MARTIN A. BRIGGS, PhD
Research Hydrologist, U.S. Geological Survey

USGS Office of Groundwater, Branch of Geophysics
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Research Interests

- Surface water physical dynamics and quality
- Surface water/groundwater exchange and biogeochemical cycling
- Geophysical hydrologic characterization

Education

Syracuse University, Dept of Earth Sciences, Syracuse, New York 2012
Ph.D., Dissertation Title: *Using emerging methods to investigate stream and groundwater interaction at multiple spatial scales*
Advisor: L.K. Lautz

Colorado School of Mines, Hydrologic Sciences and Eng. Prgm, Golden, Colorado 2009
M.S., Thesis Title: *Partitioning surface and hyporheic transient storage throughout a coastal stream network*
Advisor: M.N. Gooseff

University of Massachusetts, Dept of Geosciences, Amherst, Massachusetts 2002
B.S., Geology *cum laude*

Awards and Honors

- NSF competitive grant (lead PI): "*Collaborative Research*: Unlocking the Transient Storage Blackbox: Revealing the Role of Less-Mobile Porosity in Hyporheic Denitrification and Green House Gas Production", (7/2015-7/2018)
- Exceptional rating, USGS performance review FY2013, FY2014, FY2015
- Strategic Environmental Research and Development Program grant extension FY2014
- 2013 Editors' Citation for Excellence in Refereeing for *Water Resources Research*
- Syracuse University College of Arts and Sciences Doctoral Dissertation Prize, 2012
- Best oral presentation: Novel Methods of Subsurface Characterization and Monitoring professional conference, 2011
- NSF East Asia and Pacific Summer Institutes Fellowship 2011 (competitive NSF grant, lead PI)
- Syracuse University Department of Earth Sciences Newton E. Chute Award 2011
- Syracuse University Graduate Fellowship, 2009-2012
- Syracuse University Department of Earth Sciences Graduate Student Publication award, 2010, 2012

Professional Associations

- American Geophysical Union 2006 – present
- Geological Society of America 2009 – present
- Society for Freshwater Science (previously NABS) 2008 – present
- Environmental and Engineering Geophysical Society 2014 – present

Hydrology Research Experience

Research Hydrologist 2012 – present
USGS (GS-12) Office of Groundwater, Branch of Geophysics, Storrs, Connecticut
Supervisor: OGW Branch Chief, John Lane, phone: 860-487-7402

We work on a wide range of pressing hydrological issues around the world. The Branch of Geophysics supports state water science centers when hydro-geophysical tools and training are required, and we collaborate with academic institutions on pioneering water research. Central missions at the Branch is training and method development, so we travel around the country giving workshops and field testing new methods. Examples of recent projects are:

- Repeat expeditions to the Yukon Flats, Alaska as field team leader to characterize permafrost extent and lake budgets using seismic, electrical, radar, thermal and mechanical methods, and subsequent modeling of unsaturated permafrost dynamics.
- Innovative characterization of endangered shellfish habitat in the Delaware River using electrical and thermal methods including modified fiber-optic Distributed Temperature Sensing (FO-DTS) and infrared technology.
- Modeling dual-domain mass transfer of uranium contaminated groundwater in Colorado involving the novel use of combined electrical and chemical methods.
- Installation of sea water intrusion monitoring network on a remote Pacific atoll to monitor the effects of climate change and sea level rise on atoll fresh water resources
- Planning and creating teaching materials for ongoing USGS training workshops on surface water/groundwater exchange and geophysical characterization

Research Assistant 2009 – 2012
Syracuse University, Syracuse, New York

- Used modified fiber-optic Distributed Temperature Sensing (DTS) technology combined with redox sensitive tracer injections and geochemical analysis to determine spatial and temporal patterns of surface water/groundwater interaction and biogeochemical reactivity in streams.

NSF East Asia and Pacific Summer Institutes Fellow 2011
Fudan University, Shanghai, China

- Participated in the investigation of sewer overflows and stormwater treatment methods in Chinese cities.

Research Assistant 2006 – 2009
Colorado School of Mines, Golden, Colorado

- Investigated the natural controls on nitrogen retention within the Ipswich River basin, Massachusetts using conservative tracer and labeled isotopic tracer injections, along with novel approaches to 1-D solute transport modeling and nonlinear regression software.

Research Intern 2005

University of California, Santa Cruz, CA

- Assisted in research on surface water quality controls within the Pajaro River Basin.

Service

AGU Hydrogeophysics Committee 2015-present
Connecticut Community College Outreach Events
Quinebaug Valley CC (2014), Middlesex CC (2014), Quinebaug Valley CC (2013)
Recognition of Excellent Manuscript Review, *Freshwater Science* spring 2014

Technical Skills

- Proficient: Matlab, MODFLOW, MT3D, SUTRA-ICE, ArcMap (GIS), OTIS, UCODE, SigmaPlot, Adobe Illustrator
- Fiber-optic distributed temperature sensing (DTS) technology
- Steam gauging (ADV, ADCP, Marsh-McBirney, tracer dilution)
- Stream tracers, conservative and reactive, including the new resazurine "smart tracer"
- Aquifer testing (hydraulic slug and pumping tests)
- Electrical geophysical methods (electromagnetic, electrical resistivity, etc.)
- Surveying
- Ion chromatography
- Inductively coupled plasma optical emission spectrometry
- Labeled isotopic sampling (gas and water)
- Organizing and training large, diverse field teams
- Wilderness First Aid, CPR, and USGS Wildlife Defense

Teaching/Mentoring Experience

Adjunct Faculty

University of Connecticut Civil Engineering 2012-present

UCONN graduate independent study "SW/GW interactions literature" (3 cr) Fall 2013

Graduate Committee Member (*indicates primary advisor)

Farzaneh Mahmood Poor Dehkord*, PhD Student, UConn 2015-present

Janet Barclay, PhD Student, UConn 2015-present

Kristen McSwain, PhD Student, North Carolina State University 2013-present

Sean Buckley, MS Student, UConn 2013-2014

PhD dissertation examiner, Dawit Berhane, The University of Sydney 2014

Teaching at Professional Workshops

Field Techniques for Groundwater/Surface-Water Exchange (5 d), Cape Cod, MA 2014

Groundwater/Surface Water Interactions (5 d), USGS National Training Center, Denver, CO 2014,15

Fiber-optic heat tracing methods (2 d), Technical training in Support of Native American Relations (TESNAR), Swinomish Reservation, WA 2012

Methods of determining GW/SW interactions (1 d), USGS National Groundwater Meeting, Denver, CO 2012

Teaching Assistant

Environmental Geology, Syracuse University, Syracuse, NY spring 2011

Guest Lecturer

TEchnical training in Support of Native American Relations (TESNAR) instructor, WA 2012

Groundwater Hydrology, Wells College, Aurora, NY 2012

Biogeochemistry, SUNY Environmental Science and Forestry, Syracuse, NY 2011

Contaminant Hydrogeology, Syracuse University, Syracuse, NY 2011

Seminar in Hydrological and Biogeochemical Processes, SUNY-ESF, Syracuse NY 2011

Advanced Hydrologic Field Methods, Colorado School of Mines, Golden, CO 2009

Subsurface Contaminant Transport, Colorado School of Mines, Golden, CO 2009

Organizer and host of SU Earth Sciences Graduate Seminar spring 2010-spring 2012

Publications

1. Rosenberry, D.O, **M.A. Briggs**, E.B. Voytek, and J.W. Lane, (*under revision*), Influence of groundwater on distribution of dwarf wedgemussels (*Alasmidonta heterodon*) in the upper reaches of the Delaware River, *Freshwater Science*.

2. Frisbee, M.D., C. Shope, M.A. **Briggs,** and D. Boutt (*under revision*), Chapter 27: Field Methods for the Evaluation of Groundwater and Surface Water Interactions, 3rd edition of The Handbook of Groundwater Engineering, edited by John Cushman.

3. **Briggs, M.A.,** S. Campbell, J. Nolan, M.A. Walvoord, D. Ntarlagiannis, F.D. Day-Lewis, and J.W. Lane (2016), Surface geophysical methods for characterizing the active layer and shallow permafrost features, *Permafrost and Periglacial Processes,* doi: 10.1002/ppp.1893.

4. **Briggs, M.A.**, D.K. Hare, D.F. Boutt, G. Davenport, and J.W. Lane (2015), Time-lapse thermal infrared captures groundwater discharge at micro- and macro-scales (video format), *Hydrological Processes* (HPEye), doi: 10.1002/hyp.10722.

5. Hare, D.K., **Briggs, M.A.,** D.O. Rosenberry, D.F. Boutt, and J.W. Lane (2015), A comparison of thermal infrared to fiber-optic distributed temperature sensing for evaluation of groundwater discharge to surface water, *Journal of Hydrology*, 530, doi: 10.1016/j.jhydrol.2015.09.059.

6. Irvine, D.J., L.K. Lautz, **M.A. Briggs**, R.P. Gordon, and J.M. McKenzie (2015), Experimental evaluation of the applicability of phase, amplitude, and combined methods to determine water flux and thermal diffusivity from temperature time series using VFLUX 2, *Journal of Hydrology*,531, doi: 10.1016/j.jhydrol.2015.10.054.

7. Koch, F., E.B. Voytek, F.D. Day-Lewis, R. Healy, **Briggs, M.A**., J.W. Lane and D. Werkema (2015), 1DTempPro V.2: New Features for Parameter Estimation, Heterogeneity, and Time-Varying Exchange, *Groundwater*, doi:10.1111/gwat.12369.

8. **Briggs, M.A.,** F.D. Day-Lewis, J.P. Zarnetske, and J.W. Harvey (2015), A physical explanation for the development of redox microzones in hyporheic flow, *Geophysical Research Letters,* doi:10.1002/2015GL064200

9. **Briggs, M.A.,** F.D. Day-Lewis, J.B. Ong, J.W. Harvey, and J.W. Lane, (2014), Dual-domain mass-transfer parameters from electrical hysteresis: Theory and analytical approach applied to laboratory, synthetic streambed, and groundwater experiments, *Water Resources Research,* 50(10), doi:10.1002/2014WR015880

10. **Briggs, M.A**., L.K. Lautz, S.F. Buckley, and J.W. Lane, (2014), Practical limitations on the use of diurnal temperature signals to quantify groundwater upwelling, *Journal of Hydrology*, 519, doi:10.1016/j.jhydrol.2014.09.030

11. Wollheim, M.N., T.K. Harms, B.J. Peterson, K. Morkeski, C.S. Hopkinson, R.J. Stewart, M.N. Gooseff, and **M.A. Briggs** (2014), Nitrate uptake dynamics of surface transient storage in stream channels and fluvial wetlands, *Biogeochemistry*, 119, doi:10.1007/s10533-014-9993-y

12. **Briggs, M.A**., M.A. Walvoord, J.M. Mckenzie, C. Voss, F.D. Day-Lewis, and J.W. Lane, (2014), Shrinking Arctic lakes are forming new local permafrost, but for how long? *Geophysical Research Letters*, doi: 10.1002/2014GL059251

13. **Briggs, M.A.**, L.K. Lautz and D.H. Hare (2014), Residence time control on hot moments of net nitrate production and uptake in the hyporheic zone, *Hydrological Processes*, 28, doi: 10.1002/hyp.9921

14. **Briggs**, **M.A**., E.B. Voytek, F.D. Day-Lewis, D.O. Rosenberry, and J.W. Lane (2013), Understanding Water Column and Streambed Thermal Refugia for Endangered Mussels in the Delaware River, *Environmental Sciences and Technology*, 47, doi:10.1021/es4018893

15. **Briggs, M.A**., F.D. Day-Lewis, J. Ong, G.P. Curtis, and J.W. Lane (2013), The simultaneous estimation of local and flowpath-scale dual domain mass-transfer parameters using geoelectrical monitoring, *Water Resour. Res.*, 49, doi:10.1002/wrcr.20397

16. **Briggs, M.A.**, L.K. Lautz, D.H. Hare, and R. González-Pinzón (2013), Relating hyporheic fluxes, residence times and redox-sensitive biogeochemical processes upstream of beaver dams, *Freshwater Science* 32(2), doi: 10.1899/12-110.1

17. Gooseff, M.N., **M.A. Briggs**, K.E. Bencala, B.L. McGlynn, D.T. Scott (2013), Can the transient storage be simply scaled to longer reaches? Length scale dependence of transient storage modeling and interpretations, *Journal of Hydrology* 48, 16–25, doi: 10.1016/j.jhydrol.2012.12.046

18. **Briggs, M.A.**, L.K. Lautz, J.M. McKenzie, R.P. Gordon and D.K. Hare (2012), Using high-resolution distributed temperature sensing to quantify spatial and temporal variability in vertical hyporheic flux, *Water Resources Research*, 48, doi:10.1029/2011WR011227

19. Gordon, R.P., L.K. Lautz, **M.A. Briggs**, and J.M. McKenzie (2012), Automated calculation of vertical pore-water flux from field temperature time series using the VFLUX method and computer program, *Journal of Hydrology*, doi:10.1016/j.jhydrol.2011.11.053

20. **Briggs, M.A.**, L.K. Lautz and J.M. McKenzie (2012), A comparison of Distributed Temperature Sensing to traditional methods of evaluating groundwater inflows to streams, *Hydrological Processes*, 25, doi:10.1002/hyp.8200

21. Gooseff, M.N., D.A. Benson, **M.A. Briggs**, M. Weaver, W. Wollheim, B. Peterson and C.S. Hopkinson (2011), Residence time distributions in surface transient storage zones in streams: estimation via signal deconvolution, *Water Resources Research*, 47, W05509, doi:10.1029/2010WR009959

22. Stewart, R.J., W.M. Wollheim, M.N. Gooseff, **M.A. Briggs**, J.M. Jacobs, B.J. Peterson and C.S. Hopkinson (2011), Separation of river scale nitrogen removal among main channel and two transient storage compartments, *Water Resources Research*, 47, W00J10, doi:10.1029/2010WR009896

23. **Briggs, M.A.**, M.N. Gooseff, B.J. Peterson, K. Morkeski, W. Wollheim and C.S. Hopkinson (2010), Surface and Hyporheic Transient Storage Dynamics Throughout A Coastal Stream Network, *Water Resources Research*, 46, W06516, doi:10.1029/2009WR008222

24. **Briggs, M.A.**, M.N. Gooseff, C.D. Arp and M.A. Baker (2009), A Method for estimating surface transient storage parameters for streams with concurrent hyporheic storage, *Water Resources Research*, 45, W00D27, doi:10.1029/2008WR006959

In the News

- Public radio interview: http://www.alaskapublic.org/2014/06/12/newly-forming-permafrost-may-not-survive-centurys-end/
- USGS press-release: http://www.usgs.gov/newsroom/article.asp?ID=3821#.U01_3KWsi-0
- "What is driving shrinking of Arctic lakes? Scientists look to the permafrost", 2014, ClimateWire, http://www.eenews.net/cw/
- "Despite Warming, Ground Refreezes at Alaska's Shrinking Lakes", 2014, *livescience*, http://www.livescience.com/43862-new-permafrost-alaska-lakes.html
- "Permafrost grows thanks to plants", 2014, *Nature: Research Highlights*, 506, 411, (27 February 2014) doi:10.1038/506411d http://www.nature.com/nature/journal/v506/n7489/full/506411d.html
- "Geophysical Technique Helps Map Uranium-Contaminated Groundwater", 2014, US Geological survey *GeoHealth* newsletter
- "Fiber-optic temperature sensors detail Delaware River's endangered species habitat", 2103, *Environmental Monitor*, http://www.fondriest.com/news/fiber-optic-temperature-sensores-endangered-mussel.htm
- Interview for an article in *Nature News* based on research experience in China (2011): http://www.nature.com/news/2011/111018/full/478294a.html

Conference Presentations (* indicates invited)

1. *Walvoord, M.A., S.M. Jepsen, J. Rover, C. Voss, and **M.A. Briggs** (2015), Evolving hydrologic connectivity in discontinuous permafrost lowlands: what it means for lake systems (invited talk), American Geophysical Union Fall Meeting in San Francisco, CA, USA.

2. *Naftz, D., K. Walton-Day, C. Fuller, W. Dam, **M.A Briggs**, and T. Snyder (2015), Utilizing hydrologic, statistical, and geochemical tools to assess uranium mobility in surface and near-surface environments (invited talk), American Geophysical Union Fall Meeting in San Francisco, CA, USA.

3. **Briggs, M.A.,** J. Zarnetske, F.D Day-Lewis, J. Harvey, and J. Lane (2015), A field method to quantify exchange with less-mobile porosity in streambeds using electrical hysteresis, (talk), American Geophysical Union Fall Meeting in San Francisco, CA, USA.

4. Zarnetske, J., **M.A Briggs**, F.D Day-Lewis, and J. Harvey (2015), A Physical Explanation for the Development of Redox Microzones at Stream-Groundwater Interfaces, (talk), American Geophysical Union Fall Meeting in San Francisco, CA, USA.

5. Hare, D.K.**, M.A. Briggs**, D.O. Rosenberry, D.F. Boutt, and J. Lane (2015), A comparison of thermal infrared to fiber-optic distributed temperature sensing for evaluation of groundwater discharge to surface water (talk), American Geophysical Union Fall Meeting in San Francisco, CA, USA.

6. Zarnetske, J., **M.A Briggs**, and F.D Day-Lewis (2015), A mechanistic explanation for the development of hyporheic anoxic microzones (talk), HydroEco Conference, Vienna, AT.

7. ***Briggs, M.A.**, F.D. Day-Lewis, D.O. Rosenberry, J. Harvey, J.W. Lane, D.K. Hare, D.F. Boutt, E.B. Voytek, and S. Buckley (2014), Advances in using fiber-optic distributed temperature sensing to identify the mixing of waters (invited talk), American Geophysical Union Fall Meeting in San Francisco, CA, USA.

8. *Lautz, L.K., **M.A. Briggs**, R.P. Gordon, D.J. Irvine, J.M. McKenzie, R.E. Ribaudo, and D.K. Hare (2014), Heat tracing as a tool for locating and quantifying hydrological hot spots and hot moments that impact surface and groundwater quality (invited talk), American Geophysical Union Fall Meeting in San Francisco, CA, USA.

9. *Walvoord, M.A., **M.A. Briggs**, F.D. Day-Lewis, S.M. Jepsen, J.W. Lane, J. McKenzie, B. Minsley, R.G. Striegl, C.I. Voss, and T.P. Wellman (2014), Hydrogeologic controls on water dynamics in a discontinuous permafrost, lake-rich landscape waters (invited talk), American Geophysical Union Fall Meeting in San Francisco, CA, USA.

10. *Walvoord, M.A., **M.A. Briggs**, F.D. Day-Lewis, S.M. Jepsen, J.W. Lane, J. McKenzie, B. Minsley, R.G. Striegl, C.I. Voss, and T.P. Wellman (2014), Permafrost dynamics and changing hydrogeology in a lake-rich landscape profiles (invited talk), Geological Society of America meeting in Vancouver, Canada.

11. ***Briggs, M.A.**, K.K. Lautz, S.F. Buckley, and J.W. Lane (2014), Practical limitations on quantifying groundwater upwelling using vertical temperature profiles (invited talk), Geological Society of America meeting in Vancouver, Canada.

12. ***Briggs, M.A.**, F.D Day-Lewis, J.W. Lane, D.O. Rosenberry, J. Harvey, E.B. Voytek, E.B., J. Kulongoski, S. Hurley, P. Barlow, and J. Ong (2014), Integrating surface geophysical methods into multi-scale investigations of groundwater/surface-water exchange (invited talk), Geological Society of America meeting in Vancouver, Canada.

13. ***Briggs, M.A**. (2014), Surface geophysical methods for evaluating stream habitat and the resilience of aquatic systems to climate warming (invited talk), Consortium of Universities for the Advancement of Hydrologic Science Biannual Meeting, Shepherdstown, WV, USA.

14. ***Briggs, M.A**. (2014), Infrared imagery and fiber-optic distributed temperature sensing for detecting groundwater inflows to surface water (invited talk), American Institute of Professional Geologists, MI Chapter Annual Meeting, Roscommon, MI, USA.

15. **Briggs, M.A**., L.K. Lautz, S.F. Buckley, and J.W. Lane (2014), Practical limitations on quantifying groundwater upwelling using vertical temperature profiles (talk), Joint Aquatic Sciences Meeting in Portland, Oregon, USA.

16. S.F. Buckley, S.F., **M.A. Briggs** and J.W. Lane (2014), Development of a paired heat-pulse and high-resolution fiber optic temperature sensing technique to quantify groundwater upwelling in strongly gaining streams (talk), Joint Aquatic Sciences Meeting in Portland, Oregon, USA.

17. **Briggs, M.A**., Walvoord, M.A., Mckenzie, J.M., Voss, C., Day-Lewis, F.D., and Lane, J.W. (2014), Shrinking Arctic lakes are forming new local permafrost, but for how long? (talk). Canadian Geophysical Union Spring Meeting in Banff, Alberta, Canada.

18. **Briggs, M.A**., Walvoord, M.A., Mckenzie, J.M., Voss, C., Day-Lewis, F.D., and Lane, J.W. (2013), Shrinking Arctic lakes are forming new local permafrost, but for how long? (poster). American Geophysical Union Fall Meeting in San Francisco, CA, USA.

19. Lane, J.W., **M.A. Briggs,** J.T Kulongoski, and A.L. Pollock (2013), Evaluating hydrologic response to land cover and climate change: An example from the Palmyra Atoll National Wildlife Refuge (poster). American Geophysical Union Fall Meeting in San Francisco, CA, USA.

20. **Briggs, M.A**., E. Voytek, D.O. Rosenberry, F.D. Day-Lewis, J.W. Lane (2013), Determining the hydrodynamic controls on endangered mussel habitat at the streambed interface (talk). Freshwater Science Meeting in Jacksonville, FL, USA.

21. ***Briggs, M.A**., F.D. Day-Lewis, J. Ong, G.P. Curtis, J.W. Lane (2012), The simultaneous estimation of local and flowpath scale rate limited mass transfer parameters using electrical resistivity tomography (invited talk). American Geophysical Union Fall Meeting in San Francisco, CA, USA.

22. **Briggs, M.A**., E. Voytek, D.O. Rosenberry, F.D. Day-Lewis, J.W. Lane (2012), Discriminating streambed groundwater influx from bank groundwater seeps as a control on endangered mussel habitat (talk). American Geophysical Union Fall Meeting in San Francisco, CA, USA.

23. Campbell, S.W., S.P. Saari, T.A. Douglas, F.D. Day-Lewis, M.A. Walvoord, J.T. Nolan, **M.A. Briggs** (2012), Shallow Geology and Permafrost Characterization using Ground-Penetrating Radar to infer Hydrological Controls and Landscape Evolution of Interior Alaska (talk). American Geophysical Union Fall Meeting in San Francisco, CA, USA.

24. Gooseff, M.N., **M.A. Briggs**, K.E. Bencala, B.L. McGlynn, D.T. Scott (2012), Do transient storage parameters directly scale in longer, combined stream reaches? Reach length dependence of transient storage interpretations (poster). American Geophysical Union Fall Meeting in San Francisco, CA, USA.

25. **Briggs, M.A.**, F.D. Day-Lewis, E. Voytek, L.K. Lautz, J.W. Lane (2012), Advances in Fiber-Optic Distributed Temperature Sensing of Hydrologic Systems (poster). USGS National Groundwater Meeting, Denver, CO, USA.

26. Wollheim, W., T. Harms, R. Stewart, B. Peterson, M.N. Gooseff, **M.A. Briggs**, C. Hopkinson (2012) Nitrate reaction rates among aquatic habitats in a New England Coastal watershed (talk). Society of Freshwater Science meeting (formerly NABS), Louisville, KY, USA.

27. ***Briggs, M.A.**, L.K. Lautz, R.P. Gordon, J.M. McKenzie, R. Gonzalez and D.K. Hare (2011), Using multiple natural and injected tracers to evaluate spatial and temporal patterns of hyporheic flux and biogeochemistry (invited talk). American Geophysical Union Fall Meeting in San Francisco, CA, USA.

28. **Briggs, M.A.**, L.K. Lautz and D.K. Hare (2011), The response of streambed nitrogen cycling to spatial and temporal hyporheic vertical flux patterns and associated residence times (talk). American Geophysical Union Fall Meeting in San Francisco, CA, USA.

29. **Briggs, M.A.**, L.K. Lautz, J.M. McKenzie, R.P. Gordon and D.K. Hare (2011), Evolving hyporheic exchange flux during baseflow recession: Using high-resolution heat data to quantitatively assess temporal patterns (talk). Geological Society of America in Minneapolis, MN, USA.

30. Gordon, R.P., L.K. Lautz, **M.A. Briggs**, and J.K. McKenzie (2011), Automated calculations of vertical pore-water flux from real-world temperature time series using the VFLUX method and computer program (talk). Geological Society of America in Minneapolis, MN, USA.

31. **Briggs, M.A.**, Lautz, L.K. and J.M. McKenzie (2011), Distributed Temperature Sensing of spatial and temporal patterns of hyporheic flux and associated biogeochemical cycling around beaver dams (talk). North American Benthological Society Meeting in Providence RI, USA.

32. **Briggs, M.A.**, L.K. Lautz and J.M. McKenzie (2011), High resolution vertical stream-aquifer interactions measured with fiber-optic Distributed Temperature Sensing (talk). NovCare bi-annual meeting in Brewster, MA, USA.

33. **Briggs, M.A.**, L.K. Lautz and J.M. McKenzie (2010), Distributed Temperature Sensing of hyporheic flux patterns in varied space and time around beaver dams (talk). American Geophysical Union Fall Meeting in San Francisco, CA, USA.

34. Lautz, L.K., **M.A. Briggs**, and R.E. Ribaudo (2010), Heat and geochemical tracing of contaminated groundwater discharge to streams at various spatial and temporal scales (invited talk). American Geophysical Union Fall Meeting in San Francisco, CA, USA.

35. Hare, D.K., **M.A. Briggs**, and L.K. Lautz (2010), The effect of beaver dams on geochemistry of the hyporheic zone at varied depth and location over a range of discharges during flood recession (poster). American Geophysical Union Fall Meeting in San Francisco, CA, USA.

36. Gonzalez Pinzon, R.A., R. Haggerty, A. Argerich, **M.A. Briggs**, L.K. Lautz, D. Lemke, and D.K. Hare (2010), Resazurin as a proxy for estimating stream respiration (poster). American Geophysical Union Fall Meeting in San Francisco, CA, USA.

37. **Briggs, M.A.**, L.K. Lautz and J.M. McKenzie (2010), A comparison of Distributed Temperature Sensing to traditional methods of evaluating groundwater influx to streams (poster). CUAHSI bi-annual meeting in Boulder, CO, USA.

38. **Briggs, M.A.**, L.K. Lautz and J.M. McKenzie (2010), A comparison of Distributed Temperature Sensing to traditional methods of evaluating groundwater influx to streams (poster). European Geophysical Union in Vienna, AU.

39. Gooseff, M.N., R.A. Payn, **M.A. Briggs**, B.L. McGlynn, K.E. Bencala, S.M. Wondzell, and R. Haggerty (2010), Methods, applications, and limits of assessing residence time distributions of solutes in streams (invited talk). Joint meeting of the North American Benthological Society and the American Society of Limnology & Oceanography in Santa Fe, NM., USA.

40. **Briggs, M.A.**, L.K. Lautz, M.N. Gooseff, W.M. Wollheim, B.J. Peterson and K. Morkeski (2009), The effect of beaver activity on the ammonium uptake and water residence time characteristics of a third-order stream reach (poster). American Geophysical Union in San Francisco, CA., USA.

41. Gooseff, M.N., **M.A. Briggs**, P.C. Kerr, M.R. Weaver, W. Wollheim, B.J. Peterson, K. Morkeski, and C.S. Hopkinson (2009), Separating in-channel and hyporheic transient storage processes in river networks- A path toward improved quantification of stream-groundwater interactions (invited talk). American Geophysical Union in San Francisco, CA., USA.

42. K. Morkeski, B.J. Peterson, **M.A. Briggs**, Gooseff, M.N., C. Hopkinson, R. Stewart and W. Wollheim, (2009), Nutrient dynamics in surface transient storage zones within a coastal Massachusetts river network. North American Benthological Society Meeting in Grand Rapids, MI., USA.

43. Gooseff, M.N., **M.A. Briggs**, M. Weaver, W. Wollheim, B.J. Peterson, K. Morkeski, and C. Hopkinson (2009), Separating in-channel and hyporheic transient storage processes in river networks: A path toward improved understanding of fluvial biogeochemistry (invited talk). European Geophysical Union in Vienna, AU.

44. **Briggs, M.A.**, M.N. Gooseff, W.M. Wollheim, B.J. Peterson, K. Morkeski and C.S. Hopkinson (2009), The effects of varied stream flow on surface and hyporheic transient storage exchange (talk). Geological Society of America in Portland, OR., USA.

45. **Briggs, M.A.**, M.N. Gooseff, W.M. Wollheim, B.J. Peterson, K. Morkeski and C.S. Hopkinson (2009), Surface and hyporheic transient storage dynamics throughout a coastal stream network (Talk). PIE LTER All Scientists Meeting in Woods Hole, MA, USA.

46. **Briggs, M.A.**, M.N. Gooseff, K. Morkeski, B.J. Peterson, W.M. Wollheim, C.S. Hopkinson and R. Stewart (2008), Partitioning surface and hyporheic transient storage in streams of increasing size (poster). American Geophysical Union Fall Meeting in San Francisco, CA, USA.

47. Gooseff, M.N., **M.A. Briggs**, D.A. Benson, K. Morkeski, B.J. Peterson, W. Wollheim, and C. Hopkinson (2008), Determining surface transient storage zone residence time distributions from whole stream solute injections (talk). American Geophysical Union in San Francisco, CA., USA.

48. Wollheim, W., R. Stewart, **M.A. Briggs**, G. Gettel, M. Green, M.N. Gooseff, T. Harms, C. Hopkinson, N. Morse, and B. Peterson (2008), Assessing the influence of various aquatic ecosystem types on biogeochemical fluxes at river network scales (talk). American Geophysical Union in San Francisco, CA., USA.

49. Stewart, R.J., W.M. Wollheim, **M.A. Briggs**, M.N. Gooseff, K. Morkeski, B.J. Peterson, C. Hopkinson, and C. Vorosmarty (2008), Separation of river network scale nitrogen removal between surface and hyporheic transient storage compartments (poster). American Geophysical Union in San Francisco, CA., USA.

50. Weaver, M.R., M.N. Gooseff, **M.A. Briggs**, K. Morkeski, B.J. Peterson, W. Wollheim, and C.S. Hopkinson (2008), Characterization of surface transient storage zone exchange and flow dynamics in a 3rd-order stream, Massachusetts (poster). American Geophysical Union in San Francisco, CA., USA.

51. **Briggs, M.A.**, M.N. Gooseff, K. Morkeski, B.J. Peterson, W.M. Wollheim, C.S. Hopkinson and C. Vorosmarty (2008), Discriminating hyporheic and in-channel dead zone transient storage in streams (poster). North American Benthological Society Meeting in Salt Lake City, UT, USA.

52. Gooseff, M.N., K.E. Bencala, B.L. McGlynn, **M.A. Briggs**, and D.T. Scott (2008), Limitations to spatial scaling of transient storage (talk). North American Benthological Society Annual Meeting in Salt Lake City, UT, USA.

53. **Briggs, M.A.** and M.N. Gooseff (2008), Discriminating hyporheic and in-channel dead zone transient storage in streams (Talk). PIE LTER All Scientists Meeting in Woods Hole, MA, USA.

54. **Briggs, M.A.**, M.N. Gooseff, K. Morkeski, W.M. Wollheim, C.S. Hopkinson, B.J. Peterson, and C. Vorosmarty (2007), A comparison of in-channel dead zone and hyporheic zone transient storage parameter estimates between a 1st and 5th order stream (poster). American Geophysical Union Fall Meeting in San Francisco, CA, USA.

55. **Briggs, M.A.** and M.N. Gooseff (2007), A comparison of transient storage parameter estimates between composite and component reach lengths in a mountain stream (talk). Hydrology Days Conference in Fort Collins, CO, USA.

56. **Briggs, M.A.**, M.N. Gooseff and B. McGlynn (2006), Scaling of transient storage parameter estimates with increasing reach length in a mountain headwater stream (poster). American Geophysical Union Fall Meeting in San Francisco, CA, USA.

57. Bouchier, A., M. Gooseff, B. McGlynn, R. Payn, and **M.A. Briggs** (2006), Comparison of stream reach scale transport of Rhodamine WT and NaCl in coupled mountain stream-hyporheic system (poster), American Geophysical Union Fall Meeting in San Francisco, CA, USA.