



# Water, Sanitation and Hygiene (WASH) Community of Practice: Our People

## Dr Alison Parker

Lecturer in International Water and Sanitation



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Alison Parker has a Masters degree in Earth Science from the University of Oxford and a PhD from the University of Leeds studying the hydrogeology of the Chalk aquifer of East Yorkshire. Alison started at Cranfield as a Research Fellow and is now a Lecturer. Her research focuses on two contrasting areas of WASH technology application: sanitation in dense urban areas, and recharging groundwater resources in semi-arid rural areas. Her research was awarded "Highly Commended" in the Green Gown Awards Research and Development category, 2014, and as part of the Queen's Anniversary Prize 2015. She is the Programme Director for Cranfield University's Water MSc Programme. She is a Fellow of both the Higher Education Academy and the Geological Society.

## Dr Paul Hutchings

Lecturer and Co-lead of WASH Community of Practice



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Paul leads the MSc in Water & Sanitation for Development programme. His work focuses on three core WASH challenges: 1) improving the institutional functioning of the sector; 2) finding better ways to measure success, including through the development of water-related wellbeing indicators; 3) examining the viability of business models for urban sanitation among the global poor. He is currently Principle Investigator on a DFID-ESRC Development Frontiers grant examining water security and wellbeing in Ethiopia, and is actively involved in broader projects funded by the Gates Foundation, the European Commission and RCUK bodies. He is co-editor of the Waterlines Journal and a Fellow of the Royal Geographical Society.

## Professor Sean Tyrrel

Director of Education (School of Water, Energy and Environment)



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Sean focuses on the application of environmental microbiology to the management of organic solid wastes and wastewater. His work on bioaerosol emission and dispersion from composting facilities and the implications of exposure to bioaerosols on human health is recognised through his appointment to the BSI Air Quality Committee and as UK principal delegate to the CEN committee on bioaerosol measurement. Professor Tyrrel is a Chartered Environmentalist (Cenv) and Water and Environmental Manager (C.WEM), a Fellow of the Chartered Institution of Water and Environmental Management (CIWEM), a Fellow of the Higher Education Academy (FHEA) and a Member of both the Society of Applied Microbiologists and the International Water Association.

## Dr Kristin T. Ravndal

Research Fellow in Sanitation System Technology



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Kristin's work focuses on the development of new sanitation technologies for developing countries. In her work she applies rigorous scientific testing to understand how new sanitation technologies work and to further develop these systems. Her interests include sanitation and wastewater process design, with a focus on the fundamental scientific understanding on particle degradation and behaviour in different sanitation systems. In addition she is working on the testing of novel WASH technologies combining technological testing, process design and the technology-user interface. Kristin is an Environmental Engineer and her PhD work focused on biodegradation of particles in wastewater systems.

## Dr Anju Toolaram

Research Fellow in Water Engineering for Developing countries



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Anju has extensive experience in hazard assessment of micropollutants. She has worked on assessing their risks and identifying emerging contaminants of concerns from wood combustion, environmental processes and drinking water treatment technologies (photolysis, chlorinations, AOPs). Her contribution to water management in developing countries have focused on IWRM incorporating land use planning as well as soil and water management. Dr. Toolaram's current work focus on water engineering for developing countries. Essentially, she works in providing sustainable solutions to water, sanitation and hygiene issues. To this effect, she is now working on human user testing of the Nano Membrane Toilet and Menstrual Hygiene Management.

## Dr Sarah Cooper

Research Fellow in Water Security and Livelihoods



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Sarah's initial background is in Applied Biology and her honours project focused on the effectiveness of earthworms in the remediation of treated contaminated soil. She then achieved an MSc in International Natural Resource Development from the University of Bangor. Her thesis was multi-disciplinary focusing on vegetation and land use of area enclosures in Ethiopia. She later conducted voluntary research for a small NGO in India working on the documentation of traditional crops and practices in vulnerable mountainous communities. Her PhD from the University of Reading focused on the resilience of subsistence farmers to climate change in Uganda. She is currently working full-time on the project: Water-security in Ethiopia and the Emotional Response of Pastoralists (WEEP).

## Joah Bramhall

PhD Student



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Joah is currently studying for a PhD which aims to determine the impact and fate of cleaning chemicals in on-site sanitation facilities. Specifically the project will look at the impact of the products on the microbiological communities, the physical and chemical characteristics of the faecal matter and the potential environmental impacts. Joah has a primarily microbiological background having studied biomedical science as an undergraduate at Royal Holloway and attaining a Masters in Medical Microbiology at the London School of Hygiene and Tropical Medicine.

## Jan Hennigs

Student for 'PhD in Water'



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Jan studied 'environmental- and energy process engineering' at Otto-von-Guericke University in Magdeburg, Germany, where he focused on water treatment. His master's thesis at the Fraunhofer Institute for Interfacial Engineering and Biotechnology explored the plasma treatment of persistent pollutants in wastewater. He has since gained experience abroad during a project in the Philippines, aiming to improve sustainable irrigation water supply for smallholder farmers. Jan is currently a PhD student at Cranfield University. As part of Cranfield's Nano Membrane Toilet project which has been awarded funding by the Bill and Melinda Gates Foundation for its third phase, he is conducting international human user testing of toilet prototypes.

## Sophie Budge

PhD researcher in BabyWASH



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Sophie started out with a background in Nutrition and Epidemiology. Her initial research was in the Amazon area of Peru, where she looked at perceptions of bodyweight in an overweight population. She then studied Demography at the London School of Hygiene and Tropical Medicine with funding from the ESRC. Following, she joined a Gates-funded cohort in The Gambia, which aimed to assess the relationship between infant cognitive development and maternal nutritional status.

Her PhD focuses on the link between WASH and nutrition, and their role in environmental enteropathy and stunting prevalence in infants in Ethiopia.