Rice University
Department of Civil and Environmental Engineering
6100 Main Street, Ryon Lab 204-MS 318
Houston, TX, 77005

jdossgollin@rice.edu
https://dossgollin-lab.github.io
jdossgollin
James Doss-Gollin

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research interests

Climate risk management and adaptation
Decision-making under uncertainty
Dynamics and spatiotemporal clustering of hydroclimate extremes
Probabilistic modeling and uncertainty quantification

appointments

Rice University
Assistant Professor, Department of Civil & Environmental Engineering, 2021–present.
Adjunct Professor, Department of Civil & Environmental Engineering, 2020.
Pennsylvania State University
Postdoctoral Scholar, Earth & Environmental Systems Institute, 2020.
adviser: Klaus Keller

education

Columbia University
Ph.D, Earth & Environmental Engineering, 2020.
M.S., Earth & Environmental Engineering, 2016.
adviser: Upmanu Lall
Yale University
B.S., Mechanical Engineering, 2011.

awards

Nickolas and Liliana Themelis Fellowship, Fu Foundation School of Engineering and Applied Science, Columbia University, 2018.
Graduate Research Fellowship, Climate and Large-Scale Atmospheric Dynamics, National Science Foundation, 2017.
Presidential Distinguished Fellowship, Fu Foundation School of Engineering and Applied Science, Columbia University, 2015.
Distinction in Major, Department of Mechanical Engineering and Materials Science, Yale University, 2015.
Legacy Award, New Haven Promise, 2015.
Larry Coben '79 Fellowship, Yale University, 2014.
Vance-Carter Travel Award, Yale University, 2013.
Thomas C. Barry Travel Award, Yale University, 2012.

invited talks
articles in dissertation journal
articles

"**Towards Adaptive Resilience: Decision and Policy Support for Household Flood Risk Management**", Summer Seminar Series, *Columbia University Department of Earth and Environmental Engineering*. Remote. Aug. 2020.
"**Prediction and Implications of Structured Climate Risk for Sequential Adaptation under Deep Uncertainty**", Center for Climate Risk Management CLIMA Seminar, *the Pennsylvania State University*. State College, PA. Jan. 2020.
"**Prediction and Implications of Structured Climate Risk for Sequential Adaptation under Deep Uncertainty**", Department of Civil and Environmental Engineering Seminar, *Rice University*. Houston, TX. Jan. 2020.
"**Prediction and Implications of Structured Climate Risk for Sequential Adaptation under Deep Uncertainty**", Complex Systems Simulation and Optimization Group, *National Renewable Energy Laboratory*. Golden, CO. Jan. 2020.
"**Drivers of Extreme Rainfall: Atmospheric Circulation Patterns and Regional Intense Rainfall in the Ohio River**", European Flood Awareness System Group, *European Centre for Medium Range Weather Forecasting*. Reading, England. Sept. 2016.

"**Understanding the Physical Drivers of Extreme Rainfall for Flood Prediction**", Oxford Water Network, *Oxford University*. Oxford, England. Aug. 2016.

workshop conference presentations proceedings

"**Adaptive Resilience through Real Options and Deep Reinforecement Learning**", Doctoral Consortium on Computational Sustainability, *Carnegie Mellon University*. Pittsburgh, PA. Oral Presentation. Oct. 2019.

"**Evaluating Staged Investments in Critical Infrastructure for Climate Adaptation**", Interdisciplinary Ph.D. Workshop in Sustainable Development, *Columbia University*. New York, NY. Oral Presentation. Apr. 2019.

"**Robust Adaptation to Multi-Scale Climate Variability**", The Nexus of Climate Data, Insurance, and Adaptive Capacity, . Asheville, NC. Poster Presentation. Nov. 2018.

"**Extreme Rainfall in Paraguay during the 2015-16 Austral Summer: Causes and Predictive Skill**", North East Graduate Student Water Symposium, *University of Massachusetts Amherst*. Amherst, MA. Oral Presentation. Sept. 2017.

"**Regional Intense Precipitation: Inferences From GCM Atmospheric Circulation Fields**", Modeling Research in the Cloud, *National Center for Atmospheric Research*. Boulder, CO. Poster Presentation. May 2017.

"**Statistical-Dynamical Analysis of Climate Projections for Flood Infrastructure Design**", Interdisciplinary Ph.D. Workshop in Sustainable Development 2017, *Columbia University*. New York, NY. Oral Presentation. Apr. 2017.

"**Causes and Model Skill of the Persistent Intense Rainfall and Flooding in Paraguay during the Austral Summer 2015-2016**", Workshop on Subseasonal to Seasonal Predictability of Extreme Weather and Climate, *Columbia University*. New York, NY. Poster Presentation. Dec. 2016.

teaching

Columbia University
Environmental Data Analysis and Modeling. Teaching Assistant. Spring 2018.

media coverage

The False Comfort of Higher Seawalls, *Paola Rosa-Aquino*, **The New Republic**, 2019-10-29.

New Study Shows Promise for Long-Term Weather Forecasts in South America, *Elisabeth Gawthrop*, **State of the Planet**, 2018-08-06.

workshops and sessions organized

Primary Convenor, *51A: Emerging Needs and Approaches for Climate Services: Understanding and Developing Innovative Approaches to User-Oriented Climate Services*, American Geophysical Union Fall Meeting, San Francisco, CA. 2019-12-23.

Student Organizer, *Earth and Environmental Engineering Student Research Symposium*, Columbia University, New York, NY. 2018-10-12.

Student Organizer, *Earth and Environmental Engineering Student Research Symposium*, Columbia University, New York, NY. 2017-10-27.

peer review

Climatic Change
Geophysical Research Letters
Hydrology and Earth System Sciences
Journal of Applied Meteorology and Climatology
Journal of Hydrology
Journal of Water Resources Management and Planning
Oxford Journal of Development Studies
Water Resources Research
Water Security

professional experience

Visiting Graduate Researcher, Lamontagne Research Group, Department of Civil and Environmental Engineering, Tufts University, Medford, MA. 2019–2020

Graduate Research Fellow, Columbia Water Center, Department of Earth and Environmental Engineering, Columbia University, New York, NY. 2015–2020

Education Policy Intern, Elm City Communities / New Haven Housing Authority, New Haven, CT. 2015

Undergraduate Research Assistant, Lab of Jaehong Kim, Department of Chemical and Environmental Engineering, Yale University, New Haven, CT. 2014–2015

President (2014), Design Lead (2013), Member (2012, 2015), Engineers Without Borders, Yale Student Chapter, New Haven, CT. 2012–2015

Visiting Undergraduate Researcher, Water and Climate Risk Lab, Department of Hydraulic and Environmental Engineering, Universidade Federal do Ceará, Fortaleza, Brazil. 2014

Mechanical Design Intern, Slingshot Team, DEKA Research & Development, Manchester, NH. 2013

Undergraduate Research Assistant, Lab of Jan Schroers, Department of Mechanical Engineering and Materials Science, Yale University, New Haven, CT. 2012

Ikatú Agua Intern, Fundación Paraguaya, Asunción, Paraguay. 2012