IWA - New Developments in IT & Water Conference Programme

Draft Conference Programme

2 – 3 NOVEMBER, 2016
TELFORD, UK

Supporting Organisations
The Water Industry is an industry that is a large consumer of IT systems and a large producer of data. It has also infamously suffered from “Data Richness & Information Poverty,” producing millions of pieces of data every day and in the majority, not being able to do much with the data that has been gathered.

However, the industry is changing at a rapid pace and pressures brought on by the need for greater efficiencies through population growth, a need for an ever cleaner product and phenomenon’s such as climate change means there is a drive for the industry to do more for less and get “smarter” about the way that it operates.

In the 3rd edition of the International Water Association’s New Developments in IT & Water the concept of the “Smarter” Water Industry will be addressed by openly discussing concepts such as the Value of Smart Systems, Modelling & Control and Decision Support Systems. We will also discuss some of the opportunities that the industry has with concepts such as the Internet of Things and Network Protocols and some of the risks that exists through the security of our IT & IC systems.

The New Developments in IT & Water Conference is also fortunate this year to be co-locating with the Water, Wastewater & Environmental Management Conference and so gives attendees the opportunity to not only discuss the data, information management & control systems but also to see all of the new developments in instrumentation systems.

I hope to see everyone at the IWA New Developments in IT & Water Conference between 1st – 3rd November

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Oliver Grieveson  
Water Industry Process Automation & Control

David Hellyer  
Water, Wastewater & Environmental Monitoring
### Day 1
2nd November 2016

**Room 1**

<table>
<thead>
<tr>
<th>Time</th>
<th>Speaker</th>
<th>Presentation</th>
<th>Affiliation</th>
<th>Country</th>
</tr>
</thead>
<tbody>
<tr>
<td>09:00</td>
<td>Bas Boorsma</td>
<td>Keynote</td>
<td>CISCO Systems</td>
<td>the Netherlands</td>
</tr>
<tr>
<td>09:40</td>
<td>Ajay Nair</td>
<td>The Practical Application of the Internet of Things: Delivering tangible benefits on the road towards a disruptive digital water utility</td>
<td>Accenture</td>
<td>United Kingdom</td>
</tr>
<tr>
<td>10:00</td>
<td>Alan Cunningham</td>
<td>Demonstrating value in self learning Intelligent Event Detection Systems</td>
<td>Servelec Technologies</td>
<td>United Kingdom</td>
</tr>
<tr>
<td>10:20</td>
<td>Antonio Sanchez Zaplana</td>
<td>Real Time Water Demand Forecast with Big Data: Alicante experience</td>
<td>Aguas de Alicante</td>
<td>Spain</td>
</tr>
<tr>
<td>11:20</td>
<td>Ana Sancho</td>
<td>Water and environmental monitoring: how IoT is changing these markets</td>
<td>Libelium</td>
<td>Spain</td>
</tr>
<tr>
<td>11:40</td>
<td>Cyrille Lemoine</td>
<td>Securing Drinking Water Network against accidental or voluntary contamination</td>
<td>Veolia</td>
<td>France</td>
</tr>
<tr>
<td>12:00</td>
<td>Amanda Scott</td>
<td>Improved Jar Testing Optimization with Organics Monitoring</td>
<td>General Electric</td>
<td>United States</td>
</tr>
<tr>
<td>12:20</td>
<td>Mathieu Lepot</td>
<td>Benchmark of outlier detection methods for spectral data</td>
<td>TU Delft</td>
<td>the Netherlands</td>
</tr>
<tr>
<td>14:00</td>
<td>George Heywood</td>
<td>Applying UK best practice Asset Management Optimisation to the International Water Sector</td>
<td>Servelec Technologies</td>
<td>United Kingdom</td>
</tr>
<tr>
<td>14:20</td>
<td>Mike Everest</td>
<td>Challenges of integrating 'Big Data' with water industry operational data. Includes a Case Study using real time rainfall data</td>
<td>Meniscus Systems Ltd</td>
<td>United Kingdom</td>
</tr>
<tr>
<td>15:00</td>
<td>Taleb Odeh</td>
<td>Modelling a complicated hydrogeological system: The case study of Wadi Zerka Ma’in - north east of Dead Sea</td>
<td>The Hashemite University - Arid Lands Academy</td>
<td>Jordan</td>
</tr>
<tr>
<td>15:40</td>
<td>Lars Larsson</td>
<td>Life cycle cost benefits with Cloud based systems for sewer networks</td>
<td>Xylem</td>
<td>Sweden</td>
</tr>
<tr>
<td>16:00</td>
<td>Chaim Kolominskas</td>
<td>Valuing the financial benefits of decision support systems for environmental management - Case studies from rapid response and proactive odour management in wastewater treatment</td>
<td>Pacific Environment</td>
<td>United Kingdom</td>
</tr>
<tr>
<td>16:20</td>
<td>Wolfram Franke</td>
<td>Secured network technology for controlled dosage systems in sewage application</td>
<td>Yara International ASA</td>
<td>United Kingdom</td>
</tr>
</tbody>
</table>

**Session & Answer Session**
| Time          | 09:40 | 10:00 | 10:20 | 10:40 | 11:00 | 11:20 | 11:40 | 12:00 | 12:20 | 12:40 | 13:00 | 13:20 | 14:00 | 14:20 | 14:40 | 15:00 | 15:20 | 15:40 | 16:00 | 16:20 | 16:40 | 17:00 | 19:30 |
|--------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Date         | 2nd November 2016 |
| Room         | Room 2 |
| Time         | 09:40 | 11:00 | 11:20 | 13:00 | 14:00 | 15:20 | 17:00 |
| Speaker      | Heli Gong | Le Hong Quan | Jin Liu | Question & Answer Session | Andrew Thornton | Stefan Abelin | Michael Dooley | Simon Mazier | Question & Answer Session | Juan Antonio Baeza Labat | Jose Porro | Mohamed S. Zaghloul | Jez Palmer | Annemarie Mink | Phil George | Coffee, Networking & Exhibition | Coffee, Networking & Exhibition |
| Presentation | Neural Networks for Wastewater Treatment Process - A Review | Experimental Design For Wwtp Data Evaluation By Setting Up Linear Mass Balances | Statistical modelling AD for process optimization and bench-marking - A case study of E. coli inactivation across all Thames Water conventional sewage sludge treatment sites | | The Evolution of Real Time Control (RTC) systems for the Application to Wastewater Treatment Processes | Intelligent Wastewater Pumping - A Technological Breakthrough | Advanced Control and Optimisation of the Activated Sludge Process | Frugal Engineering, or optimisation not instrumentation | | Integration of N2O emissions in the ASM2d model | Measurements and modelling for developing AI-based DO control for mitigating N2O emissions from WWTPs | Biological Processes Modeling for Simulation and Control of Aerobic Granulation Advanced Wastewater Treatment Method | The Industrial Internet of Things: An Evolution to a Smart Connected Enterprise | Mobile Crowd Participation as a Research and Monitoring Tool in Small-Scale Piped Water Supply | Secure Site-to-Site VPN enabling IoT | | | | | | | Gala Dinner |
| Affiliation   | University of Calgary | Ghent university | Imperial College London | | Hach | Xylem Global Services | Strathkelvin Instruments | Perceptive Engineering | | Brunel University London | Lequia Research Group | University of Calgary | Schneider Electric | Delft University of Technology | Rockwell Automation | | | | | | |
| Country       | Canada | Belgium | United Kingdom | | United Kingdom | Sweden | United Kingdom | United Kingdom | | United Kingdom | Spain | Canada | United Kingdom | the Netherlands | United Kingdom | | | | | | |
## Day 2 - 3rd November 2016
### Room 1

<table>
<thead>
<tr>
<th>Time</th>
<th>Speaker</th>
<th>Presentation</th>
<th>Affiliation</th>
<th>Country</th>
</tr>
</thead>
<tbody>
<tr>
<td>09:00</td>
<td>Pernille Ingildsen</td>
<td>Keynote - Smart Water Utilities: Complexity Made Simple</td>
<td>Kalundborg</td>
<td>Denmark</td>
</tr>
<tr>
<td>09:40</td>
<td></td>
<td>&quot;Session 9 - Data for Water Management (Room 1)&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>09:40</td>
<td>Elizabeth Wambui Mwangi</td>
<td>Reducing Non-Revenue Water as a management decision</td>
<td>Nairobi City Water and Sewerage Company</td>
<td>Kenya</td>
</tr>
<tr>
<td>10:00</td>
<td>Graham Symmonds</td>
<td>Using Data for Utility Survival in an Environment of Mandated Conservation</td>
<td>FATHOM</td>
<td>United States</td>
</tr>
<tr>
<td>10:20</td>
<td>Mike Teller</td>
<td>How Big Data and a Vision Created a Smart Water Utility</td>
<td>Schneider Electric</td>
<td>United Kingdom</td>
</tr>
<tr>
<td>10:40</td>
<td></td>
<td>&quot;Session 11 - Sensing &amp; Analysis in Wastewater (Room 1)&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11:20</td>
<td>Giacomo Bellandi</td>
<td>Image analysis procedure to derive bubble size distributions for better understanding of the oxygen transfer mechanism</td>
<td>DICREA University of Florence</td>
<td>Italy</td>
</tr>
<tr>
<td>11:40</td>
<td>Kris Villez</td>
<td>Batch Settling Curve Registration via Shape Constrained Spline-based Image Analysis</td>
<td>Eawag</td>
<td>Switzerland</td>
</tr>
<tr>
<td>12:00</td>
<td>Christian Thuerlimann</td>
<td>Nitrite sensing in urine nitrification reactor with in-situ UV-Vis spectrometry</td>
<td>Eawag</td>
<td>Switzerland</td>
</tr>
<tr>
<td>12:20</td>
<td></td>
<td>&quot;Session 12 - Communications Protocols (Room 2)&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14:00</td>
<td>&quot;Workshop 1 - SWAN Forum I (Room 1)&quot;</td>
<td>&quot;Workshop 3 - SWAN Forum II (Room 1)&quot;</td>
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<td>Pernille Ingildsen</td>
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<td>Kalundborg</td>
<td>Denmark</td>
</tr>
<tr>
<td>09:40</td>
<td></td>
<td>&quot;Session 10 - Cyber Security (Room 2)&quot;</td>
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<tr>
<td>09:40</td>
<td>TBC</td>
<td>TBC</td>
<td>TBC</td>
<td>TBC</td>
</tr>
<tr>
<td>10:00</td>
<td>Thomas Hammond</td>
<td>Mitigating Risk Through Cyber Security in the Water Industry</td>
<td>Siemens Data Service</td>
<td>United Kingdom</td>
</tr>
<tr>
<td>10:20</td>
<td>Nick McLauchlan</td>
<td>How Safe are you?</td>
<td>Z-Tech Control Systems</td>
<td>United Kingdom</td>
</tr>
<tr>
<td>10:40</td>
<td></td>
<td>&quot;Session 12 - Communications Protocols (Room 2)&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11:20</td>
<td>Stuart Combellack</td>
<td>WITS - The Next Generation</td>
<td>WITS PSA</td>
<td>United Kingdom</td>
</tr>
<tr>
<td>11:40</td>
<td>Brian Back</td>
<td>Critical Network of Things</td>
<td>Radio Data Networks</td>
<td>United Kingdom</td>
</tr>
<tr>
<td>12:00</td>
<td>Laurie Reynolds</td>
<td>An open architecture for building collaborative, intelligent water management systems</td>
<td>AquamatiX Ltd.</td>
<td>United Kingdom</td>
</tr>
<tr>
<td>12:20</td>
<td></td>
<td>&quot;Session 12 - Communications Protocols (Room 2)&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14:00</td>
<td>&quot;Workshop 2 - Communications Protocols (Room 2)&quot;</td>
<td>&quot;Workshop 4 - Modelling &amp; Control in Wastewater (Room 2)&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15:00</td>
<td></td>
<td>&quot;Workshop 4 - Modelling &amp; Control in Wastewater (Room 2)&quot;</td>
<td></td>
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</tr>
<tr>
<td>16:00</td>
<td>Closing Remarks</td>
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To register for the IWA New Developments in IT & Water 2016 please visit www.uk.com/it2016

## Registration Fee

<table>
<thead>
<tr>
<th>Country Type</th>
<th>Early Registration</th>
<th>Late Registration</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>High income country</strong></td>
<td>Non IWA</td>
<td>£400 +VAT</td>
</tr>
<tr>
<td></td>
<td>IWA</td>
<td>£300 +VAT</td>
</tr>
<tr>
<td></td>
<td>Student</td>
<td>£200 +VAT</td>
</tr>
<tr>
<td><strong>Low income country</strong></td>
<td>Non IWA</td>
<td>£300 +VAT</td>
</tr>
<tr>
<td></td>
<td>IWA</td>
<td>£200 +VAT</td>
</tr>
<tr>
<td></td>
<td>Student</td>
<td>£100 +VAT</td>
</tr>
</tbody>
</table>

Please find below a list of countries that are categorised at high/low income:

### HIGH INCOME COUNTRIES
- Andorra
- Antigua and Barbuda
- Argentina
- Aruba
- Australia
- Austria
- Bahamas, The
- Bahrain
- Barbados
- Belgium
- Bermuda
- Brunei Darussalam
- Canada
- Cayman Islands
- Channel Islands
- Chile
- Chinese Taiwan
- Croatia
- Curacao
- Cyprus
- Czech Republic
- Denmark
- Equatorial Guinea
- Estonia
- Faeroe Islands
- Finland
- France
- French Polynesia
- Germany
- Greece
- Greenland
- Guam
- Hong Kong SAR, China
- Hungary
- Iceland
- Ireland
- Isle of Man
- Israel
- Italy
- Japan
- Korea, Rep.
- Kuwait
- Latvia
- Liechtenstein
- Lithuania
- Luxembourg
- Macau SAR, China
- Malta
- Martinique
- Mayotte
- Monaco
- Netherlands, the
- New Caledonia
- New Zealand
- Northern Mariana Islands
- Norway

### LOW INCOME COUNTRIES
- Afghanistan
- Albania
- Algeria
- American Samoa
- Angola
- Armenia
- Azerbaijan
- Bangladesh
- Belarus
- Belize
- Benin
- Bhutan
- Bolivia
- Bosnia and Herzegovina
- Botswana
- Brazil
- Bulgaria
- Burkina Faso
- Burundi
- Cambodia
- Cameroon
- Cape Verde
- Central African Republic
- Chad
- China
- Colombia
- Comoros
- Congo, Rep.
- Costa Rica
- Côte d’Ivoire
- Cuba
- Djibouti
- Dominica
- Dominican Republic
- Ecuador
- Egypt, Arab Rep.
- El Salvador
- Eritrea
- Ethiopia
- Fiji
- Gabon
- Gambia, The
- Georgia
- Ghana
- Grenada
- Guatemala
- Guinea
- Guinea-Bissau
- Guyana
- Haiti
- India
- Indonesia
- Iran, Islamic Rep.
- Iraq
- Jamaica
- Jordan
- Kazakhstan
- Kenya
- Kiribati
- Korea, Dem. Rep.
- Kosovo
- Kyrgyz Republic
- Lao PDR
- Lebanon
- Lesotho
- Liberia
- Libya
- Macedonia, FYR
- Madagascar
- Malawi
- Malaysia
- Maldives
- Mali
- Marshall Islands
- Mauritania
- Mauritius
- Mexico
- Moldova
- Mongolia
- Montenegro
- Morocco
- Mozambique
- Myanmar
- Namibia
- Nepal
- Nicaragua
- Niger
- Nigeria
- Pakistan
- Palau
- Panama
- Papua New Guinea
- Paraguay
- Peru
- Philippines
- Romania
- Rwanda
- Samoa
- São Tomé and Príncipe
- Senegal
- Serbia
- Sierra Leone
- Solomon Islands
- Somalia
- South Africa
- South Sudan
- Sri Lanka
- St. Lucia
- St. Vincent and the Grenadines
- Sudan
- Suriname
- Swaziland
- Syrian Arab Republic
- Tajikistan
- Tanzania
- Thailand
- Timor-Leste
- Togo
- Toraja
- Tunisia
- Turkey
- Turkmenistan
- Tuvalu
- Uganda
- Ukraine
- Uzbekistan
- Vanuatu
- Vietnam
- West Bank and Gaza
- Yemen
- Zambia
- Zimbabwe