HEALTH-RELATED WATER MICROBIOLOGY

Newsletter

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Highlights

WaterMicro 2011

September 18 - 23, 2011

Rotorua, New Zealand

Important Dates

June 28 – July 2, 2010
Singapore International Water Week Convention
Singapore

September 19-24, 2010
IWA Meeting
Montreal, Canada

September 18-23, 2011
WaterMicro 2011
Rotorua, New Zealand

HRWM Secretary Tackles Climate Change

Development of well-balanced urban water use systems adapted for climate change

Contributing Author: Dr. Hiroyuki Katayama, HRWM Secretary, Associate Professor Department of Urban Engineering, University of Tokyo

In an effort to meet our newly elected board members we have asked them to compile a short summary of their current research efforts. Below HRWM Secretary, Dr. Hiroyuki Katayama shares his work on climate change and water issues.

Reexamination of the use of ubiquitous water resources such as rain water, ground water, and reclaimed water is required to cope with the further localized water resources due to climate change. We will consider use of various water, such as shallow well water, rain water and reclaimed water to meet our urban water demands. Therefore, we need an advanced water safety management for various combination of water source and water use.

We develop novel evaluation approaches for risk and stability of water quality and devise methods for water use design by considering environmental cost evaluation and preferences of various users. In order to create innovative strategies for urban water use under climate change conditions, comprehensive predictions are carried out to evaluate changes in weather and hydrological conditions in watersheds resulting in dynamic variations of water quantity and quality. Finally, we propose well-balanced urban water use systems in which the equilibrium between water supply and demand is maintained.

For microbial water safety, we propose "Water CV" as one of the important aspect. We will depend not only on indicator bacteria but also on history of the water for water safety management.

HRWM Chair Receives Honor

HRWM Chair, Dr. Joan Rose was recently honored and awarded the Republic's Public Service Medal (Friend's of Singapore) on Singapore's National Day for her expertise and contributions to Singapore's water management through her work with the Public Utilities Board (PUB). The Public Service Medal is awarded to foreign individuals who have rendered commendable public service in Singapore.

WHO Network Meeting Review

WHO Network Meeting on Household Water Treatment and Safe Storage (HWTS)

Contributing author: Dr. Jeff Williams,
Chief Technology Officer, HaloSource Inc.

The Fifth International Research Colloquium of the WHO HWTS Network was held in Dublin, Eire, September, 21-23, 2009. The Network promotes household water treatment and safe storage as components of water sanitation and hygiene programs, aimed at reducing waterborne diseases. Network participants are largely drawn from an array of academic and public health institutions around the world, though typically the annual meetings also attract representation from commercial enterprises in the US and EU with products that target this market. The venue for this year's meeting was the Royal College of Surgeons in Ireland. Both the site and the conference arrangements were exemplary, contributing to a successful and smoothly flowing event, enjoyed by attendees from many developing countries, as well as from the principal academic centers in the Western world involved in the issue.

The conference opened with a day of plenary sessions, followed by small group discussions, each with a group leader, running in parallel each day with the oral presentations in the main hall; this format proved very effective. Discussion topics focused upon advocacy and implementation of HWTS, covering a range from low-cost water tests to quality control of ceramic filters, and included vigorous interchanges aroundthe current health impact controversy related to HWTS practices. Most of the ~50 oral presentations concerned evaluation of these practices in the field, with particular emphasis on SODIS, ceramic filtration, and chlorine-based additives. A recurring theme in these sessions was the difficulty in achieving meaningful adoption rates, whatever the intervention method, despite substantial evidence of efficacy for most approaches. Within study periods test subjects often adhered reasonably well to the proposed HWT use-patterns, but in the absence of supervision or encouragement, compliance rates often dropped precipitously, along with the prospects for enduring impact on waterborne infections. This is not a new problem, and participants in the Network are by now all too familiar with the difficulties inherent in influencing user behavior towards household water products that fail to engage and attract the consumers sufficiently, even though they may provide high levels of antimicrobial effectiveness in the field. 'Scaling up' of products to any appreciable volumes appears unlikely to be successful, or required, until major problems of consumer acceptance are overcome. Critical issues here concern sensory perceptions regarding treated water, especially its clarity, taste, odor and color, as well as demands for levels of convenience that are not inherent in the use of many currently advocated approaches. (Continued on Page 3)

IWA Launches WaterWiki Site

The new IWA WaterWiki is now available.

The IWA WaterWiki aims to provide a platform for the global water community to interact and share knowledge online.The site aims to be the online reference point for all areas of water, wastewater and environmental science and management issues. This is the place for water professionals worldwide to interact, share knowledge and increase understanding.

Through the WaterWiki you can find, correct, edit and expand existing articles or create a new article on the topic of your choice. You can also bookmark subject categories and articles to keep up to date with new edits in your Specialist Group area of interest. The WaterWiki subject categories created for the HRWM Specialist Group are:

- Health
- Microbiology

In addition we have created an organization profile for HRWM to help share information about our group. To get started please register and create your own personal profile on the WaterWiki website at **www.iwawaterwiki.org.**

IC Sewage Group

An International Collaboratory for Sewage (IC-Sewage) has beenestablished as a part of HRWM for the study of the fecal microbiota in waters of the world to improve the public health and facilitation of the sanitation movement. The overall mission of the IC Sewage will be to advance our understanding of the impact of wastewater on water quality and health throughout the world and to set the stage to meet and document improved sanitation, sewerage, and wastewater treatment for the global community. So far, 34 groups around the world including Japan, Thailand, Singapore, Korea, Israel, South Africa, Tanzania, Malawi, Netherlands, Spain, United Kingdom, Italy, Greece, Norway, Canada, United States, Mexico, Venezuela, Brazil, Australia, and New Zealand who are experts in microbiological monitoring of water quality have agreed to play an active role as IC Sewage laboratories. To get more information about this initiative and become a member please visit the website at **http://www.cws.msu.edu/IC-Sewage.htm.**

WHO Network Meeting (Continued from Page 2)

The recent approval by the USEPA of bromine as a water disinfectant for daily use, reported at the conference, may end up moving the needle here; Br generates far fewer sensory issues than chlorine in treated water, despite the latter's widespread use at municipal level and in most favored HWT methods.

Several reports emphasized that safe storage also continues to be problematic, with many householders who routinely treat water by boiling, using inappropriate vessels for its transfer and storage, with resulting high levels of recontamination. Vessel designs are being advocated for preventive measures, but again the challenge is to find appealing products that can improve adoption rates in what is, despite the socioeconomic profiles of those in need, still a 'consumer product' market. It seems clear from the outcome of this conference that until approaches to HWTS incorporate the lessons of successful consumer product development, benefits measurably associated with adoption of safe water treatment at household level are unlikely to be fully realized.

WaterMicro 2011

Location:
Rotorua, New Zealand

Venue:
Rotorua Energy Centre

Dates:
September 18-23, 2011

Topics:
Water pollution and diseases; Microbial source tracking; Catchment protection; Biofilm studies; Water and sanitation in developing country; Climate change and water quality; Recreational water and health; Epidemiology of waterborne diseases; Microbial risk assessment; Microbial quality of shellfish growing areas, Applications of nanotechnology; Water and energy; Zoonoses.

Special Events:
Joint day with Diffuse Pollution Group
HRWM Workshop (topic to be decided)
Combined WHO/HRWM Workshop

Entertainment:
The WaterMicro 2011 planning committee has scheduled the meeting in accordance with the 2011 Rugby World Cup in New Zealand. Visit http://www.rugbyworldcup.com/ for further information regarding the Rugby World Cup 2011 and a complete schedule of match locations and dates.

Organization:
Institute of Environmental Science (ESR), Science Innovations, National Institute of Water and Atmospheric Research (NIWA), Agricultural Research (AgResearch), Ministry for the Environment (MfE), Ministry of Agriculture and Forestry (MAF), and Agriculture Research

Call to Host WaterMicro 2013

Members, please begin to prepare an application to host WaterMicro 2013. Interested members should notify Joan Rose via email at hrwm@msu.edu and plan to present at our WaterMicro 2011 Meeting in New Zealand. Information to think about when planning includes:

- City/Country
- Venue Location
- Dates
- Topics
- Tours/Social Events
- Accommodations

Recommended Reading

Encyclopedia of Inland Waters. Editor: Gene E. Likens. Oxford: Elsevier. 2009. ISBN: 978012088462

Principles of Water and Wastewater Treatment Processes. Editors: R. Stuetz and T. Stephenson. IWA Publishing, 2009. ISBN: 9781843390268

Sustainable Water for the Future; Water Recycling versus Desalination. Authors: Isabel C. Escobar and Andrea Schaefer. IWA Publishing, 2009. ISBN: 9781843393405

Waterborne Pathogens: Review for the Drinking Water Industry. Authors: Emmanuelle Guillot and Jean-Francois Loret. IWA Publishing, 2009. ISBN: 9781843391791

HRWM Newsletter

Editors: Rachel M. McNinch and Joan B. Rose
Design: Audrey Tan

Look for the next HRWM Newsletter in May 2010

For further information regarding HRWM please visit the website: **www.iwa-microbiology.org**