

# Zachary Ian Burt

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## RESEARCH INTERESTS and EXPERTISE

Water and sanitation policy, water and wastewater management, economic development, policy analysis, climate resilience/vulnerability, climate impacts, non-market valuation, user preferences, cost-benefit analysis, demand management

## EDUCATION

Aug '09 – Aug '15

University of California, Berkeley - Ph.D. Energy and Resources  
Dissertation: *Drinking Water Access, Affordability and Acceptance: Two Case Studies in Low Income Regions*  
Committee: I. Ray, K. Nelson, J. Walker, T. Clasen

Aug '07 – Aug '09

University of California, Berkeley – M.S. Energy and Resources  
Thesis: *Controlled Scarcity: Encouraging Efficient Urban Water Conservation through a Cap and Trade Market Structure*  
Committee: I. Ray, D. Brooks, D. Zilberman

Aug '96 – Aug '01

University of California, Berkeley – Dual B.A. in Chemistry and Economics

## AWARDS

2017 Fulbright U.S. Scholar Grant  
2015 African Studies Center Grant  
2013 Foreign Language and Area Studies Fellowship  
2013 John L. Simpson Memorial Research Fellowship  
2013 Andrew and Mary Thompson Rocca Scholarship  
2009 Qayum Family Foundation Grant for exploratory research in South Asia

## EXPERIENCE

Sep '17 – Aug '18

**Visiting Research Fellow** *Mumbai, Maharashtra, India*  
**Centre for Technology Alternatives for Rural Areas**  
**Indian Institute of Technology - Bombay**

- Built partnership with ETH Zurich and IIT-Bombay to estimate the impacts of climate induced flooding in Mumbai, India.
- Co-led project with UC Berkeley, IIT-Bombay and GIZ to design a new policy tool for estimating research on equity in sanitation systems in two states in India.
- Engaged and exchanged with the local research community. Shared my research findings with academics, students and the general public, through public presentations and workshops.

Sep '16 – current

**Postdoctoral Research Fellow** *New York, New York*  
**Climate and Health Group, Mailman School of Public Health**  
**Columbia University**

- Conducted independent research on climate change and health, in the context of urban water and sanitation systems in low and middle income countries.
- Created research collaborations with Columbia faculty which are rigorous and applied, engaging with topics directly relevant to environmental health.

Sep '15 – Aug '16

**Postdoctoral Scholar** *Berkeley, California*  
**Blum Center for Developing Economies, University of California, Berkeley**

- Prepared review paper on gender inequality and access to sanitation

Sep '15 – Dec '15

**Lecturer - Ecological and Environmental Economics** *Santa Cruz, California*  
**Department of Environmental Studies, University of California, Santa Cruz**

- Prepared syllabus and conducted all learning activities and student assessments, including lecture, discussion, assignments and testing.

Spring '13 & '15

**Graduate Student Instructor – Community Driven Development** *Berkeley, California*  
**Masters in Development Practice, University of California, Berkeley**

- Conducted learning activities and student assessments. Gave one main lecture, and ran all weekly discussion sections. Created and assisted in grading of all assignments

Aug '08 – May '10

**Public Utilities Rate Analyst Intern**

San Francisco, California

**California Public Utilities Commission – Division of Ratepayer Advocates**

- Built statistical models for forecasting water demand.
- Designed conservation oriented rate structures and performed cost-benefit analysis of conservation programming at investor owned utilities.

Mar '04 – Jun '06

**Health and Sanitation Volunteer**

Assoul, Errachidia Province, Morocco

**U.S. Peace Corps, Morocco**

- Used participatory-based assessments to discover how and where to seek resources to build local capacity and assist the local community in development work.
- Assessed and improved water sources and waste disposal systems. Advised others on drinking water treatment and the design and construction of wastewater disposal systems.

Jun '02 – Jan '04

**Environmental Compliance Inspector**

Burlingame, Ca

**US Filter / The City of Burlingame**

- Enforced local sewer, pollution control and storm water ordinances. Permitted local businesses as necessary; conducted local site inspections; monitored water quality of in sewer system.
- Designed and implemented pollution prevention programs. Summarized pollution prevention programs in annual self-audits sent to the Regional Water Quality Control Board.

**PUBLICATIONS**

**Burt, Z.**, Ercümen, A., Billava, N., Ray, I., (2018) From intermittent to continuous service: Costs, benefits, equity and sustainability of water system reforms in Hubli-Dharwad, India, *World Development*, Volume 109, Pages 121-133

**Burt, Z.**, Njee, R.M., Mbatia, Y., Msimbe, V., Brown, J., Clasen, T.F., Malebo, H.M. & Ray, I. (2017) *User preferences and willingness to pay for safe drinking water: Experimental evidence from rural Tanzania*. *Social Science & Medicine*, 173, 63–71.

**Burt, Z.**, Nelson, K., and Ray, I. (2016) *Towards Gender Equality through Sanitation Access*. Discussion Paper. UN Women Discussion Paper Series. UN Women

Ercumen, A., Arnold B., Kumpel E., **Burt Z.**, Ray I., Nelson K., and Colford J.M. (2015) *Upgrading a Piped Water Supply from Intermittent to Continuous Delivery and Association with Waterborne Illness: A Matched Cohort Study in Urban India*. *PLoS Med* 12, no. 10

Amrose, S., **Burt, Z.**, Ray, I. (co-authors) (2015) *Safe Drinking Water for Low-Income Regions*, *Annual Review of Energy and Resources*

Jayaram, KP., **Burt, Z.** and Kumar, BM. (2015) *A Study of the Consumption Pattern in a Continuous Water Service Demonstration Zone and Bulk Water Demand Forecasting for Hubli-Dharwad, India*, *Journal of Water, Sanitation and Hygiene for Development*.

**Burt, Z.** and Ray, I. (2014). *Storage and non-payment: Persistent informalities within the formal water supply of Hubli-Dharwad, India*. *Water Alternatives* 7(1): 106-120

Clasen, T., Fabini, D., Boisson, S., Taneja, J., Song, J., Aichinger, E., Bui, A., Dadashi, S., Schmidt, W., **Burt, Z.** & Nelson, K. L. (2012). *Making sanitation count: developing and testing a device for assessing latrine use in low-income settings*. *Environmental science & technology*, 46(6), 3295-3303.

Ercumen, A., Kumpel, E., Silverman, A., & **Burt, Z.** (2009). *A Volunteer-Led Effort Linking Research to Development Practice to Promote Safe Water and Hygiene in Slums in India*. *Proceedings of the Water Environment Federation*, 2009 (1), 523-539.

**MEDIA – AUTHORED ARTICLES and MENTIONS**

Ghosh, R. (2018, July 30). Few Indian engineers are opting for Civil and Environmental Engineering. *Times of India*. Retrieved from <https://timesofindia.indiatimes.com/home/education/news/few-indian-engineers-are-opting-for-civil-and-environmental-engineering/articleshow/65198365.cms>

**Burt, Z.** (2018, May 10). What If People Were Paid to Use Less Water? Citylab. Retrieved from <https://www.citylab.com/perspective/2018/05/what-if-people-were-paid-to-use-less-water/559625/>

## IN PREPARATION

**Burt, Z.,** Gordon, M.V., & Vij, A. *Continuous Piped Water or Improved Intermittency? Willingness to Pay for Improved Piped Water Services in Hubli-Dharwad, India (anticipated submission to Environmental and Resource Economics)*

**Burt, Z.,** Sklar, R., Muspratt, A. *Willingness to Pay for Improved Fecal Sludge Collection Services in Kigali Rwanda. (preliminary acceptance for a special issue in Waterlines)*

**Burt, Z.,** Chhajed, P., Narayanan, NC, *Willingness to Pay for On-Site Containment Systems Upgrades in Alleppey, Kerala, India. (anticipated submission to World Development)*

Hyun, C., **Burt Z.,** Crider Y., Nelson, K., CS Sharada Prasad, Rayasam S.D.G., Tarpeh, W. and Ray, I. *Sanitation for Low-Income Regions: A Cross-Disciplinary Review (invited to submit for Annual Review of Energy and Resources)*

## PRESENTATIONS

**Burt, Z.,** “Innovative Thinking and Interdisciplinary Research: Wicked Problems and Creative Solutions for Water and Sanitation from Around the World”, National Water Academy, August 10<sup>th</sup>, 2018, Pune, India **(Invited)**

**Burt, Z.,** “Measuring Progress in Water and Sanitation Systems: Access, Equity and Sustainability in Water and Wastewater Systems in Tier-II Indian cities” Groundwater Survey’s and Development Agency (GSDA) – Division of Waste Supply and Sanitation Department, August 10<sup>th</sup>, 2018, Pune, India **(Invited)**

**Burt, Z.,** “Innovative Thinking and Interdisciplinary Research: Wicked Problems and Creative Solutions for Water and Sanitation from Around the World” Center for Environmental Studies, National Institute of Industrial Engineering (NITIE) August 8<sup>th</sup>, 2018, Mumbai, India **(Invited)**

**Burt, Z.,** “Innovative Thinking and Interdisciplinary Research: Wicked Problems and Creative Solutions for Water and Sanitation from Around the World” National Environmental Engineering Research Institute (NEERI), August 8<sup>th</sup>, 2018, Mumbai, India **(Invited)**

**Burt, Z.,** “Sanitation Systems: Access, Equity and Sustainability in Wastewater Systems in Tier-I and Tier-II Cities in India” All India Institute of Local Self Government’s (AIIILSG) Waste Management Innovation Center, August 8<sup>th</sup>, 2018, Mumbai, India **(Invited)**

**Burt, Z.,** “Water and Sanitation for All: Tracking India's Progress”, Columbia Global Center Mumbai, July 25<sup>th</sup>, 2018, Mumbai, India **(Invited)**

**Burt, Z.,** “Innovative Thinking and Interdisciplinary Research: Wicked Problems and Creative Solutions for Water and Sanitation from Around the World”, American Center, U.S. Consulate Chennai, June 5<sup>th</sup>, 2018, Chennai, India **(Invited)**

**Burt, Z.,** “Economic Impacts, Equity and Sustainability for a Drinking Water Services Improvement: The Case of Hubli-Dharwad”, Madras Institute of Development Studies (MIDS), June 5<sup>th</sup>, 2018, Chennai, India **(Invited)**

**Burt, Z.,** “Innovative Thinking and Interdisciplinary Research Wicked Problems and Creative Solutions for Water and Sanitation from Around the World” STEM Education and Faculty Development Conference, November 7<sup>th</sup>, 2017, St Francis College for Women, Hyderabad, India **(Invited)**

**Burt, Z.,** “Economic Impacts, Equity and Sustainability for a Drinking Water Services Improvement: The Case of Hubli-Dharwad” Ashoka Trust for Research on Ecology and the Environment, January 16<sup>th</sup>, 2017, Bangalore, India **(Invited)**

**Burt, Z.,** Ercumen, A., Kumpel, E., Colford, J., Nelson, K., & Ray, I., “Costs and Benefits of an Upgrade to Continuous Water Service in Hubli-Dharwad, India” 2015 Water and Health Conference, October 26-30, 2015. University of North Carolina at Chapel Hill, USA

**Burt, Z.,** VanGordon, M., and Vij, A. “Continuous Piped Water or Improved Intermittency? Willingness to Pay for Improved Piped Water Services in Hubli-Dharwad, India”. 11th Annual Meeting of the International Water Resource Economics Consortium (IWREC) September 7-9, 2014. World Bank Headquarters, Washington, D.C, USA

**Burt, Z.,** Mussa, R., Mbatia, Y., Msimbe, V., Brown, J., Clasen, T., Malebo, H., Ray, I., “User Preferences and Willingness to Pay for Household Water Treatment in Rural Tanzania” 2014 Water and Health Conference: Where Science Meets Policy, October 13-16, 2014. University of North Carolina at Chapel Hill, USA

**LANGUAGES**

Berber (Tamazight) – advanced speaking (27 months language immersion)

Spanish – advanced speaking, reading and writing (9 months university level training, 9 months language immersion)

Swahili – beginning speaking, reading and writing (12 months immersion, 15 months university level training)