

# 2<sup>nd</sup> IWA New Developments in IT & Water Conference

## Information & Programme

Lantaren Venster

Rotterdam, 8 - 10 February 2015



**Conference location:** Lantaren Venster, Otto Reuchlinweg 996, 3072 MD Rotterdam

### **Information on the Welcome reception on Sunday February 8<sup>th</sup>**

The welcome reception will take place on Sunday February 8<sup>th</sup> from 17.00 – 19.00 hrs in the Nhow hotel. There will be served drinks and snacks. At the entrance of the hotel please go to the 7<sup>th</sup> floor.

#### **Nhow Hotel**

Wilhelminakade 137

3072 AP - Rotterdam

[www.nhow-rotterdam.com](http://www.nhow-rotterdam.com)

Nhow Rotterdam is the third nhow hotel in the world after the opening of nhow Milan and nhow Berlin. Nhow Rotterdam resides in the mixed-use building 'De Rotterdam', a vertical city with breathtaking views on the Maas river and the city skyline, designed by world-renowned architect Rem Koolhaas/OMA. By actively involving the artists of Rotterdam with nhow, we bring the spirit of Rotterdam into the 278 stylish guest rooms. Located on the Wilhelmina Pier right across the center of Rotterdam, the nhow Rotterdam hotel offers both business and leisure travelers an environment that encourages to dive head first into all that the city has to offer.

### **Information about the conference dinner on Monday February 9<sup>th</sup>**

We will transfer by boat from Lantaren Venster to the conference dinner. The boat will departure at 17.15 hrs for a boat trip through the ports and along the skyline of Rotterdam. During the boat trip we will serve drinks and finger food.

The conference dinner will take place from 19.00 – 22.00 hrs at " Het Drijvend Paviljoen ", the Floating Pavilion. The Floating Pavilion is not only special because of the floating spheres on the water, but is also climate-resilient, innovative, durable and flexible. The floating Pavilion is a pilot in Rotterdam and a catalyst for this special way of building.

Because the Pavilion floats, it rises automatically along with the water level. That makes the Pavilion an example for climate-proof building that is going to make its advance in Rotterdam. The innovative Pavilion unites the Rotterdam goals to halve emissions of the greenhouse gas and around the city to stay climate proof in the future.

From the dinner it's a 10 minute walk to the conference venue Lantaren Venster and a 7 minute walk to the Nhow Conference hotel. If you stay in another hotel in Rotterdam, please click on the following link to plan your trip <http://www.ret.nl/en/homepage.html>.



## Outline programme IT and Water Conference 8 -10 February 2015

<b>Sunday</b>	<b>08-02-2015</b>
17.00 – 19.00	Welcome reception at the Nhow Hotel ( 7 <sup>th</sup> floor drinks and snacks )
<b>Monday</b>	<b>09-02-2015</b>
08.00 – 09.00	<b>Registration</b>
09.00 – 09.40	<b>Opening of the conference and Key note presentation</b>
09.40 – 11.00	session 1 room A <b>Data Handling and integration</b>
09.40 – 11.00	session 1 room B <b>Web based applications</b>
11.00 – 11.30	Coffee break
11.30 – 12.50	session 2 room A <b>Data Handling and integration</b>
11.30 – 12.50	session 2 room B <b>Decision support systems</b>
12.50 – 14.00	Lunch
14.00 – 15.20	session 3 room A <b>Data Handling and integration</b>
14.00 – 15.20	session 3 room B <b>Modelling and control: urban water systems</b>
15.20 – 15.40	Tea break
15.40 – 17.00	session 4 room A <b>Monitoring and visualization</b>
15.40 – 17.00	session 4 room B <b>Modelling and control</b>
17.15 – 18.45	Boat tour Rotterdam to conference dinner
19.00 – 22.00	Conference dinner at the Floating Pavilion
<b>Tuesday</b>	<b>10-02-2015</b>
08.00 – 09.00	<b>Registration</b>
09.00 – 10.20	session 5 room A <b>Monitoring and visualization</b>
09.00 – 10.20	session 5 room B <b>Modelling and control: wastewater</b>
10.20 – 10.40	Coffee break
10.40 – 12.20	session 6 room A <b>Monitoring and visualization</b>
10.40 – 12.20	session 6 room B <b>Modelling and control: drinking water</b>
12.20 – 13.20	Lunch
13.20 – 14.40	<b>Workshop sessions</b>
14.40 – 15.00	Tea break
15.00 – 16.30	<b>Workshop sessions</b>
16.30 – 17.00	farewell drink

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 **ICT** Automatisering

 **Vewin**  
Association of Dutch water companies

 **MECOMS**<sup>TM</sup>  
developed by Ferranti Computer Systems

## Conference Programme

### Monday

09-02-2015

08.00 – 09.00

**Registration**

09.00 – 09.10

**Opening of the conference by Luuk Rietveld**

09.00 – 09.40

**Key note: *Big Data more than only data***

R. Schotsman, the Netherlands

#### **Room A**

**Session 1 *Data Handling and integration***

#### **Chair**

**Kris Villez, Switzerland**

09.40 – 10.00

***Convergence: Utilities need to mind the data as well as the drops***

G. Symmonds, T.T. Hill, USA

10.00 – 10.20

***Big data in the water sector: Integrated water network management***

D. Kenny, UK

10.20 – 10.40

***Water analytics – Frontline information technology***

R. Bhat, W. Huijs, the Netherlands

10.40 – 11.00

***Pipe-specific criticality classification as a tool for managing risks related to water and wastewater systems***

T. Laakso, T. Lampola, J. Rantala, R. Kuronen, S. Ahopelto,  
R. Vahala, Finland

#### **Room B**

**Session 1 *Web based applications***

#### **Chair**

**Kim van Schagen, the Netherlands**

09.40 – 10.00

***The development of aCurve - a Rich internet application for process analysis at Käppala WWTP***

A. Thunberg, M. Medoc, J. Bäckman, Sweden

10.00 – 10.20

***MACS Water Smart. The new web-based hydraulic and financial water distribution network assessment tool***

O. Kit, M.G. Pérez, T. Schiller, Germany

10.20 – 10.40

***Increasing the service level of a call center with already available data:***

***The Human Sensor***

G.I.M. Worm, S. van der Meulen, G. Deniz, D. Levelt,  
H. Burghard, the Netherlands

10.40 – 11.00

***Smart, Web-based applications for water network management***

D. Kenny, UK

11.00 – 11.30

**Coffee break**

<b>Room A Chair</b>	<b>Session 2 Data Handling and integration Jing Liu, Sweden</b>
11.30 – 11.50	<b><i>Qualitative trend analysis as a tool for pH-based ammonium soft-sensor in full-scale continuous WWTP</i></b> C.M. Thürlimann, D.J. Dürrenmatt, K. Villez, Switzerland
11.50 – 12.10	<b><i>A method to create hydrological models worldwide by using only open data</i></b> J. van Schrojenstein Lantman, the Netherlands
12.10 – 12.30	<b>Performance evaluation measures of water supply services practiced in developing country</b> S.M.Yadav, India
12.30 – 12.50	<b><i>Leveraging big data for intelligent utility management</i></b> G.L.S. Wong, USA
<b>Room B Chair</b>	<b>Session 2 Decision support systems Henri Spanjers, the Netherlands</b>
11.30 – 11.50	<b><i>Asset management tool for drinking water distribution mains</i></b> R. Hawkins, R. Schipdam the Netherlands
11.50 – 12.10	<b><i>Performance improvement of renewable energy-powered RO desalination by storage systems: Freshwater-power pinch analysis (FWaPoPA)</i></b> I.J. Esfahani, C.K. Yoo, Korea
12.10 – 12.30	<b><i>Information technology application for the selection of industrial wastewater treatment technologies: An integrated approach</i></b> A. Castillo, P. Vall, M. Garrido, J. Comas, M. Poch, Spain
12.30 – 12.50	<b><i>A ‘Total Nutrient’, knowledge-based decision support system for an advanced wastewater treatment IT and control framework</i></b> J. Porro, J. Mamo, I. Rodriguez-Roda, J. Comas, M. Poch, Spain
12.50 – 14.00	<b>Lunch</b>
<b>Room A Chair</b>	<b>Session 3 Data Handling and integration Luuk Rietveld, the Netherlands</b>
14.00 – 14.20	<b><i>Water demand estimation and outlier detection from smart meter data using classification and Big Data methods</i></b> D. García, D. Gonzalez, J. Quevedo, V. Puig, J. Saludes, Spain
14.20 – 14.40	<b><i>Knowledge extraction from raw data in water networks. Application to the Barcelona supramunicipal water transport network</i></b> J. Quevedo, V. Puig, D. Garcia, J. Pascual, J. Saludes, S. Espin, J. Roquet, F. Valero, Spain
14.40 – 15.00	<b>The mobile shift - Using mobile/tablet applications to fuel productivity</b> S. Lehman, USA

- 15.00 – 15.20 ***Towards intelligent ultrafiltration for reverse osmosis seawater desalination pretreatment by means of PCA***  
T. Maere, G. Gilabert Oriol, W. Naessens, V. Garcia-Molina, P. Aerts, T. Verbrugge, I. Nopens, Belgium
- Room B**  
**Chair** **Session 3 Modelling and control: urban water systems**  
**Bas Meijer, the Netherlands**
- 14.00 – 14.20 ***Successful implementation of advanced monitoring and control systems for the operation of full-scale treatment plants***  
K.M. van Schagen, M. Bakker, J.J.G. Wuister, the Netherlands
- 14.20 – 14.40 ***Optimisation of water, energy and nutrient requirements in an aquaponic system with interacting production loops***  
T. Slinkert, D. Reyes Lastiri, H. Cappon, K. Keesman, the Netherlands
- 14.40 – 15.00 ***Application of data improvement techniques for accurate assessment of wastewater treatment plants***  
S.C.F Meijer, R.N.A. van Kempen, the Netherlands
- 15.00 – 15.20 ***Dynamic modelling of integrated water-energy cycles for achieving liveable and sustainable cities of the future***  
E. Bozileva, I. Leusbrock, H.H.M. Rijnaarts, K.J. Keesman, the Netherlands
- 15.20 – 15.40 **Tea break**
- Room A**  
**Chair** **Session 4 Monitoring and visualization**  
**Alex van der Helm, the Netherlands**
- 15.40 – 16.00 ***Smart water meter data for improved water demand modelling of diversified water supply schemes***  
T.R. Gurung, R.A. Stewart, C.D. Beal, A.K. Sharma, Australia
- 16.00 – 16.20 ***Optimization of water smart metering systems' Potential with cellular M2M communications***  
E. Sendikwanawa, Uganda
- 16.20 – 16.40 ***Automating performance indicators in intermittent wastewater flow***  
C.L. Lubbers, R. van Eijden, the Netherlands
- 16.40 – 17.00 ***Water quality monitoring with a raspberry Pi used as data visualization appliance***  
A. Winkelbauer, J. Krampe, Austria
- Room B**  
**Chair** **Session 4 Modelling and control**  
**Leiv Rieger, Canada**
- 15.40 – 16.00 ***Binary classifiers applied to detect DO sensor faults during washing events***  
T. Chistiakova, B. Carlsson, J. Zambrano, O. Samuelsson, Sweden

16.00 – 16.20 ***Experiences with advanced process control at waste water treatment plant Blaricum***

A.M. Motelica-Wagenaar, C.J. Reijnen, the Netherlands

16.20 – 16.40 ***Generation of synthetic influent data for performing (micro) pollutant wastewater treatment modelling studies***

L.J.P. Snip, I. Aymerich, B.G. Plósz, S. Rodríguez-Mozaz, D. Barceló, Ll. Corominas, X. Flores-Alsina, U. Jeppsson, K.V. Gernaey, Denmark

16.40 – 17.00 ***Calibration of the sewer system model of Amsterdam-North***

A.M. Motelica-Wagenaar, K.F. de Korte, the Netherlands

17.15 – 18.45 ***Boat tour Rotterdam to conference dinner***

19.00 – 22.00 ***Conference dinner at the Floating Pavilion***

**Tuesday**

**10-02-2015**

08.00 – 09.00

**Registration**

**Room A**

***Session 5 Monitoring and visualization***

**Chair**

**Ingmar Nopens, Belgium**

09.00 – 09.20

***Application of a colour-based system analysis tool at the WWTP of Eindhoven***

Y. Amerlinck, K. Cierkens, I. Nopens, Belgium

09.20 – 09.40

***Sensor placement by means of deterministic global optimization***

K. Villez, P.A. Vanrolleghem, Ll. Corominas, Switzerland

09.40 – 10.00

***Development of new surface image velocimeter based on far infrared cameras***

Y. Kwonkyu, Y. Byungman, Korea

10.00 – 10.20

***Application of machine learning techniques to predict anomalies in water supply networks***

D. Vries, B. van den Akker, S. Velickov, W. de Jong, J. van Summeren, the Netherlands

**Room B**

***Session 5 Modelling and control: wastewater***

**Chair**

**Eveline Volcke, Belgium**

09.00 – 09.20

***Gaussian process regression for monitoring a secondary settler***

J. Zambrano, O. Samuelsson, T. Chistiakova, H. Liu, B. Carlsson, Sweden

09.20 – 09.40

***Computational Fluid Dynamics: an important modelling tool for the water sector***

I. Nopens, J. Laurent, E. Wicklein, J.M. Ducoste, A. Griporio, D.J. Batstone, J.D. Wicks, S. Saunders, O. Potier, N. Ratkovich, A. M. Karpinska, R.W. Samstag, Belgium

09.40 – 10.00	<b><i>Real time control combined with weather radar forecast and aeration tank settling improves the hydraulic capacity and the treatment efficiency during wet weather operation</i></b> T. Munk-Nielsen, T. S. Poulsen, T. B. Öennerth, C. Thirsing, Denmark
10.00 – 10.20	<b>A practical and sound model calibration procedure applied to the WWTP of Eindhoven</b> Y. Amerlinck, K. Cierkens, T. Flaming, S. Weijers, I. Nopens, Belgium
10.20 – 10.50	<b>Coffee break</b>
<b>Room A Chair</b>	<b>Session 6 Monitoring and visualization Youri Amerlinck, Belgium</b>
10.50 – 11.10	<b><i>Operational implementation of PHREEQc in the process control of a surface water treatment</i></b> A.M te Kloeze, the Netherlands
11.10 – 11.30	<b><i>Smart water networks need smart data presentation</i></b> L. Stakenborg , E. Trietsch, B. de Graaf, the Netherlands
11.30 – 11.50	<b><i>Validating data quality for water quality monitoring: Objective comparison of three data quality assessment approaches</i></b> J. Alferes, J. Copp, S. Weijers, P.A. Vanrolleghem, Canada
11.50 – 12.10	<b><i>Strategic work to combat inflow and infiltration: a case study at HSY, Finland</i></b> T. Lampola, T. Laakso, Finland
<b>Room B Chair</b>	<b>Session 6 Modelling and control: drinking water Xuedong Zhang, the Netherlands</b>
10.50 – 11.10	<b><i>Application of the hydraulic model to maintain the free residual chlorine level in water distribution system according to the Water Safety Plan</i></b> P. Nakakul, S. Treesuwan, T. Choophanth, N. Wongpat, Thailand
11.10 – 11.30	<b><i>Plant wide chemical water stability modelling with PHREEQC for drinking water treatment</i></b> A.W.C. van der Helm, O.J.I. Kramer, J.F.M. Hooft, P.J. de Moel, the Netherlands
11.30 – 11.50	<b><i>Improved understanding and operation of nitrification in biological trickling filters through a combination of white and black box modeling</i></b> P.S. Ross, W.W.J.M de Vet, L. Sanchez-Ruiz, W.J. Knibbe, L.C. Rietveld, the Netherlands
11.50 – 12.10	<b><i>Model based prediction of fluid bed state in full-scale drinking water pellet softening reactors</i></b> O.J.I. Kramer, M.A. Jobse, E.T. Baars, A.W.C. van der Helm, M.G. Colin, L.J. Kors, W.H. van Vugt, the Netherlands



12.10 – 13.20

**Lunch**

13.20 – 16.30

Workshop: **A joint information display to evaluate and optimize operational water management: up scaling from regional to international catchment areas?**

Chair: Sander Loos

Time: 1.5 hrs ( 2 workshops )

Participants: max 40

Workshop: **Modelling drinking water treatment processes**

Chair: Luuk Rietveld

Time: 3 hrs ( 1 workshop )

Participants: max 40

Workshop: **Application of ICA in Wastewater Treatment**

Chair: Leiv Rieger

Time: 3 hrs ( 1 workshop )

Participants: max 40

Workshop: **How to read water ?**

Chair: Peter Jules van Overloop

Time: 1.5 hrs ( 2 workshops )

Participants: max 10

14.40 – 15.00

**Tea break**

16.30 – 17.00

**Farewell drink**

**Posters:** ( size of the poster boards is 125 cm wide and 100 cm high )

***Case Study of Applying GIS Decision Support System Web Application for distribution water managements in Bangkok area***

P. Thanutong, R. Methakullachat, A. Eagobon, Thailand

***Improving customer service through increased customer interaction in national water and sewerage corporation***

Diana Kaganzi Kateeba, Uganda

***Model development for operation and management of the Xiaohongmen wastewater treatment plant in Beijing, China***

E. Hao, Z. Hu, Y. Gan, X. Zhang, J. Liu, China

***Evaluation of Environmental and economic impacts of new emerging processes by life cycle assessment***

M.H. Kim, S.H. Pyo, S. Lee, I.J. Esfahani, C.K. Yoo †, Korea

***Online VFA monitoring in a digester using a mid-infrared spectroscopy based sensor***

X. Zhang, J. Paaso, W. Li, E. Hietala, K. Rahkamaa-Tolonen, J.B. van Lier,  
H. Spanjers, the Netherlands

***Detailed off-gas measurements for improved modelling of the aeration performance at the WWTP of Eindhoven***

Y. Amerlinck, G. Bellandi, A. Amaral, S. Weijers, I. Nopens, Germany

***Innovative mobile App for field force in Water industry***

A. Chaudhuri, UK



Download the conference in the **Google, Apple and Windows Phone** stores! You will find an overview of the programme, speakers, and other information about the event. Use the keywords – **IWA IT AND WATER** – and download the App !