA. 2004–2008

PROFESSIONAL APPOINTMENTS

Assistant Professor 2016 – Present
Dept. of Earth Sciences and Dept. of Civil Engineering, Syracuse University, Syracuse, NY
Postdoctoral Associate 2013 – Present
Dept. of Earth and Ocean Sciences, Duke University, Durham, NC

HONORS AND AWARDS

Invited Presenter, *American Geophysical Union Fall Meeting* 2015
First Place, *Duke University Research Computing Poster Competition* 2015
Outstanding reviewer award, *Environmental Modelling and Software* 2015
Outstanding reviewer award, *Water Resources Research* 2014
Environmental Protection Agency Science to Achieve Results Graduate Fellowship 2010
One of 10 – 20% of applicants awarded, \$50,000 per year
Pathfinder Graduate Fellowship, Consortium of Universities for the Advancement of Hydrologic Sciences 2010
One of five total awarded per year, \$5,000
National Science Foundation Graduate Research Fellowship Program, Honorable Mention, 2010
Outstanding Student Paper Award, AGU Fall Meeting, 2009
Office of Graduate Studies, Research, and Outreach Assistantship, Penn State 2008

ACCEPTED PUBLICATIONS

1. **C Kelleher**, T Wagener, B McGlynn (2015), Model-based analysis of the influence of catchment properties on hydrologic partitioning arose five mountain headwater sub-catchments, *Water Resources Research*, .
2. K Sawicz, **C Kelleher**, T Wagener, P Troch, M Sivapalan, G Carillo (2014), Technical Note: Characterizing hydrologic change through catchment classification, *Hydrology and Earth System Sciences*, 10, 6599–6627, doi:10.5194/hess-18-273-2014.
3. **C Kelleher**, T Wagener, B McGlynn, A Ward, M Gooseff, R Payn (2013), Identifiability of transient storage model parameters along a mountain stream, *Water Resources Research*, 49(9), 5290–5306, doi:10.1002/wrcr.20413.
4. A Ward, R Payn, M Gooseff, B McGlynn, K Bencala, **C Kelleher**, S Wondzell, T Wagener (2013), Variations in surface water-ground water interactions along a mountain steam: Comparisons between transient storage and water balance analyses, *Water Resources Research*, 49, 3359–3374, doi: 10.1002/wrcr.20148.
5. X Han, **C Kelleher**, G Warn, T Wagener (2013), Identification of the controlling mechanism for predicting critical loads in elastomeric bearings, *Journal of Structural Engineering-American Society of Civil Engineers (ASCE)*, 139(12), 04013016.
6. **C Kelleher**, T Wagener, M Gooseff, B McGlynn, K McGuire, L Marshall (2012), Investigating controls on the thermal sensitivity of Pennsylvania streams, *Hydrological Processes*, 26, 771–785, doi: 10.1002/hyp.8186.
7. T Wagener, **C Kelleher**, M Weiler, B McGlynn, M Gooseff, L Marshall, T Meixner, K McGuire, S Gregg, P Sharma, S Zappe (2012), It takes a community to raise a hydrologist: the Modular Curriculum for Hydrologic Advancement, *Hydrology and Earth System Sciences*, 16, 3405–3418, doi:10.5194/hess-16-3405-2012.
8. E Martin, **C Kelleher**, T Wagener (2012), Has urbanization changed ecological streamflow characteristics in Maine (USA)?, *Hydrological Sciences Journal*, 57(7), 1337–1354.
9. **C Kelleher** and T Wagener (2011), Ten guidelines for effective data visualization in scientific publications, *Environmental Modelling and Software*, 26(6), 822–827, doi:10.1016/j.envsoft.2010.12.006.

TEACHING:

Courses Currently Offered: EAR/CIE 400/600 - Physical Hydrology, 3 credits, offered Spring 2016

STUDENT ADVISING

Current Committee Member for:

PhD Committees: Robin Glas (EAR, SU), Kristy Gutchess (EAR, SU), Rouzebeh Berton (CIE, SU)

Previous Advisees:

Masters Advisees: Meagan Knowlton (Masters of Environmental Management student, Duke University), Alexandria Hunt (Masters of Environmental Management student, Duke University)

Undergraduate Advisees: Cheryl Smith (University of Iowa, with Dr. Adam Ward), Mary Beth Paskewicz (Undergraduate student, Penn State)

UNIVERSITY SERVICE AND PROFESSIONAL ACTIVITIES SERVICE

Service to the Profession:

- *Convener*, American Geophysical Union Fall Meeting, Balancing model parsimony and inference in low-order watersheds, **2014**
- *Peer Reviewer for (since 2012):* Environmental Modelling and Software, Journal of Hydrology, Climatic Change, Water Resources Research, Hydrological Processes, Hydrology and Earth System Sciences, Computers and Geosciences, Ecological Applications, Stochastic Environmental Research and Risk Assessment
- *Member of:* American Geophysical Union, Geological Society of America

Service at the Department Level:

Member of the IT Committee, Department of Earth Sciences, Syracuse University, 2016 - present

REFEREED CONFERENCE PROCEEDINGS

C Kelleher, T Wagener, F Pianosi, B McGlynn (2013), Controls on hydrologic partitioning: Using a mechanistic model for comparative hydrology across engaged sub-catchments in a mountain headwater basin, International Environmental Modelling and Software Society (iEMSs), 7th Intl. Congress on Env. Modelling and Software, San Diego, CA, USA.

INVITED SEMINARS AND PRESENTATIONS

C Kelleher, Communicating through info graphics: Visualizing scientific and engineering information, Special Libraries Association, Washington, DC Chapter, Webinar, 2014.

C Kelleher and J Cheslock, Data visualization: making your data speak, Institutional Research Seminar, The Pennsylvania State University, University Park, PA, 2012.

C Kelleher, T Wagener, M Gooseff, Characterization of stream temperatures across Pennsylvania, Earth System Science Center Seminar Series, The Pennsylvania State University, University Park, PA, 2010.

C Kelleher and T Wagener, Climate change impacts on Pennsylvania water resources, Pennsylvania Co-Op Extension Program, The Pennsylvania State University, University Park, PA, 2010.

CONFERENCE PRESENTATIONS (*First author listed is presenter.*)

- **C Kelleher**, B McGlynn, T Wagener (2015), Improving predictive certainty and system understanding with watershed hydrology models, American Geophysical Union, San Francisco, CA. [Invited Poster]
- **C Kelleher**, B McGlynn, K Jensco, F Nippgen (2015), Linkages between hillslopes, riparian settings, and streamflow: a multi-year, multi-site characterization of spatio-temporal variability in Tenderfoot Creek Experimental Forest, American Geophysical Union, San Francisco, CA. [Presentation]
- **C Kelleher**, B McGlynn, T Wagener (2014), Reality check: Assessing internal catchment behavior to reduce uncertainty in complex, distributed models, CUAHSI Biennial Meeting, Shephardstown, WV. [Presentation and Poster]
- T Wagener, **C Kelleher**, F Pianosi, B McGlynn (2014), Understanding hydrologic partitioning: Combining mechanistic modelling with signature analysis to understand controls on hydrologic behaviour in headwater catchments, European Geosciences Union, General Assembly, Vienna, Austria. [Presentation]

- **C Kelleher**, T Wagener, B McGlynn (2013), Controls on hydrologic partitioning: A comparative hydrology study across sub-catchments in a mountain headwater basin, American Geophysical Union, San Francisco, CA. [Poster]
- T Wagener, **C Kelleher**, B McGlynn, A Ward, M Gooseff, R Payn (2013), Understanding uncertainty in the characterization of transient storage zone processes in rivers, American Geophysical Union, San Francisco, CA. [Presentation]
- **C Kelleher**, T Wagener, B McGlynn, A Ward, M Gooseff, R Payn (2012), Stream characteristics determine the importance of transient storage processes, American Geophysical Union, San Francisco, CA. [Poster]
- T Wagener, K Sawicz, M Sivapalan, P Troch, G Carillo, **C Kelleher** (2012), Catchment classification as a learning framework, American Geophysical Union, San Francisco, CA. [Presentation]
- K Sawicz, **C Kelleher**, T Wagener (2012), Implications of changes in hydrologic behavior for catchment classification through time, American Geophysical Union, San Francisco, CA. [Poster]
- T Wagener, R Singh, **C Kelleher** (2012), An uncertainty framework for predicting hydrologic ecosystem services everywhere and under nonstationary conditions, American Geophysical Union, San Francisco, CA. [Presentation]
- **C Kelleher**, T Wagener, B McGlynn, L Marshall, K Jencso (2011), Spatio-temporal variability of controls on water balance components in a western mountainous headwater basin, American Geophysical Union, San Francisco, CA. [Poster]
- **C Kelleher** and T Wagener (2010), Variability in headwater stream behavior across the United States, American Geophysical Union, San Francisco, CA. [Poster]
- **C Kelleher**, M Paskewicz, T Wagener, M Gooseff, B McGlynn, L Marshall (2009), Understanding the spatio-temporal variability of stream temperature across Pennsylvania, American Geophysical Union, San Francisco, CA. [Poster; Outstanding Student Paper Award].
- **C Kelleher**, T Wagener, M Gooseff, S Gregg, B McGlynn, P Sharma, T Meixner, L Marshall, K McGuire, M Weiler (2009), Toward an online community of educators: the Modular Curriculum for Hydrologic Advancement, American Geophysical Union, San Francisco, CA. [Poster]
- **C Kelleher**, T Wagener, M Gooseff (2009) Controls on the response of stream temperature to environmental change in Pennsylvania streams, Pennsylvania Land Conservation Conference, State College, PA. [Poster]
- T Wagener, **C Kelleher**, M Gooseff, B McGlynn, L Marshall, T Meixner, K McGuire, P Sharma, S Zappe (2009), The Modular Curriculum for Hydrologic Advancement (MOCHA), European Geosciences Union, General Assembly, Vienna, Austria. [Presentation]
- **C Kelleher**, T Wagener, M Gooseff (2009), Are Pennsylvania Fish in Hot Water?, College of Engineering Research Symposium, Pennsylvania State University, State College, PA. [Poster]
- **C Kelleher**, T Wagener, B McGlynn, M Gooseff, K McGuire, L Marshall, P Sharma (2008), Controls on the Hydrologic Response to Climate and Land Cover Change of Headwater Streams, American Geophysical Union Fall Meeting, San Francisco, CA. [Poster]
- **C Kelleher**, T Wagener, B McGlynn, M Gooseff, K McGuire, L Marshall, P Sharma, C Pfeiffer, S Zappe (2008), Modular Curriculum for Hydrologic Advancement, American Geophysical Union Fall Meeting, San Francisco, CA. [Poster]
- T Wagener, **C Kelleher**, B McGlynn, M Gooseff, T Meixner, L Marshall, K McGuire, P Sharma, S Zappe, and M Weiler (2008), Modular Curriculum for Hydrologic Advancement: Toward an Online Faculty Learning Community for Hydrology Education, Course, Curriculum, and Laboratory Improvement Conference, Washington, DC. [Poster]