

INTERNATIONAL WATER ASSOCIATION HEALTH-RELATED WATER MICROBIOLOGY

NEWSLETTER

November 2001

MEMBERSHIP DATABASE **- THIS IS IMPORTANT!**

If you have received this Newsletter it is simply because I have your name and email address from the Paris, Berlin and Melbourne Congresses and the IWA Yearbook 2001.

It is essential that (a) the Group knows who its members are, (b) where they are and (c) how to contact them! The database is being updated and you must register your interest in receiving a personal copy of the Group's Newsletter by providing the following information to microbe@ntlworld.com as soon as possible!

Surname and given names	Status (Dr, Prof etc)
Email address	<u>F</u> ull postal address
Telephone and fax numbers	FIVE keywords indicating <u>c</u> urrent interests
IWA membership: (a) individual (b) corporate (c) not a member	

[In accordance with British law on Data Protection, the provision of such information to the Group Secretariat is solely for Group business and will not be distributed as a mailing list to other non-IWA concerns. By submitting your details you agree to the information being held by the Group.]

If you know of any colleagues who would be interested in receiving their own Newsletter but who may not have received any in the past please get them to send in their details as well!

*If you do not register your details
there is no guarantee that you will be kept up-to-date with Group activities!*

If you do not wish to be removed from the mailing list please let us know!

MELBOURNE SYMPOSIUM – 7-12 APRIL 2002

The Group is to hold its 11th Symposium in Melbourne, Australia at the same time as the IWA Biennial of 2002. Please note the altered deadline for

POSTER ABSTRACTS – BY 15TH DECEMBER 2001

Extended abstracts must not exceed 700 words (2 pages) and should describe the objectives, present summary findings and give the conclusions of the report. Tables and figures may be included in support of the abstract. It is essential that reports are relevant to the theme of Health-Related Water Microbiology. Any not meeting this requirement will be returned to the author.

Abstracts should be emailed only to hrwm.melbourne@ntlworld.com and not to any other address! All abstracts received will be acknowledged.

The Programme Committee will determine the final oral and poster programme based on abstracts received and no correspondence about the Committee's decision will be allowed.

The Programme Committee consists of:

Prof Joan Jofre (Spain)
Dr Melita Stevens (Australia)
Dr Bella Ho (Hong Kong)
Prof Willie Grabow (South Africa)

Dr Ray Morris (UK)
Dr Nancy Cromar (Australia)
Dr Debi Huffman (USA)

Proceedings

The authors of all papers selected as part of the oral and poster programmes will be invited to submit a manuscript of their report. Manuscripts will not exceed 8 pages in length and **will have to be produced strictly** according to the guidelines that will be sent to each author. The last postmarked date for receipt of manuscripts will be **15th February 2002**.

Manuscripts received after this date or that do not conform to the manuscript preparation guidelines will be returned to the authors.

All manuscripts will be subjected to independent refereeing and the decisions reached will be final. *No correspondence will be allowed about the outcome of the selection of papers for publication.*

It is hoped that the Proceedings will be published within a few months of the holding of the Symposium as a special issue of Water Science & Technology.

TITLES RECEIVED FOR CONSIDERATION AS PART OF THE ORAL PROGRAMME

(These abstracts are now with the Programme Committee and a final programme should be available by the end of the year – members will be notified through the Newsletter and the Group's webpage)

Predation of *Cryptosporidium* oocysts by protozoa and rotifers: implications for water quality and public health

Monitoring the bacteriological quality of water by flow cytometry: development of an assay suitable for engineers

Drinking water contamination in Walkerton, Ontario – positive resolutions from a tragic event

Quantitative examination of various faecal types for *Cryptosporidium* and *Giardia*

Scope of potential bacterial agents of diarrhoea from water in rural communities in Venda, South Africa

Molecular fingerprinting of waters as a method for management of environmental hygiene

Determination of pyrimidine dimers in the genomic DNA of *Escherichia coli* during photoreactivation following inactivation by medium-pressure UV lamp

Genetic characterisation of *Giardia* and *Cryptosporidium* isolates in humans and dairy cattle in the Waikato region of New Zealand

Evaluation of microorganism survival under model temperature and total dissolved solids conditions for Floridan aquifers

Comparison of culture and Equate Water Test for detecting *Legionella* in cooling towers

Antibiotic selective pressure for the maintenance of antibiotic resistant genes in coliform bacteria isolated from the aquatic environment

Release of *Cryptosporidium* and *Giardia* from dairy calf manure

Epidemiological confirmation of the first detected waterborne giardiasis outbreak in Germany

Investigation of the factors influencing the development of the 2001 cholera epidemic in South Africa

Microbiological aspects of an urban river used for unrestricted irrigation in the semi-arid region of north-east Brazil

Hepatitis E virus (HEV) transmitted by faecal contamination in non-endemic areas

The development of a quantitative RT-PCR assay for detection of Norwalk-like virus in wastewaters and its application to studies on virus removal during sewage treatment

Sensitivity of environmental poliovirus surveillance measured after OPV challenge of healthy individuals

Efficiency of UV light disinfection in wastewater with high content of pathogens

The occurrence of *Cryptosporidium* oocysts and *Giardia* cysts in Dutch swimming pools

Laser scanning detection of FISH-labelled bacteria from water samples

Comparative survival of *Cryptosporidium*, coxsackie A9 virus and *E coli* in stream, brackish and sea waters

A technique to improve the predictive capability of faecal coliforms or *Escherichia coli* in estuarine water quality assessments

Elucidation of potential routes of *Campylobacter* in New Zealand

Estimating the risk from pathogens within the Lake Burragorang catchment

Detection, enumeration and isolation of strains carrying the *stx2* gene from urban sewage

Genetic analysis of *Cryptosporidium* oocysts and *Giardia* cysts in surface water

Quantitative risk assessment of *Cryptosporidium* and *Giardia* in surface water treatment systems

An assessment of candidate viruses for harmonised risk assessment of water related microbiological hazards

Phenotypic population characteristics of the enterococci in wastewaters and animal faeces: implications for the new European Directive on the quality of bathing waters

Artificial Neural Network modelling: a summary of successful applications relative to microbial water quality

Application of *Bacillus subtilis* spores as a measure for the efficacy of water disinfection processes

Clostridium perfringens: a suitable indicator for water disinfection by irradiation?

Monitoring study on the occurrence of *Cryptosporidium* and *Giardia lamblia*, as well as indicator bacteria, in groundwater resources in Austria

Full scale evaluation of commercial UV plants for water disinfection: the Austrian Standard M5873-1 (2001)

Water quality problems associated with intermittent water supply

A marine water quality and health study in South Africa: a summary

Detection of enteric viruses in biofilms of the drinking water system

The effects of an educational intervention on microbiological infection risk posed by water stored within households

Assessment of the risk of infection by *Shigella*, *Giardia* and *Cryptosporidium* in drinking water from an urban stream

Impacts of urban discharges on the health-related microbiological quality of untreated surface water – can catchment management solve this problem?

Pathogens and indicators in New Zealand's recreational freshwaters

Quantitative detection of culturable viruses in Seoul metropolitan water system

Modelling *E coli* in the Msunduzi river using HSPF

Comparative mobility and reduction of Norwalk virus, poliovirus type 1, F+ RNA coliphage MS2 and *Escherichia coli* in miniature soil columns

Chemical disinfection and safe storage of household drinking water in developing countries to reduce waterborne disease

Inactivation of adenovirus, *Cryptosporidium parvum* oocysts and *Salmonella typhimurium* by sequential disinfection of UV radiation and free or combined chlorine

The effectiveness of guideline faecal indicator organism values in estimation of exposure risk at recreational coastal sites

Determination of faecal pollutant in Torrens and Patawalonga catchment waters in South Australia using faecal sterols

Human enteropathogenic viruses in recreational waters

Incidence and distribution of indicator, *Aeromonas* and *Vibrio* species isolated from the St John's River Basin, Florida

Effects of iron oxides on bacterial activity and *E coli* survival in drinking water

Preparation of *Cryptosporidium* oocysts and *Giardia* seed samples by use of flow cytometry

Automated system for rapid enumeration of thermotolerant coliforms and *E coli* in water

Detection of *Naegleria fowleri* in "flagellation tests": a comparison between ELISA and PCR techniques

Development of a detection method for *Legionella* in (cooling)water: fluorescent *in situ* hybridisation (FISH) on whole bacteria

The efficiency of yarn wound filters in *Giardia* cyst removal using an improved sucrose gradient

Flow cytometry monitoring of bacterial strains in coastal waters

PCR as a test for presence or absence of *Legionella* in (cooling)water

Ultrasonic treatment of *Cryptosporidium* oocysts

Temporal variations in *Legionella* concentrations in cooling water systems and their implications for risk assessment

Inactivation of selected microorganisms in water by TiO₂ photocatalysis in a combined fluidised bed reactor

Effects of storage on the inactivation of bacteriophage MS2 by chemical disinfectants

Combined biological-chemical treatment for biofilm removal in clogged deep wells: *Sphaerotilus natans* as a case study

Phylogenetic analysis of a vinyl chloride-transforming consortia and monitoring the community composition using fluorescence *in situ* hybridisation (FISH)

In situ identification of bacteria in biofilms of a karstic aquifer using fluorescence *in situ* hybridisation

Microbial quality of irrigation water used in the production of produce in Arizona

Use of DNA fingerprinting of faecal coliforms to trace sources of faecal pollution for bathing waters in north-west England

Wild birds as vectors for the contamination of the environment with thermophilic campylobacters

Viruses and bivalve shellfish: where do we go from here?

Innovative solutions can reduce risk of microbial contamination in a multi-purpose reservoir

The application of repetitive sequence AFLP genotyping to distinguish the sources of *E coli* and *Synnechococcus* strains in recreational surface waters

Towards reliable beaches quality standards

A chemiluminescent immunofocus assay (CIFA) for non-microscopic enumeration of *Cryptosporidium parvum* infectivity in cell culture
An epidemiological study on health risks from bathing in German fresh water bathing sites
The ecology of indicator bacteria at the beach
Comparative evaluation of some methods for the enumeration of coliform bacteria and *E coli*
A fatal waterborne disease epidemic in Walkerton, Ontario: comparison with previous waterborne outbreaks in the developed world

TITLES RECEIVED SO FAR FOR CONSIDERATION AS PART OF THE POSTER PROGRAMME

The European project Aqua-chip: development and validation of DNA-chip technology for the bacteriological quality assessment of bathing and drinking water
Enumeration of *Clostridium perfringens* spores in groundwater samples: comparison of six culture media
Parasite contamination of residual sludge from urban wastewater treatment plants
Recovery of feline calicivirus infectious particles and genome from water: comparison of two concentration techniques
Seasonal presence of enteric viruses and F-RNA bacteriophage in New Zealand sewage
The significance of sunlight for the elimination of indicator bacteria in small-scale bathing ponds in Central Europe
The role of resuspension in microbial occurrence and distribution in urban beach water
Detection of *Cryptosporidium* and *Giardia* in Portugese oysters (*Crassostrea gigas*) grown in the Oosterschelde, the Netherlands
Assessment of treatment methods for reduction of microbial risk factors in stormwater
Removal of microbes from municipal wastewater effluent by rapid sand filtration and subsequent UV irradiation
High prevalence of human related hepatitis E virus sequences in faecal samples of Dutch swine
Identification of the source of the first community acquired outbreak of Legionnaires' disease in Norway
Novel bacterial ratio for predicting faecal age
Parasites in reclaimed effluents: an evaluation of current detection methods
Inactivation differences of microorganisms by low pressure UV and pulsed xenon lamps
Detection of infectious *Cryptosporidium* oocysts by cell culture: applicability to environmental samples
The creation of an *E coli* ribotype library for Tampa Bay, Florida
The effect of residence time in raw sewage on the infectivity of *Cryptosporidium parvum* oocysts
Impact of boats on levels of faecal contamination in waters of coastal marinas
Critical study of the ISO 9308-1 norm for the detection and enumeration of *Escherichia coli* and total coliforms
Detection of viable pathogenic bacteria from seawater samples by CTC
Virological control of groundwater quality using biomolecular tests

ELECTION OF GROUP SECRETARY

At the Group meeting at Paris, it was decided that the posts of Chairman and Secretary should become vacant in rotation. Each post is for a period of two biennials (four years) and at the Melbourne Group meeting the post of Secretary will become vacant. The timetable for the selection of a Secretary was (as notified in the Newsletters of April and July 2001)

1st October 2001 – nominations to be received

1st November 2001 – ballot issued

1st January 2002 – ballot closes

April 2002 – announcement of result at Melbourne Symposium

Only one nomination was received by the specified date:

Dr Ray Morris – nominated by Prof Joan Jofre, Prof Albert Bosch, Prof Willie Grabow, Dr Gertjan Medema, Prof Konrad Botzenhart

Accordingly, as no election is necessary, Ray Morris serves as Group Secretary until the 2006 biennial Symposium.

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NEW IWA-WHO BOOK

Just published is “*Water Quality: Guidelines, Standards and Health – Assessment of Risk and Risk Management for Water Related Infectious Disease*” edited by Lorna Fewtrell and Jamie Bartram (ISBN 1900222280)

IWA Members price: £57.00 (US\$89.00)

Non-IWA Members price: £75.00 (US\$128.00)

Essential reading to all those that need to know about the microbial risks associated with human use of all types of water.

For sales enquiries contact: sales@portland-services.com

INTERNATIONAL SYMPOSIUM ON WATERBORNE PATHOGENS

Lisbon, Portugal September 22-25, 2002

The first announcement and call for papers for this joint IWA-AWWA conference has been published and, if you have not received this information, it should be available now at www.awwa.org/02iswp.

If you have trouble retrieving the details please send a message to Ray Morris who has the necessary information.

INFORMATION SOUGHT!

This request is being made on behalf of WHO and its efforts to develop the 3rd Edition of the *Guidelines for Drinking Water Quality* which is due out in 2003.

A risk-based HACCP approach will be used as the basis for the guidelines. In developing this approach, information is needed on the types or species and the occurrence and concentrations of pathogens to expect in source waters, both ground and surface worldwide. Probably there is abundant literature for some and not much for others. Also, the data may only be for certain regions of the world and not others. In some cases perhaps pathogens were measured and microbial indicators were not.

Because the nature and extent of this information is uncertain, it would be desirable to have a review of the world's available studies or literature that actually analysed for and reported on occurrence and concentrations of pathogens, preferably in relation to indicators. This is obviously a big job, and I am unaware of this having been done or now being done. However, it is possible that such an effort has been or is being made and that most of us are unaware of it.

Therefore, I am requesting that the Group's membership be asked to let us know of any collated information or reports on occurrence and concentrations of all health-related waterborne pathogens and concurrent microbial indicator data.

If anyone has what they think might be an appropriate compilation, please let me know. If no one comes forward with an existing compilation that is suitable, WHO will probably commission or solicit one in the very near future. Time to develop such information is getting short, given the time line of the forthcoming Guidelines. So, whoever does this job will have to work quite hard within a relatively short period of time.

Thank you for your assistance with this matter.

Mark Sobsey
Mark_Sobsey@unc.edu

LEGIONELLA IN SEA AND BRACKISH WATERS

Information needed on the occurrence and survival of *Legionella* in waters with varying degrees of salinity. Any information appreciated!

Ray Morris
Microbe@ntlworld.com

CAN YOU HELP?

I am a microbiologist working in a water treatment company in the Kingdom of Saudi-Arabia. I would like to receive information about the following:

- (a) What are the favourable conditions for growth of iron-related bacteria?
- (b) What kind of odour is produced by these bacteria in bottled drinking water?
- (c) What is minimum level (mg/L) of iron required for the growth of these bacteria?
- (d) What is the minimum time duration required for these bacteria to grow in bottled water?

Many thanks

Sajid Mahmood
sajidm71@hotmail.com

JOB OPPORTUNITY

Molecular Microbiologist Position Available

Salary: \$32,000-48,000 annually, commensurate with experience
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Orange County Utilities Laboratory
Orlando, Florida

The Orange County Utilities microbiology laboratory is looking for a Technologist to assist in the development and maintenance of a new molecular biology section of the laboratory. Candidate should be interested in processing and analyzing water samples for the purpose of meeting regulatory requirements to ensure the safety of public water supplies. Water samples will include a variety of water matrices such as source water, drinking water, reclaimed water, wastewater, and other environmental waters.

The technologist will develop and validate methods and instrumentation to perform microbiological identifications and independently conduct and document investigations; input environmental monitoring data; perform tests, preparatory work, and record keeping; perform assigned procedures with minimal supervision; assist other team members in accomplishing tasks; contribute to team projects; perform maintenance and calibration of laboratory equipment as assigned.

Minimum qualifications should include a background in the application of molecular techniques to the study of the physiology, genetics, diversity, or ecology of microorganisms. Knowledge of the molecular biology of viruses and virus propagation methods using cell culture is preferred but not necessary. A

thorough knowledge of aseptic techniques is required. Strong communication using writing, analytical, oral and computer skills are necessary.

Contact: Dr Theresa R. Slifko at terri.slifko@ocfl.net

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2004 HRWM SYMPOSIUM

At the Berlin Congress, the HRWM had a limited input but was, according to several observers, still well attended! One item that was raised (which seems to be a perennial one!) was the size and, especially, the cost of the Congress. Apparently it was felt by many of those attending that the Group should consider *occasionally* holding the biennial Symposium away from the main Congress in order to (a) maintain the Group's identity and (b) take advantage of campus facilities for the meeting so that lower costs would be incurred.

The 2004 IWA Congress is to be held during September in Marrakech, Morocco but it has been suggested that the HRWM Group should take the opportunity to hold a separate Symposium on this occasion. Also this would be opportune as the Group has virtually no members in North Africa so we should not be stepping on anybody's toes. However, as we have done in the past, the Group would probably have a nominal presence at Marrakech.

If the idea of a separate, more intimate, Symposium is what the membership would like then we need to have suggestions for a venue very quickly so that there can be ratification of the choice at the Melbourne Symposium. Already we have enthusiastic suggestions from Japan and Wales (UK) with more likely to come!

Send your suggestions (supported by some idea of costings, financial support ideas etc) to the Secretary as soon as you can! If several suggestions are received that seem to be viable propositions, the proposers of each venue will be asked to give a 10 minute presentation to the Melbourne Symposium prior to the final decision being made by the membership present.

IDEA FOR NEW JOURNAL

IWA publishing is considering the possibility of launching a new Journal in the field of *Water and Health*. This publication would include not only microbiology but also other topics such as hormonal disruptors, carcinogenic molecules, etc that may be found in water. Members of the HRWM Group will soon receive a letter requesting assistance in assessing the value of such a new journal.

Please send any comments, queries, notes etc for the Newsletter to:

Also, it would be appreciated if responses to scientific queries be copied to the Newsletter so that a database of information can be set up for future reference.

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Next issue: January 2002

Deadline for contributions is December 25th!