

## Safe Drinking Water Course

The NCCEH is pleased to be offering, in partnership with the Canadian Institute of Public Health Inspectors, a one-day post-conference course in safe drinking water at CIPHI's 74th Annual Educational Conference, July 24, 2008 in St. John's, Newfoundland. Designed for working health inspectors from regional and local health authorities or Health Canada, this course will provide an update on new developments in water systems and a refresher on well systems, including hands-on training.

Sessions will focus on water treatment technology and inspection of wells. Both practical and theoretical knowledge will be presented from a range of disciplines, and will aim to encourage a stimulating and lively debate from presenters and participants alike.

### Draft Agenda

0745-0815 Registration

0815-0830 Opening

#### Water Treatment Technology

0830-1000 Advancements in water quality and treatment – **Graham Gagnon**

1000-1030 *Refreshment break*

1030-1115 Role of public health in preventing waterborne outbreaks – **Nelson Fok**

1115-1200 Cross-connections and backflow prevention – **Deneen Spracklin**

1200-1300 *Lunch*

#### Wells Inspection

1300-1330 Groundwater well construction and operation (pumps and hardware) – **Keith Guzzwell**

1330-1415 Identifying problems and solutions for groundwater wells – **Keith Guzzwell**

1415-1430 *Refreshment break*

1430-1515 Well disinfection – **David Green**

1515-1615 Panel discussion – **All**

1615-1630 Closing and Evaluation

Number of participants: 30

Course fee: \$150 (includes lunch and morning/afternoon refreshment breaks)

Session details and instructor bios follow below. For more information about the conference, visit <http://www.ciphi.nl.ca/Conference%202008.htm>. Reserve your space for the course by contacting [Conference2008@ciphi.nl.ca](mailto:Conference2008@ciphi.nl.ca).

## **Bios and Abstracts**

### **Graham Gagnon**

Graham Gagnon is a professor in civil engineering, NSERC/Halifax Regional Water Commission Industrial Research Chair and Canada Research Chair in Water Quality & Treatment at Dalhousie University in Halifax. Dr. Gagnon's professional and research interests focus on water/wastewater treatment process optimization. He is a registered professional engineer with Engineers Nova Scotia, and has worked on many professional projects with consulting engineering firms such as CBCL Ltd., Stantec Consultants, HDR Engineering, Carollo Engineers, Neill & Gunter, and ADI. He is an active lecturer for many professional associations and for adult learners through Dalhousie's College of Continuing Education.

#### **Advancements in Water Quality and Treatment**

This lecture enables participants to consider the implication of water quality management decisions on public health. Attendees of this course will become acquainted with the most current treatment technologies and will be able to discern their most appropriate use. In addition, attendees will become better acquainted with the regulatory framework for water quality and its implications for decision making. The lecture will provide an update of new and advanced processes for water treatment with a goal of providing the tools to assess and compare treatment processes for a given water quality objective.

### **Nelson Fok**

Nelson Fok is the Associate Director for Environmental Public Health Services at Capital Health in Edmonton. He is a certified Public Health Inspector, and received his Master of Science degree in Environmental Science from the Department of Civil Engineering, University of Alberta. Mr. Fok has been appointed Adjunct Assistant Professor at the Department of Public Health Science, Faculty of Medicine, University of Alberta, and Adjunct Professor at Concordia University College of Alberta. He is the co-author of two America Waterworks Association Research Foundation manuals and the technical editor of a manual for health inspectors on drinking water.

#### **Role of Public Health in Preventing Waterborne Outbreaks**

Environmental health officers were surveyed in 2006 as to their role in water safety. Seventy-four percent of respondents claimed that their role in ensuring water safety is through the monitoring of water quality (bacteria and chemical) with subsequent follow-ups for regulation compliance. This lecture will present data to show that the simple monitoring results will provide little assurance in drinking water safety and a more active role is needed. The presentation will stress watching out for the "signs and symptoms" of waterborne outbreaks and the role public health officials must assume to address water safety. Information will also be provided on disinfection by-products and discussions on balancing microbial and chemical risks in drinking water.

### **Deneen Spracklin**

Deneen Spracklin graduated from the University of Guelph in 1998 with a degree in environmental engineering, and since graduating has worked in the field of municipal drinking water and wastewater with the Government of Newfoundland and Labrador. Currently, she is the Coordinator of Operator Education in the Operator Education, Training

and Certification Program. This program is unique to the province of Newfoundland in that it provides both classroom-style education sessions and hands-on training to the operators of municipal drinking water and wastewater systems through the use of Mobile Training Units.

### **Cross-Connections and Backflow Prevention**

This presentation will cover the topic of cross-connections, including scenarios of potential cross-connections that are commonly encountered. A description of backflow prevention devices and their operation will also be incorporated into this session.

### **Keith Guzzwell**

Keith Guzzwell is Groundwater Resources Manager with the Department of Environment and Conservation, Government of Newfoundland Labrador. He is a professional geoscientist with the Professional Engineers and Geoscientists – Newfoundland and Labrador. He received a Masters of Earth Science (Geology) degree from Memorial University. His background includes groundwater geophysics, hydrogeology, and policy and legislation relating to protecting and enhancing the groundwater resources of his native province.

### **Groundwater Well Construction and Operation (pumps and hardware)**

Many people who own a well do not realize what is involved in the supply of good quality water to their taps. This presentation will provide hands on information showing the different construction materials and hardware necessary to provide potable water to private residences.

### **Identifying Problems and Solutions for Groundwater Wells**

Government officials are regularly asked by well owners to comment on problems with their water supplies. This presentation deals with the common problems experienced by well owners, symptoms, and solutions. Topics include water quality problems, water pressure maintenance, and well location concerns.

### **David Green**

Dave Green is currently working for Health Canada and the Water, Air and Climate Change Bureau. This group forms the technical Secretariat for the Federal Provincial Territorial Committee on Drinking Water and develops the national drinking water guidelines (Guidelines for Canadian Drinking Water Quality). Mr. Green is the Secretary for the Committee. He has a Bachelor of Science in Civil Engineering from Wisconsin State University - Platteville and a Master of Science in Sanitary Engineering from Iowa State University. He worked for five years for Iowa health and environmental departments as an Environmental Engineer in the field and central office on water supply and pollution control. In 1975, after seeing the light and moving to Canada, he has worked in the area of water and wastewater, from research to design, construction and operation for several departments and agencies (Canada Mortgage & Housing Corporation, Indian and Northern Affairs Canada, Environment Canada, and Health Canada) and in every province and territory.

### **Well Disinfection**

There are all kinds of microorganisms out there that can be harmful and even fatal if consumed in drinking water. This presentation will talk about how water wells become contaminated and methods of well sanitation and disinfection during construction, right after

construction and during operation. Operational issues will also be briefly touched on (e.g., residuals, DBPs).



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