

# James Doss-Gollin

+1 (203) 494 9408  
✉ [james.doss-gollin@columbia.edu](mailto:james.doss-gollin@columbia.edu)  
🌐 [www.jamesdoss-gollin.me](http://www.jamesdoss-gollin.me)

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## Education

- Present **M.S./Ph.D. Student**, *Columbia University*.  
Earth and Environmental Engineering Department
- 2015 **B.S., Mechanical Engineering**, *Yale University*, New Haven, CT.  
**Honors** Cum Laude, Distinction in Mechanical Engineering  
**Senior Project** Adapting UVC-LEDs for Portable Water Disinfection, advised by Prof. Jaehong Kim and Prof. Corey O'Hern
- 2011 **Wilbur Cross High School**, New Haven, CT.

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## Research Interests

- Hydroclimatic variability and extremes
- Statistical modeling and forecasting
- Climate-informed water management
- Water security in the developing world

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## Experience

- 2014–2015 **Student Researcher**, *Universidade Federal do Ceará, Hydraulic and Environmental Engineering Department*, Fortaleza, Brazil.  
Created computer model to evaluate hydraulic sustainability for two spatial scales. Coupled rainfall-runoff, evaporation, and precipitation models to estimate water levels of small reservoirs in rural areas.
- 2014–2015 **Research Assistant**, *Prof. Jaehong Kim*, Yale University.  
Researched design and application of UVC-LED technology for water purification. Built lab testing apparatus and cell phone case to house UVC-LEDs.
- 2014 **President**, *Engineers Without Borders*, Yale Undergraduate Chapter.  
Also Design Lead (2013), Member (2012, 2015). Led 30-member interdisciplinary team through design and construction of rural water supply system for community of 2000 in Rohvitangitaa, Cameroon.
- 2013 **Mechanical Design Intern**, *DEKA Research and Development*, Manchester, NH.  
Built and tested Slingshot water purification systems. Advised Slingshot trials in rural Paraguay.
- 2012 **Ikatú Agua Project Intern**, *Fundación Paraguaya*, Asunción, Paraguay.  
Developed and conducted review of microcredit program to help rural water providers in rural Paraguay make sustainable service improvements. Visited 19 rural communities in 5 states and presented findings.

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## Computer Skills

Office Experience working with Microsoft Office, L<sup>A</sup>T<sub>E</sub>X, and standard L<sup>A</sup>T<sub>E</sub>X packages

GIS Basic competence using ArcGIS (Windows) and QGIS (UNIX) to generate simple maps and geo-referenced databases  
Modeling Matlab (proficient), R (intermediate), STATA (basic), Python (basic)  
Programming C++ (basic), Java (basic)

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## Languages

English Native  
Spanish Full Professional Proficiency  
Portuguese Professional Working Proficiency  
French Elementary Proficiency  
Guaraní Basic

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## Honors and Awards

- 2015 **Presidential Distinguished Fellowship**, *Columbia University*.  
2015 **Distinction in Mechanical Engineering and Materials Science**, *Yale University*.  
2014 **Larry Coben '79 Fellowship**, *Yale University*.  
Funded travel and research at Federal University of Ceará  
2013 **Vance-Carter Travel Award**, *Yale University*.  
Funded travel to lead Engineers Without Borders trip to Cameroon  
2012 **Thomas C. Barry Fellowship**, *Yale University*.  
Funded travel to Paraguay for Ikatú Agua Internship

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## Publications and Presentations

### Articles In Review

- [1] James Doss-Gollin, Francisco Osny Enéas da Silva, and Francisco de Assis de Souza Filho. "Analytic Modeling of Rainwater Sustainability in the Brazilian Semi-Arid".

### Conference Papers

- [1] Luiz Martins Araújo Júnior et al. "Análise dos Eventos de Seca no Nordeste Setentrional Brasileiro com Base no Índice de Precipitação Normalizada". In: *Simpósio de Recursos Hídricos do Nordeste*. Natal, RN: Associação Brasileira de Recursos Hídricos (ABRH), 2014. DOI: 10.13140/RG.2.1.4610.7685. URL: doi.org/10.13140/RG.2.1.4610.7685.  
[2] James Doss-Gollin, Francisco de Assis de Souza Filho, and Francisco Osny Enéas da Silva. "Considerações Sobre a Sustentabilidade Hídrica de Cisternas para Captação de Chuva no Semiárido Brasileiro". In: *Simpósio de Recursos Hídricos do Nordeste*. Natal, RN: Associação Brasileira de Recursos Hídricos (ABRH), 2014. DOI: 10.13140/RG.2.1.4086.4807. URL: doi.org/10.13140/RG.2.1.4086.4807.

### Conference Papers

- [1] James Doss-Gollin. *Drought Vulnerability of Rural Communities in the Brazilian Northeast*. New Haven, CT, 2014. DOI: 10.13140/RG.2.1.3824.3368. URL: doi.org/10.13140/RG.2.1.3824.3368.