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# Christopher J. Russoniello

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## ACADEMIC EXPERIENCE

- **West Virginia University** Morgantown, WV
  - Assistant Professor – Department of Geology and Geography, Starting July 2019
- **Syracuse University** Syracuse, NY
  - Postdoctoral Teaching and Research Associate, August 2017 - Present
  - Advisor: Laura K. Lautz
- **University of Delaware** Newark, DE
  - Ph.D. Geology, May 2018  
Advisor: Holly A. Michael
  - M.S. Geology, August 2012  
Advisor: Holly A. Michael
- **Colby College** Waterville, ME
  - B.A. Geology, Cum Laude with Honors and Distinction in Geology, May 2006  
Advisor: Jennifer D. Shosa

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## RESEARCH INTERESTS

- Resiliency of coastal aquifers in a changing climate
- Submarine groundwater discharge and associated chemical fluxes
- Coastal groundwater dynamics
- Groundwater-surface water interaction
- Benthic Exchange
- Groundwater flow and solute transport modeling
- Water supply sustainability

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## PUBLICATIONS

1. Duque, Russoniello, Rosenberry, Lee (in preparation)
2. Rosenberry, Lee, Duque, Russoniello (in preparation)
3. *Russoniello, CJ* and LK Lautz (in review). Novel use of Piper Plots to visualize, interpret and communicate large geochemical datasets.
4. *Russoniello, CJ* and HA Michael (in preparation for *Nature Geoscience*). Variability of global wave pumping over spatial, storm, seasonal, and climactic scales.
5. Duque C, K Knee, NC Sturchio, *CJ Russoniello*, M Sherif, O Aborishna, P Engesgaard and HA Michael (in preparation). The effect of radiogenic variability in seabed aquifer sediments on predictions of submarine groundwater discharge.
6. Duque C, S Jessen, TW Brooks, *CJ Russoniello*, P Engesgaard and HA Michael (in preparation). Hydrogeological flow paths in coastal areas; a dismissed factor for the delivery of nutrients?
7. *Russoniello, CJ*, JH Heiss and HA Michael (2018). Variability in benthic exchange rate, mixing zone depth, and residence time in a shallow coastal estuary. *Journal of Geophysical Research: Oceans* doi: 10.1002/2017JC013568

8. JW Heiss, VEA Post, T Lattoe, *CJ Russoniello* and HA Michael (2017). Physical controls on biogeochemical processes in intertidal zones of beach. Water Resources Research doi: 10.1002/2017WR021110
9. Andres, AS, HA Michael, *CJ Russoniello*, CF Fernandez and JA Madsen (2017). Delaware Geological Survey Report of Investigations 80: Investigation of submarine groundwater discharge at Holts Landing State Park, Delaware: Hydrogeologic framework, groundwater level and salinity observations
10. *Russoniello, CJ*, LF Konikow, KD Kroeger, C Fernandez, AS Andres and HA Michael (2016). Hydrogeologic controls on groundwater discharge and nitrogen loads in a coastal watershed, Journal of Hydrology doi: 10.1016/j.jhydrol.2016.05.013.
11. *Russoniello, CJ* and HA Michael (2014). Investigation of seepage meter measurements in steady flow and wave conditions, Groundwater, doi: 10.1111/gwat.12302.
12. Michael, HA, *CJ Russoniello* and LA Byron (2013). Global assessment of vulnerability to sea-level rise in topography-limited and recharge-limited coastal groundwater systems, Water Resources Research doi: 10.1002/wrcr.20213
13. *Russoniello, CJ*, C Fernandez, J Bratton, D Krantz, J Banaszak, AS Andres, LF Konikow and HA Michael (2013). Geologic and hydrologic control of subsurface salinity distributions and submarine groundwater discharge to an estuary, Indian River Bay, Delaware, Journal of Hydrology doi: 10.1016/j.jhydrol.2013.05.049

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## TEACHING EXPERIENCE

### Syracuse University

#### Postdoctoral Teaching and Research Fellow

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|-------------------|---------|---------------------------------|
| ○ Spring Semester | 2019    | Groundwater Modeling (600)      |
| ○ Fall Semester   | 2017/18 | Hydrogeology (400/600)          |
| ○ Spring Semester | 2018    | Water and the Environment (200) |

### University of Delaware

#### Teaching Assistant

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|-------------------|---------|--------------------------------------|
| ○ Spring Semester | 2016/17 | Surficial Processes (200)            |
| ○ Spring Semester | 2016    | Paleobiology (300)                   |
| ○ Fall Semester   | 2014/15 | Sedimentology and Stratigraphy (300) |
| ○ Spring Semester | 2015    | Earth History (100)                  |
| ○ Fall Semester   | 2012    | General Geology Laboratory (100)     |
| ○ Fall Semester   | 2010    | Geological Hazards Laboratory (100)  |

### Colby College

#### Teaching Assistant

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| ○ Fall 2004/05, Spring 2006 | Earth Processes (100) |
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## ADDITIONAL WORK EXPERIENCE

- **Educational Testing Service** Princeton, NJ  
Outside Science Item Writer for SAT assessment, 2016 to 2018
- **TerraSond Ltd.** Palmer, AK  
Hydrographic Surveyor, 2006 to 2009
- **Bering Land Bridge National Preserve, N.P.S.** Nome, AK  
Interpretive and backcountry SCA Intern, 2006

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## FELLOWSHIPS AND HONORS

- **2018 Editor's Citation for Excellence in Refereeing for Water Resources Research** April 2019
- **Summer Doctoral Fellowship**, University of Delaware May 2017

- Awarded for academic merit
- **First Place Poster**, Delaware Geologic Research Symposium April 2015  
Presented by the Delaware Geologic Survey for outstanding student poster presentation
- **University Graduate Fellowship, University of Delaware Graduate College** 2013-2014  
Awarded for academic achievement and professional commitment and potential
- **Farvolden Award**, National Groundwater Association April 2011  
Awarded for outstanding student presentation
- **Departmental Fellowship**, University of Delaware Geological Sciences 2009-2010  
Awarded for outstanding academic merit
- **S.S. and I.M.F. Marsden Prize**, Colby College Geology Department May 2006  
Awarded for outstanding achievement in the Earth Sciences
- **S.S. Marsden Teaching Award**, Colby College Geology Department May 2006  
Awarded for dedication as a teaching assistant
- **Thomas Bove Award**, Colby College Geology Department May 2006  
Awarded for dedication to the Earth Sciences
- **Field Assistant with Dr. Jennifer Shosa**, Colby College  
January/Summer 2005  
Investigated hydrogeology and role
- **REU Internship**, NSF, University of Arkansas Summer 2004  
Dr. John Van Brahana - Surface water-groundwater interactions and Karst Hydrogeology

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## PROFESSIONAL ACTIVITIES

- Manuscript Peer Reviewer for Water Resources Research, Journal of Hydrology, Journal of Geophysical Research: Oceans, PLOS One, HESS
- Guest Editor: *Geofluids* spec. issue: ‘Flow, Transport, and Reactions in Coastal Aquifers’ 2019
- Session Convener, AGU 2019 Fall Meeting, “Coastal Hydrology: fluid flow, transport, and ecosystem responses from wave to climate scales” December 2019
- Session Convener, CGU/IAHS/IUGG 2019 Joint Meeting, “Coastal Hydrology, Hydrogeology, and Hydraulics in an Era of Unprecedented Change” July 2019
- Session Convener, AGU 2018 Fall Meeting, “Coastal Hydrology: fluid flow, transport, and ecosystem responses from wave to climate scales” December 2018
- Panelist “Postdocs: How to Get One, What to Expect” Syracuse University Syracuse Future Professoriate Program Workshop May 2018
- Planned EMPOWER CUAHSI workshop on storage and retrieval of archived data March 2018
- Committee member for “PITCH 90” planning 2015-2016
- Graduate Student Representative to the UDel Geological Sciences Faculty 2011-2014
- Graduate Student Senate Representative, University of Delaware 2010-2011
- Geology Club, Colby College - Member/President 2003-2006
- *Member* AGU 2010-Present, GSA 2004-Present, NGWA 2011-Present, CGU 2018-Present

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## SHORT COURSES AND WORKSHOPS

- NSF Ocean Observatories Initiative Early Career Workshop May 2019
- Measuring Water Resources: Undergraduate Teaching Module – UNAVCO December 2018
- Establishing and Sustaining an Undergraduate Research Program – AGU December 2018
- Beaver Dam Analog Workshop, Lander, WY August 2018
- NSF Ocean Observatories Initiative Early Career Geology Data Workshop July 2018
- Syracuse University Future Professoriate Program May 2018
- EMPOWER CUAHSI workshop on storage and retrieval of archived data March 2018
- EMPOWER Diversity Workshop on Implicit Bias November 2017

- Workshop on Sea Level Rise and Contaminated Sites, Newark DE November 2013
- COMSOL Multiphysics Workshop, Newark, DE January 2013
- PEST Parameter Estimation Program, Bethesda, MD September 2011
- Barnegat Bay Comprehensive Research Meeting September 2011
- Multibeam Sonar Training Course, Norfolk, VA January 2009
- Chesapeake SonarWiz.MAP and HYPACK HYSWEEP, Palmer, AK March 2009

## SELECTED PRESENTATIONS AND POSTERS

- American Geophysical Union, National Meeting, Washington, DC December 2018  
Presented poster: "Teaching hydrogeology with a Simple Online Groundwater Model (SOGWaM)"
- Canadian Geophysical Union, National Meeting, Niagara Falls, ON June 2018  
Presented poster: "Paying the PIED Piper: Visualization of large geochemical datasets using new approaches with Piper Diagrams"
- WAGGS, Syracuse University Earth Sciences Department May 2018  
Presented talk: "The effect of waves on benthic exchange: Measurement and estimation over a broad range of spatial and temporal scales"
- American Geophysical Union, National Meeting, New Orleans, LA December 2017  
Presented Poster: "Variability in benthic exchange rate, depth and residence time beneath a shallow coastal estuary"
- Geological Society of America, National Meeting, Seattle, WA October 2017  
Presented talk: "Spatial and temporal variability of global wave pumping"
- Delaware Environmental Institute Research Symposia, Newark, DE March 2017  
Presented poster: "Variability in benthic exchange rate, mixing zone depth, and residence time in a shallow coastal estuary"
- Geological Sciences Department Poster Session, Newark, DE February 2017  
Presented poster: "Variability in benthic exchange rate, mixing zone depth, and residence time in a shallow coastal estuary"
- Geological Society of America, National Meeting, Baltimore, MD October 2015  
Presented poster: "Estimating Groundwater Transit Times Through a Coastal Aquifer Using Modpath"
- Delaware Geological Survey Research Symposium, Newark, DE April 2015  
Presented poster: "Watershed scale controls on relative rates of submarine groundwater discharge and stream baseflow, groundwater residence times, and nutrient loads to the Inland Bays"
- Geological Sciences Department Poster Session, Newark, DE February 2015  
Presented poster: "Watershed scale controls on relative rates of submarine groundwater discharge and stream baseflow, groundwater residence times, and nutrient loads to the Inland Bays"
- UDel Day in DC, Washington, D.C. March 2013  
Presented poster to the Delaware congressional delegation at function to spotlight UD work
- DENIN Research Symposium & EPSCoR Annual Meeting, Newark, DE March 2013  
Presented poster: Global assessment of vulnerability to sea-level rise in topography-limited and recharge-limited coastal groundwater systems
- Geological Sciences Department Poster Session, Newark, DE February 2013  
Presented poster: Global assessment of vulnerability to sea-level rise in topography-limited and recharge-limited coastal groundwater systems
- Geological Society of America, National Meeting, Charlotte, NC October 2012  
Presented talk: "Exploring wave-induced artifacts and asymmetry in seepage meter measurements"
- Delaware Center for the Inland Bays, STAC, Lewes, DE May 2012  
Presented talk: "Construction of a Watershed-Scale Model to Assess Groundwater Flow into the Inland Bays, Delaware"
- Geological Sciences Department Poster Session, Newark, DE February 2012  
Presented poster: "Control of submarine groundwater discharge patterns and salinity by a low-permeability paleochannel cap at Indian River Bay, Delaware"
- American Geophysical Union, National Meeting, San Francisco, CA December 2011

Presented poster: "Control of submarine groundwater discharge patterns and salinity by a low-permeability paleochannel cap at Indian River Bay, Delaware"

- National Groundwater Association, Annual Summit, Baltimore, MD April 2011  
Presented talk: "Construction of a Watershed-Scale Model to Assess Submarine Groundwater Discharge to Indian River Bay, Delaware"
- Geological Society of America, National Meeting, Salt Lake City, UT October 2005  
Presented poster: "Water and Chemical Fluxes through the Serpentine Bog/Stream System"
- Geological Society of America, Northeast Section, Saratoga Springs, NY March 2005  
Co-authored poster: "The paleoecology and depositional setting of a Silurian mixed siliciclastic system; Ripogenus Dam, Maine"
- Geological Society of America, National Meeting, Denver, CO October 2004  
Presented poster: "Ground-Water and Surface-Water Interactions in Northwest Arkansas"