

KORY CHRIST RUSSEL

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PROFESSIONAL PREPARATION

Ph.D.	Civil and Environmental Engineering	Stanford University, Stanford, CA (Expected June 2016)
M.S.	Civil and Environmental Engineering	Stanford University, Stanford, CA (2012)
M.E.S	Environmental Science	Taylor University, Upland, IN (2005)
B.S.	Environmental Biology, Cum Laude	Taylor University, Upland, IN (2003)
	Center for Medieval and Renaissance Studies	Oxford University, United Kingdom (2001)

RESEARCH AND TEACHING INTERESTS

Dissertation Title: “The non-networked water and sanitation paradigm: Quantifying cost, benefits and user preferences”
Primary Advisor: Prof. Jennifer Davis, Stanford University

Rural water, water source coverage area, energy expenditure, water fetching, gendered activities, health, human centered design, entrepreneurship, container-based sanitation services, dense urban settings, location and space, low- and middle income settings.

RESEARCH EXPERIENCE AND FIELD WORK

- 2014-2015 Lead Researcher, Measurement and modeling of human energy expenditure as it relates to rural women water fetchers. Nampula, Mozambique. Stanford University in collaboration with Lúrio University, Mozambique.
- Designed and led enumerator training, data collection, and data analysis of water fetching activities in rural communities and laboratory settings.
- 2010-2014 Research Assistant, Impact evaluation of Millennium Challenge Corporation-sponsored Rural Water Supply Activity Investment. Nampula Province, Mozambique. Stanford University in collaboration with Virginia Tech University.
- Supported household and water sampling survey development and coding onto personal digital assistants.
- Designed and led enumerator training, data collection, and data analysis of water quality testing activities. All activities performed at baseline (~1600 households) and endline (~1800 households) data collection time periods.
- 2012-2014 Co-lead Researcher, Impact evaluation of mobile integrated sanitation service, implemented in a dense urban settlement. Cap-Haitien, Haiti. Stanford University.
- Supported household and water sampling survey development and coding onto personal digital assistants.

- Designed and led enumerator training, data collection, and data analysis of household survey and water quality activities. All activities performed at baseline (~450 households) and endline (~450 households) data collection time periods.
- 2010 Research Assistant, Baseline evaluation of water resale practices and policy formalization. Maputo, Mozambique. Stanford University.
- Supported household and water sampling survey development and coding onto personal digital assistants.
 - Designed and led enumerator training, data collection, and data analysis of water quality activities. All activities performed at baseline (~1800 households) data collection time period.
- 2009 Research Assistant, Rural Water Systems Sustainability Study Kenya. Stanford University.
- Supported data cleaning and analysis of survey responses.
- 2004-2005 Principal Investigator, Dialectic variations of the female hiccup call amongst sub-populations of the Florida Scrub Jay. Dr. Jan Reber, Taylor University.
- Banded Scrub Jays, mapped their territories, recorded female hiccup calls and analyzed the distinctive characteristics of calls in distinct populations.
- 2003-2004 Research Assistant, Grant County Resident Environmental Concern Telephone Survey. Taylor University.
- Developed, implemented, analyzed and reported a phone survey regarding environmental concern in Grant County, Indiana.
- 2003-2004 Research Assistant, Indiana Streams Sediment Load Project. Taylor University.
- Collected and processed water samples during high flow events, entered and cleaned data.

PUBLICATIONS

- 2016 **K. Russel**, W. Haskell, M. Buman and J. Davis. 2016. "Understanding the physiological cost of water fetching: Accounting for the human energy expenditure when calculating the cost and benefits of water supply investments in rural Mozambique." *In preparation*.
- 2015 **K. Russel**, S. Tilmans, S. Kramer, R. Sklar, D. Tillias and J. Davis. 2015. "User perception of and willingness to pay for household container-based sanitation services: experience from Cap Haitien, Haiti." *Environment and Urbanization* Vol 27, No 2, pp. 525-540.
- 2015 S. Tilmans, **K. Russel**, R. Sklar, L. Page, S. Kramer, and J. Davis. 2015. "Container-based sanitation: assessing costs and effectiveness of excreta management in Cap Haitien, Haiti." *Environment and Urbanization*. Vol 27 No 1, pp. 89-104.
- 2014 Hall, R., Davis, J., Van Houweling, E., Vance, E. A., Carzolio, M., Seiss, M., and **Russel, K.** 2014. "Impact evaluation of the Mozambique rural water supply activity." *Millennium Challenge Corporation, United States of America*. pp. 1–120. Retrieved from <http://data.mcc.gov/evaluations/index.php/catalog/76/study-description>.
- 2014 J. Ho, **K. Russel** and J. Davis. 2014. "Evaluating the efficacy of Euclidean distance and self-reported travel time as proxies for water fetching distance." *Journal of Water and Health*. Vol 12 No 1 pp 173–183 doi:10.2166/wh.2013.042.
- 2012 **K. Russel** and N. Cariello. 2012. "Every drop counts: rural water and sanitation in sub-Saharan Africa." *SAUTI: Stanford Journal of African Studies*, Volume VIII: pp. 15-17. 2011-2012.

- 2011 V. Zuin, L. Ortolano, M. Alvarinho, **K. Russel**, A. Thebo, O. Muximpua, and J. Davis. 2011. "Water resale to neighbors in Maputo, Mozambique: costs, service quality, and user satisfaction." *Journal of Water and Health*, Vol. 9, No. 4, pp. 773-784. doi:10.2166/wh.2011.031.

CONFERENCE PRESENTATIONS AND POSTERS

- 2016 Association of American Geographers Annual Meeting. San Francisco. *Expanding sanitation services: Impacts of a container-based, household toilet and human waste collection service in a dense urban slum of Cap Haitien, Haiti*. To be presented on April 1.
- 2015 Water and Health Conference: Where Science Meets Policy. University of North Carolina. *Does the installation of improved water sources impact the burden of water fetching? Results from Nampula, Mozambique*. October 27.
- 2015 Third International Fecal Sludge Management (FSM) Conference. Hanoi, Vietnam. *Impacts of a container-based household toilet and waste collection service in Cap Haitien, Haiti*. January 20.
- 2014 Water and Health Conference: Where Science Meets Policy. University of North Carolina. *Impacts of a container-based household toilet and waste collection service in Cap Haitien, Haiti*. October 16.
- 2013 International Water, Sanitation & Hygiene Symposium. Stanford University. *re.source: Piloting a low cost container-based household sanitation service*. May 17.
- 2011 International Water, Sanitation & Hygiene Symposium. Stanford University. *Measurement and modeling of water fetching energy expenditure*. April 15.
- 2011 Chi Crossroads Conference, The Woods Institute for the Environment. Stanford University. *FIB and nitrate contamination of water supplied by SSIPs and the water utility in Maputo, Mozambique*. January 14.
- 2005 Taylor University Scientific Poster Symposium. *Dialectic variations of the female hiccup call amongst sub-populations of the Florida Scrub Jay*.

FELLOWSHIPS

- 2015 Rising Environmental Leaders Program, Wood Institute for the Environment, Stanford University
- 2014 Charles H. Leavell Graduate Student Fellowship, Stanford University
- 2014 Social Entrepreneurship Scholarship, SOCAP 2014
- 2013 Haas Center Graduate of Public Service (GPS) Fellowship, Stanford University
- 2011-2014 United States Environmental Protection Agency STAR Fellowship
- 2011 NSF Graduate Research Fellowship Honorable Mention
- 2011 Rotary District Scholar Fellowship
- 2011 Center for African Studies Summer Fellowship, Stanford University

- 2010 Center for Latin American Studies FLAS Fellowship, Stanford University
- 2009 Polhemus Fellowship, Stanford University
- 2003-2005 Graduate Fellowship, Taylor University

HONORS, AWARDS AND GRANTS

- 2014 United States Environmental Protection Agency Phase 1 P3 Award (re.source)
- 2013 Showcase of Solutions for Planetary Sustainability – Winner: Outstanding Overall Solution (re.source), Sustainable Silicone Valley
- 2013 Stanford Institute for Innovation in Developing Economies (SEED) Design Lab Grant (re.source), Stanford University
- 2012 The Woods Institute for the Environment Mel Lane Grant (re.source), Stanford University
- 2011-2013 Bill and Melinda Gates Foundation Grand Challenge Exploration Round 6 Grant

PROFESSIONAL EXPERIENCE

- 2012-present Co-founder, re.source sanitation project (www.resourcesanitation.com).
Project focused on solutions for urban sanitation in low-income settings. Stanford University.
 - Supported design of toilet hardware, waste collection services and sustainable business models for sanitation services in low-income urban households.
- 2009 Experimental Biology Aide, Oregon Department of Fish and Wildlife. Roseburg, Oregon.
 - Classified waterways and collected data on personal digital assistants (PDAs) for the Oregon aquatic inventory survey of streams.

TEACHING AND MENTORING EXPERIENCE

- 2016 Teaching Associate, Design for a Sustainable World. Dr. Bill Mitch. Stanford University.
 - Designed course content, led class sessions, responsible for student evaluation.
 - Supervised and mentored 36 students.
- 2016 Teaching Associate, Current Topics in Sustainable Engineering. Dr. Bill Mitch. Stanford University.
 - Designed course content, led class sessions, responsible for student evaluation.
 - Supervised and mentored 36 students.
- 2015 Teaching Assistant, Water, Public Health and Engineering. Dr. Jenna Davis. Stanford University.
 - Updated course content, held weekly office hours, substituted for primary lecturer when needed, graded course assignments.
 - Supervised and mentored 16 students.
- 2014 Teaching Associate, Design for a Sustainable World. Dr. Jenna Davis. Stanford University.
 - Designed course content, led class sessions, responsible for student evaluation.
 - Supervised and mentored 25 students.

- 2014 Teaching Associate, Current Topics in Sustainable Engineering. Dr. Jenna Davis. Stanford University.
 - Designed course content, led class sessions, responsible for student evaluation.
 - Supervised and mentored 25 students.
- 2012 Teaching Assistant, Water and Sanitation in Developing Countries. Spring Quarter. Dr. Jenna Davis. Stanford University.
 - Updated course content, held weekly office hours, substituted for primary lecturer when needed, graded course assignments.
 - Supervised and mentored 24 students.
- 2010 Guest Lecturer, Water and Sanitation in Developing Countries Undergraduate Course. Spring Quarter. Dr. Jenna Davis. Stanford University.
- 2009 Substitute Teacher, Douglas County School District. Oregon.
 - Taught K-12 in 8 different schools for six months (5-40 students per class).
- 2005-2007 Peace Corp Education Volunteer, Mozambique, Southern Africa.
 - Taught secondary school classes in biology (all classes taught in Portuguese) and wrote multiple education resource manuals in English and Portuguese (60-80 students per class).
- 2004-2005 Teaching Assistant, Introduction to Geology. Dr. Micheal Guebert. Taylor University.
 - Taught weekly lab sessions, substituted for primary lecturer when needed, held weekly office hours, graded course assignments and assisted in field outings (45 students per class).

PUBLIC MEDIA AND REPORTS

- 2015 *Sanitation: When Toilets Fly*. March 16, 2015. (<https://woods.stanford.edu/news-events/news/water-solutions-when-toilets-fly>)
- 2014 *Sanitation solution for urban slums gets national recognition*. The Dish. Oct 4, 2014. (<http://news.stanford.edu/thedish/2014/10/21/sanitation-solution-for-urban-slums-gets-national-recognition/>)
- 2014 *Dry toilets are a thing that might save the world*. Collectively.org. Nov 7, 2014. (<https://collectively.org/en/article/dry-toilets-are-a-thing-that-might-save-the-world>)
- 2014 re.source sanitation work featured in; *Designing the Next Generation of Sanitation Businesses: A Report by Hystra for the Toilet Board Coalition*. September 2014. (http://static.squarespace.com/static/51bef39fe4b010d205f84a92/t/54073979e4b0cd91b7e776e4/1409759609026/HystraSanitation_122pp_Web.pdf)
- 2014 re.source sanitation work featured in; *A Collection of Contemporary Toilet Designs*. EOOS and WEDC, Loughborough University. 2014, (<http://wedc.lboro.ac.uk/knowledge/>) ISBN: 978 1 84380 155 9
- 2013 Third Sanitation Experts Webinar, "*Innovative Sanitation Solutions for Urban Areas*," SuSanA Forum. (<http://forum.susana.org/forum/categories/139-general-information-and-announcements/5624-5th-webinar-on-21-january-2014-sanitation-webinars-with-bmgf-grantees-organised-by-stockholm-environment-institute>)
- 2013 *Sanitation project wins kudos from sustainability leaders*. The Dish. June 4, 2013. (<http://news.stanford.edu/thedish/2013/06/04/sanitation-project-wins-kudos-from-sustainability-leaders/>)

SERVICE

- 2014-2016 Advisor and instructor for international development projects, Engineers for a Sustainable World, Stanford University.
- 2011-2013 Speaker, twelve club speaking tour of Rotary District 5170, Rotary District Scholar, California.
- 2011 Panel Member, Civil and Environmental Engineering Graduate Fellowship Writing Seminar, Stanford University.
- 2010-2011 Graduate Student Co-Coordinator, Stanford Civil and Environmental Engineering Lecture Series. Stanford University.
- 2007-2008 Peace Corp Volunteer Leader for Project Development, Mozambique, Southern Africa.
- Oversaw 120 volunteers in 10 provinces.
- Managed an approx. \$250,000 dollar annual budget for HIV prevention projects.
- Managed and oversaw three national youth training conferences.
- Managed and implemented three regional science fair competitions.
- Wrote multiple successful grants for sums in excess of \$50,000USD.
- Participated and assisted in the redesigning of volunteer pre-service training.
- 2005-2008 Founding Member, Peer Support Network. United States Peace Corps, Mozambique.
- 2005-2007 Peace Corp Education Volunteer, Mozambique, Southern Africa.
- Taught secondary school classes in Biology (all classes taught in Portuguese)
- 2003-2005 President, Stewards of Creation: Environmental Club, Taylor University.

LANGUAGES

English: first language
Portuguese: fluent, written and spoken
Spanish: proficient