



Newsletter
December 2010

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CONTRIBUTIONS TO THE NEWSLETTER

Contributions should be submitted by e-mail in Microsoft Word to the Group Chairman or to the Group Secretary:

Chairman

Dr. Alejandro Vargas
Instituto de Ingeniería, UNAM
Laboratory for Research on
Advanced Processes for Water Treatment
Blvd. Juriquilla 3001, Querétaro 76230 Mexico
tel: +52 442 1926166
fax: +52 442 1926185
e-mail: avargasc@iingen.unam.mx

Group secretary and newsletter editor

Dr. Eveline Volcke
Ghent University
Department of Biosystems Engineering
Coupure links 653, B-9000 Gent
tel: +32 9 264 61 29
fax: +32 9 264 62 35
e-mail: Eveline.Volcke@ugent.be

We thank the following persons for their contributions to this Newsletter:

Lina Belia, Ulf Jeppsson, Bruce Johnson, Ingmar Nopens, Martin Pleau, Jose Porro, Leiv Rieger, Peter Vanrolleghem

CHAIRMAN'S NOTE

Dear ICA SG Members,

Welcome to this Fall 2010 edition of our newsletter! The year is almost over and almost everybody should be preparing for the Christmas holidays, but before we do that I invite you to go through the newsletter to find some useful information regarding our Specialist Group activities, both past and future.

Our ICA Specialist Group is involved with many successful task groups (TG). The BSM TG has an impressive record in publications, dissemination, courses, Ph.D's, and the IWA Scientific and Technical Report is about to come out. The GMP TG is also very active organizing workshops, courses, meetings and publications. The DOUT TG, dealing with uncertainty in water treatment modelling, although created only two years ago, has organized several workshops and courses, and has already some publications. The GHG TG, dealing with greenhouse gas emission modelling, has only recently started and is already receiving much attention, as was evident also during the World Congress last September. You can read more about these task groups' activities in the newsletter. Furthermore, we also keep expanding the instrumentation and control applications and research to other fields in the whole water cycle, and not only wastewater treatment, such as working together with the RTC group from the Urban Drainage Systems SG.

On the other hand, the ICA SG has been participating in congresses and conferences, and is also the organizer of several other events. The next ICA sponsored conference is the AutMoNet Conference, which will take place in Queretaro, Mexico, in mid-September, 2011. However, there are also other events where the ICA SG is participating, such as the Watermatex Conference in San Sebastian, Spain in June, 2011, as well as the IFAC Conference in Milano, Italy in early September, where the ICA SG is co-organizing an invited session on control of water treatment plants.

Finally, I want to draw your attention to the fact that our Constitution is almost ready to be changed to reflect the new ideas that drive the ICA SG. I hope you enjoy reading the newsletter and do not hesitate to contact me or any other Management Committee member for further information.

Best regards,



Alejandro Vargas

Chair of the IWA Specialist Group on Instrumentation, Control and Automation

Senior Researcher, Laboratory for Research on advanced Processes for Water Treatment, Instituto de Ingeniería, UNAM, Querétaro, Mexico

CURRENT MANAGEMENT TEAM OF THE SPECIALIST GROUP

The Management Team of the Specialist Group consists of the following people.

Formal Members		
Bob Hill	USA	bhill@ema-inc.com
Joon Ha Kim	Korea	joonkim@gist.ac.kr
Jing Liu	Sweden	jl@bioprocesscontrol.com
Ingmar Nopens	Belgium	Ingmar.Nopens@ugent.be
Leiv Rieger	Canada	rieger@envirosim.com
Yoshihisa Shimizu	Japan	shimizu@biwa.eqc.kyoto-u.ac.jp
Peter Vanrolleghem	Canada	peter.vanrolleghem@gci.ulaval.ca
Alejandro Vargas	Mexico	avargasc@iingen.unam.mx
Eveline Volcke	Belgium	Eveline.Volcke@ugent.be
Affiliated members		
Eduardo Ayesa	Spain	eayesa@ceit.es
Jean-Philippe Steyer	France	steyer@supagro.inra.fr
Stefan Winkler	Austria	swinkler@iwag.tuwien.ac.at

Please visit the group webpage for more information:

[http://www.iwahq.org/Home/Networks/Specialist_groups/List_of_groups/Instrumentation, Control and Automation/](http://www.iwahq.org/Home/Networks/Specialist_groups/List_of_groups/Instrumentation,_Control_and_Automation/)

GROUP DESCRIPTION

The ICA specialist group provides a forum to exchange methodologies and experience internationally on all aspects of sensor technology, instrumentation, control and automation for water systems. Practical experiences, case studies, management problems, operator aspects and integrated solutions of those systems are important parts of the activities. Specific topics may include: sensors and instrumentation; modelling and simulation for control and operation; control systems for water and wastewater treatment and transport; detection and early warning; diagnosis systems; plant wide control and integrated control; control as means of obtaining better sustainability; practical experience of instrumentation and control; information systems for operation; decision support; risk assessment; system optimization for potable water, surface water and wastewater.

HOW TO JOIN THE ICA SPECIALIST GROUP

Membership of the Specialist Group on Instrumentation, Control and Automation is open to all members of IWA. Specialist Groups represent the core vehicle for issue-based interaction on scientific, technical and management topics. The specialist groups facilitate collaboration and product generation, including conferences and publications. The specialist groups within IWA are self-managed and include groups covering all-important topics in the water management sector. Spread

across IWA's membership in more than 130 countries, IWA's Specialist Groups are an exceptionally effective means of international networking, sharing information and skills and making good professional and business contacts.

Every IWA member can join an unlimited number of specialist groups and each group has its own program of conferences and other meetings and a regular newsletter or web-based discussion forum. To join the Specialist Group on Instrumentation Control, and Automation, IWA members can update their contact details on-line: <https://www.portlandpress.com/iwa/membership/change.cfm>.

MESSAGE FROM IWA

It is time to renew your membership!

Now that the renewal process for next year has started, IWA would like to encourage our members to renew their membership before the end of the year to avoid any delay in receiving all-important member benefits!

It is easy to do it online - just clicking on the following link:

<https://www.portlandpress.com/iwa/membership/renewal.cfm> or going on the IWA website – www.iwahq.org. Otherwise you will receive your renewal invoice for 2011 very shortly.

If you have any queries regarding your membership please feel free to contact us at members@iwahq.org quoting your membership number in the subject line of the email.

We are grateful for your continued investment in IWA and we look forward to collaborating with you again in 2011!

IWA website

General

<http://www.iwahq.org/>

Information on the ICA specialist group

[http://www.iwahq.org/Home/Networks/Specialist_groups/List_of_groups/Instrumentation, Control and Automation/](http://www.iwahq.org/Home/Networks/Specialist_groups/List_of_groups/Instrumentation,_Control_and_Automation/)

More info: Dr. Hong Li, Programmes Officer for Specialist Groups within IWA

Contact details: Phone: +31 (0)70 3150777, Fax: +31 (0)70 3477005, Email: hong.li@iwahq.org.

Specialist Group Water Wiki News

Invitation to Participate



www.iwawaterwiki.org

The **Water Wiki**, a website providing a place to interact and share knowledge online has been launched by IWA for the global water community. You can register on the site here:

<http://www.iwawaterwiki.org/xwiki/bin/view/XWiki/Registration>

Group Spaces

Have you tried the new [Group Work Space](#) feature on the **WaterWiki**?

We would like to invite the **Instrumentation, control and automation** Specialist Group to set up a **Group Space** on the **WaterWiki**.

Currently over **10** IWA Specialist Groups are using the **Group Spaces** to:

- Disseminate information about up coming events
- Upload materials for all specialist group members to see (workshop materials, presentations etc)
- Add useful contact information
- Communicate using our private discussion forums
- Discuss research developments and circulate ideas
- Add links to other group websites and sites of interest to the Instrumentation, control and automation group

Creating a **Group Space** on the **IWA WaterWiki** is simple. Just contact Victoria Beddow (beddowve@iwap.co.uk) who can set up a private area for your group to use immediately.

Victoria Beddow

IWA WaterWiki Community Manager

vbeddow@iwap.co.uk

NEWS FROM THE ICA SPECIALIST GROUP

IWA Task Group on Benchmarking of control strategies for wastewater treatment plants

General

The goal of the task group is to develop and promote the use of a benchmark simulation protocol for objective evaluation of control strategies for WWTPs and produce a Scientific and Technical Report (part of IWA Publishing's series). The task group maintains a website as a means to publicize on-going activities (<http://www.benchmarkwwtp.org>). Interest in the benchmark protocols has been extensive and the web site is regarded as the best platform for communication with interested parties including getting feedback and getting input from benchmark users whether they are experienced users or just getting started. Dissemination of results as well as inviting the research community to comment and influence the direction of the work is also done via suitable conferences and workshops.

Upcoming activities

The task group plans to organize its next workshop as a part of the WaterMatex2011 conference in San Sebastian, Spain in June 2011.

Scientific and Technical Report (STR)

The BSM Task Group continues to work toward the completion of the STR on Benchmarking of Control Strategies. A working meeting was held in Montreal, Canada during the IWA2010 World Water Congress (Sept. 2010) and the goal is to submit a draft version of the STR to IWA Publishing by February 2011. Details of the STR are available via the following link:

<http://www.iwapublishing.com/template.cfm?name=isbn9781843391463>

More information

For more information see our website: <http://www.benchmarkwwtp.org>

or contact the Task Group Chair: Dr Ulf Jeppsson, IEA,

Faculty of Engineering, Lund University, PO Box 118, SE-221 00 Lund, Sweden.

Phone: +46 46 2229287; fax: +46 46 142114; e-mail: ulf.jeppsson@iea.lth.se.

The IWA Task Group on Design and Operations Uncertainty (DOUGroup)

Overview

During the two years that the TG has been active, we have put together a working team of 26 volunteers that are compiling the material for each of the chapters of the STR. We have also put together a team of 33 expert reviewers from across 4 continents. The group is preparing 6 white papers which address the priority topics identified at the inception of the group. They are:

1. Document how uncertainty/risk are currently handled in the wastewater industry
2. Clarify the terms and definitions used
3. Develop a list of the sources of uncertainty
4. Evaluate existing methods for evaluating uncertainty
5. Identify gaps in current knowledge and developments required
6. Incorporate knowledge from other fields

Conference Activities

In order to present the work of the Task Group in a more official forum, the group has organised two workshops during the last year:

- a workshop during the IWA 2010 World Congress in Montreal (September 20th, 2010).
- a workshop during the WEFTEC 2010 conference in New Orleans (October 3rd, 2010).

Joined Activities with other Specialist Groups or Task Groups

Following the WWTMod2010 conference, an interdisciplinary meeting was held in Mont-Sainte-Anne, Québec on March 31st, 2010, on the topic of uncertainty. The key objective was to reach out to researchers working on related systems, such as river basin and urban drainage systems, to capture their knowledge and experiences and ensure that an exchange takes place between the different fields

The outcome of the workshop was the set-up of an interdisciplinary group made up of representatives of each specialty areas working in the field of uncertainty.

More information

For more information see our IWA website:

http://www.iwahq.org/Home/Networks/Task_groups/Task_Group_on_Uncertainty/

The website includes a brief description of the task group structure, goals and work plan. It also includes task group publications. Alternatively contact the Task Group Chair, Evangelina Belia, belia@primodal.com

IWA Task Group on Good Modelling Practice

The GMP Task Group has been very active in the last few months finishing the Scientific Technical Report and promoting Good Modelling Practice around the world. Some of these activities are listed below.

Seminar and Conference Activities

The IWA World Water Congress in Montreal, Canada hosted several GMP Task Group activities:

- A GMP Modelling Course was held by the task group with kind support of Yves Comeau from École Polytechnique de Montréal. The course evaluation once again showed the appreciation for the effort the GMP group is putting into these activities.
- A GMP Workshop was part of the conference program and led the audience through the different steps of the GMP Unified Protocol for activated sludge modelling.
- Together with the BSM, DOUT and GHG task groups, the GMP group presented their activities at the IWA Specialist Group and Task Group Leader Meeting. The following table shows the impressive records of ICA-related task groups.

	BSM	GMP	DOUT	GHG
	since 2005	since 2005	since 2008	since 2010
Workshops	5	7	4	0
Conference organization	2	3	0	0
Courses	1	5	0	0
Publications	50+	11	2	1
Questionnaires	0	2	0	0
TG meetings	15	13	6	3
Conference presentations	50+	-	0	2
Specialised web site	yes	yes	yes	yes
Recurring updates in IWA et al newsletters	yes	yes	yes	yes
No of PhD theses based partly on TG's work	16	1	1	1
Post doctoral work based partly on TG's work	10+	-	1	-

GMP task group members were also present at WEFTEC.10 in New Orleans. An update on our activities was given at a meeting of the MEGA group, one of the expert groups connected to the GMP group. The New Notation for Wastewater Treatment Modelling (Corominas et al, 2010) is fully supported by MEGA.

WWTmod2012: The next Wastewater Treatment Modelling Seminar will be held in March 2012 in Mont-Sainte-Anne QC, Canada.

For details on modelling courses, workshops or other events please contact Guenter Langergraber (Guenter.Langergraber@boku.ac.at).

GMP Website (<https://iwa-gmp-tg.cemagref.fr/>)

Our new website is continuously updated and now contains plenty of material for downloading. For instance it includes error-checked and corrected Gujer Matrices for 7 published models.

The GMP group's biggest helper defended her PhD thesis

Hélène Hauduc, a PhD student at Cemagref, France and Université Laval, Canada defended her thesis on November 2nd 2010 in Quebec, Canada. The GMP Task Group would like to thank her for the amazing work she performed with the Task Group and wishes her all the best for her future.

Recent publications of the GMP group

For a list of recent publications with GMP contributions please visit our website (<https://iwa-gmp-tg.cemagref.fr/literature-and-downloads>).

Scientific and Technical Report (STR)

The Good Modelling Practice Task Group continues to work toward the completion of the STR on Good Modelling Practice. An extensive working meeting was held in Chicago at the end of July (kindly hosted by Prof. Krishna Pagilla) and shorter meetings at the WWC in Montreal and WEFTEC in New Orleans. The STR is currently undergoing an extensive external review process. Details of the STR are available via the following link:

<http://www.iwapublishing.com/template.cfm?name=isbn9781843391746>

More information

For more information see our website: <https://iwa-gmp-tg.cemagref.fr/> (new address!) or contact the Task Group Chair, Leiv Rieger, rieger@envirosim.com.

Task group on 'the use of water quality and process models for minimizing wastewater utility greenhouse gas footprints'

After the kick-off meeting of the TG at the WWTmod2010 seminar in Quebec City (Canada), a closed and open meeting of the TG were held at the WWC2010 in Montreal. The open meeting reflected on ongoing actions and especially focused on putting together the backbone structure of the Scientific and

Technical Report (STR) that will be the final product of the TG. This table of contents will soon be posted on the website. In the open meeting, work performed to date and future plans were disseminated to a broader audience. Positive feedback was received and some people offered to be involved in the TG's activities with some willing to share data for the model calibration/validation.

The TG's subgroup on N₂O has been working on a state-of-the-art paper on N₂O modeling. This consensus article will serve as the basis for the implementation of a proper N₂O production model and will soon be submitted. The next step to be taken is to calibrate and validate this model. Several datasets are available (WERF study, STOWA study, GWRC contribution from France) and will be used for this purpose. A model calibration group will be established to proceed with this work. From this exercise, feedback can be given to the projects focusing on data collection and to the people that have set up the models. This calibration exercise is planned in the coming months and first results are expected early 2011.

At WEFTEC2010, the TG's subgroup on benchmarking gathered and discussed future steps. The approach to be taken was summarized in a presentation that was given at the IWA Water & Energy conference, recently held in Amsterdam (Nov 10-12, 2010). The sewer modeling work will continue based on the efforts put forth by Zhiguo Yuan and co-workers (AWMC, Aus) who set up the Eauville example at WWTMod2010. The idea proposed is to construct a sewer model for the BSM2 influent in order to predict the CH₄ production. On the WWTP end, efforts will be based on extending BSM2 with a model for N₂O production from both nitrification and denitrification. Moreover, since BSM2 was intended to develop control strategies (related to operational cost and effluent quality), it needs to be extended for evaluating GHG emissions. A proposal for the latter has already been suggested by work performed at ModelEAU (Canada). Results from these efforts are expected in the coming months.

From an administration point of view, several activities have been carried out:

- An email-list of extended members (active members outside the core group) has been put together. Contact us if you want to be part of that list. The list is available at the website.
- A project database is being set up. This database aims at collecting information on all ongoing projects related to the activities of the TG. This allows the key players that need to be involved in the TG activities to be pinpointed and current research gaps to be determined.
- The TG is actively in contact with research organizations (GWRC, WERF, STOWA,...) to keep informed on their activities and to look for opportunities that can assist in fulfilling the TG objectives
- A dedicated website (containing more detailed information than the intro website on the IWA website) has been set up. You can find it at <http://www.iwataskgroupghg.com>

More information can be found at

http://www.iwahq.org/Home/Networks/Task_groups/Task_group_on_green_house_gas/

Interested in the TG, becoming an active member of the extended list, sharing your ongoing project(s), planning new projects that might be interesting for the TG? Don't hesitate to contact us:

Jose Porro, Malcolm Pirnie (USA), JPorro@PIRNIE.COM

Ingmar Nopens, BIOMATH, Ghent University (Belgium), Ingmar.Nopens@UGent.be

Work Group on Real-time Control of Urban Drainage Systems (RTCUDS)

Election of new chairman and secretary

On June 29th 2010, after three years as president of the RTC WG, Alberto Campisano was succeeded by Martin Pleau. Dirk Muschalla was appointed as secretary of the group instead of Martin Pleau.

Activities of the RTC WG in 2010

- Organisation of a joint workshop on the RTC of sewer systems and treatment plants held during the Novatech 2010 Conference in Lyon. The joint workshop was a nice opportunity to empower the relationships between the RTC WG and the ICA SG.
- Participation to the review process of abstracts and papers for the Novatech 2010 Conference.
- Revamping of the WG website with news on main events and activities and new links to other web sites dealing with RTC topics. Dr. Dirk Muschalla has been appointed the new webmaster.
- Update of the WG members list. The new list with up to date coordinates will soon be available on the WG web site. One of the objectives is to insure a good representation of all active countries in the field of RTC of Urban Drainage System and to include new active members.
- Literature review on RTC for UDS. The literature review will soon be available on the WG web site.

Upcoming activities of the RTC WG

- Completion of the WG web sites including: an exhaustive literature review on RTC for UDS, links with different sites related to the domain, and news related to the main activities currently in progress in Worldwide.
- Organisation of the for the 8th RTC Workshop on Real Time Control of Sewer Systems. Various possibilities are currently explored, including ICUD in Porto Alegre (2011) and Watermatex in San Sebastian (2011). At this time, it seems that Porto Alegre would be a good platform to organize an RTC workshop or a special session on RTC for sewer systems. Watermatex would be a nice opportunity to organize a second joint workshop with the ICA SG.
- Survey to verify the level of interest among various potential clients, including municipalities, companies, and universities, on a course on Real Time Control for Urban Drainage System
- Organisation of a special issue on RTC for sewer systems in the Urban Water Journal
- Production of a newsletter for the Work Group so that all members of the RTC community have easy access to the latest news in the field.

More information

Chairman: Dr. Martin Pleau, BPR CSO, Quebec City, Canada;

Phone: 001-418-871-8151, Fax: 001-418-871-9569, E-mail: Martin.Pleau@bpr-cso.com.

Secretary: Dr. Dirk Muschalla, ITWH, Hanover, Germany;

Phone: +49-511-97193-18, Fax: +49-511-97193-77, E-mail: d.muschalla@itwh.de

RTCUDS WG Web Site: <http://www.dica.unict.it/users/acampisa/rtcwg/>

FORTHCOMING ICA-RELATED CONFERENCES

Note: all the forthcoming IWA conferences are listed on the IWA website

http://www.iwahq.org/Home/Events/IWA_events/

Automation in Water Quality Monitoring Conference (AutMoNet2011), 18-21 September 2011, Querétaro, Mexico.

This conference is one of the two conferences directly organised by the ICA SG and it is dedicated to the whole range of sensor and monitoring technologies and their applications on the whole water cycle, including sewers, wastewater treatment plants, drinking water plants and distribution networks. The AutMoNet conferences have been held twice in Vienna, Austria (2002 and 2004), and a third time

in Ghent, Belgium (2007). In 2011, it will take place in the beautiful colonial city of Querétaro, Mexico, its first incursion outside Europe, right after the Independence Day festivities in Mexico.

The conference will take place at the *Juriquilla* campus of the National University of Mexico (UNAM www.unam.mx), the largest, oldest, and top-ranked university in Latin America.

The conference themes are leading edge sensor technology, design of monitoring systems, data to information transfer, and successful end-user applications.

- Submission deadline (extended abstract): 15 March, 2011
- Notification of acceptance: 31 May, 2011
- Final paper submission: 4 July, 2011
- Website: <http://eventos.iingen.unam.mx/AutMoNet2011>

Watermatex 2011, 8th IWA Symposium on Systems Analysis and Integrated Assessment, 20-22 June 2011, San Sebastian, Spain

The Watermatex symposium focuses on general approaches to solving a wide range of water-related problems within an interdisciplinary framework that relies very much on different types of models. While methodology-focused, the symposium's contributions of course extend to applications, but then are not restricted to any single discipline; it deals with problems in sewer systems and water treatment, surface and groundwater, technical and natural systems. Integrated Assessment aims at bringing all aspects of a problem together, and it is particularly concerned with such issues as the social and economic impacts of solutions to these problems.

Watermatex aims at promoting the application of mathematical methods for modelling and simulation, data management and system identification within a wide spectrum. It targets people from research, consulting companies, institutions and operators to think along the use of models and computing tools to support the understanding, management and optimization of water systems.

Abstract submission deadline: 13 December 2010

Notification of acceptance: 28 February 2011

Final paper submission: 30 April 2011

Website: <http://www.watermatex2011.org/>

LET 2011, 8th IWA Leading-Edge Conference on Water and Wastewater Technologies, 6 - 10 June 2011, Amsterdam, The Netherlands

The annual leading-edge conference on water and wastewater technologies is focused specifically on advances and development in water and wastewater technologies.

The plenary sessions with invited speakers on day one of the conference will focus on:

- International Perspective on Sustainable Urban Water: Emerging Challenges and Opportunities
- Leading Science and Technologies for the Cities of Tomorrow

The platform presentations on day two and three fit within the following topics:

- Novel Materials and Emerging Approaches for Water Purification and Reuse
 - Water and Wastewater Treatment Technologies for Developing Countries
 - Emerging Opportunities for Ion-Exchange
 - Technologies in Alternative Water Sources
 - Desalination Biological Treatment of Drinking Water
- Opportunities and challenges in wastewater treatment technology
 - Water, Energy & Climate Change
 - Innovative Wastewater Treatment Technologies
 - Micro-Algal Systems
 - Emerging Contaminants - Which Ones Truly Emerged?

The submission site has been closed on 15 October 2010.

Notification of acceptance: 15 December 2010

Final paper submission: 15 March 2011
Website: <http://let2011.org/>

18th IFAC world congress, 28 August – 2 September 2011, Milano, Italy

The World Congress of the International Federation of Automatic Control (IFAC) is the forum of excellence for the exploration of the frontiers in control science and technology, attended by a worldwide audience of scientists and engineers from academy and industry. It offers the most updated and complete view of control techniques, with the widest coverage of application fields.

The submission site has been closed on September 30, 2010.

Notification of acceptance: February 15, 2011

Final paper submission: March 31, 2011

Website: <http://www.ifac2011.org/index.html>

4th specialized conference on odours and VOCs, 17-21 October 2011, Victoria, Brazil

The IWA Conference on Odours and VOCs brings together experts, researchers and professionals from universities and industrial and agricultural sectors around the world. Volatile organic carbons (VOC's) include many of the odorants that can cause odour annoyance around sewerage systems and wastewater treatment facilities. Controlling odour emissions is in many cases essential in view of continued usage of a facility, in terms of citizen acceptance. Topics dealt with at this conference include measurement, regulation and control techniques for odours and VOCs.

The last IWA Conference on Odour and VOCs took place in Barcelona from 7th to 10th October 2008. This conference of the IWA Specialist Group on Odour and Volatile Emissions followed the Conferences held in Sydney 2001 and in Singapore 2003, More than 220 professionals and specialists from all over the world involved in the characterization and management of odours and VOCs attended the last conference in Barcelona. With more than 60 papers and more than 30 posters, the conference focussed on odour measurement using olfactometry methods, evaluation of odour control additives, odour management, control techniques for treatment and abatement of odorous emissions, odour characterisation using field panels and odour dispersion modelling, sampling, VOC and odorant measurement, and others. Several papers have been published in IWA Journals (WST, WPT). 32 contributions are published in issue 31 of the book series of the Department of Sanitary and Environmental Engineering (DESEE), University of Kassel, Germany, see www.uni-kassel.de/fb14/siwawi, where this issue can be read online. Contact: Prof. Franz-Bernd Frechen, DESEE, frechen@uni-kassel.de (full contact details see above webpage), Chair of the IWA SG on Odours and Volatile Emissions.

In 2011, Victoria, Brazil, will host the fourth edition of this conference.

Submission of abstracts/full papers: 8 March 2011

Notification of acceptance: 8 July 2011

Submission of revised full papers: 1 August 2011

Website: www.iwa2011odour.com

WWTmod 2012, 3rd IWA/WEF Wastewater Treatment Modelling Seminar, 25 March – 27 March 2012, Mont-Sainte-Anne, Quebec, Canada

The third in this highly successful series of modelling seminars will again be held in Mont-Sainte-Anne, Quebec, Canada. This seminar brings together the world leaders in the application and development of wastewater treatment process models to help guide the directions of where model capability is being developed, and how these models are being applied in practice.

Contact Bruce Johnson (bruce.johnson2@ch2m.com) for further information

REPORTS OF PAST ICA-RELATED CONFERENCES

NOVATECH 2010, 7th international conference on sustainable techniques and strategies in urban water management, 27 June – 1 July 2010, Lyon, France

On Sunday June 27th the 7th International Workshop on Real Time Control of Sewer System

and Treatment Plant was held. It was the first joint workshop of the RTC WG organised in collaboration with ICA SG. The workshop has been a great success with 29 delegates registered. The workshop was an opportunity to revitalise the links between ICA SG and the RTC WG, and shared common concerns regarding pollution control to assess the opportunities for integrating sewer systems and treatment plants in a unique RTC system.

The morning session was dedicated to new technologies for RTC of Sewer Systems and Wastewater Treatment Plants. Presentations included general introductions on RTC of both UDS (Martin Pleau) and WWTP (Joaquim Comas) and experiences on sewer measurements (Guenter Gruber) and water quality monitoring (Stefan Winkler). The morning session was completed with a presentation on Flash Flood Forecast (Jordi Cabot Ple) and experiences in Global RTC applications (Hubert Colas).

The afternoon session was dedicated to Integrated RTC of Urban Drainage Systems. Wolfgang Rauch made a very interesting presentation on the current limitation of Integrated RTC and the future of this pollution control approach. Then two case studies were presented (Chemnitz, Dirk Muschalla; Amsterdam, Kees de Korte). The last presentations were on RTC using a state space model (Anders Breinholt), on a RTC algorithm (Manfred Schuetze) and on ecohydraulic-driven RTC of stormwater systems.

IWA World Water Congress and Exhibition 19–24 September 2010, Montréal, Canada

The biennial IWA World Water Congress and Exhibition brought together 3,000 like-minded water professionals to advance their common goal of sustainable water management.

Key congress themes were

- Science and application of water management
- Cities of the future
- Water, climate and energy
- Securing new and traditional water resources for the future
- Managing utilities and their assets
- Water, ecosystems and catchments
- Water and health

Since Instrumentation, Control and Automation is typically related to many different themes and topics, a virtual 'ICA' program was set up for the interested audience and delivered to all SG members electronically before the Congress. We thank Peter Vanrolleghem and his team at Université Laval, Ingmar Nopens and Alejandro Vargas for preparing it on time

During the World Congress the ICA SG held two meetings. The first one was a closed Management Committee meeting to discuss the new constitution of the SG, as well to update on the organization of the AutMoNet Conference. The second one was open to the interested attendees of the conference and, aside from the invitation to join the SG, several issues were discussed. The agenda included a brief description of the SG, a review of the task groups where the SG is involved, and an invitation to the events organized and co-organized by the SG. Furthermore, a brief overview of the reported biennial report was given. The meeting ended with an open discussion about future directions for the SG.

ICA PEOPLE ON THE MOVE – OPEN POSITIONS

Are you looking for an ICA professional in your company or institute? Feel free to send these vacancies to the Newsletter editor for announcement in the next issue of our Newsletter.

Ph.D. THESES DEALING WITH ICA

All PhD students and their supervisors around the world are invited to contribute to this section of our next Newsletter by sending an abstract of maximum one page and, if possible, details on how to get hold of a copy of the thesis.

PUBLICATIONS (BOOKS – REPORTS)

- Updated Nutrient Control Design Manual for municipal wastewater treatment facilities. U.S. Environmental Protection Agency (EPA). Publication date: August 2010. Direct download link: <http://www.epa.gov/nrmrl/pubs/600r10100/600r10100.pdf>

Titles already described in previous editions of this Newsletter

- Vanrolleghem P.A. (2010) Integrated Assessment for WFD implementation: Data, economic and human dimension - Volume 2. IWA Publishing, London, UK. ISBN 9781843393269
- Biological Wastewater Treatment – Principles, Modelling and Design. M. Henze, M. C. M. van Loosdrecht, G.A. Ekama and D. Brdjanovic (Editors). Publication Date: 02 Sep 2008 • ISBN: 9781843391883, Pages: 528 • Hardback
- Advanced Environmental Monitoring. Kim, Young J.; Platt, Ulrich (Eds.) 2007, XXII, 422 p. ISBN: 978-1-4020-6363-3.
- Automation and Control Solutions in the European Water and Waste Water Sector. Frost & Sullivan, January 2007, Pages: 117
- European Pumps in the Water and Waste Water Markets. Frost & Sullivan, September 2006
- A New Standard for: Specification and Testing of Online Sensors/Analysers. The standard is available at www.iso.org or possibly at national standardization organizations.
- Instrumentation, Control and Automation in Wastewater Systems. IWA Scientific & Technical Report No. 15. G. Olsson, M. Nielsen, Z. Yuan, A. Lynggaard Jensen and J.-P. Steyer (2005). IWA Publishing. ISBN: 1 900222 833. Pages: 246. Paperback. Publication Type: Books.
- Role of ICT in future operation of wastewater treatment plants Foundation for Applied Water Research (Stowa), Report 2003-03. ISBN: 90.5773.206.8. (In Dutch.)
- Dynamical Modelling & Estimation in Wastewater Treatment Processes. ISBN: 1 900222 507. D. Dochain and P. Vanrolleghem (2001) Publication Date: December 2001. Pages: 360. Hardback. Publication Type: Books.

MULTI-NATIONAL PROJECTS

Ongoing projects

- ADD-CONTROL project (7th Framework programme, June 2009 to 2011).
More information: Eduardo Ayesa Iturrate, Director of Environmental Engineering Department, CEIT - IK4 Research Alliance, Paseo de Manuel Lardizabal, 15, 20018 San Sebastián, SPAIN, Tel: +34 943 212800 (Ext. 2215), Fax: +34 943 213076,
<http://www.ceit.es> or <http://www2.mostforwater.com/addcontrol/>
- AquaFit4use (7th Framework programme, June 2008 – May 2012).
Coordinator of the Project: Willy van Tongeren (willy.vantongeren@tno.nl), TNO, The Netherlands.
Coordinator of the Working Package 2 “Modeling, monitoring and automation in industrial water systems”: Dr. Paloma Grau (pgrau@ceit.es), CEIT, Spain.
http://www.aquafit4use.eu/mainmenu/about_aquafit4use.html
- NOVEDAR_Consolider (November 2007 -).
Coordinator of the Project: Prof Juan Lema (jmlema@usc.es), University of Santiago de Compostela, Spain. Webpage: <http://www.novedar.com/en/default.asp>. Coordinator of the Working Package 6 “Integrated Modelling and Control”: Dr. Eduardo Ayesa (eayesa@ceit.es), CEIT, Spain.

FEATURED ARTICLE

Readers are invited to contribute to this section of our next Newsletter by sending an article of about 2 pages. This featured article is typically of a practical nature.

ICA-RELATED URLs

Associations

<http://web.tiscali.it/RTCUSD>
<http://www.atv-dvbk.de>
<http://www.ercim.org/telemac>
<http://www.instrument.org>
<http://www.ftns.wau.nl/mt/iawqstrproject/index.htm>
<http://www.ifac-control.org>
<http://www.isa.org>
<http://www.iwahq.org.uk>
<http://www.swig.org.uk>
<http://www.wef.org>

Modelling software companies

<http://www.envirosim.com>
<http://www.mostforwater.com/>

Instrumentation and Control Companies

<http://www.anaerocontrol.com>
<http://www.applitek.com>
<http://www.danfoss.com>
<http://www.conducta.endress.com>
<http://www.endress.com>
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<http://www.microlan.nl>
<http://www.onlinemonitoring.nl/>
<http://www.product-search.co.uk>
<http://www.systea.it>
<http://www.WWControl.dk>

Universities - Research institutes

<http://biomath.ugent.be>
<http://ifak.ifak.fhg.de>
<http://www.awmc.uq.edu.au>
<http://www.biosys.ugent.be>
<http://www.ceit.es>
<http://www.ModelEAU.org>
<http://www.montpellier.inra.fr/narbonne>
<http://sitios.iingen.unam.mx/lipata> (in Spanish)
<http://www.iea.lth.se>
<http://lequia.udg.cat>

Newsletters:

<http://www.ameda.com/wwr>

Benchmarking of Control Strategies for Wastewater Treatment Plants

Editors: Krist V Gernaey, Ulf Jeppsson, Peter A Vanrolleghem, John B Copp and Jean-Philippe Steyer

This book is a **Scientific and Technical Report** produced by the [IWA Task Group on Benchmarking of Control Strategies for Wastewater Treatment Plants](#). The goal of the Task Group includes developing models and simulation tools that encompass the most typical unit processes within a wastewater treatment system (primary treatment, activated sludge, sludge treatment, etc.), as well as tools that will enable the evaluation of long-term control strategies and monitoring tasks (i.e. automatic detection of sensor and process faults).

Work on these extensions has been carried out by the Task Group during the past five years, and the main results are summarized in **Benchmarking of Control Strategies for Wastewater Treatment Plants**. Besides a description of the final version of the already well-known Benchmark Simulation Model no. 1 (BSM1), the book includes the Benchmark Simulation Model no. 1 Long-Term (BSM1_LT) – with focus on benchmarking of process monitoring tasks – and the plant-wide Benchmark Simulation Model no. 2 (BSM2). A CD-ROM Appendix containing benchmarking software developed by the Task Group, simulation results and detailed technical reports describing all aspects of the benchmark systems is also included.

This title belongs to [Scientific and Technical Report Series](#)

ISBN: 9781843391463 • Pre-order (December 2011) • 100 pages • Paperback

IWA Members price: £ 51.75 / US\$ 93.15 / €69.86

<http://www.iwapublishing.com/template.cfm?name=isbn9781843391463>

Guidelines for Using Activated Sludge Models

Authors: IWA Task Group on Good Modelling Practice

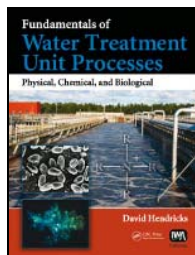
Good Modelling Practice is a **Scientific and Technical Report** that presents the results of the [IWA Task Group on Guidelines for Use of Activated Sludge Models](#). The goal of the group was to set up an internationally accepted framework to deal with the ASM type models in practice. This framework makes modelling more straightforward and systematic to use especially for practitioners and consultants. Additionally, it helps to define quality levels for simulation results, a procedure to assess this quality and to assist in the proper use of the models.

The framework describes a methodology for goal-oriented application of activated sludge models demonstrated by means of a concise guideline on the procedure of a simulation study and some illustrative case studies. The case studies give examples of the required data quality and quantity and the effort for calibration/validation with respect to a defined goal. The final report includes an extended appendix with additional information and details of methodologies.

ISBN: 9781843391746 • Pre-order (December 2011) • 150 pages • Paperback

IWA Members price: £ 51.75 / US\$ 93.15 / €69.86

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Fundamentals of Water Treatment Unit Processes

Physical, Chemical, and Biological

Author: David W. Hendricks

- Covers unit processes common to drinking water, wastewater, and any water requiring treatment
- Presents theory and practice for each unit process and key factors in development
- Examines uncommon issues that aid in applications principles, such as submerged flow for a Parshall flume and Henry's law constants for 12 gases at different temperatures
- Reviews how the field arrived at its present state-of-the-art technologies to shed light on current practices

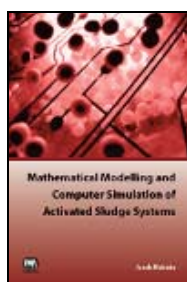
Understanding how the field arrived at its present state of the art places the technology in a more logical context and gives students a strong foundation in basic principles. This book does more than build technical proficiency, it adds insight and understanding to the broader aspects of water treatment unit processes.

Co-Published with CRC Press

ISBN: 9781843393894 • December 2010 • 960 pages • Hardback

IWA Members price: £ 57.75 / US\$ 103.95 / €77.96

<http://www.iwapublishing.com/template.cfm?name=isbn9781843393894>



Mathematical Modelling and Computer Simulation of Activated Sludge Systems

Author: Jacek Makinia

This international, comprehensive guide to modeling and simulation studies in activated sludge systems leads the reader through the entire modeling process – from building a mechanistic model to applying the model in practice.

Mathematical Modelling and Computer Simulation of Activated Sludge Systems will:

- enhance the readers' understanding of different model concepts for several (most essential) biochemical processes in the advanced activated sludge systems,
- provide extensive and up-to-date coverage of experimental methodologies of a complete model parameter estimation (longitudinal dispersion coefficient, influent wastewater fractions, kinetic and stoichiometric coefficients, settling velocity, etc.),
- summarize and critically review the ranges of model parameters reported in literature,
- compare the existing protocols aiming at a systematic organization of the simulation study,
- outline the capabilities of the existing commercial simulators,
- present documented, successful case studies of practical model applications as a guide while planning a simulation study.

Mathematical Modelling and Computer Simulation of Activated Sludge Systems can be used as supplementary material for a graduate level wastewater engineering courses and is useful to a wide audience of researchers and practitioners. Experienced model users such as consultants, trained plant management staff may find the book useful as a reference and as a resource for self-guided study

ISBN: 9781843392385 • September 2010 • 408 pages • Hardback

IWA Members price: £ 63.75 / US\$ 114.75 / €86.06

<http://www.iwapublishing.com/template.cfm?name=isbn9781843392385>



Water Technology: An Introduction for Environmental Scientists and Engineers

Third Edition

Author: N. F. Gray

Water science and technology is one of the world's largest and most interdisciplinary industries, employing chemists, microbiologists, botanists, zoologists as well as engineers, computer specialists and a range of different management professionals.

This accessible student textbook covers the key concepts of water science and technology by explaining the fundamentals of water quality and regulation, policy and management, hydrobiology, water treatment and drinking water supply, and wastewater treatment.

- The Water Framework Directive is the unifying theme for this new edition.
- Deals with water quality assessment, management and treatment
- Includes a new chapter on sustainability within water technology

This textbook is intended for Masters students (and some undergrads) on environmental science, engineering courses, construction courses and students registered for the CIWEM Diploma (Chartered Institute of Water and Environmental Management). It will also be useful for professionals working in the water industry: water service companies, environmental regulators, and consultants.

Co-Published with Elsevier/Butterworth Heinemann

ISBN: 9781843393030 • August 2010 • 600 pages • Paperback

IWA Members price: £ 29.25 / US\$ 52.65 / €39.49

<http://www.iwapublishing.com/template.cfm?name=isbn9781843393030>

SELECTED RESEARCH REPORTS

Non-traditional Indicators of System Performance

WERF Report DEC2R06

Authors: Stephen Nutt and Lynne MacIennan

Publication Date: March 2010 • ISBN: 9781843392897

Pages: 300 • Paperback

IWA Members price: £ 77.25 / US\$ 139.05 / €104.29

<http://www.iwapublishing.com/template.cfm?name=isbn9781843392897>

Costs and Benefits of Complete Water Treatment Plant Automation

AwwaRF Report 91213

Authors: D Roberts, D Kubel, A Carrie, D Schoeder, C Sorenson

Publication Date: December 2008 • ISBN: 9781843392170

Pages: 232 • Paperback

IWA Members price: £ 78.00 / US\$ 140.40 / €105.30

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**International
Water Association**

IWA Head Office:
Alliance House
12 Caxton Street
London SW1H 0QS
UK

Tel: +44 207 654 5500
Fax: +44 207 654 5555

Web site: <http://www.iwahq.org/>
General e-mail: water@IWAhq.org
Membership e-mail: members@iwahq.org

IWA Global Operational Office:
Koningin Julianaplein 2 (7th floor)
2595 AA The Hague
The Netherlands
Tel: +31 (703) 150 788
Fax: +31 (703) 150 799

Web Site: <http://www.iwahq.org/>
General e-mail: water@IWAhq.org
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