



# SPLASH PAD

VOLUME 6, ISSUE 3 — SPRING 2016



## towards a balanced interdisciplinary research vision for the water institute



**ROY BROUWER** executive director of the Water Institute, University of Waterloo

**One of the ways the Water Institute serves its members, partners and the public at large is by promoting and supporting relevant, collaborative, interdisciplinary water research.**

**Given the variety of disciplines represented in the Institute, we are uniquely positioned to break beyond the confines of silos. We can catalyze and communicate the kind of interdisciplinary water research that sets a leading global example, launches Waterloo researchers into the public eye and helps increase the impact of research findings.**

Using the Water Institute Strategic Plan as a starting point, I focused over the past months on the question of how to further profile our water research agenda. In order to enhance our reputation and branding as a

global interdisciplinary water innovation centre and think tank, we need a clear vision on how we organize ourselves internally and portray ourselves to the outside world. Developing such a unifying vision was one of the recommendations coming out of the 2014 Five-Year Review Report of the Water Institute and last year's External Advisory Board's report.

To this end, I have been working together with the Water Institute's strategic management and planning committees on the broader contours of our interdisciplinary research program. I presented a glimpse of this during the Institute's Research Symposium 2016 at the end of April. At the same time, I commissioned a study to review other water institutes in Canada and elsewhere as a benchmark to help strengthen our strategic positioning. An important outcome from this international review is that the Water Institute is a global leader in terms of the diversity of



UNIVERSITY OF  
**WATERLOO**

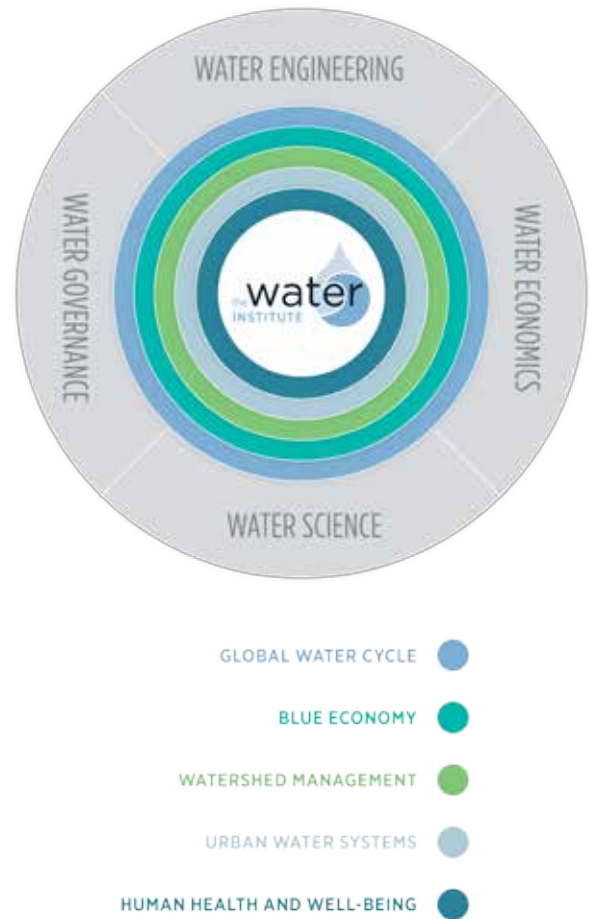


## CONTINUED FROM PAGE 1

disciplines it represents. The challenge is how we steer and manage this diversity. This requires that we focus, structure and balance our expertise. It is the combination of water science, engineering, economics and governance that provides, in my view, the most potential to differentiate ourselves from other water institutes. Water science and engineering are used here as generic terms to represent the wide variety of disciplines across the faculties and departments involved.

The figure to the right presents such an interdisciplinary research vision for the Water Institute, distinguishing between core disciplines and interrelated focal points or themes to which these disciplines can be applied and on which departments can work together, in direct collaboration with our end-users and partners. The themes include existing Water Institute research areas, which have been relabeled to emphasize the existence of important interlinkages at different scales, from global to local and across sectors and groups of people. The themes furthermore explicitly recognize the social sciences, an area of expertise in which the Institute is growing and where we have a comparative advantage to other water institutes. Human health and well-being is one such crucial component, embedded in other research themes such as the global water cycle (e.g., the impact of climate change on the spread of waterborne diseases), watershed management (e.g., the role of ecosystem health in human well-being) and urban water systems (e.g., water treatment and access to safe drinking water). Similarly, the blue economy is directly dependent on sustainable water resource extraction, for instance in the northern territories and the Great Lakes, climate resilient urban water infrastructure and integrated sustainable land and

*Figure: Vision for an interdisciplinary research program*



water use in watersheds to secure food, fishery, water supply and other ecosystem services.

I hope to go “full circle” with the Water Institute in the coming years, further linking disciplines and research themes. I invite all members and partners to engage in this discussion to help us achieve the distinguished future we aim for as a global leader in sustainable water resources management, by sharing, demonstrating and communicating our interdisciplinary research activities and success stories. 🌊

# WATER

# water researchers in the news



## NANDITA BASU'S NITRATE RESEARCH BALANCES BUDGET

Nandita Basu, earth and environmental sciences and civil and environmental engineering, along with her doctoral student Kim Van

Meter, published the first direct evidence of a large-scale nitrogen legacy in the Mississippi River Basin from agricultural runoff. The March 2016 article in the journal *Environmental Research Letters* revealed that agricultural soils can act as a nitrogen sink, filling in a component of the nitrogen budget which had long been missing. This nitrogen legacy could impact drinking water sources in some communities, contributing to health problems. The research was communicated by the mainstream and science media in a number of locations, including *Newsweek* and an interview on the CBC's *Quirks and Quarks*. [↗](#)

[uwaterloo.ca/water-institute/news/basu-nitrate](http://uwaterloo.ca/water-institute/news/basu-nitrate)

## ROY BROUWER FEATURED IN CHINA DAILY WATER SERIES

Roy Brouwer, professor in the department of economics and executive director of the Water Institute, was quoted in a cover story article by the *China Daily Asia Weekly*, along with institute directors from three other high profile water organizations from the United Nations, Europe and the Middle East. Dr. Brouwer provided insight into the economic benefits of transboundary basin treaties and commissions in the article which discussed cross-border rivers as sources of partnerships. [↗](#)

[http://www.chinadailyasia.com/asiaweekly/2016-04/01/content\\_15409591.html](http://www.chinadailyasia.com/asiaweekly/2016-04/01/content_15409591.html)

## JOHN CHERRY ANNOUNCED AS 2016 LEE KUAN YEW WATER PRIZE RECIPIENT



The Singapore International Water Week announced that John Cherry, distinguished professor emeritus, department of earth and environmental sciences, will be awarded the 2016 *Lee Kuan Yew Water Prize*, a prestigious

international award worth more than \$280,000. The prize will be presented to Dr. Cherry at the Singapore International Water Week conference in July. The award citation recognizes Dr. Cherry for his contributions to the advancement of groundwater sciences, policies and technologies: "His revolutionary research in collaboration with international partners has provided the global groundwater community with a better scientific framework to formulate policies and best practices. He has been a major influence in advancing global recognition of groundwater processes and the development of better field methods for monitoring groundwater contamination." Dr. Cherry was a professor at the University of Waterloo from 1971 until his retirement in 2006. [↗](#)





# water institute news

## AMY GEDDES JOINS THE WATER INSTITUTE



The Water Institute is delighted to announce that Amy Geddes has joined the Institute as its inaugural Communications Officer. Amy served as Marketing and Undergraduate Recruitment

Specialist for the Faculty of Science since 2012 and she holds a Bachelor of Environmental Studies from the University of Waterloo. Prior to joining the University in 2012, Amy gained over ten years' experience in integrated marketing, environmental journalism and communications in both traditional and digital media environments.

Amy joins the Water Institute at an opportune time. Consistent with the strategic plan, and under the leadership of the new Executive Director, Roy Brouwer, the Water Institute aims to significantly raise its internal and external profile over the next several years. Marketing and communicating the purpose, activities and world-class expertise of the Institute, and the impact that our faculty members and students are having on practical water management in Canada and elsewhere, will be key in this effort.

Amy's experience, creativity and innovative outlook on strategic marketing will help the Water Institute become a global leader in water research and education. Amy is located in EIT 3007 and can be reached at [amy.geddes@uwaterloo.ca](mailto:amy.geddes@uwaterloo.ca). 🌊

## WINTER 2016 SEED GRANT RECIPIENTS

The Water Institute has awarded six teams a combined total of \$112,000 during the winter Seed Grants Program application round. The program awards a total of \$150,000 annually, with competitions generally held during fall and winter terms. The goal is to catalyze interdisciplinary collaboration, facilitate interaction with national or international authorities, to encourage new areas of research and to encourage the development of research proposals.

### 2015/16 seed grant projects funded in the winter 2016 round:

- » *Catching ripples in the water: a social-ecological regime shifts approach to understand abrupt changes in coastal watersheds and crafting governance arrangements*, led by **Prateep Nayak**, environment, enterprise and development;
- » *Establishment of the first and most detailed account of lake levels in the Peace-Athabasca Delta: a key hydrologic node of the Mackenzie River Basin, northwestern Canada*, led by **John Johnston**, earth and environmental sciences;
- » *Implementing an open access GIS and satellite imaging system to inform health system spatial planning in Western District, Zambia*, led by **Craig Janes**, public health and health systems;
- » *Improving weather forecasting models with satellite data assimilation: a new initiative at University of Waterloo*, led by **Homa Kheyrollah Pour**, geography and environmental management;
- » *Public perception and priorities for safe water in Accra, Ghana*, led by **Elijah Bisung**, geography and environmental management;
- » *Reactive interfaces in agroecosystems: meta-analysis and uncertainty analysis of biogeochemical functions in agricultural landscapes*, led by **Philippe Van Cappellen**, earth and environmental sciences. 🌊

# collaborative water program



Several of the RBC Water Scholars with John Clifford, RBC Royal Bank (far left) and Erin Sargent Greenwood, Advancement, University of Waterloo (far right).

## RBC WATER SCHOLARS AWARDED

The third round of RBC Water Scholars were formally presented with their awards at the RBC Water Institute Distinguished Lecture on April 28. Recipients were drawn from the third cohort of the Collaborative Water Program. Master's candidates were each awarded \$5,000 and doctoral candidates, \$10,000.

### Congratulations to the 2015-16 RBC Water Scholars:

- » **Sabrina Bedjera**, MASc candidate, civil and environmental engineering
- » **Navid Bizmark**, PhD candidate, chemical engineering
- » **Frederick Cheng**, MASc candidate, civil and environmental engineering
- » **Rachel Cohen-Murison**, MArch candidate, architecture
- » **Robert Chlumsky**, MASc candidate, civil and environmental engineering
- » **Karine David**, PhD candidate, environment, resources and sustainability
- » **Safira Lakhani**, MArch candidate, architecture
- » **Danielle Lindamood**, MES candidate, environment, enterprise and development
- » **Sean Morrison**, MSc candidate, earth and environmental sciences
- » **Thommaso Raso**, MASc candidate, civil and environmental engineering
- » **Jun Sim**, PhD candidate, civil and environmental engineering
- » **Snehanjali Sumanth**, MArch candidate, architecture
- » **Allison Turner**, MES candidate, environment, resources and sustainability

## RCB VISITING FELLOW, FALL 2016

The Water Institute is pleased to announce that Professor **Pieter van der Zaag** will be visiting as an RBC Fellow in the fall 2016 term. Prof. van der Zaag is a professor of Integrated Water Resources Management at the UNESCO-IHE Institute for Water Education in Delft, The Netherlands and also holds a professorship at Delft University of Technology. Pieter's areas of interest include agricultural water management, equitable water allocation in catchment areas and the management of transboundary river basins. Pieter's research focuses on the dynamic relationship between biophysical and social processes and he has worked in developing countries for a number of years, with a particular focus on interdisciplinary research and capacity building projects in Africa.

Prof. van der Zaag will be visiting the University of Waterloo September 5-20, 2016 and will be participating in the Collaborative Water Program. He will also be available to meet with Water Institute faculty members and students. [▶](#)



WATER

# students of the water institute

## GRADUATE SECTION

### HAPPY SUMMER!

The SWIGS executive committee would like to wish all SWIGS members and friends a happy summer, including all of the patio drinks and field work that comes with the warm weather.

### NEW SWIGS EXECUTIVES

Welcome to the new SWIGS executives, pictured below, who will be serving in their roles until April 2017.



*Pictured from left to right: Robert Chlumsky (Operations), Allison Turner (Chair), Irene Brueckner-Irwin (Internal Outreach), Jess Kidd (Social), Logan Koeth (External Outreach), Nicole Starnes (Conference), Sabrina Bedjera (Academic).*

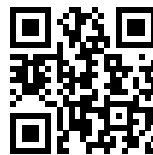
### LOOKING BACK AT WINTER 2016

In March 2016, SWIGS collaborated with students from Wilfrid Laurier University to hold the annual World Water Day celebration. This year's event was held at the University of Waterloo, with the theme of "water and jobs." Highlights of the event included a keynote address by Dr. Linda Gowman of Trojan Technologies, a panel discussion, and poster and photo competitions.

### SPRING 2016 AND BEYOND

The lunchtime academic talks began in the winter term and SWIGS is pleased to announce that they will be continuing for the spring term. These are a great way to see what SWIGS members are doing in their research. We will also be launching workshops for members by members, which will cover topics such as the use of GCMS in the lab, basic data analysis for environmental data, etc. Drop us a line if you are interested in presenting, or have an idea for one of these workshops.






In other news, the SWIGS website is migrating and getting a new look; stay tuned.



**Stay connected!** To ensure you don't miss any of these great events, please join our **Facebook** group, follow us on **Twitter @UW\_SWIGS** and join our **mailing list** by scanning the QR code.

**Remember, the success of SWIGS depends on the people involved!** If you are a faculty member who participates in water-related research, please encourage your graduate students to get involved with SWIGS. There are many ways to learn more about the world of water through SWIGS, from volunteering at events to leading as an executive!

### CONTACT US

-  [uwaterloo.ca/students-water-institute-graduate-section](http://uwaterloo.ca/students-water-institute-graduate-section) (Find out more or contribute to our blog!)
-  [water.grad@uwaterloo.ca](mailto:water.grad@uwaterloo.ca) (Join our mailing list!)
-  [facebook.com/uw.swigs](https://facebook.com/uw.swigs) (Engage in conversation!)
-  [@UW\\_SWIGS](https://twitter.com/UW_SWIGS) (Updates at events and news of water interest!) 





Students presented their research at the poster exhibition.

Panel discussion about knowledge co-production with Ron Bonnett (Canadian Federation of Agriculture), Penny Park (Science Media Centre of Canada) and Theresa McClenaghan (Canadian Environmental Law Association).



# research symposium

APRIL 28, 2016



Concurrent breakout sessions provided a glimpse at the range of research.

A great turnout for the RBC Water Institute Distinguished Lecture.



2016 RBC Water Institute Distinguished Lecturer Jay Famiglietti.

**CONTACT US AT:**

the Water Institute  
 University of Waterloo  
 200 University Avenue West  
 Waterloo, ON, Canada N2L 3G1

519-888-4567, ext. 32658  
 water.institute@uwaterloo.ca  
 @water\_institute  
 youtube.com/user/uwaterloo/playlists