

# SASKIA NOWICKI

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## PROFILE

Social-environmental systems specialist, leading transdisciplinary work on intersecting water quality, environmental hygiene, and health risks. Using systems frameworks and tools to improve understanding of human-environment interactions and identify leverage points to advance health equity through resilient safe water services. A decade of research and consulting experience in WASH and water management, engaging across scales, from molecular methods to hierarchical institutional dynamics. Recently seconded to the UK government to work on systems-based strategy for advancing environmental health governance.

## EDUCATION

### **DPhil WASH & Health, University of Oxford [2017-21]**

'Data, Decisions, & Drinking-Water Safety:  
An interdisciplinary analysis of the complex  
adaptive response to monitoring in rural Kenya'

### **MSc Water Science, Policy & Management, University of Oxford [2015-16]**

Top of class, distinction

### **BSc Environmental Science, McGill University [2008-12]**

First class honours, distinction

## WORK EXPERIENCE

*research*

*teaching*

*policy*

*consulting*

### **Postdoctoral Researcher, REACH Water Security Programme**

School of Geography and the Environment, University of Oxford, Oxford, UK

Jun 2021  
to present

### **Casual Lecturer, MSc programmes**

School of Geography and the Environment, University of Oxford, Oxford, UK

Sep 2021  
to present

### **Secondment, Strategic Development of One Health Governance**

Dept. for Environment, Food and Rural Affairs, Central Science Division, London, UK

2022-23  
(6 months)

### **Tutor, Myanmar Transformation by Innovation in Distance Education Programme**

University of Oxford and the Open University, UK

2019-20  
(1 year)

### **Teaching Assistant, MSc Water Science, Policy and Management**

School of Geography and the Environment, University of Oxford, Oxford, UK

2018-21  
(3 years)

### **Research Assistant, Unlocking the Potential of Groundwater (UPGro) Programme**

Smith School of Enterprise and the Environment, University of Oxford, Oxford, UK

2016-18  
(2 years)

### **Consultant – fixed-term contract, WASH Team**

Oxford Policy Management – Oxford, UK (2016)

2016-17  
(5 months)

### **Consultant, Geochemistry and Water Quality Team**

SRK Consulting, Vancouver, Canada

2012-15  
(3 years)

### **Research Intern, Socioenvironmental Impacts of Dam Development**

Smithsonian Tropical Research Institute, Panama City, Panama

2012  
(4 months)

### **Research Assistant, Gregory-Eaves Limnology Lab**

McGill University, Montreal, Canada

2011  
(4 months)

## GRANTS, AWARDS and SCHOLARSHIPS

UK Medical Research Council Public Health Intervention Development Grant	£150,000	2023
Oxford SoGE Early Career Research Engagement and Impact Award	£500	2022
UK Economic & Social Research Council Impact Acceleration Grant Stages 1, 2, 3	£34,500	2020-22
Commonwealth Scholarship for Doctoral Study in the UK	£98,000	2017
Oxford SoGE Inspiration Fund Grant (for research engagement and impact)	£1,000	2016
Linacre Canadian National Scholarship, Oxford SoGE Departmental Scholarship	£10,000	2015
Canada Natural Sciences & Engineering Research Council Research Grant	\$6,000	2011
McGill University Davidovic Field Study Award	\$1,000	2011

## KEY COMPETENCIES:

### **Leadership, collaboration, & management**

- 11 years collaborating with interdisciplinary teams on 38 research and consulting projects in Europe, Africa, Southeast Asia, and the Americas
- Balancing workload across research, teaching, and admin responsibilities including international collaborations in Bangladesh, Ethiopia, Kenya, Cameroon, Nepal, Switzerland, and the UK.
- 5 years managing research budgets ranging from £60,000 to £150,000
- 4 years managing research assistants and coordinators in Kenya and the UK, including training, moderating workload, supporting career development, and dispute resolution
- Convened an international research-practitioner team to win funding from the UK MRC for a project on strengthening the implementation environment for decentralised water treatment in rural Kenya

### **Knowledge exchange & research impact**

- Contracted by Uptime Global to co-develop a water safety results-based funding framework to finance rural water service providers, which serve >4.5 million people in 12 countries (2023)
- Convened a workshop on systems thinking for environmental governance, connecting 7 research and 5 policy teams for ongoing exchange (2023)
- Initiated an international community of practice for knowledge exchange on implementation of passive chlorination (2023)
- Co-chairing the leadership team of the Oxford Water Network and supervising networking and knowledge-exchange activities (since 2021)
- Providing feedback to the WHO on guidance for the rural water sector (since 2020)
- Leading action research on implementation of water safety activities with water service providers in Kenya and Bangladesh (since 2018)
- Leading a Water Learning Partnership project to co-produce learning materials and activities with researchers, teacher-trainers, and schools in Kenya and Cameroon (since 2016)

### **Analytical skills**

- Application of parametric and non-parametric statistics, bioinformatics, time series analysis, and spatial data analysis

- Application of qualitative thematic analysis, including collaborative coding design
- Use of R/RStudio for statistical analysis and data visualisation; NVivo for qualitative analysis; Microsoft Excel and Access for data management

### **Equity & inclusion in research & education**

- 3 years in departmental anti-racism working group, developing and tracking an action plan with engagement from EDI officer and department head
- 1.5 years as fixed-term researcher rep. on departmental research committee
- Completed online course for Oxford staff: Equality and Diversity Briefing (2021)
- Completed Worcester College Decolonisation Course, an 8-week structured reading and discussion programme (2021)
- Organised and participated in a workshop on Tools for Community Organising and Anti-Racist Action (2020)
- Contributing to events on gender equity in the WASH sector with the Community of Women in Water network (since 2020)

### **Teaching, assessment, & supervision**

- 2 years applying planetary health education principles in teaching graduate-level lectures and practicals on research design and skills (MSc, MPhil, & DPhil), water and health (MSc), and water quality (MSc)
- 2 years assessing MSc term essays, exam papers, and dissertations, and setting exam questions
- Supervising MSc students to develop critical thinking and analysis in their dissertation projects (5 students to-date)
- Delivering MSc student workshops on critical thinking and analytical writing (since 2019) and science communication (since 2022)
- Providing MSc student pastoral care for stress management and fieldtrips (since 2018)
- Leading a module on water and health for lecturers from 30 Myanmar universities, at a workshop in Yangon and online (2019-20)
- Completed pedagogy course: Introduction to Learning and Teaching at Oxford (2018)

## PUBLICATIONS:

### Peer-reviewed papers:

**Nowicki S**, Birhanu B, Tanui F, Sule M.N, Charles K, Olago D, Kebede S. (2023) [Water chemistry poses health risks as reliance on groundwater increases: a systematic review of hydrogeochemistry research from Ethiopia and Kenya](#). Science of the Total Environment, 904(166929).

**Nowicki S**, Bukachi S, Hoque S, Katuva J, Musyoka M, Sammy M, Mwaniki M, Omia D, Wambua F, Charles, K. (2022) [Fear, Efficacy, and Environmental Health Risk Reporting: Complex Responses to Water Quality Test Results in Low-Income Communities](#). Int. Journal of Environmental Research and Public Health, 19(597).

**Nowicki S**, deLaurent Z, de Villiers E, Githinji G, Charles K (2021). [The utility of \*Escherichia coli\* as a contamination indicator for rural drinking water: Evidence from whole genome sequencing](#). Plos One, 16(1).

**Nowicki S**, Koehler J, Charles K. (2020) [Including water quality monitoring in rural water service provision: why safe water requires challenging the quantity versus quality dichotomy](#). npj Clean Water. 3(14).

Charles K, **Nowicki S**, Bartram J. (2020) [A framework for monitoring the safety of water services: from measurements to security](#). npj Clean Water. 3(36).

**Nowicki S**, Lapworth D, Ward J, Thomson P, Charles K. (2019) [Tryptophan-like fluorescence as a measure of microbial contamination risk in groundwater](#). Science of the Total Environment. 646:782-791.

### Book chapters:

Charles KJ, **Nowicki S**, Thomson P, Bradley DJ. (2020) Water and Health: A Dynamic, Enduring Challenge. In: Water Science, Policy, and Management: A Global Challenge. John Wiley & Sons Ltd.; p. 97–116.

Johnstone DWM, **Nowicki S**, Narayan AS, Sinha R. (2020) Wastewater: From a Toxin to a Valuable Resource. In: Water Science, Policy, and Management: A Global Challenge. John Wiley & Sons Ltd.; p. 291–307.

### Under review:

Laauwen and Nowicki. (n.d.) Reinforcing feedbacks for sustainable implementation of rural drinking-water technology. Under review at Environmental Science & Technology.

### Selected collaborative reports and resources:

(2023) Results-based funding for safe drinking water services: How a standard contract design with payment for results can accelerate safe drinking water services at scale. REACH working paper 13. University of Oxford and Uptime Global. Oxford, UK.

(2023) SafePani: Improving drinking water safety for schools and healthcare centres in Khulna district, Bangladesh. Briefing note: January 2023.

(2021) Global prospects to deliver safe drinking water services for 100 million rural people by 2030. REACH Working Paper 12. RWSN and University of Oxford. Oxford, UK.

(2021) Bangladesh Multiple Indicator Cluster Survey 2018-2019, Water Quality Thematic Report. Bangladesh Bureau of Statistics and UNICEF. Dhaka, Bangladesh.

(2021) Policy reform to deliver safely managed drinking water services for schools in rural Bangladesh. REACH Working Paper 11. University of Oxford and UNICEF. Oxford, UK.

(2021) The Water Module Student Resource and Educators Guide. School of Geography and the Environment, University of Oxford. Second edition. ISBN 978-1-874370-85-7

(2020) Delivering safely-managed water to schools in Kenya. REACH Working Paper 8. University of Oxford. Oxford, UK.

(2018) Developing a Global Compendium on Water Quality Guidelines. IWRA, the French National Office of Water and Aquatic Environments, and the World Water Council. Online.

(2018) Assessing microbiological contamination in groundwater: Field note on using Tryptophan-like Fluorescence (TLF). British Geological Survey Open Report 18/042. Wallingford, UK

## EVENTS and PRESENTATIONS:

### **Convening conference sessions, events and workshops:**

- (Oct 2023) Session: Accelerating progress on drinking water safety with results-based funding; co-convened with Uptime Global, EOS International, Safe Water Network Ghana, and Water Mission; UNC Water & Health Conference, Chapel Hill, USA
- (May 2023) SoGE Systems Thinking Workshop with 7 research labs & 5 policy teams; led; Oxford, UK
- (May 2023) Panel session: Systemic requirements for monitoring and managing water quality; input for design and content (in absentia); All Systems Connect Symposium, The Hague, Netherlands
- (Apr 2023) Water Learning Webinar for educators and students in African secondary schools; co-convened with the Cameroon Pedagogic In-Service Training Programme & RWSN
- (Jan-Mar2023) Seminar series: Water and health in a changing climate; led; Oxford Water Network Hilary Term seminar series, Oxford, UK
- (Dec 2022) Session: Water and Health in a Volatile Climate; led; AGU Fall Meeting, Chicago, USA
- (Dec 2022) Session: Technologies & Approaches for Decentralised Water Quality Monitoring Through Citizen Engagement; co-convened with IWMI; AGU Fall Meeting, Chicago, USA
- (Oct 2022) Session: Implementing passive chlorination at scale: strategies for climate resilience, service delivery, and financing; co-convened with Aquaya, UC Berkeley, Water4 and Evidence Action; UNC Water & Health Conference, Chapel Hill, USA
- (Oct 2022) Session: Tailored rural water safety monitoring: exploring innovative models for water quality data; co-convened with Aquaya, Eawag, and JMP; UNC Water & Health, Chapel Hill, USA
- (Apr 2021) Online seminar: Preventing Burnout: Productivity and Wellbeing in a Pandemic; co-convened with the Oxford Environmental Change Institute and Uncomfortable Oxford
- (Mar 2021) Online seminar: Career Planning for Women in the Water Sector; co-convened with the Community of Women in Water
- (Oct 2020) Session: Advancing Rural Water Services: Strengthening Systems for Professionalised

Maintenance & Fit-for-Purpose Water Quality Monitoring; co-convened with Aguaconsult, Eawag, and Helvetas; UNC Water & Health Conference, Chapel Hill, USA

- (Feb 2020) Interactive learning station for GCSE students: Water safety assessment and control; led; Alice in Typhoidland Project, Oxford, UK

### **Oral presentations:**

- (Sep 2023) Managing risk to secure safe drinking water; Plenary on Regulating rural drinking water services to deliver safe water; 'Within REACH': A Water Secure World Conference, Oxford, UK
- (Jun 2022) Identifying leverage points for environmental health risk management: A systems view of safe water in rural Sub-Saharan Africa; International Medical Geography Symposium, Edinburgh, UK
- (Jun 2021) Water quality results as fear appeals: Complex responses to monitoring in low-income communities; Emerging Researchers in the Geographies of Health & Impairment Conference, hosted online by the University of Groningen, Lancaster University, and the University of Salford
- (Oct 2019) Political and ethical determinants of water quality data use in rural Kenya; UNC Water & Health Conference, Chapel Hill, USA
- (Mar 2019) Invited Panellist: Monitoring for Safe Water Session; REACH International Conference on Water Security & Poverty, Oxford, UK
- (Dec 2018) Invited Lecture: Institutional pluralism and water quality monitoring for rural water safety; KEMRI Wellcome Trust, Kilifi, Kenya

### **Poster presentations:**

- (Dec 2022) The role of untreated groundwater in climate resilience and health; American Geophysical Union Fall Meeting, Chicago, USA
- (Nov 2017) Illuminating microbial contamination: the usability of fluorimetry for rapid risk assessment in low-resource contexts; The Ineson Lecture on Africa, Groundwater & the Sustainable Development Goals, London, UK
- (Oct 2017) Illuminating microbial contamination: the usability of fluorimetry for rapid risk assessment in low-resource contexts; UNC Water & Health Conference, Chapel Hill, USA