

SARA J. MARKS

CURRICULUM VITAE

Personal Data

Dept. of Sanitation, Water and Solid Waste for Development (Sandec), FC-F27
Eawag, Swiss Federal Institute of Aquatic Science and Technology
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Education

2008-2012 **PhD**, Stanford University, Dept. of Civil and Environmental Engineering, Stanford, USA
2006-2007 **MSc**, Stanford University, Dept. of Civil and Environmental Engineering, Stanford, USA
1999-2003 **BSc**, University of Pittsburgh, Dept. of Chemistry, Pittsburgh, USA

Professional Experience

2014- **Group Leader**, Water Supply and Treatment, Sandec Dept., Eawag, Dübendorf, Switzerland
- *Appointed member of the Eawag Directorate (November 2023)*
- *Appointed Adjunct Professor in Civil Engineering, University of Victoria (June 2023)*
- *Granted tenure (December 2019)*
- *Maternity leave (2014 and 2018, 5-months each)*
2012-2014 **Postdoctoral Fellow**, Johns Hopkins Bloomberg School of Public Health, Dept. of Environmental Health Sciences, Baltimore, USA
2005-2006 **Microbiologist**, Aspen Consolidated Sanitation District, Aspen, USA
2003-2005 **Consultant**, Marks Environmental Inc., Elverson, USA
2002 **Research Assistant**, l'Ecole des Mines d'Albi-Carneau, Albi, France

Grant Participation

Current:

2024-2026 A Sustainable In-line Machine Learning Driven Water Disinfection and Monitoring System for Low-Income Settings. *InnoSuisse: Suisse Innovation Agency* (CHF 922'123). PI: Patrissi D (Clara Water). Co-PIs: **Marks SJ** (Eawag), Cattaneo S (CSEM).
2022-2026 Water, Behaviour Change and Environmental Sanitation (WABES-2). *Swiss Agency for Development and Cooperation* (CHF 7'725'461/4.5 years). PI: Lüthi C. Co-PIs: Zurbrügg C, Strande L, **Marks SJ**, Meierhofer R, Berg M (all Eawag).
2021-2024 REACHLabs: Establishing Fit-for-Purpose Laboratories for Rural Water Supplies: A 3-Country Study. *REACH: Water Security for the Poor* (University of Oxford-UK Government joint programme) (£296'970/2 years). PI: **Marks SJ** (Eawag), co-Is: Katrina Charles (Oxford), Saskia Nowiski (Oxford), Bhatta M (Helvetas), Kunwar BM (Helvetas), Nyaga C (Fundifix), Rahaman F (SafePani), Muturi J (Univ of Nairobi).

Past:

2020-2023 Chlorination Interventions for Rural Supplies in Guatemala. *ETH4D Research Challenge Grant* (CHF 56'200). PI: **Marks SJ**. Co-Is: Tosi Robinson D (Eawag), Sanchez G (Helvetas), Crider Y (Stanford).
2018-2022 Water, Behaviour Change and Environmental Sanitation (WABES). *Swiss Agency for Development and Cooperation* (CHF 6,740,534/4.5 years). PI: Lüthi C. Co-PIs: Zurbrügg C, Strande L, **Marks SJ**, Meierhofer R, Berg M, Inauen J, Mosler HJ (all Eawag).
2017-2020 Water Supply and Sanitation in Small Towns: The Urban-Rural Intersection (SMALL). *UNESCO IHE DUPC2* (€886,000/4 years). PI: Ferrero G (IHE), co-Is: Kansime F (Makerere)

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- Univ.), Niwagaba C (Makerere Univ.), Batega D (Makerere Univ.), Kaggwa R (NWSC), Okaronon E (NWSC), Kanyesigye C (NWSC), Babu M (NWSC), **Marks SJ** (Eawag).
- 2018-2019 Accelerated Project: Establishing a Drinking Water Security Strategy in Mid-Western Nepal. *REACH: Water Security for the Poor* (University of Oxford-UK Government joint programme) (£197,490/1.5 years). PI: **Marks SJ** (Eawag), co-Is: Bhatta M (Helvetas), Kunwar BM (Helvetas), Clair-Caliot G (Eawag), Meierhofer R (Eawag), Schertenleib A (Eawag).
- 2017-2019 Emergency Household Water Filter Challenge. *Elrha's Humanitarian Innovation Fund* (£200,000/1.5 years). PI: Peter M (FHNW), co-Is: Meierhofer R (Eawag), **Marks SJ** (Eawag), Caniato M (Cesvi), Mueller K (Caritas).
- 2018-2019 Proposal for Short-term Scientific Support Following Maternity Leave. *Eawag Tailwind Ad Hoc Grants* (CHF 21'917/6 months). PI: **Marks SJ** (Eawag).
- 2016-2017 Catalyst Project: Establishing a Drinking Water Security Strategy in Mid-Western Nepal. *REACH: Water Security for the Poor* (University of Oxford and UK Government joint programme) (£43,000/1 year). PI: **Marks SJ** (Eawag), co-Is: Bhatta M (Helvetas), Kunwar BM (Helvetas), Schertenleib A (Eawag).
- 2015-2017 Water and Environmental Sanitation Services for the Poor (WESSP). *Swiss Agency for Development and Cooperation* (CHF 3,379,599/3 years). PI: Lüthi C. Co-PIs: Zurbrügg C, Strande L, **Marks SJ**, Gebauer H (all Eawag).

Publications

Full list available on Google Scholar: <https://scholar.google.ch/citations?user=QaoEcTmM02IC&hl=en>

Mentoring

Postdoctoral Fellow Supervision:

- 2020-2023 **Sital Uprety**, now AAAS Fellow in State Department, Washington, D.C., USA.
2015-2016 **Fabio Ugolini**, now Scientific Advisor at INNOVA, Rome, Italy.

PhD Thesis Co-Supervision or Mentorship:

- 2021-2024 **Jacktone Akelo**, Technical and Governance Factors Influencing Sustainability of Community-Managed Borehole Water Kiosks in Kisumu County, Kenya. St. Paul's University, Academic advisor: Prof. Daniel Muasya.
- 2017-2024 **Christopher Kanyesigye**, Improved understanding of Water Safety Plan implementation in small towns of Uganda through outcome and impact assessments: The case of NWSC Bushenyi area. Makerere University, Academic advisor: Prof. Frank Kansime. *Expected graduation: 2023*.
- 2018-2022 **Benjamin Ambuehl**, The Role of Psychological Ownership in Community-based Piped Water Supply Infrastructure in Nepal and India. University of Bern, Academic advisor: Prof. Jennifer Inauen.
- 2018-2021 **Yoshika Crider**, Safe Drinking Water for Community-managed Systems in Rural Nepal. University of California-Berkeley, Academic advisor: Prof. Isha Ray.
- 2016-2021 **Dan Daniel**, Household water safety plans: Improving drinking water quality at the household level. TU Delft, Academic advisor: Prof. Saket Pande.

MSc Thesis Supervision:

- 2024- **Olivia Ashaba Ahebwa**, Assessing WASH and solid waste insecurities in healthcare facilities, Makerere University.
- 2023-2024 **Rachel Boyer**, Validation of FairCap portable lab for water quality testing in low-resource contexts, University of Victoria.

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- 2023-2024 **Madan Bhatta**, Determinants of user satisfaction on management of community-based drinking water schemes in Surkhet, Mid-West University.
- 2022-2023 **Jael Locher**, Assessment of a local and low-cost passive in-line chlorination device in rural Guatemala, EPF-Lausanne.
- 2020-2023 **Gloria Magut**, Assessment of quality of bottled drinking water in Embakasi Central, Nairobi County, Jomo Kenyatta University.
- 2019-2020 **Carola Bänziger**, Assessing water safety interventions for piped systems in western Nepal, ETH-Zurich.
- 2018-2019 **Franziska Genter**, Evaluation of the novel substrate RUG™ for the detection of *Escherichia coli* in water, ETH-Zurich.
- 2018-2019 **Sanjeena Sainju**, Assessing the microbial water quality for pre- and post-chlorination treatment on pipeline systems and water management practices in rural communities of Dullu Municipality, Kathmandu University.
- 2017-2018 **George Wainaina**, Comparative analysis of factors that influence consistent use of household water treatment and storage in Northern Kenya, Pan-African University – Institute for Water and Energy Sciences (PAUWES).
- 2017-2018 **Juliet Nakanjako**, Water Safety Plans in Uganda: Enabling factors and barriers to scaling up in the northern and western regions, IHE Institute for Water Education.
- 2017-2018 **Davie Manjaya**, Microbiological quality and handling practices of street-vended sachet drinking water in Mwanza, Malawi, University of Malawi.
- 2016-2017 **Samuel Arhin**, Hybrid coagulation-ultrafiltration process for portable water treatment in Uganda: A case of Lake Victoria, Makerere University.
- 2015-2016 **Moa Kenea**, Assessment of faecal contamination and sanitary risk in intermittent piped water systems in rural Nepal, IHE Institute for Water Education.
- 2015-2016 **Irfan Pratama**, Impact of technical and management adaptations on intermittent piped water systems in Nepal, IHE Institute for Water Education.
- 2014-2015 **Dan Daniel**, Assessing drinking water quality from point of collection to point of use in rural Nepal, IHE Institute for Water Education.

Interns and Civil Service:

- 2024 **Rachel Boyer**, University of Victoria
- 2022 **Jael Locher**, EPF-Lausanne
- 2022 **Donat Crippa**, ETH-Zurich
- 2021 **Margot Plassard**, EPF-Lausanne
- 2018 **Michael Vogel**, EPF-Lausanne
- 2018 **Laila Lüthi**, University of Zurich
- 2017 **Manuel Holzer**, ETH-Zurich
- 2017 **Dorian Tosi Robinson**, ETH-Zurich
- 2015 **Anna Muntwyler**, ETH-Zurich

Scientists:

- 2023- **Marisa Boller**
- 2022-2024 **Jackline Muturi**, now Doctoral Researcher at Griffith University.
- 2017-2024 **Dorian Tosi Robinson**
- 2021-2023 **Franziska Genter**, now Doctoral Researcher at University of Technology Sydney
- 2015-2022 **Ariane Schertenleib**, now Technical Expert at University of Neuchâtel
- 2021-2022 **Abhinay Shrestha**, now Independent Consultant
- 2021 **Sanjeena Sainju**

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2019-2020 **Josphine Gaicugi**, now Project Manager at UN-Habitat
2017-2019 **Guillaume Clair-Caliot**, now Founder of the start-up Pas Perdu
2017 **Moses Nyakana**, now National Technical Advisor at GIZ
2017-2019 **Samuel Arhin**, now Doctoral Researcher at Università degli Studi di Napoli Federico II
2014-2017 **Arnt Diener**, now Global Head of Environmental Risk Advisor, Quantis

Teaching

2014- **Coordinator and Lecturer**, Sanitary Engineering in Developing Countries, EPF-Lausanne
2014- **Lecturer**, Environmental Sanitation Planning and Infrastructure in Developing Countries, ETH-Zurich
2014- **Lecturer**, Sanitation, Water and Waste Management for Development, NADEL, ETH-Zurich
2014- **Coordinator and Instructor**, Household Water Treatment and Safe Storage (*Coursera Massive Open Online Course with 20,000+ enrolled students to date*)
2016 **Coordinator and Instructor**, Water Supply in Low- and Middle-Income Countries, Eawag PEAK Advanced Course
2015-2016 **Guest Lecturer**, Nutrition for Health and Development, ETH-Zurich
2010-2012 **Teaching Assistant**, Designing Environmental Research, Stanford University
2011 **Teaching Assistant**, Water and Sanitation Infrastructure Planning in Developing Countries, Stanford University
2011 **Teaching Assistant**, Water, Public Health and Engineering, Stanford University
2009 **Teaching Assistant**, Energy Resources, Stanford University
2009 **Guest Lecturer**, Design for a Sustainable World, Stanford University

Presentations and Meetings

Selected Invited Talks:

- Research of Water Quality & Treatment. 2024. *Unicef Water Quality Series*, Zurich, Switzerland.
- Heavy Metals in Drinking Water as Public Health Problem. 2024. *RésEAU / CDE Webinar*, Zurich, Switzerland.
- Compendium of Water Supply Systems and Technologies from Source to Consumer. 2023. WHO convened event at *IRC All Systems Connect Symposium*, World Forum, The Haag, Netherlands.
- The REACH Project: Insights from Recent Drinking Water Research in Rural Nepal. *Webinar Series on WASH Issues in Nepal*, Skat Foundation, St. Gallen, Switzerland.
- Guidelines for drinking-water quality of small water supplies. 2017. WHO convened event at *UNC Water and Health Conference*, Chapel Hill, USA.
- Establishing a drinking water safety strategy in Mid-Western Nepal. 2017. *REACH International Symposium on Sustainable Growth and Water Security*, Bishoftu, Ethiopia.
- Water fetching and women's safety: Evidence from Burkina Faso and Tanzania. 2017. *RWSN Webinar Series: Making Water Work for Women*, St. Gallen, Switzerland.
- Measuring the impact of multiple-use water services in Tanzania and Burkina Faso: Water service quality, nutrition and health. 2017. *Center for Child Well-Being and Development (CCWD) Conference*, University of Zurich, Zurich, Switzerland.
- Multiple use water services in Burkina Faso and Tanzania. 2016. IFPRI convened event at *Stockholm World Water Week*, Stockholm, Sweden.
- Multiple use water services and women's entrepreneurship. 2015. U.S. *Water Partnership Webinar Series*, Washington D.C., USA.

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Selected Conference Presentations (presenting author only):

- Strengthening Rural Water Quality Monitoring & Management. 2024. World Bank convened session at the *UNC Water & Health Conference*, Chapel Hill, North Carolina, USA.
- The Role of Fit-For-Purpose Labs for Monitoring and Managing Rural Water Supplies. 2023. *IRC All Systems Connect Symposium*, The Haag, The Netherlands.
- Establishing a drinking water safety strategy in Mid-Western Nepal. 2017. *UNC Water and Health Conference*, Chapel Hill, USA.
- Pathways to sustainability: A fuzzy-set qualitative comparative analysis of rural water supply programs. 2017. *UNC Water and Health Conference*, Chapel Hill, USA.
- Measuring the impact of multiple-use water services in Tanzania and Burkina Faso. 2016. *RWSN Forum*, Abidjan, Côte d'Ivoire.

Participation in Selected High-Level Meetings:

- Water We Waiting For? A Trans-continental forum on setting the Water Action Agenda for Sustainable Development. Mar. 2023. Barnard College, *UN Water Conference*, New York, USA.
- Meeting of the Parties to the Protocol on Water and Health. Nov. 2022. United Nations, Geneva, Switzerland.
- International Cooperation Forum Switzerland. Mar. 2022. Geneva, Switzerland.
- Meeting on the Revisions of the Guidelines for Small Water Supplies. Dec. 2017. World Health Organization, Chisinau, Moldova.
- Meeting of the Parties to the Protocol on Water and Health. Aug. 2016. United Nations, Geneva, Switzerland.
- Expert Working Group on WASH and Child Stunting. May 2016. World Health Organization, Geneva, Switzerland.
- Water Use Life Cycle Assessment (WULCA) Expert Working Group on Human Health and Well-Being. Oct. 2014. ETH-Zurich, Zurich, Switzerland.
- Scaling Multiple-Use Water Service in Tanzania. Sept. 2013. The U.S. Water Partnership and Winrock International, Morogoro, Tanzania.
- Rural Water Sustainability: Opportunities for Practice-Research Partnership. Feb. 2009. Millennium Challenge Corporation, Direcção Nacional de Águas, and Stanford University, Maputo, Mozambique.

Awards and Honors

2019	Runner-up best paper, <i>Environmental Science: Water Research & Technology</i>
2013	Johns Hopkins Kazuyoshi Kawata Sanitary Engineering Award
2011	Stanford Centennial Teaching Award, Civil & Environmental Engineering Dept.
2008	Stanford Center for African Studies Graduate Research Fellowship
2007-2010	National Defense Science and Engineering Graduate (NDSEG) Fellowship
2002	IAESTE-France Research Assistantship, l'Ecole des Mines d'Albi-Carmaux
1999-2003	University of Pittsburgh Scholar Award

Service

Journal Peer Review: *BMC Microbiology; Bulletin of the WHO; Danish Geography; Environmental Science & Technology; Environmental Science: Water Research & Technology; Frontiers in Water; Global Public Health; Hydrological Sciences Journal; International Journal of Health & Environmental Hygiene; International Journal of Water Resources Development; Journal of Water & Health; Journal of Water, Sanitation & Hygiene for Development; Mountain Research & Development; Rural Studies;*

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Science of the Total Environment; Tropical Medicine & International Health; Water Policy; Water SA; Water Science & Technology: Water Supply; Waterlines; World Development.

Academic Editor: *PLOS Water, Frontiers in Water*

Proposals/Conferences: Botnar Foundation (proposals), IHE Delft Institute for Water Education (applications), Ghent University (proposals), London School of Hygiene and Tropical Medicine International Collaboration Award (proposals), Rolex Foundation Award (proposals), RWSN Forum 2016 (abstracts), TUD Best Paper Award

Committees: Current - RWSN Water Quality Action Group, Eawag Strategy Commission, WaterHub Steering Committee, Sanitation and Water for All Research & Learning Constituency. Past – Aguasan Steering Committee, Eawag Partnership Program, Eawag Symposium Organizing Committee, WHO Guidelines for Drinking-water Quality: Small Water Supplies (expert advisory role), Groundwater Resources Management e-Learning Platform (expert advisory role), WHO-Eawag Collaborating Centre on Water, Sanitation and Hygiene (coordinator)

Professional Organizations: International Water Association, Rural Water Supply Network

Country Experience

In alphabetical order: Bangladesh, Burkina Faso, Guatemala, Kenya, Mozambique, Nepal, Senegal, Tanzania, Uganda, United States, and Zimbabwe.

Language Skills

English – native; French – B1.2; German – B1.2



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Signed: 11 November 2024