

Katherine Shields

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EDUCATION

- | | | |
|---------------|-----|--|
| Expected 2023 | PhD | University of Oregon, Geography
Committee: Leigh Johnson (Advisor), Laura Pulido, Patricia McDowell, Yvonne Braun
Dissertation: <i>Seeing beyond catastrophe: Rethinking development and environmental transformation in the Aral Sea region of Uzbekistan</i> |
| 2013 | MPH | University of Michigan, Epidemiology & International Health
Advisor: Joseph Eisenberg
Capstone: <i>Household and neighborhood-level risk factors for diarrheal disease in South Quito, Ecuador</i> |
| 2013 | MA | University of Michigan, Middle Eastern and North African Studies
Advisor: Gottfried Hagen |
| 2006 | BA | University of North Carolina at Chapel Hill, Public Policy
Honors Thesis: <i>Cracked foundations: urban development and the changing politics of squatter settlements in Istanbul</i> |

ACADEMIC EMPLOYMENT

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|---|---|
| University of Oregon Department of Geography
<i>Graduate Employee</i> | September 2017 – present |
| The Water Institute at UNC
<i>Research Associate</i> | January 2014 – August 2017 |
| University of North Carolina Department of Asian Studies
<i>Visiting Lecturer</i> | October 2013 – December 2013 |
| University of Michigan School of Public Health
<i>Research and Grant Writing Assistant for Dr. Joseph Eisenberg</i> | September 2010-August 2011;
September 2012 – December 2013 |
| University of Michigan Center for Middle Eastern and North African Studies
<i>Course Developer</i> | September 2011 – May 2011 |

PUBLICATIONS

(* denotes co-first authorship)

- 2022 **Shields, K.F.***, Barrington, D.J.*, Meo, S., Sridharan, S., Saunders, S.G., Bartram, J. & Souter, R.T. Achieving development outcomes by building practical authority in WASH participatory collectives in Melanesia. *Water Alternatives* 5(2): 215-264.

- 2021 **Shields, K.F.**, Moffa, M., Behnke, N.L., Kelly, E., Klug, T., Lee, K., Cronk, R., & Bartram, J. Community management does not equate to participation: Fostering community participation in rural water supplies. *Journal of Water Sanitation and Hygiene for Development*, 11(6), 937-947. DOI: 10.2166/washdev.2021.089
- 2021 Saunders, S.G., Sridharan, S., Barrington D.J., Souter, R., **Shields, K.F.**, Meo, S. & Bartram, J. Consumer markets and self-sufficiency: meeting consumption needs in community. *Journal of Consumer Affairs*. DOI: 10.1111/joca.12403
- 2020 Chan, T., MacDonald, M.C., Kearton, A., Elliot, M., **Shields, K.F.**, Powell, B., Bartram, J.K. & Hadwen, W.L. Climate adaptation for rural water and sanitation systems in the Solomon Islands: A community scale systems model for decision support. *Science of the Total Environment*, 714, 1-13. DOI: 10.1016/j.scitotenv.2020.136681
- 2020 Anthonj, C., Wren, T., Fleming, L., **Shields, K.F.**, Tikoisuva, W.M., Kelly, E., Thakkar, M.B., Cronk, R., Overmars, M., & Bartram, J. Geographical inequalities in drinking water in the Solomon Islands. *Science of the Total Environment*, 712, 1-14. DOI: 10.1016/j.scitotenv.2019.135241
- 2019 Fleming, L., Anthonj, C., Thakkar, M.B., Tikoisuva, W.M., Manga, M., Howard, G., **Shields, K.F.**, Kelly, E., Overmars, M., & Bartram, J. Urban and rural sanitation and hygiene in the Solomon Islands: How resilient are these to extreme weather events? *Science of the Total Environment*, 683, 331-340. DOI: 10.1016/j.scitotenv.2019.05.253
- 2018 Kelly, E., **Shields, K.F.**, Cronk, R., Lee, K., Behnke, N., Klug, T. & Bartram, J. Seasonality, water use and community management of water systems in rural settings: qualitative evidence from Ghana, Kenya, and Zambia. *Science of the Total Environment*, 628-629, 715-721. DOI: 10.1016/j.scitotenv.2018.02.045
- 2018 Klug, T., Cronk, R., **Shields, K.F.** & Bartram, J. A categorization of water system breakdowns: evidence from Liberia, Nigeria, Tanzania, and Uganda. *Science of the Total Environment*, 619-620, 1126-1132. DOI: 10.1016/j.scitotenv.2017.11.183
- 2017 Elliott, M., MacDonald, M., Chan, T., Kearton, A., **Shields, K.F.**, Bartram, J. & Hadwen, W.L. Multiple household water sources and their use in remote communities with evidence from Pacific Island communities. *Water Resources Research*, 53, 1-12. DOI: 10.1002/2017WR021047
- 2017 Barrington, D.J., Sridharan, S., **Shields, K.F.**, Saunders, S.G. Souter, R.T., & Bartram, J. Sanitation Marketing: A Systematic Review and Theoretical Critique Using the Capability Approach. *Social Science & Medicine*, 194, 128-134. DOI: 10.1016/j.socscimed.2017.10.021
- 2017 Kelly, E., Lee, K., **Shields, K.F.**, Cronk, R., Behnke, N., Klug, T. & Bartram, J. The role of social capital and sense of ownership in rural community-managed water systems: qualitative evidence from Ghana, Kenya, and Zambia. *Journal of Rural Studies*, 56, 156-166. DOI: 10.1016/j.jrurstud.2017.08.021
- 2017 MacDonald, M., Chan, T., Elliott, M., Kearton, A., **Shields, K.F.**, Barrington, D.J., Souter, R.T., Powell, B.R., Bartram, J. & Hadwen, W.L. Temporal and thematic trends in water, sanitation and hygiene (WaSH) research in Pacific Island Countries: A systematic review. *Journal of Water Sanitation and Hygiene for Development*, 7(3), 352-368. DOI: 10.2166/washdev.2017.021
- 2017 Crocker, J., Saywell, D., **Shields, K.F.**, Kolsky, P. & Bartram, J. The true costs of participatory sanitation: evidence from community-led total sanitation studies in Ghana and Ethiopia. *Science of the Total Environment*, 601-602, 1075-1083. DOI: 10.1016/j.scitotenv.2017.05.279
- 2017 Behnke, N.L., Klug, T., Cronk, R., **Shields, K.F.**, Lee, K., Kelly, E.R., Allgood, G. & Bartram, J. Resource mobilization for community-managed rural water systems: evidence from Ghana, Kenya, and Zambia. *Journal of Cleaner Production*, 156, 437-444. DOI: 10.1016/j.jclepro.2017.04.016

- 2017 Klug, T., **Shields, K.F.**, Cronk, R., Kelly, E., Behnke, N., Lee, K. & Bartram, J. Pathways for water system hardware and management rehabilitation: qualitative evidence from Ghana, Kenya, and Zambia. *International Journal of Hygiene and Environmental Health*, 220, 531-538. DOI: 10.1016/j.ijheh.2017.02.009
- 2016 Macdonald, M.C., Elliott, M., Chan, T., Kearton, A., **Shields, K.F.**, Bartram, J., & Hadwen, W.L. Investigating Multiple Household Water Sources and Uses with a Computer-Assisted Personal Interviewing (CAPI) Survey. *Water*, 8(12), 574. DOI:10.3390/w8120574.
- 2016 Barrington, D.J., Sridharan, S., Saunders, S.G., Souter, R., Bartram, J., **Shields, K.F.**, Meo, S., Kearton, A. & Hughes, R. Improving community health through marketing exchanges: insights from a Participatory Action Research study on water, sanitation, and hygiene in three Melanesian countries. *Social Science & Medicine*, 171, 84-93. DOI: 10.1016/j.socscimed.2016.11.003
- 2016 Fisher, M.B, Mann, B.H., Cronk, R.D, **Shields, K.F.**, Klug, T.L. & Ramaswamy, R. Evaluating Mobile Survey Tools (MSTs) for field-level monitoring and data collection: development of a novel evaluation framework, and application to MSTs for rural water and sanitation monitoring. *International Journal of Environmental Research and Public Health*, 13(9), 840. DOI: 10.3390/ijerph13090840
- 2016 Crocker, J.*, **Shields, K.F.***, Venkataramanan, V., Saywell, D., & Bartram, J. Building capacity for water, sanitation, and hygiene programming: training evaluation theory applied to CLTS management training in Kenya. *Social Science & Medicine*, 166, 66-76. DOI: 10.1016/j.socscimed.2016.08.008
- 2016 Saunders, S.G., Barrington D.J., Sridharan, S., Meo, S., Hadwen, W., **Shields, K.F.**, Souter, R., & Bartram, J. Addressing water, sanitation and hygiene challenges in Pacific Island Countries: A participatory systems mapping approach to empower informal settlement community action. *Habitat International*, 55, 159-166. DOI: 10.1016/j.habitatint.2016.03.010
- 2015 **Shields, K.F.**, Bain, R.E, Cronk, R. Wright, J.A., & Bartram, J. Association of Supply Type with Fecal Contamination of Source Water and Household Stored Drinking Water in Developing Countries: A Bivariate Meta-analysis. *Environmental Health Perspectives*, 123(12), 1222-1231. DOI:10.1289/ehp.1409002.
- 2015 Fisher, M.F, **Shields, K.F.**, Chan, T.U, Christenson, E., Cronk, R.D., Leker, H., Samani, D., Apoya, P., Lutz, A.& Bartram, J. Understanding handpump sustainability: Determinants of rural water source functionality in the Greater Afram Plains region of Ghana. *Water Resources Research*, 51, 8431-8449. DOI: 10.1002/2014WR016770
- 2012 Eisenberg, J.N., Trostle, J., Sorensen, R.J., & **Shields, K.F.** Toward a systems approach to enteric pathogen transmission: From individual independence to community interdependence. *Annual Review of Public Health*, 33, 239–257.
- 2006 Partch, C.L., **Shields, K.F.**, Thompson, C.L., Selby, C.P., & Sancar, A. Posttranslational regulation of the mammalian circadian clock by cryptochrome and protein phosphatase 5. *Proceedings of the National Academy of Sciences*, 103(27), 10467-10472.

GRANTS, HONORS AND AWARDS

- National Council for Eurasian and East European Research (NCEEER) Dissertation Completion Grant, 2022-2023, \$25,000
- Lokey Doctoral Science Fellowship, University of Oregon, 2022-2023, \$24,000 (declined)
- Rippey Dissertation Writing Grant, UO Department of Geography, Summer 2022, \$5,000
- Fulbright-Hays Doctoral Dissertation Research Abroad Fellowship, Uzbekistan, 2021, \$19,768
- Fulbright finalist, research, Uzbekistan, 2020-2021 (declined)

- Oregon Sasakawa Young Leaders Fellowship Fund (Sylff) Graduate Fellowship for International Research, 2020-2021, \$15,000
- Rippey Award, UO Department of Geography, 2020, \$1,000
- M. Gregg Smith Fellowship, UO College of Arts and Sciences, 2019-2020, \$4,900
- Sandra F. Pritchard Mather Fellowship, UO Department of Geography, 2019, \$4,000
- Cultural and Political Ecology (CAPE) Specialty Group Field Study Award, American Association of Geographers, 2019, \$1,000
- Eurasia Specialty Group Field Research Travel Award, American Association of Geographers, 2019, \$250
- UO Center for Asian and Pacific Studies (CAPS) Professional Grant, 2019, \$300
- Rippey Award, UO Department of Geography, 2019, \$1,000
- Margaret Trussell Scholarship, Association of Pacific Coast Geographers, 2018, \$1,000
- Tom McKnight & Joan Clemons Award for an Outstanding Paper, Association of Pacific Coast Geographers 2018 meeting
- Association of Pacific Coast Geographers Women's Network Travel Grant, 2018
- Association of Pacific Coast Geographers Travel Grant, 2018
- Employee Excellence Award in Research, Department of Environmental Sciences and Engineering, University of North Carolina, Chapel Hill, 2015
- University of Michigan DeVries tuition scholarship, Department of Epidemiology, 2012-2013
- FLAS Fellowship for Uzbek language, University of Michigan Center for Middle Eastern and North African Studies, summer 2011, 2011-2012
- Mitchell Fellowship, University of Michigan Center for Middle Eastern and North African Studies, 2010-2011
- Dean's Award, University of Michigan School of Public Health, 2010-2011
- U. S. State Department Critical Language Scholar, Turkish Program, 2006
- University of North Carolina at Chapel Hill Kimball King Undergraduate Research Award, 2005
- National Merit Scholarship, 2002-2006

CONFERENCE PRESENTATIONS

(* denotes peer-reviewed abstract)

- 2022 **Shields, K.F.**, Novel ecosystems as restoration in the world's newest desert. AAG Annual Meeting, virtual [presentation].
- 2019 **Shields, K.F.**, Barrington, D.J., Meo, S., Sridharan, S., Saunders, S.G., Bartram, Jamie, & Souter, R.T. Participatory collectives to support universal water and sanitation access: Embracing uncertainty, emergence and relevance. Society for Applied Anthropology/Political Ecology Society Annual Meeting. Portland, OR [presentation].
- 2018 **Shields, K.F.** The "imaginary line" crossed me: Changing understandings of science in Trump's first year. APCG Annual Meeting. Reno, NV [presentation].
- 2018 **Shields, K.F.**, Barrington, D.J., Meo, S., Sridharan, S., Saunders, S. G., Bartram, J., & Souter, R. Using transdisciplinary research to "people" the enabling environment for water, sanitation and hygiene exchanges. AAG Annual Meeting. New Orleans, LA [presentation].
- 2016 ***Shields, K.F.**, Karon, A.J., Christenson, E., Ambelu, A., Liang, K. & Bartram, J. Water quality in Ethiopia: learning from data. UNC Water and Health Conference. Chapel Hill, NC [presentation].

- 2016 ***Shields, K.F.**, Barrington, D.J., Sridharan, S., Saunders, S. G., Souter, R., Meo, S., & Bartram, J. Improving community well-being through marketing exchanges: insights from a participatory action research study on WaSH in four Melanesian countries. UNC Water and Health Conference. Chapel Hill, NC [poster presentation].
- 2016 ***Shields, K.F.** Kearton, A., Souter, R., MacDonald, M., Hadwen, W., Elliot, M., Powell, B. & Bartram, J. Integrating climate change adaptation and WaSH in the Pacific. WASH Futures Conference, Brisbane, Australia [presentation].
- 2016 ***Shields, K.F.**, Souter, R., Barrington, D.J., Meo, S., Sridharan, S., Saunders, S. G. & Bartram, J. Functions of an enabling system to enable marketing exchange systems in informal Melanesian communities. WASH Futures Conference. Brisbane, Australia [poster presentation].
- 2015 ***Shields, K.F.**, Souter, R., Barrington, D.J., Meo, S., Saunders, S. G., Sridharan, S., & Bartram, J. Supporting WaSH marketing exchange in the Pacific. UNC Water and Health Conference. Chapel Hill, NC [presentation].
- 2015 ***Shields, K.F.**, Christenson, E., Ambelu, A., Liang, K., Tezazu, M., & Bartram, J. Household stored water and communal source: the impact of geography on the determinants of microbial water quality in rural Ethiopia. UNC Water and Health Conference. Chapel Hill, NC [poster presentation].
- 2014 ***Shields, K.**, Park, S., Eguiguren, M., Miller, A., Trueba, G., & Eisenberg, J.N.S. Household and neighborhood-level risk factors for diarrheal disease in South Quito, Ecuador. UNC Water and Health Conference. Chapel Hill, NC [poster presentation].
- 2014 ***Shields, K.** Household drinking-water in low and middle-income countries: contamination at the point of collection and in household stored water by water source type. UNC Water Microbiology Conference. Chapel Hill, NC [presentation].

OTHER REPORTS AND PUBLICATIONS

- 2017 **Shields, K.F.**, Cronk, R.D., & Abebe, L. *Solomon Islands Rural Water, Sanitation and Hygiene Baseline Report*. The Water Institute at UNC, Chapel Hill, NC, USA.
- 2017 **Shields, K.F.**, Karon, A.J. *Integrated WASH/MUS/CBN Program in Amhara, Oromia, SNNPR, and Tigray Regions: Baseline and Midline report*. Chapel Hill, NC, USA.
- 2017 **Shields, K.F.**, Souter, R.T., Barrington, D.J., Sridharan, S., Saunders, S.G., Meo, S., & Bartram, J. Policy Brief: *Melanesian WaSH policy environments to foster inclusive WaSH marketing exchanges*. International WaterCentre, Brisbane, Australia.
- 2017 **Shields, K.F.**, Souter, R.T., Barrington, D.J., Sridharan, S., Saunders, S.G., Meo, S., & Bartram, J. Policy Brief: *Enabling environments that support sustainable, effective and inclusive WASH marketing exchanges*. International WaterCentre, Brisbane, Australia.
- 2017 Barrington, D.J., Bartram, J., Meo, S., Saunders, S.G., **Shields, K.F.**, Sridharan, S., & Souter, R.T. *Fostering water, sanitation and hygiene (WaSH) marketing exchanges using participatory processes: a guide for working with residents of informal settlements in the Pacific*. International WaterCentre: Brisbane, Australia. ISBN: 978-1-921499-05-0

- 2016 **Shields, K.F.**, Klug, T.L., Lee, K.M., Kelly, E.R., Behnke, N.L., & Cronk, R.D. *Processes for Sustainability in Community-Managed Water Supply Systems*. The Water Institute at UNC, Chapel Hill, NC, USA.
- 2016 **Shields, K.F.**, Christenson, E., Ambelu, A., & Liang, K. *MWA Water Quality Study Report*. Chapel Hill, NC, USA.
- 2013 **Shields, K.** Karachi Elegies: Naiza Khan. *ArtNow: Contemporary Art of Pakistan 2*.

TEACHING

University of Oregon Department of Geography

Instructor of Record for:

- GEOG 181 – Our Digital Earth (online)
- GEOG 391 – Social Science Inquiry and Research (online)
- GEOG 467 – International Water Policy

Teaching Assistant for:

- ENVS 201 – Introduction to Environmental Studies: Social Science (online)
- GEOG 142 – Introduction to Human Geography
- GEOG 360 – Watershed Science and Policy
- GEOG 342 – Globalization and Development
- GEOG 391 – Social Science Inquiry and Research
- GEOG 465 – Environment and Development: Facing Climate Change
- GEOG 467 – International Water Policy
- GEOG 495 – Geographic Data Analysis

University of North Carolina Department of Asian Studies

- ASIA 225 – Istanbul: Crossroads of Asia and Europe (Fall 2013)

University of Michigan Center for Middle Eastern and North African Studies

- Course developer for Middle East Geography

SKILLS

Research

- Quantitative: sampling design, survey design, enumerator training, statistical analysis
- Qualitative: interview, focus group discussion and participatory stakeholder mapping design and data collection, coding and analysis

Language

- Turkish (Advanced level)
- Uzbek (Upper-intermediate level)
- Spanish (Previously intermediate level)

International work/research experience

Australia, Ecuador, Ethiopia, Fiji, Ghana, Papua New Guinea, Rwanda, Solomon Islands, Turkey, United Kingdom, Uzbekistan, Vanuatu

Computer

- SAS, STATA, R, QGIS, ArcGIS, Atlas.ti, NVivo, Dedoose, Mendeley, EndNote, Zotero, Microsoft Office Suite

SERVICE

University

- Curriculum Chair, Associated Graduate Students in Geography, University of Oregon (2021-2022)
- Co-chair, COVID Response Committee, Graduate Teaching Fellows Federation GTFF3544 (2020-2021)
- Department Steward, Graduate Teaching Fellows Federation GTFF3544 (2018-2020)
- Graduate Tutor: Association of Pacific Rim Universities' Undergraduate Leadership Program, hosted by University of Oregon. (Summer 2019)
- Advisor: Antonella Vagliente, Masters of Integrated Water Management (MIWM) student at the University of Queensland, Australia. Thesis: *Linking relief, rehabilitation and development of WASH actions in Fiji. An IWRM perspective on Fiji's WASH Cluster challenges and opportunities for LRRD* (Fall 2016 – Spring 2017).
- Advisor: Kylie Milligan, MIWM student at the University of Queensland, Australia. Thesis: *WASH monitoring data and outcomes in Fiji: An integrated water resources management perspective* (Spring 2016).
- Mentor: Emma Kelly, BSPH student at the University of North Carolina (Spring 2015 – Spring 2017).
- Mentor: Kristen Lee, BA student at the University of North Carolina (Spring 2015 – Spring 2017).
- Mentor: Tori Klug, MS student at the University of North Carolina (Fall 2015 – Spring 2016).
- Mentor: Nikki Behnke, BA student at the University of North Carolina. (Spring 2015 – Spring 2016).

Discipline

- Reviewer for: Annals of the AAG, Environmental Health Perspectives; Environmental Science & Technology; Evaluation and Program Planning; Global Public Health; Journal of Water, Sanitation and Hygiene for Development; PLOS ONE; PLOS Water; Science of the Total Environment

Memberships

- American Association of Geographers (AAG)
- Association of Pacific Coast Geographers (APCG)
- Association for Slavic, East European & Eurasian Studies (ASEEES)