

CONRAD BRENDEL

Work Address

SMHI
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Sweden

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Objective	To develop tools, models, and knowledge to support forecasting and decision-making to address global water resources issues.	
Education	Virginia Polytechnic Institute and State University:	Blacksburg, USA
	<i>Doctorate of Philosophy, Civil Engineering</i>	May, 2020
	▪ Cumulative GPA: 4.0/4.0	
	Iowa State University:	Ames, USA
	<i>Master of Science, Ag. & Biosystems Engineering</i>	May, 2017
	▪ Co-Major: Civil Engineering	
	▪ Cumulative GPA: 3.89/4.0	
	<i>Bachelor of Science, Civil Engineering</i>	May, 2015
	▪ Minor: Sustainability	
	▪ <i>Magna cum laude</i> (GPA: 3.76/4.0) & Honors Program	
Employment	Swedish Meteorological and Hydrological Institute:	Norrköping, Sweden
	• <i>Post-Doc in Hydrological Research</i>	2020-Present
	City of Roanoke, Virginia Stormwater Utility	Roanoke, USA
	• <i>Stormwater Engineer I</i>	2020-2020
	Virginia Tech Via Department of Civil & Environmental Engineering:	Blacksburg, USA
	• <i>Graduate Research Assistant for Dr. Randy Dymond</i>	2017-2020
	• <i>Graduate Teaching Assistant</i>	2017-2020
	Iowa State Agricultural and Biosystems Engineering Department:	Ames, USA
	• <i>Graduate Research Assistant for Dr. Michelle Soupir</i>	2015-2017
Professional Experience	▷ Monitoring and modeling of agricultural & urban water quality and quantity	
	▷ Development of web applications for retrieval, visualization, & analysis of hydrologic data	
	▷ Research in fate and transport of emerging contaminants	
	▷ Program Experience:	
	◆ Geographic Information System (GIS): ESRI ArcGIS	
	◆ Computer-Aided Design (CAD): AutoCAD Civil 3D	
	◆ Statistics: JMP, R, SAS	
	◆ Hydrology & Hydraulics Models: GSSHA, HEC-HMS, HEC-RAS, HYPE, SWAT, SWMM	
	◆ Phosphorus Models: ICECREAMDB	
	◆ Programming Languages: Python, R, VBA	
	◆ Version Control Systems: GitHub	
	◆ Database Systems: MySQL	
Volunteer Experience	National Ski Patrol:	
	<i>Alpine Patroller</i>	2010-Present
	– Responsible for providing outdoor emergency care at ski resorts	
	Special Olympics Coach:	2014-2020
	<i>Arc of Story County</i>	Ames, USA
	<i>Special Olympics Virginia - Southwest Region</i>	Blacksburg, USA
	– Responsible for leading and organizing practices for variety of sports	

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Leadership	» Iowa State University Cycling Club: President, Mountain Bike Coordinator	2012-2017
	» Iowa State University Sailing Club: President, Historian	2013-2016
	» Iowa State University Engineers for a Sustainable World (ESW): President	2015
Honors	▶ Virginia Tech Department of Civil & Environmental Engineering Via Scholar	2017-2020
	▶ ASABE Iowa Section Outstanding M.S. Degree Student	2017
	▶ Recipient of Monsanto Graduate Student Scholarship	2016
	▶ Iowa State University George Washington Carver Scholar	2011-2015
Research	» AWRA Geospatial Water Technology Conference	2020
Presentations	<i>Probabilistic Urban Flash Flood Information Nexus (PUFFIN): An app for probabilistic forecasting of urban flash flooding</i>	
	» City of Roanoke Urban Stormwater Research Quarterly Updates	2018-2020
	» AWRA Spring Specialty Conference: Integrated Water Resources Management <i>An Interactive Web App for Retrieval, Visualization, & Analysis of Hydrologic & Meteorological Time Series Data</i>	2019
	» AWRA Summer Specialty Conference: GIS and Water Resources IX <i>Relating Watershed Characteristics to Elevated Stream E. coli Levels in Agriculturally Dominated Areas</i>	2016
	» Iowa Water Conference <i>Evaluation of subsurface drainage on P losses in the Black Hawk Lake Watershed, Iowa</i>	2016
	» Oklahoma State University Student Water Conference <i>Comparison of hydrograph separation models in Hickory Grove Lake watershed</i>	2014
Grants & Contracts	– Roanoke Urban Stormwater Research - 2019 & 2020 Scope of Research	2018 & 2019
	– Iowa Water Center Supplemental Graduate Student Grant	2016

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- Publications** Brendel, C., R. L. Dymond, and M. F. Aguilar. (2020) Modeling Storm Sewer Networks and Urban Flooding in Roanoke, Virginia with SWMM and GSSHA. *Journal of Hydrologic Engineering* — *Forthcoming*
- Brendel, C., R. L. Dymond, and M. F. Aguilar. (2020) Integration of quantitative precipitation forecasts with real-time hydrology and hydraulics modeling towards probabilistic forecasting of urban flooding. *Environmental Modelling & Software*, Advance online publication. doi:10.1016/j.envsoft.2020.104864
- Law, J.Y., C. Brendel, L. Long, M. Helmers, A. Kaleita, M. Soupir (2020) Impact of land use changes and conservation practices on phosphorus and sediment export at the catchment scale. *Journal of Environmental Quality*, Advance online publication. doi:10.1002/jeq2.20140
- Brendel, C., R. L. Dymond, and M. F. Aguilar. (2019) An interactive web app for retrieval, visualization, and analysis of hydrologic and meteorological time series data. *Environmental Modelling & Software*, 117, 14-28.
- Brendel, C., M.L. Soupir, L.M. Long, M. J. Helmers, C. D. Ikenberry, and A. L. Kaleita. (2018) Catchment scale phosphorus export through surface and drainage pathways. *Journal of Environmental Quality*, 48(1), 117-126.
- Brendel, C., & M.L. Soupir (2017). Relating Watershed Characteristics to Elevated Stream *Escherichia coli* Levels in Agriculturally Dominated Landscapes: An Iowa Case Study. *Water*, 9(3), 154.