

INTERNATIONAL WATER ASSOCIATION HEALTH-RELATED WATER MICROBIOLOGY

NEWSLETTER March 2002

This issue includes:

Final programme for the HRWM Melbourne Symposium
WHO Guidelines Seminar at Melbourne
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MEMBERSHIP DATABASE **– LAST CHANCE TO REGISTER!**

**IF YOU DO NOT REGISTER THIS IS YOUR
LAST NEWSLETTER!**

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>Full</u> postal address
Telephone and fax numbers	FIVE keywords indicating <u>current</u> 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!

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. The final oral and poster programmes are below.

Copies of the oral and poster abstracts (returned as Word file attachment) can be obtained by sending an email to hrwm.melbourne@ntlworld.com

Day	Time	Paper
Monday April 8th	0900	IWA OPENING CEREMONY
	Session 1:	Recreational water quality - 1
		<i>Chair: Melita Stevens (Australia)</i>
	1100	Paper 1: <i>Pathogens and indicators in New Zealand's recreational freshwaters</i> – D Till, G McBride & A Ball (New Zealand)
	1130	Paper 2: <i>An epidemiological study of health risks from bathing in German fresh water bathing sites</i> – A Wiedenmann, P Krüger, S Gommel, M Hirlinger, M Eissler, K Jüngst, S Brockmann, K Dietz, J López-Pila, R Szewzyk & K Botzenhart (Germany)
	1200	Paper 3: <i>Phenotypic population characteristics of the enterococci in wastewaters and animal faeces: implications for the new European Directive on the quality of bathing waters</i> – JL Wallis & HD Taylor (UK)
	Session 2:	The Walkerton outbreak: experiences and lessons
		<i>Chair: Gertjan Medema (the Netherlands)</i>
	1430	Paper 4: <i>A fatal waterborne disease epidemic in Walkerton, Ontario: comparison with previous waterborne outbreaks in the developed world</i> – SE Hruday, P Payment, PM Huck, RW Gillham & EJ Hruday (Canada)
	1500	Paper 5: <i>Drinking water contamination in Walkerton, Ontario: positive resolutions from a tragic event</i> – R Holme (Canada)
	Session 3:	Epidemiology
		<i>Chair: Marion Savill (New Zealand)</i>
	1630	Paper 6: <i>Sensitivity of environmental poliovirus surveillance measured after OPV challenge of healthy individuals</i> - AM de Rhoda Husman, F Abbink, A Holwerda, WJ Lodder, TG Kimman, PFM Teunis, MAE Conyn van Spaendonck & AM Buisman (the Netherlands)
	1700	Paper 7: <i>Epidemiological confirmation of the first detected waterborne giardiasis outbreak in Germany</i> - T Kistemann, T Claßen, B Kölb, M Exner & F Dangendorf (Germany)
	1730	Meeting of the HRWM Management Committee
Tuesday April 9th	Session 4:	Sources of microbial contamination
		<i>Chair: Anicet Blanch (Spain)</i>
	0830	Paper 8: <i>The effectiveness of guideline faecal indicator organism values in estimation of exposure risk at</i>

		recreational coastal sites – DL Craig, HJ Fallowfield & N Cromar (Australia)
	0900	Paper 9: Impacts of urban discharges on the health-related microbiological quality of untreated surface water: can catchment management solve this problem? – P Jagals & M Griesel (South Africa)
	0930	Paper 10: Estimating the risk from pathogens with the Lake Burrator catchment – C Ferguson, P Cox, N Ashbolt & D Deere (Australia)
	Session 5:	Disinfection
		<i>Chair: Albrecht Wiedenmann</i>
	1100	Paper 11: Application of <i>Bacillus subtilis</i> spores as a measure for the efficacy of water disinfection processes – R Sommer, W Pribil, S Pflieger, P Gehringer, H Eschweiler, A Cabaj & T Haider (Austria)
	1130	Paper 12: Determination of pyrimidine dimers in the genomic DNA of <i>Escherichia coli</i> during photoreactivation following inactivation by medium-pressure UV lamp – K Oguma, H Katayama & S Ohgaki (Japan)
	1200	Paper 13: Chemical disinfection and safe storage of household drinking water in developing countries to reduce waterborne disease – MD Sobsey, TR Handzel & LV Venczel (USA)
	Session 6:	Genotyping of <i>Giardia</i> and <i>Cryptosporidium</i>
		<i>Chair: David Lees (UK)</i>
	1430	Paper 14: Genetic analysis of <i>Cryptosporidium</i> oocysts and <i>Giardia</i> cysts in surface water – L Heijnen, B Wullings, B Nota & G Medema (the Netherlands)
	1500	Paper 15: Genetic characterisation of <i>Giardia</i> and <i>Cryptosporidium</i> isolates from humans and dairy cattle in the Waikato region of New Zealand – G Ionas, JJ Learmouth, AB Pita, RS Cowie & KA Ebbett (New Zealand)
	Session 7:	Recreational water quality –2
		<i>Chair: Kelley Riley (USA)</i>
	1630	Paper 16: The occurrence of <i>Cryptosporidium</i> oocysts and <i>Giardia</i> cysts in Dutch swimming pools – FM Schets & GB Engels (the Netherlands)
	1700	Paper 17: The ecology of indicator bacteria at the beach – GD Lewis (New Zealand)
	1730	Open meeting of the HRWM Group
Wednesday April 10th	Session 8:	QRA and modelling
		<i>Chair: Guy Howard (UK)</i>
	0830	Paper 18: An assessment of candidate viruses for harmonised risk assessment of water-related microbiological hazards – JC Vivier, MM Ehlers, J Van Heerden, JME Venter, MB Taylor & WOK Grabow (South Africa)
	0900	Paper 19: Quantitative risk assessment of <i>Cryptosporidium</i> and <i>Giardia</i> in surface water treatment systems – GJ Medema, WAM Hijnen & PJ Nobel (the Netherlands)
	0930	Paper 20: Artificial Neural Network modelling: a summary of successful applications relative to microbial water quality – GM Brion & S Lingireddy (USA)

	Session 9:	Protozoan parasites
		<i>Chair: Debi Huffman (USA)</i>
	1100	Paper 21: Release of <i>Cryptosporidium</i> and <i>Giardia</i> from dairy calf manure – JF Schijven, SA Bradford & S Yang (the Netherlands)
	1130	Paper 22: A chemiluminescent immunofocus assay (CIFA) for non-microscopic enumeration of <i>Cryptosporidium parvum</i> infectivity in cell culture – OD Simmons & MD Sobsey (USA)
	1200	Paper 23: Predation of <i>Cryptosporidium</i> oocysts by protozoa and rotifers: implications for water quality and public health – R Stott, E May, E Ramirez & A Warren (UK & Mexico)
	Session 10:	Transmission routes
		<i>Chair: Morteza Abaszadegan (USA)</i>
	1430	Paper 24: Hepatitis E virus (HEV) transmitted by faecal contamination in non-endemic areas – P Clemente-Casares, S Pina, M Buti, R Jordi, M Cotrina, M Martin & R Girones (Spain)
	1500	Paper 25: Elucidation of potential transmission routes of <i>Campylobacter</i> in New Zealand - M Savill, A Hudson & M Devane (New Zealand)
	Session 11:	Bacterial studies
		<i>Chair: George Ionas (New Zealand)</i>
	1630	Paper 26: Detection, enumeration and isolation of strains carrying the <i>stx2</i> gene from urban sewage – AR Blanch, C Garcia-Aljaro, M Muniesa & J Jofre (Spain)
	1700	Paper 27: Comparison of culture and Equate Water Test for detecting <i>Legionella</i> in cooling towers – YE Lin, FD Sidari III & JE Stout (Taiwan & USA)
	1730	Paper 28: Microbial quality of irrigation water used in the production of produce in Arizona – KR Riley, R Meer, F Valle & CP Gerba (USA)
Thursday April 11th	Session 12:	Viral studies
		<i>Chair: Duncan Craig (Australia)</i>
	0830	Paper 29: 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 - K Henshilwood, L Cross & D Lees (UK)
	0900	Paper 30: Comparative survival of <i>Cryptosporidium</i>, coxsackie A9 virus and <i>E coli</i> in stream, brackish and sea waters – AM Nasser, N Zaruk, L Tenenbaum & Y Netzan (Israel)
	0930	Paper 31: Effects of storage on the inactivation of bacteriophage MS2 by chemical disinfectants – DE Huffman, B Barbeau, MS Chandrakanth, M Prevost & JB Rose (USA & Canada)
	Session 13:	Bacterial studies
		<i>Chair: Abid Nasser (Israel)</i>
	1100	Paper 32: Laser scanning detection of FISH-labelled bacteria from water samples – A-S Lepeuple, K Delabre & M-R de Roubin (France)
	1130	Paper 33: Antibiotic selective pressure for the maintenance of antibiotic-resistant genes in coliform bacteria isolated from the aquatic environment – JC Park,

		JC Lee, HS Joo, WB Lee & WK Lee (Korea)
	1200	Paper 34: Temporal variations in Legionella concentrations in cooling water systems and their implications for risk assessment – R Bentham (Australia)
	Session 14	Microbiology in the developing world
		<i>Chair: Joan Jofre (Spain)</i>
	1400	Paper 35: Water quality problems associated with intermittent water supply – S Tokajian & F Hashwa (Lebanon)
	1430	Paper 36: Microbiological aspects of an urban river used for unrestricted irrigation in the semi-arid region of north-east Brazil – BSO Ceballos, NE Soares, MR Moraes, RMR Catão & A König (Brazil)
	1500	Paper 37: Water Safety Plans (WSP) for small systems: a model for applying HACCP concepts for cost-effective monitoring in developing countries – G Howard (UK)
	1530	Close of Symposium
Friday April 12th		WHO Seminar (see below)

Poster presentations are:

Poster 1 - Enumeration of *Clostridium perfringens* spores in groundwater samples: comparison of six culture media - M Araujo, RA Sueiro, B Freire, MJ Gómez & MJ Garrido (Spain)

Poster 2 - Parasite contamination of residual sludge from urban wastewater treatment plants - J Schwartzbrod & S Banas (France)

Poster 3 - Recovery of feline calicivirus infectious particles and genome from water: comparison of two concentration techniques - B Gassilloud, M Duval, L Schwartzbrod & C Gantzer (France)

Poster 4 - Seasonal presence of enteric viruses and F-RNA bacteriophage in New Zealand sewage - G Greening, J Hewitt & G Lewis (New Zealand)

Poster 5 - The significance of sunlight for the elimination of indicator bacteria in small-scale bathing ponds in Central Europe - F Mascher, S Deller, FP Pichler-Semmelrock, S Roehm and E Marth (Austria)

Poster 6 - Detection of *Cryptosporidium* and *Giardia* in Portuguese oysters (*Crassostrea gigas*) grown in the Oosterschelde, the Netherlands - FM Schets, H van den Berg, GB Engels, WJ Lodder, HML van Pelt-Heerschap, WHM van der Poel, AM de Roda Husman & F Verschoor (the Netherlands)

Poster 7 - Removal of microbes from municipal wastewater effluent by rapid sand filtration and subsequent UV irradiation - RL Rajala, M Pulkkanen, M Pessi and H Heinonen-Tanski (Finland)

Poster 8 - High prevalence of human-related hepatitis E virus sequences in faecal samples of Dutch swine - WHM van der Poel, F Verschoor, R van der Heide, MI Herrera, A Vivo, M Kooreman & AM de Roda Husman (the Netherlands)

Poster 9 - Novel bacterial ratio for predicting faecal age - J Nieman and GM Brion (USA)

Poster 10 - Parasites in reclaimed effluents: an evaluation of current detection methods - W Quintero-Betancourt, ER Peele, MR McLaughlin, D Huffman & JB Rose (USA)

Poster 11 - Inactivation differences of microorganisms by low pressure UV and pulsed xenon lamps - M Otaki, A Okuda, K Tajima, T Iwasaki, S Kinoshita & S Ohgaki (Japan)

Poster 12 - The creation of an *E coli* ribotype library for Tampa Bay, Florida - TL Idocks, VJ Harwood & JB Rose (USA)

Poster 13 - The effect of residence time in raw sewage on the infectivity of *Cryptosporidium parvum* oocysts - AL Gennaccaro, DE Huffman, MR McLaughlin and JB Rose (USA)

Poster 14 - Impact of boats on levels of faecal contamination in waters of coastal marinas - MD Sobsey, A Hill, R Perdue, M Overton & J Fisher (USA)

Poster 15 - Virological control of groundwater quality using biomolecular tests - A Carducci, B Casini, A Bani, E Rovini, M Verani, F Mazzoni & A Giuntini (Italy)

Poster 16 - Contamination of drinking water during storage and use in rural households of South Africa - N Potgieter, LP Mammathuntsha, CL Obi, MA Vrey & WOK Grabow (South Africa)

Poster 17 - Effects of peracetic acid and monochloramine on the inactivation of *Naegleria lovaniensis* - D Ercken, F Ollevier, L Verelst, L Duvivier & A Van Damme (Belgium)

Poster 18 - The use of chemical and molecular microbial indicators for faecal source identification - BJ Gilpin, F Nourozi, D Saunders, P Grounds, P Scholes & ME Savill (New Zealand)

Poster 19 - The use of IL-6 induction as a human biomarker for inflammatory agents in water - EJ Pool, C Jagals, JH Van Wyk & P Jagals (South Africa)

Poster 20 - Detection of infectious *Cryptosporidium parvum* oocysts and microbial indicator monitoring in the Rio Grande River - H Ryu, A Alum & M Abbaszadegan (USA)

Poster 21 - Laboratory testing protocol to identify critical factors in bacterial compliance monitoring - M Abbaszadegan, P Ghatpande, J Brereton, A Alum & R Narasimhan (USA)

Poster 22 - Magnetite: potential as a reusable coagulant for removal of organics from water - A Suttigarn and GM Brion (USA)

Poster 23 - The fate and transport of microbial pollutants by the physical and biological processes in the surf zone at Huntington Beach, California, USA - JH Kim, HK Joon, S Ensari & SB Grant (USA)

Poster 24 - Efficiency of autothermal thermophilic aerobic digestion and thermophilic anaerobic digestion of municipal wastewater sludge in removing *Salmonella* spp and indicator bacteria - J Záborská, M Dohányos, P Jeníček, H Růžičková² & A Vránová (Czech Republic)

Poster 25 - Comparison of membrane filtration and Colilert Quanti-Tray™ for the determination of total coliforms and *E coli* in drinking water - CME de Wet, D Masoabe, F Hendry, AG de Wet, I Bailey, R Britz, A Fortune, C Fricker, S Jackson, A Johnson-Robertson & M Naidoo (South Africa & UK)

Poster 26 - Inactivation of *Salmonella* spp from secondary and tertiary effluents by UV irradiation - R Keller, F Passamani, L Vaz, ST Cassini & RF Gonçalves (Brazil)

Poster 27 - Environmental factors influencing the microbiological contamination of commercially harvested shellfish - RJ Lee & OC Morgan (UK)

Poster 28 - Evaluation of *Bacillus subtilis* and coliphage MS2 used as indicators of advanced water treatment efficiency - A Huertas, B Barbeau, C Desjardins, A Galarza, M de los Angeles Figueroa & GA Toranzos (Puerto Rico & Canada)

- Poster 29 - Assessing UV reactor performance for treatment of finished water - Z Bukhari & M LeChevallier (USA)
- Poster 30 - Scope of potential bacterial agents of diarrhoea from water in rural communities in Venda, South Africa - CL Obi, N Potgieter, E Green & PO Bessong (South Africa)
- Poster 31 - *Clostridium perfringens*: a suitable indicator for water disinfection by irradiation? - W Pribil, S Pflieger, A Cabaj, P Gehringer, H Eschweiler & R Sommer (Austria)
- Poster 32 - Incidence and distribution of indicator, *Aeromonas* and *Vibrio* species isolated from the St John's River basin, Florida - SD Shehane, M McLaughlin, J Jarrell & JB Rose (USA)
- Poster 33 - Effects of iron oxides on bacterial activity and *E coli* survival in drinking water - BMR Appenzeller, C Yañez, F Jorand, J-C Block¹, V Lahoussine, J Cavard & D Gatel (France)
- Poster 34 - The efficiency of yarn wound filters in *Giardia* cyst removal using an improved sucrose gradient - MR Shahmansoori, HA Yoosefi & H Farrokhzadeh (Iran)
- Poster 35 - Ultrasonic treatment of *Cryptosporidium* oocysts - M Ashokkumar, T Vu, F Grieser, A Weerawardena, N Anderson, N Pilkington & DR Dixon (Australia)
- Poster 36 - Viruses and bivalve shellfish: where do we go from here? - D Lees (UK)
- Poster 37 - PCR as a test for presence or absence of *Legionella* in (cooling)water - P Declerck, F Ollevier, L Verelst, L Duvivier & A Van Damme (Belgium)
- Poster 38 - Detection of *Naegleria fowleri* in "flagellation tests": a comparison between ELISA and PCR techniques - F Seghi, F Ollevier, L Duvivier, L Verelst & A Van Damme (Belgium)
- Poster 39 - Development of a detection method for *Legionella* in (cooling)water: fluorescent *in situ* hybridisation (FISH) on whole bacteria - P Declerck, F Ollevier, L Verelst, L Duvivier & A Van Damme (Belgium)
- Poster 40 - Comparative mobility and reduction of Norwalk virus, poliovirus type 1, F+ RNA coliphage MS2, and *Escherichia coli* in miniature soil columns - JS Meschke & MD Sobsey (USA)
- Poster 41 - Preparation of *Cryptosporidium* oocysts and *Giardia* seed samples by use of flow cytometry - M Padayachee, AG De Wet, M Grundlingh & CME De Wet (South Africa)
- Poster 42 - The European project Aqua-chip: development and validation of DNA chip technology for the bacteriological quality assessment of bathing and drinking water - MJ Figueras, CA Guzman, R Christen, G Kasimir, F Chaubron & MG Höfle (Spain)
- Poster 43 - The role of resuspension in microbial occurrence and distribution in urban beach water - N Le Fevre & G Lewis (New Zealand)
- Poster 44 - Detection of enteric viruses in biofilms of the drinking water system - C Hock & K Botzenhart (Germany)
- Poster 45 - *In situ* identification of bacteria in biofilms of a karstic aquifer using fluorescence *in situ* hybridisation - J Bohnert, B Hübner and K Botzenhart (Germany)
- Poster 46 - Quantitative detection of culturable viruses in Seoul metropolitan water system - O Park, B Lee, M Hwang, B So, Y Ji, & Y Shin (Korea)
- Poster 47 - Efficiency of UV light disinfection in wastewater with high content of pathogens - NA Beltrán Zarza & BE Jiménez Cisneros (Mexico)

Poster 48: Towards reliable beach quality standards – BS Mendes, JC Morais, AP Urbano & JS Oliveira (Portugal)

WHO SEMINAR – UPDATE ON GUIDELINES FOR DRINKING WATER, WATER REUSE AND RECREATIONAL WATER

A special seminar has been organised as part of the IWA World Water Congress on **Friday 12th April** at Melbourne

The primary focus of the seminar will be to:

- present an overview of progress of the 3rd Edition of the Guidelines for Drinking Water Quality due for release in 2003
- provide an update of the wastewater reuse guidelines
- provide an update on the WHO Guidelines for Recreational Water

The development and revision of WHO guidelines is an on-going process and includes the preparation of supporting documentation to direct guideline development. This seminar will also provide an opportunity to consider a number of these supporting documents, including:

- Water Safety Plans – the Hazard Analysis and Critical Control Point approach to managing drinking water safety
- Household treatment of drinking water – the fastest way to reduce the global burden of water-related disease?
- Indicators and tests for drinking water quality in a risk management approach
- Managing groundwater for health
- Chemicals of concern – how to identify tomorrow's arsenic?
- Urban drinking water monitoring
- Harmonising risk assessment and risk management for water-related disease

This full day seminar (coordinated by Dr Jamie Bartram, Coordinator the WHO Water Sanitation and Health Programme) will feature presentations by local and international speakers. This seminar is an excellent opportunity for water professionals and the health sector to discuss the future direction of WHO guidance with some of the world's leading water quality experts.

Details of registration etc are now available at www.enviroaust.net - follow the Associated Events tab at the top of the opening page. Delegate costs are Aus\$88 (if registered for HRWM Symposium) and Aus\$99 (if not). If you have problems finding this web site please contact Ray Morris and a copy can be forwarded by email.

2004 and 2006 SYMPOSIA – ALTERNATIVE ARRANGEMENTS?

The continued rising costs of registration for IWA Congresses is making it an urgent matter to consider alternative arrangements for holding the Symposia of the HRWM Group.

Tentative proposals have been received for the next Symposium to be away from the IWA Congress and so far possible venues are Cape Town (South Africa) and Swansea (UK). The proposals will be presented to delegates at the Melbourne Symposium when a decision on what to do in 2004 and 2006 will have to be made.

There has always been a willingness to hold Symposia away from the main IWA biennials because of (a) cost (a major consideration particularly with escalating registration fees), (b) loss of identity by dilution and (c) lack of intimacy experienced with the smaller type of meeting where all delegates can be located close together throughout the duration of the meeting. It is also felt that high registration fees are inhibiting attendance by workers from developing countries and also the younger researcher. One argument for staying with the main Congress has been that this allows delegates to network with colleagues in other fields although the evidence to back this up seems to be pretty thin. It has been expressed that by having a separate symposium delegates who wish to attend the IWA Congresses will still be free to do so (and *vice versa*) whilst the (apparent) majority will be able to attend a more affordable meeting.

If you wish to propose venues for future symposia please let the Group Secretary know. It will be important that some indication of likely costs for delegates be given.

**INTERNATIONAL SYMPOSIUM ON WATERBORNE
PATHOGENS**
Lisbon, Portugal September 22-25, 2002

The deadline for receipt of extended abstracts for this joint IWA-AWWA conference has now passed and the Programme Committee is about to start its deliberations. Watch this space for programme and costs!

In the meantime visit: <http://www.awwa.org/events//02iswp/call/>

**7TH INTERNATIONAL SYMPOSIUM ON AEROMONAS AND
PLEISOMONAS**

Alicante, Spain 8-10 September 2002

Abstracts deadline April 15th. See www.aeromonas2002.orihuela.org for further information

HPC BACTERIA IN DRINKING WATER – PUBLIC HEALTH IMPLICATIONS?

22-24 April 2002 Geneva, Switzerland

Full details of the final programme, registration and accommodation details are now available at www.nsf.org/conference/hpc. Titles of oral presentations are given below.

HPC bacteria – what is their significance in drinking water? – Allen (USA)
HPC monitoring in treated drinking water: a useful operational tool – Sartory (UK)
HPC and consumer health under special consideration of water softeners – Hamsch (Germany)
Tracking the concentration of HPC bacteria from the source to the consumer's tap – Pepper (USA)
Identifying and examining information on emerging waterborne pathogens – Nichols (UK)
Potentially pathogenic features of HPC bacteria isolated from drinking water – Pavlov (South Africa)
Evaluation of the possible correlation between HPC and presence of Mycobacteria non-tuberculous (MNT) in drinking water – Berchielli (Italy)
Standard plate count (HPC) and its relation to the occurrence of P aeruginosa, Aeromonas sp and endospores of aerobic bacilli in drinking water quality – Schubert (Germany)
Rare occurrence of heterotrophic bacteria with pathogenic potential in potable water – Stelma (USA)
Epidemiological methods for linking water and disease – Nichols (UK)
Virulence and risk of HPC bacteria in human population groups – Edberg (USA)
Estimation of total weekly intake of heterotrophic bacteria in the United States – Gerba (USA)
Rapid detection and enumeration of total bacteria in water – Lepeuple (France)
Eubacterial 16S-rDNA amplicon profiling: a rapid technique for comparison and differentiation of heterotrophic plate count communities from drinking water – Famleitner (Austria)
Assessment of the microbial integrity, sensu Wilson, of drinking water as ingested – Mossell (the Netherlands)
Involvement of humic substances in regrowth – Camper (USA)
Emerging principles of HPC growth at low carbon concentrations – Egli (Switzerland)
Addressing bacterial regrowth (HPC) in the city of Coquitlam water distribution system – Gehlan (Canada)
Understanding the distribution systems as a bioreactor: a framework for managing HPC levels – Huck (Canada)
Counting what? Stressing the environments change the meaning of HPC in drinking waater – Block (France)
The German Standard DIB 19636 "Softeners for Domestic Drinking Water Installations" – Wagner (Germany)

IWA WATER KNOWHOW

IWA Foundation would like to hear from you! They are seeking volunteers who are willing to help answer technical queries that reach the IWA London office from many parts of the world. This is to be offered as a service to water professionals in lower income countries who frequently are unable to subscribe to the Association's journals or attend its conferences but who still seek help in

dealing with their own regional technical problems. This service will be known as "IWA Water KnowHow".

Where particular issues arise, which are both important and of wide-spread concern, the Foundation would set up Task Forces to address the issue and produce a report or statement of best practice on the issue. IWA KnowHow will not be a consultancy service. Time-consuming questions will be declined or referred to consultants who have expressed an interest in supporting the service. All answers will carry a caveat that they are given in good faith with the end recipient being solely responsible for the use of the information in the local context.

If you wish to volunteer or to find out more about this IWA initiative please visit <http://www.IWAFoundation.org> or contact the Director of the Foundation (Nick King) at nick.king@iwahq.org.uk

GROUP WEB PAGE

As members will be aware there have been difficulties with the IWA web pages in terms of trying to find HRWM information. Gertjan Medema is constructing a new site that will be kindly hosted by KIWA Research of the Netherlands. It is hoped that it will soon be available on-line and your support of this Group initiative will be greatly appreciated. As soon as it is available we shall publicise the url!

If it is up in time, the abstracts for Melbourne will be posted there.

Many thanks to KIWA and Gertjan!

Please send any comments, queries, notices of meetings (or reviews), notes etc for the Newsletter to:

Dr Ray Morris,
Secretary, HRWM, 142 Hinckley Road, Barwell LE9 8DN, UK

Tel/Fax: (+44)-14-55-45-19-66

Email: microbe@ntlworld.com

Next issue: May 2002
Deadline for contributions is April 25th!