

Evan Coopersmith

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Education

University of Illinois, Urbana-Champaign, IL
Ph.D. (July 2013) in Environmental Engineering
Advisor: Professor Barbara Minsker
Specialty Area: Environmental Systems Analysis
Cumulative GPA: 3.96/4.0

Relevant Coursework:

Multi-Attribute Decision Making, Water Quality Control Processes, Watershed Hydrology, Biomonitoring, River Basin Management, Artificial Intelligence, Field Methods, Hydrology and Hydro-climatic Variability, Machine Learning, Groundwater Modeling.

University of Illinois, Urbana-Champaign, IL
M.S. (May 2008) in Environmental Engineering
Specialty Area: Environmental Systems Analysis
Cumulative GPA: 3.70/4.0

Relevant Coursework:

Environmental Economics, Environmental Law, Environmental Engineering Principles (Biological, Chemical, and Physical), Environmental Systems (I & II)

Princeton University, Princeton, NJ

B.S.E (June 2006) in Operations Research and Financial Engineering, *Cum Laude*
Cumulative GPA: 3.64 / 4.0

Relevant Coursework:

Probability & Stochastic Processes, Engineering Statistics, Game Theory, Optimization, Optimization Under Uncertainty, Financial Investments, Regression & Applied Time Series, Corporate Finance, Mathematical Models of Politics, Dynamic Programming
Chemical Engineering, Operations & Information Engineering, Fluid Mechanics

Honor Societies: Tau Beta Pi (Fall 2005) and Sigma Xi (Spring 2006)

Dissertation

Data-Driven Modeling of Hydroclimatic Trends and Soil Moisture: Multi-Scale Integration and Decision Support. Doctoral dissertation, submitted July 2013.

Peer-Reviewed Publications

Exploring the Physical Controls of Regional Patterns of Flow Duration Curves: Part 3 – A Catchment Classification System Based on Seasonality and Runoff Regime
Coopersmith, Yaeger, Ye, Cheng, and Sivapalan. Hydrology & Earth System Sciences, 16, 4467-4482, 2012, doi:10.5194/hess-16-4467-2012

Exploring the Physical Controls of Regional Patterns of Flow Duration Curves: Part 4 - A Synthesis of Empirical Analysis, Process Modeling, and Catchment Classification
Yaeger, Coopersmith, Ye, Cheng, and Sivapalan. Hydrology & Earth System Sciences, 16, 4483-4498, 2012, doi:10.5194/hess-16-4483-2012.

Exploring the Physical Controls of Regional Patterns of Flow Duration Curves: Part 2 – Role of Seasonality and Associated Process Controls
Ye, Yaeger, Coopersmith, Cheng, and Sivapalan. Hydrology & Earth System Sciences, 16, 4447-4465, 2012, doi:10.5194/hess-16-4447-2012

Exploring the Physical Controls of Regional Patterns of Flow Duration Curves: Part 1– Insights from Statistical Analyses
Cheng, Yaeger, Viglione, Coopersmith, Ye, and Sivapalan. Hydrology & Earth System Sciences, 16, 4435-4446, 2012, doi:10.5194/hess-16-4435-2012

Understanding and Forecasting Hypoxia Using Machine Learning Algorithms –
Coopersmith, Minsker, and Montagna, Journal of Hydroinformatics. Vol. 13, No.1 pp. 64-80, 2010.

Peer-Reviewed Publications In Revision	Patterns of Regional Climate Change: An Analysis of Shifting Hydrologic Regime Curves – <i>Coopersmith, Minsker, and Sivapalan.</i> In revision in <i>Water Resources Res.</i>
	Machine Learning Assessments of Soil Drying – <i>Coopersmith, Minsker, Wenzel, and Gilmore.</i> In revision in <i>Computers and Electronics in Agriculture.</i>
Conference Proceedings	Harnessing the Power of Sensors and Cyberinfrastructure Towards Environmental Sustainability: The Waters Network Vision and Test-bedding Research – <i>Minsker, Coopersmith, and Montagna,</i> Hydroinformatics Conference 2009, Concepcion, Chile.
	An Environmental Information System for Hypoxia in Corpus Christi Bay: A WATERS Network Testbed – <i>Coopersmith, Minsker, Maidment, Hodges, Bonner, Ojo, and Montagna,</i> Environmental Water Resources Congress 2007, Tampa, FL.
	Web Services Facilitate Hypoxia Modeling of Corpus Christi Bay, TX – <i>Nelson, Montagna, Maidment, Hodges, To, Kulis, Minsker, Coopersmith.</i> Proceedings of the Estuarine Research Federation Biennial Meeting, Providence, RI, 4-8 November 2007.
Other Work	Asymmetric Objectives & Inefficient Markets: A Non-Parametric Predictor for Major League Baseball Games And the Evaluation of Betting Lines – Mudd Library, Princeton University, Senior Thesis 2006.
Teaching	Civil & Environmental Engineering Alumni Graduate Assistantship for Teaching Excellence (Fellowship) Spring, 2013
	CEE 535 – Environmental Systems II: Environmental & Water Resources Systems Analysis Under Uncertainty Spring, 2013
	<i>Served as primary instructor for CEE 535, Environmental Systems II. Wrote original syllabus, designed ~20 lectures, developed all assignments and grading rubrics. Rated 4.5/5.0 (spring '13) from student evaluations.</i>
	CEE 201 – Systems Eng. and Econ., Teaching Assistant (TA), U. of Illinois Fall 2011, Spring 2012, and Fall 2012
	<i>Taught fifteen lectures to 130+ students in a required course. Taught two review sessions per week for 20+ students each. Rated 4.7/5.0 (fall '11), 4.8/5.0 (spring '12), and 4.6/5.0 (fall '12) from student evaluations.</i>
	Certificate in Graduate Teaching – Center for Teaching Excellence, U. of Illinois Spring 2012
	<i>Completed two-semester program with CTE, received mid-semester evaluation feedback from students on two occasions (see final ratings above), attended pedagogical seminars, and underwent video-analysis of personal teaching habits.</i>
	Teacher Scholar Certification – Center for Teaching Exc., U. of Illinois Spring 2013
	Teaching w/ Technology – Center for Teaching Excellence, U. of Illinois Spring 2013
	<i>Constructed original educational materials reviewed by students and faculty. Read and reviewed pedagogical literature, observed experienced instructors, and attended seminars for use of technology in the classroom.</i>
	“List of Teachers Ranked as Excellent By Their Students” Fall 2011, Spring 2012, Fall 2012, and Spring 2013
	<i>Awarded for four consecutive semesters, three as a teaching assistant for CEE 201, and a fourth as the primary instructor of CEE 535.</i>
	Teaching Portfolio Available Upon Request

Conference Presentations	Regional Climate Change: An Analysis of a Hydrologic Classification System's Shifted Regime Curves , Oral Presentation, 2013 World Environmental & Water Resources Congress, Cincinnati, OH. May 2013.	
	National-Scale Hydrologic Classification & Agricultural Decision Support: A Multi-Scale Approach , Oral Presentation, American Geophysical Union, Fall Meeting, San Francisco, CA. December 2012.	
	Machine-Learning Assessments of Soil Drying , Oral Presentation, American Geophysical Union, Fall Meeting, San Francisco, December 2011, and Computational Methods in Water Resources conference, Champaign, IL. June 2012.	
	Field-Readiness Forecasts Using Remote Sensing, Statistical Modeling and Adaptive Observation Oral Presentation, Environmental Engineering Spring Symposium, Urbana, IL. April 2011, and National Center for Supercomputing Applications, Private Sector Program, Urbana, IL. May 2011	
	Machine Learning Algorithms & Benthic Hypoxia in Corpus Christi Bay Oral Presentation, Environmental Engineering Symposium, Urbana, IL. April 2008	
Postdoctoral Training and Professional Experience	Integrating Sensor Data and Informatics to Improve Understanding of Hypoxia in the WATERS Network Testbed at Corpus Christi Bay, Texas – American Geophysical Union, Fall Meeting, San Francisco, CA. December 2007	
	Modeling of Hypoxic Conditions in Corpus Christi Bay Using Sequential Normalization, Discrete Fourier Transforms, and K-Nearest Neighbor Algorithms. Environmental Engineering Symposium, Urbana, IL. April 2007	
	Hydrology and Remote Sensing Laboratory – USDA, Beltsville, MD. Aug. 2013 – Present <i>Research Physical Scientist – Postdoctoral Fellow. NASA-funded researcher specializing in calibration and validation of remotely-sensed soil moisture data via in-situ soil moisture sensors. Developing scaling and predictive methodologies for multi-scale soil moisture estimation and applications thereof.</i>	
	John Deere Technological Innovation Center, Champaign, IL May 2012 – July 2013 <i>Worked in concert with agronomic researchers through their local offices during doctoral work. Delivered presentations to managers in advanced marketing and agricultural systems analysis – helped to sustain research funding for myself and subsequent doctoral students. Provided advice on “big data” issues and wrote a ‘white-paper’ to corporate management detailing strategic intersections between academic and corporate objectives.</i>	
	BCW Group LLC, New York, NY Jan. 2008 – Apr. 2009 <i>Quantitative hedge fund start-up at NYMEX, one of three founding members. Traded profitably during a period of economic collapse. Developed proprietary, non-discretionary trading algorithm; live trading from 9/2/08 to 4/28/09. Employed machine learning models and original mathematical work to build superior risk/ reward ratios.</i>	
Awards	ZS Associates, Princeton, NJ Summer 2005 <i>Operations Research Analyst Intern (Pharmaceutical Consulting)</i>	
	Englebrecht Fellowship – Department of Environmental Engineering Most outstanding graduate student in environmental engineering.	Spring 2013
	CEE Alumni Graduate Fellowship for Teaching Excellence Awarded for promise in teaching, enables a student to create/teach a course.	Spring 2013
	University Fellowship – University of Illinois	Fall 2006 and Spring 2007

Service & Leadership	EWRI Environmental and Water Resources Systems Committee	Spring 2013 to Present
	<i>Discussed issues relating to research and teaching within the systems community.</i>	
	Engineering Graduate Student Advisory Committee	Fall 2010 to Summer 2013
	<i>CEE representative</i>	(Reselected Fall '11 and '12)
	<i>Founded committee for educational excellence, interacted with deans, university counsel, department heads, and administrators within the office of the provost. Lead and managed pilot program of publishing course evaluation data during the fall of '12.</i>	
	Environmental Engineering and Science Graduate Committee	Dec. 2011 to Jun. 2013
	<i>Met monthly to address graduate concerns and propose policies at departmental level.</i>	
	Environmental Engineering Spring Symposium, University of Illinois	Spring 2007
	<i>Chair – As selected by department faculty</i>	
	Princeton's Tiger Magazine, Princeton University	
	<i>Editor-in-Chief</i>	Sep. 2004 to Dec. 2005
Computer Skills	Matlab, Python, R, Microsoft Office, Linux	