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# Water Chair News

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## NSERC Chair Renewed for Fourth Term

We are delighted to have received confirmation that the NSERC Chair in Water Treatment has been renewed for another five years (2008-2012). Our research over this new term will address two critical areas facing the drinking water industry – 1) *source water issues* through investigating the presence of known and emerging chemical and microbial contaminants in source waters, and 2) *treatment technologies* by investigating current and evolving technologies for the removal of these contaminants.

The partners for this phase of the Chair include: American Water Canada Corp., Associated Engineering Group Ltd., the cities of Brantford, Guelph, Hamilton, Ottawa and Toronto, Conestoga-Rovers & Associates Ltd., EPCOR Water Services, GE-Zenon Membrane Solutions, Lake Huron and Elgin Area Water Supply Systems, the Ontario Clean Water Agency (OCWA), PICA USA Inc., RAL Engineering Ltd., the Region of Durham, the Regional Municipalities of Niagara and Waterloo, and Stantec Consulting Ltd.

The Chairholder and members of the research group would like to thank NSERC and all of the sponsoring partners for their commitment to the renewal of the fourth five-year term of the NSERC Chair in Water Treatment at the University of Waterloo. Core team members (W.B. Anderson, Research Associate Professor; S. Peldszus, Research Assistant Professor; M.I. Van Dyke, Research Associate and D. Herriman, Administrative Officer) are looking forward to another successful term at the NSERC Chair.

## Annual Information Day

Last month the Chair held its Annual Information Day at the University of Waterloo. It was a great opportunity for us to not only showcase our students' work, but to also address a key issue faced today – the issue of lead in our drinking water. We had the privilege of hearing from two guest speakers on this topic. Starting the day was Brenda Mitchell, Director of the Environmental Health Branch, Public Health Division from the Ministry of Health and Long-term Care, followed by Jim Reffle, Director of Environmental Health and Chronic Disease Prevention Services of the Middlesex London Health Unit. Their presentations gave insight into the lead issue from a public health perspective. Wrapping up the morning lead segment was Chairholder Peter Huck, addressing the causes of high lead levels at the tap.

Topics discussed by Chair graduate students and postdoctoral fellows this year included the investigation and optimization of new treatment technologies, and also pathogen and pharmaceutical surveillance and method development. Students in attendance that did not present

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included Avid Banihashemi (pathogen detection using molecular methods), Mohamed Hamouda (point-of-use/entry drinking water treatment), Shoeleh Shams (nitrate removal) and Dinghua (David) Shen (biological filtration). These Chair students continue their research, which is in the early stages, and are anxious to present at next year's information day.

## Meetings & Presentations



Chairholder Peter Huck was in Poland last month. Dr. Huck was invited to Bydgoszcz to make a presentation for the 15<sup>th</sup> anniversary celebration of the Polish Waterworks Chamber of Commerce. His presentation covered important principles for providing safe water, the important goals for water treatment, and expected future developments.

The Polish Waterworks Chamber of Commerce is the only national organization that represents the Polish water sector both within the country and abroad. It was established in 1992 and at present has 435 members, which constitute about 85% of all the water companies and sewage treatment plants in Poland.

The Chamber seeks the creation of conditions favourable to the functioning of the water sector in Poland. The Chamber's officers and representatives systematically interpret and assess provisions of laws and regulations, monitor their modification and participate in the process of law and regulation development concerning the water sector. The Chamber also leads training and consulting activities and represents the interests of its members in national and international organizations, and with local authorities and government agencies. It is a member of various organizations including IWA (the International Water Association) in London, and Eureau (the European Union of National Associations of Water Suppliers and Waste Water Services) in Brussels.

Dr. Huck's talk in Bydgoszcz was based largely on a monograph that he recently co-authored with Prof. Marek Sozański of Poznań Technical University. The monograph describes the conduct of investigations for designing and optimizing water treatment processes and was published (in Polish) by the Polish Academy of Sciences. Work has begun on the preparation of an English edition.

Dr. Huck has also been invited to make a presentation at *The Canadian Institute's Drinking Water Quality Management seminar* to be held in Toronto on Tuesday, January 28<sup>th</sup>, 2008. The seminar promises to provide information needed to effectively mitigate threats to water supply now and in the future. Dr. Huck's presentation will cover **Best Practices in Drinking Water Treatment - Evolving into the Future**. To see the other topics covered by invited industry experts, please visit <http://www.canadianinstitute.com/water.htm>.

Ph.D. candidate Mohamed Hamouda has submitted an abstract for the 43<sup>rd</sup> Central Canadian Symposium on Water Quality Research to be held in Burlington, Ontario on February 11-12<sup>th</sup>. His research is on **Sustainable Point-of-Use/Entry Drinking Water Treatment in Canada**. Drs. Bill Anderson and Peter Huck are co-authors on his work.

The following Chair abstracts have been accepted at the *2008 Joint Annual OWWA/OMWA Conference & Trade Show* to be held in London, Ontario this year from April 27<sup>th</sup> to 30<sup>th</sup>:

- El Henawy, W.R., T. Robles, W.B. Anderson, and P.M. Huck, 2008. **An Investigation of the Effectiveness of Cationic Activated Silica (CAS) for Turbidity and DBP Control.**
- Hallé, C., S. Peldszus, B. McPhail, J. Haberkamp, and P.M. Huck, 2008. **Biological Filtration as Pretreatment for Membrane Filtration and its Potential for the Removal of Trace Contaminants.**
- Halevy, P.Z., W.B. Anderson, and P.M. Huck, 2008. **Comparing Ozone and Peroxone to Control Taste and Odour and Mitigate Bromate Formation.**

## Milestones

**Leila Munla**, one of our Master's candidates, has received approval to upgrade to doctoral candidate status. Leila, as you may recall from her presentation at information day, is working with ceramic membranes. We are very pleased to have you around for a few more years Leila!

**Xiaohui Jin**, one of our Ph.D. candidates, is currently preparing for his comprehensive exam in February. Good luck Xiaohui!

We say goodbye this month to Chair postdoctoral fellow, **Xin Yu**, as he resumes his academic career in China. We have certainly enjoyed his time and contributions here this past year and wish him well in his future endeavours!

Congratulations to former Ph.D. student **Ray Yu** for landing a position with Earth Tech in Kitchener as a consultant for water treatment and supply. Hope to see you around town sometime Dr. Yu!

This fall, former Master's student **Shawn Cleary** moved from a consulting to an academic position with Humber College. Congratulations Shawn!

## Recent Publications



The following publications are currently in press and will be published shortly:

Li, T. and P.M. Huck, 2007. **Improving the Evaluation of Filtration Robustness.** *Journal of Environmental Engineering & Science.*

Mosqueda-Jimenez, D.B., P.M. Huck, and O.D. Basu, 2007. **Fouling Characteristics of an Ultrafiltration Membrane used in Drinking Water Treatment.** *Desalination.*

Huck, P.M. and M.M. Sozański, 2007. **Biological Filtration for Membrane Pre-treatment and Other Applications: Towards the Development of a Practically-Oriented Performance Parameter.** *Journal of Water Supply: Research and Technology-Aqua.*

Zhang, J., P.M. Huck, G.D. Stublely and W.B. Anderson, 2007. **A Computational Fluid Dynamics Based Integrated Disinfection Design Approach for Improvement of Full-Scale Ozone Contactor Performance.** *Ozone Science and Engineering.*



*From all of us to all of you!*

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*Thank you as always to our partners.*

