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James Doss-Gollin

Education

Present **Ph.D. Candidate**, *Department of Earth and Environmental Engineering*, Columbia University.
- Adviser: Dr. Upmanu Lall
- NSF Graduate Research Fellowship Program
- Fu Foundation School of Engineering and Applied Science Presidential Distinguished Fellowship

2016 **M.S.**, *Department of Earth and Environmental Engineering*, Columbia University.

2015 **B.S.**, *Mechanical Engineering* , Yale University.
- Cum Laude, Distinction in Mechanical Engineering and Materials Science

2011 **High School**, *Wilbur Cross*, New Haven, CT.

Experience

2015–Present **Graduate Student Researcher**, *Columbia Water Center, Department of Earth and Environmental Engineering, Columbia University*, New York.
- Funded by SERDP grant "Climate-Informed Estimation of Hydrologic Extremes for Robust Adaptation to Non-Stationary Climate" (C. Brown, L. Mearns, U. Lall, P. Moody, J. Hall), 2015-17.
- Funded by NSF GRFP grant "Understanding & Predicting Climate Drivers of Extreme, Mid-latitude River Floods", 2017-Present.

2014–2015 **Visiting Student Researcher**, *Universidade Federal do Ceará, Hydraulic and Environmental Engineering Department*, Fortaleza, Brazil.
Built computational models of rainwater harvesting systems and small reservoirs to assess drought vulnerability of rural communities

2014-2015 **Undergraduate Research Assistant**, *Prof. Jaehong Kim*, Yale University.
Prototyped portable water disinfection using ultraviolet (UVC) light emitting diodes and evaluated barriers to increased adoption

2012 **Ikatú Agua Project Intern**, *Fundación Paraguaya*.
Evaluated water provision program in 19 rural communities and provided policy recommendations to micro-finance NGO

2013 **Mechanical Design Intern**, *DEKA Research & Development*, Manchester, NH.
Built and tested novel proprietary water treatment technology

Honors & Awards

2017 National Science Foundation Graduate Research Fellowship

2015 Fu Foundation School of Engineering and Applied Science Presidential Distinguished Fellowship

2014 Yale University Larry Coben '79 Fellowship

2013 Yale University Vance-Carter Travel Award

2012 Yale University Thomas C. Barry Fellowship

Professional and Community Engagement

2017-Present **Peer Reviewer**.
- Oxford Journal of Development Studies
- Journal of Hydrology

2017 **Student Organizer**, *Columbia Earth and Environmental Engineering Student Research Symposium*.

2016–2017 **Volunteer**, *Youth Career Connect*, New York, NY.
Mentor New York high school juniors and seniors interested in STEM careers

2012–2015 **Founder & President**, *New Haven REACH*, New Haven, CT.
Trained and connected 50 volunteer mentors from Yale with New Haven high school seniors applying to college

Computer Skills

Programming	advanced: Python, R; proficient: Matlab, C++
Communication	advanced: Markdown/Pandoc, Rmarkdown, LaTeX
Reproducibility	proficient: Docker, git, conda, GNU make
Bayesian Comp.	advanced: stan; proficient: PyMC3, Edward
Deep Learning	proficient: tensorflow, keras
Github	www.github.com/jdossgollin

Languages

English	Native speaker
Spanish	Full professional proficiency
Portuguese	Professional working proficiency
French	Elementary proficiency
Guaraní	Basic

Community Outreach and Involvement

2016–2017 **Volunteer**, *Youth Career Connect*, New York, NY.
Mentor New York high school juniors and seniors interested in STEM careers

2012–2015 **Founder & President**, *New Haven REACH*, New Haven, CT.
Trained and connected Yale volunteer mentors with New Haven high school senior applying to college

Publications and Presentations

Journal Articles

[0] **James Doss-Gollin**, Francisco de Assis de Souza Filho, and Francisco Osny Enéas da Silva. "Analytic Modeling of Rainwater Harvesting in the Brazilian Semiarid Northeast". In: *Journal of the American Water Resources Association* (Dec. 2015). DOI: 10.1111/1752-1688.12376.

Conference Papers

[0] **James Doss-Gollin**, David J. Farnham, and Upmanu Lall. "Designing and Operating Infrastructure for Nonstationary Flood Risk Management". In: *American Geophsyical Union Fall Meeting*. New Orleans, LA, Dec. 2017.

[0] **James Doss-Gollin**, Ángel G. Muñoz, Simon J Mason, and Max Pastén. "Causes and Model Skill of the Persistent Intense Rainfall and Flooding in Paraguay during the Austral Summer 2015-2016". In: *American Geophsyical Union Fall Meeting*. New Orleans, LA, Dec. 2017. DOI: 10.13140/RG.2.2.20146.30406.

[0] **James Doss-Gollin**, David J. Farnham, and Upmanu Lall. "Global-Local Interactions Modulate Tropical Moisture Exports to the Ohio River Basin". In: *American Geophsyical Union Fall Meeting*. 2016. DOI: 10.13140/RG.2.2.36009.19044.

[0] **James Doss-Gollin**, Ángel G. Muñoz, and Max Pastén. "Physical Mechanisms and Subseasonal-to-Seasonal Predictability of Persistent Intense Rainfall and Paraguay River Flooding During the Austral Summer

2015/2016". In: *Workshop on Sub-Seasonal to Seasonal Predictability of Extreme Weather and Climate*. 2016. DOI: 10.13140/RG.2.2.24104.57607.

[0] D. J. Farnham, **J. Doss-Gollin**, and U. Lall. "Space-Time Characteristics and Statistical Predictability of Extreme Sub-Weekly Precipitation Events in the Ohio River Basin". In: *American Geophsyical Union Fall Meeting*. Vol. NH53E-08. 2016.

[0] David J. Farnham, **James Doss-Gollin**, and Upmanu Lall. "Seasonal Climate Signals and Synoptic Circulation Patterns Associated with Regional Daily Intense Precipitation in the Ohio River Basin". In: *Workshop on Sub-Seasonal to Seasonal Predictability of Extreme Weather and Climate*. 2016.

[0] David J Farnham, Upmanu Lall, Hyun-han Kwon, and **James Doss-Gollin**. "Moisture Transport and Extreme Precipitation in Mid-Latitudes". In: *American Geophsyical Union Fall Meeting*. 2015.

[0] **James Doss-Gollin**, Francisco de Assis de Souza Filho, and Francisco Osny Enéas da Silva. "Considerações Sobre a Sustentabilidade Hıdrica de Cisternas Para Captação de Chuva No Semiárido Brasileiro". In: *XII Simpósio de Recursos Hıdricos Do Nordeste*. Natal, RN: Associação Brasileira de Recursos Hıdricos (ABRH), 2014. DOI: 10.13140/RG.2.1.4086.4807.

Last updated on February 21, 2018