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Water Innovation
& Research
Centre



UNIVERSITY OF
BATH



Dear All,

We are in exciting times again: our first Water Science and Engineering Conference is coming closer. I hope you all do some good advertisement on the event. I have send over 250 personal invitations over the weekend. We still have early bird registration available until 15 May. Please invite people in your network to join us for the conference in July.

Also exciting is that we started the process to set-up and get approval for a Masters' course in Water Science and Engineering. A team has been put together who will develop the units and paperwork in the coming time.

A cohort of four new students has accepted the positions they were offered for the WISE CDT. They will start in Exeter in September. Meanwhile the second cohort is now in the process of finding a suitable research topic and supervisor.

Enjoy reading our newsletter!

Registration now open

Join us on **13th and 14th July 2016** for the **1st WIRC Water Science and Engineering Conference** to be held at **The Edge, University of Bath**.

Confirmed speakers include:

- [Professor Eugene Cloete](#), Vice-rector, Stellenbosch University
- [Professor Alfred Wüest](#), Eawag and EPFL
- [Dr Colin Skellett](#), Chief Executive, Wessex Water
- [Professor Bernie Morley](#), Deputy Vice-Chancellor and Provost, University of Bath

[More information can be found on our website](#) including the full programme.

Recent News

- [Dr Lee Bryant](#) discussed the spreading of [ocean 'dead zones'](#) and its disastrous impact.
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Upcoming Events

10th May, 17:15: [Water quality monitoring and electricity from wastewater with Microbial Fuel Cells](#)

26th May, 13:15: Title TBC, Prof. Zoran Kapelan, University of Exeter

14th June, 17:15: [The effects of oxygen availability and biogeochemical cycling on water quality in lakes, reservoirs and oceans](#)

Research News

Cross-continent Water Research Collaboration

Building upon recent visits to Stellenbosch, South Africa, Dr Lee Bryant (University of Bath; UoB) is collaborating with several researchers from the Stellenbosch University Water Institute (SUWI) and UoB to address common biogeochemical and hydrological threats to water security. Dr Bryant is working with Prof Gideon Wolfaardt and Dr Marelize Botes (both of SUWI) and Dr Jannis Wenk (UoB) on research focusing on pipe blockages caused by the accumulation of cohesive material in piping networks. These blockages are resulting in significant drinking water and food security problems globally. In many instances, manganese (Mn) is believed to be the primary factor causing these accumulations. For example, UK drinking-water utilities have shown interest in resolving this problem due to considerable issues with pipe blockage in drinking-water pipelines. The South African Lower Blyde River irrigation system, fed by the Blyderivierpoort reservoir (Fig. 1), is having similar issues with Mn-driven pipe blockage; this is causing substantial reduction of reliable water supply to downstream produce farms.



Figure 1: The Blyderivierpoort reservoir has high levels of manganese (Mn) due to local geology. Consequently, Mn biofilms within irrigation pipelines are causing massive problems for farmers downstream.

To understand the causes of these blockages and find solutions to prevent them, this project characterises accumulations as a function of 1) chemical parameters including Mn and oxygen concentrations in Blyderivierpoort source water and 2) Mn-driven microbial interactions including biofilm formation.

quality and health in Enkanini, an informal settlement near Stellenbosch, South Africa (Fig. 2).



Figure 2: The Enkanini informal settlement, located one mile from Stellenbosch. Photo credits: wikipedia.org, collegegreenmag.com.

Specifically, the influence of variations in rainfall and flooding on levels of nutrients, oxygen demand and pathogens in local water sources will be assessed during wet seasons to identify faecally contaminated 'risk areas.' Drs Bryant, Kjeldsen and Khan are co-supervising a PhD student, Olivia Cooke, who will be performing fieldwork and microbial analyses at SUWI during the upcoming wet season in Stellenbosch (June to Sept. 2016). Olivia is a member of the UoB Water Informatics: Science & Engineering (WISE) CDT program. Both of these projects, which are partially funded by the UoB International Mobility scheme, focus on increasing sustainable water and food supplies on a global scale.

Upcoming Conferences

13-16th June: [The 13th IWA Leading Edge Conference on Water and Wastewater Technologies](#) Jerez de la Frontera, Spain

27-30th June: [3rd IWA Specialized Conference "Ecotechnologies for Wastewater Treatment"](#) - Cambridge, UK

5-6th July: [3rd PRIMaRE Conference](#) - Bath, UK

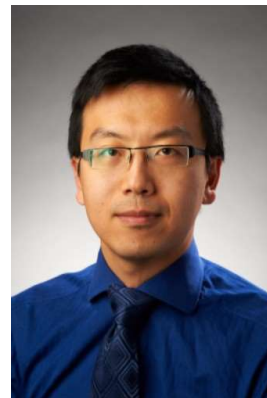
10-13th July: [WEF/IWA Nutrient Removal and Recovery Conference 2016](#) -

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9-13th October: [World Water Congress & Exhibition 2016](#) Brisbane, Australia

Staff Profile

Name: Shan Bradley-Cong**Role:** Research Project Coordinator**Email:** S.Bradley-Cong@bath.ac.uk**Tel:** +44 (0)1225 38 5479

Shan is the maternity cover of Sarah Eliot.

He is currently coordinating the Water Innovation & Research Centre (WIRC) and the [Powertrain and Vehicle Research Centre \(PVRC\)](#). He recently acquired [PRINCE2](#) Practitioner certificate for project management.

Shan has an MPhil in Renewable Energy and Storage at the University of Bath, and an MEng in Electronic and Electrical Engineering at the [Shandong University](#), China. His previous experience includes international mobility and recruitment, admissions, research placement, research collaboration, and research event and network. He also worked closely with [ESRC](#), the University of Bristol and the University of Exeter.



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