



*Setting the Standard for Automation™*

# **6th Annual ISA Water/Wastewater and Automatic Controls Symposium**

Wednesday, June 22 – Thursday, June 23, 2011  
Chase Park Plaza Hotel, St. Louis, Missouri, USA



## **PROGRAM BOOKLET**

SYMPOSIUM SCHEDULE  
and  
SPEAKER ABSTRACTS & BIOGRAPHIES

[www.isa.org/wwac](http://www.isa.org/wwac)

# ABOUT THE SYMPOSIUM



Sponsored by the Water and Wastewater Industry Division of ISA, the WWAC Symposium helps professionals in the water and wastewater industry understand how automatic control applications affect processing and distribution of water treatment. It is also an outstanding opportunity to gain valuable technical information and training.



## Keynote Speaker!

**Jeff Theerman**, executive director of the Metropolitan St. Louis Sewer District (MSD), is the Keynote Speaker for the 6th Annual WWAC Symposium. Theerman is a registered professional engineer in the state of Missouri and has over 20 years experience with the MSD. His prior career experience includes four years with the Illinois Environmental Protection Agency. In his presentation entitled “*Technology and our Future in the Water Sector*”, Theerman will address the challenges professionals face in the water industry and how leveraging technology will be a necessary component in preparing for the future...

Attend and get a fresh perspective on water and wastewater processing, water collection, water treatment, along with the latest controls equipment and instrumentation. Industry experts and leaders will cover several topics, including:

- Water and Wastewater Processing
- Automatic Controls Affecting the Process
- Instrumentation and Aeration
- Vermicomposting
- Supervisory Control and Data Acquisition
- Fiber Optic Network
- PC Based Control
- Programmable I/O
- Generator Control Systems
- And more

In addition, you’ll enjoy working luncheons, vendor exhibits showcasing the latest technologies, an evening reception, and plenty of networking opportunities with industry leaders, experts and peers.

## ISA CORPORATE PARTNERS



# WELCOME MESSAGES



## From the General Symposium Chair

I'd like to welcome you to the 6<sup>th</sup> Annual ISA Water/Wastewater Automatic Controls symposium. Each year, our event provides attendees with an informative program that helps them improve their knowledge of applying instrumentation and control technologies in water and wastewater applications.

This year, we're also excited to have an engaging keynote speaker, Jeff Theerman, who is Executive Director of the Metropolitan St. Louis Sewer District. According to Mr. Theerman, "The water industry finds itself in a state of significant change. Aging infrastructure and increased regulatory requirements from Washington are stressing utility budgets to the limit. Water, wastewater and storm water utilities continue to seek solutions to problems through the implementation of proven and affordable technology." He'll be discussing these trends in his keynote and the symposium will deliver technical presentations and case studies focusing on some of those proven and affordable technologies.

In addition to the technical program, there are id sn ISA training courses available: Introduction to the Management of Alarm Systems. I also encourage you to take advantage of the working luncheons, vendor exhibits showcasing the latest technologies, an evening reception, and plenty of networking opportunities with industry leaders, experts, and peers.

Warmest Regards,

Jon DiPietro  
2011 WWAC General Symposium Chair



## From the Program Chair

My name is Joe Provenzano and a past director of the Water & Wastewater Industry Division I would like to formally welcome you to the 6th Annual WWAC symposium. Its focus is to help professionals in the water and wastewater industries gain a greater understanding of how automatic control applications, utilizing the latest in instrumentation and intelligent controls technology are applied to improve both process measurement and water and wastewater processing, collection, treatment, and distribution.

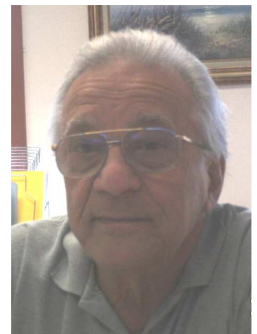
The symposium is a two day event with one of the days dedicated to training and the second day dedicated to technical presentations that includes an informative keynote opening by Jeff Theerman, Executive Director, Metropolitan St. Louis Sewer District. Vendor exhibits will also support this event. You will learn from the experiences of your peers as they upgrade and enhance their treatment process as well as being introduced to the latest technologies used in measurement and control. Then visit our vendors to see these products.

Our target audience includes plant people (Operators, Maintenance, Engineering, Administrators) as well as AE's and system integrators. The desired result is to provide a positive step function in professional development and workplace value.

The event also includes breakfast, lunch, and an evening "Meet and Greet" to complete your day's experience.

Come join us!

Joe Provenzano  
2011 WWAC Program Chair



# VENUE AND HOTEL FACILITIES



This year's symposium is taking place the luxurious Chase Park Plaza hotel, located in St. Louis, Missouri, USA. The Chase Park Plaza Hotel is located 11 miles from the St. Louis International Airport and is within walking distance of the historic Forest Park, St. Louis Zoo, St. Louis Art Museum, Washington University, and the world-renowned Barnes-Jewish Hospital complex. The Clayton business district and downtown St. Louis are also just minutes away.

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MAP & DIRECTIONS

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 Exit 64/40 East and go 7 miles to (exit 36A) Kingshighway north.  
 Follow Kingshighway north 1 mile until you reach Lindell Blvd.  
 Cross over Lindell and turn right into our driveway.

From the east:  
 From downtown St. Louis, take I-64/Hwy-40 west 4 miles to (exit 36A) Kingshighway, north.  
 Follow Kingshighway north 1 mile until you reach Lindell Blvd.  
 Cross over Lindell and turn right into our driveway.

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# SYMPOSIUM SCHEDULE



## Wednesday, June 22, 2011

|                   |   |
|-------------------|---|
| 8:00 AM – 4:00 PM | Training Course: Introduction to the Management of Alarm Systems (IC39C)*   |
| 2:45 PM – 5:00 PM | Tour of Bissell Point Water Treatment Plant**<br><i>One of MSD's wastewater treatment plants, with 150 to 350 MGD capacity.</i> |

\*Note: Participation in the training course requires pre-registration in addition to general symposium registration.

\*\*Note: Participation in the plant tour requires pre-registration and photo ID. Long pants and closed toe shoes are required.

## Thursday, June 23, 2011

|                     |  |
|---------------------|--|
| 7:30 AM – 7:50AM    | Registration   |
| 7:50 AM – 8:00 AM   | Welcome Remarks<br><i>Jon DiPietro, General Symposium Chair</i><br><i>Bob Lindeman, ISA President-elect/Secretary</i>  |
| 8:00 AM – 9:00 AM   | Keynote Address<br>Technology and our Future in the Water Sector<br><i>Jeff Theerman, Executive Director, Metropolitan St. Louis Sewer District (MSD)</i>  |
| 9:00 AM – 9:40 AM   | SCADA – System Design a Sustainable Approach<br><i>Cameron Kamrani, Kamrani Engineering Inc.</i>   |
| 9:45 AM – 10:25 AM  | SCADA Upgrade Using Design-Build Method Concept<br><i>Keith Kolkebeck, United Water New Jersey (New Jersey, USA)</i>   |
| 10:30 AM – 10:45 AM | Coffee Break ~ ~ ~ Exhibits  |
| 10:45 AM – 11:25 AM | Globe Hollow WTP SCADA System: Upgrade, Lessons Learned<br><i>Robert Dusza, City of Manchester (Connecticut, USA)</i>  |
| 11:30 AM – 12:15 PM | Modernization of a Municipal Waterworks with SCADA Standardization:<br>Past, Present, and Planning for the Future<br><i>Graham Nasby, Eramosa Engineering Inc.</i><br><i>Matt Phillips, City of Guelph (Ontario, Canada)</i> |
| 12:15 PM – 1:15 PM  | Lunch ~ ~ ~ Exhibits   |
| 1:15 PM – 1:55 PM   | Establishing a Successful Commissioning Program<br><i>Richard Birdsell, Orange County Sanitation District (California, USA)</i><br><i>Mike Puccio, OCSD</i>  |
| 2:00 PM – 2:40 PM   | The Sustainable Real Time Water Enterprise<br><i>Gary Wong, OSISoft LLC</i>  |
| 2:40 PM – 3:40 PM   | Coffee Break ~ ~ ~ Exhibits  |
| 3:45 PM – 4:25 PM   | Flow Measurement Advances Using Magnetic Flow meters<br><i>Scott Holzborn, Siemens</i>   |
| 4:30 PM – 5:15 PM   | Wireless Measurement & Control Opportunities<br><i>Greg McMillan, CDI - Process &amp; Industrial</i>   |
| 5:30 PM             | Conference Closing Remarks & Reception   |



**ISA WWAC**  
Symposium 2011  
22-23 June 2011  
Chase Park Plaza  
St. Louis, MO USA



## ISA's 6th Annual Water & Wastewater and Automatic Controls Symposium

### Keynote Speaker: **Jeff Theerman, PE**

*Executive Director of the Metropolitan St. Louis Sewer District*

#### **Abstract: Technology and our Future in the Water Sector**

The water industry finds itself in a state of significant change. Aging infrastructure and increased regulatory requirements from Washington are stressing utility budgets to the limit. Water, Wastewater and Stormwater utilities continue to seek solutions to problems through the implementation of proven and affordable technology. Instrumentation, once confined to plant control rooms, is now spreading to all facets of the water utility. Utilities are exploring the condition of their buried assets through various new technologies that allow for rehabilitation and replacement at the right time in the assets life. Real time control of sewer systems to maximize wastewater storage and thus reduce overflows is now a reality. Aided with real time flow measurement and other parameters from the field, modeling of system performance has been advanced to create better engineered solutions to capacity issues. To address water shortages, the future will include the addition of non-potable water systems which will allow reuse to supplement the existing potable water supplies. The future will include more expensive less plentiful water supplies and higher degrees of wastewater pollution control. Leveraging technology to meet our challenges will be a necessary component of our water future.

Keynote Address:  
23 June  
See the symposium  
program and  
register online at  
[www.isa.org/WWAC](http://www.isa.org/WWAC)

#### **About Jeff Theerman**



Jeff is the Executive Director of the Metropolitan St. Louis Sewer District (MSD), a state-chartered agency that provides wastewater and stormwater service to approximately 1.4 million people in the City of St. Louis and most of the surrounding St. Louis County. MSD operates and maintains the fourth largest collection system in the United States with over 9,600 miles of sewers across a 535-square-mile service area. Like many other large wastewater utilities across the United States, MSD's urban core is served by combined sewers, and MSD is progressing with a Long-Term Control Plan (LTCP) for combined sewer overflow (CSO).

Jeff has over 20 years experience with MSD and is a registered professional engineer in the state of Missouri. His prior career experience includes four years with the Illinois Environmental Protection Agency. He earned a Bachelor's Degree in Civil Engineering from the Missouri University of Science and Technology and a Master's Degree in Civil Engineering from Southern Illinois University-Edwardsville. Jeff currently serves as president of the National Association of Clean Water Agencies (NACWA), which represents the interests of wastewater utilities across the United States. He is also a member of the Water Environment Federation (WEF) and a Bedell Award winner from the Missouri Water Environment Association (MWEA).

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# SPEAKER ABSTRACTS & BIOGRAPHIES



Title: **SCADA – An Integrative Approach**  
Presenter: Cameron Kamrani, Kamrani Engineering Inc.  
Timeslot: 9:00 a.m. – 9:40 a.m.

## **Abstract:**

In the past decades, the design, construction and operation of SCADA systems have seen a shift toward a more sustainable approach. The approach that offers a more performance based verification of its project requirement goals and a lower cost of the ownership. The cost of ownership that not only looks at the initial cost, but it also looks at the life cycle cost and benefits of owning and operating the SCADA system. The movement strives a shift toward a SCADA system that not only alarms you when your process goes wrong, but it also intends to minimize the financial impacts as well as the environmental and social impacts.

The life cycle assessment of an SCADA system features, components and networks encompasses planning and design and construction and operation and ultimately retirement and renewal. This LCA is to inform the stakeholders about the choices for material, components, systems and features that promotes operational satisfaction and also minimizes or totally eliminates the negative impacts on energy use, environment and public infrastructure.

The SCADA-an integrative design paper looks at a new approach to the SCADA system features and how to layout a concept for a system that can meet the sustainability challenges of the 21<sup>st</sup> century. The challenges that require clear project goal definitions, measurable performance requirements, self healing and with optimum cyber security, team oriented design, open communication and synergy among the owners, operators, engineers, programmers, technicians, contractors and general public.

## **About the Speaker:**

**Cameron Kamrani** has over three decades of project experiences that includes project management, master planning, design, construction, commissioning and validation of field instruments, control systems, automation software, networks and the associated electrical distribution design and hardware. The projects were at facilities such as municipal water and wastewater plans, chemical, pharmaceutical, food, research and laboratory facilities, office buildings, commercial, educational, institutional, airport/transportation facilities and manufacturing plants. The projects scope included cost and feasibility analysis, and detail design and construction of process control automation system, including PLCs, HMI, DCS, SCADA and higher level enterprise system integrations, such as CMMS, LIMS, ERP and open system protocols such as Web Services. Some of the project scope focused on hardware and their proprietary control system such as electrical power distribution and metering system, lighting and lighting control, fire alarm, security, and building control systems. Mr. Kamrani has a Master in Engineering and MBA and he is a LEED Accredited Professional



# SPEAKER ABSTRACTS & BIOGRAPHIES



**Title:** SCADA Upgrade Using Design-Building Method Concept  
**Presenter:** Keith Kolkebeck, United Water New Jersey  
**Timeslot:** 9:45 a.m. – 10:25 a.m.

## Abstract:

United Water New Jersey (UWNJ) owns and operates a single 200 MGD Water Treatment Plant located in Haworth, NJ, USA serving nearly 1 million people in Bergen and Hudson counties.. In the spring of 2008, UWNJ embarked on an ambitious 12 month project to upgrade the plant SCADA system, plant control room, and integrate four new plant processes onto a single modern SCADA platform. The plant ran on a legacy HP-UX Unix-based HSQ SCADA System that had been in use for more than 15 years which could no longer be supported, only could be run on outdated hardware and lacked standards, ease of use, and scalability.

UWNJ decided to utilize the Design-Build project delivery method to upgrade the plant SCADA system and awarded the project to the team of EMA Inc. of Trevese, PA(Engineer, Prime Contractor), OCC of Reading, PA(New Systems Integrator) and HSQ of Hayward, CA(Legacy Systems integrator). In addition to the core SCADA system upgrade, a significant plant process upgrade project with Camp Dresser McKee (CDM) was running in parallel and careful coordination between projects by UWNJ was necessary to ensure interoperability, system standards, HMI uniformity, and above all, zero down time. UWNJ committed internal resources to the team to ensure seamless communications between all parties and timely issue resolution. The project contract was negotiated to make sure all parties abided by the ambitious UWNJ completion schedule and requirement of uninterrupted plant operations constraints.

The Team successfully completed the upgrade on-schedule and within budget by following an innovative, parallel-work approach during the design, field investigation/preparation and start-up/commissioning phases. The process upgrade SCADA portion which involved the coordination of an additional three system integrators were merged into the new SCADA system with only minor adjustments.

This presentation discusses the UWNJ SCADA upgrade project including overview, infrastructure, challenges, success factors, integration of four different vendors into a single cohesive SCADA system, and other projects that influenced the project during the time period. Furthermore the presentation will take a look forward to how United Water is planning to upgrade over 100 remote site facilities served by the WTP.

## About the Speaker

**Keith Kolkebeck** has over 10 years of technology experience and is the SCADA Manager within United Water's Engineering Systems Group, bridging the gap between traditional IT capabilities and classical engineering. A graduate of Drexel University with a degree in Computer Engineering, Keith has previously consulted for firms such as PriceWaterhouseCoopers and IBM and has been an entrepreneur, running his own consulting company. Currently Keith is overseeing SCADA projects in five states, contributing to multiple R&D projects with his peers in other Suez Environment divisions around the globe, and is completing the largest SCADA upgrade United Water will ever do: a complete, multi-year, zero-down-time, migration of our largest plant and its 130 remote field sites.





# SPEAKER ABSTRACTS & BIOGRAPHIES



Title: **Globe Hollow WTP SCADA System: Upgrade, Lessons Learned**  
Presenter: Robert Dusza, City of Manchester (Connecticut, USA)  
Timeslot: 10:45 a.m. – 11:25 a.m.

## **Abstract:**

This presentation will provide information on the hardware and software used to upgrade the existing SCADA system at the water treatment plant located in Manchester (Connecticut, USA). This work was completed in the Fall of 2010. This is the third upgrade to the original system that was installed in 1983.

The original SCADA system was installed in 1983 as part of initiative to concentrate treatment for surface water in Manchester to one facility from 3 separate plants. The 1983 treatment plant has a capacity of 10 MGD with a hourly peak of 16 MGD. The SCADA system provides information from 24 Remotes in the field, 3 Remote I/O Racks and 17 Remotes in the plant. The system uses Redundant ControlWave PLCs and ControlWave Micro PLCs programmed using a variety of the languages in the IEC 61131-3 standard. The project was implemented as part of an upgrade and equipment replacement plan for the treatment plant.

## **About the Speaker:**

**Robert J. Dusza** is the Project & Technical Support Manager for the Water & Sewer Department for the City of Manchester, Connecticut, USA. He has over 27 years of experience in the water/wastewater sector that includes both operations and project related work. In his current role with the city he is responsible project management, programming, and system upgrade services for the city's water/wastewater treatment plant SCADA systems. From 1985 to 1999 he was involved the operations of both water and wastewater treatment plants in the City of Manchester in roles of increasing responsibility. Robert has a B.S. in Marine Biology from University of New England and a M.S. in Environmental Science & Technology from Rensselaer Polytechnic Institute (RPI), Hartford, Connecticut. Robert also has Class IV Water and Class IV Wastewater operator licenses for the State of Connecticut.



# SPEAKER ABSTRACTS & BIOGRAPHIES



Title: **Modernization of a Municipal Waterworks with SCADA Standardization  
Past, Present, and Planning for the Future**

Presenters: Graham Nasby, Eramosa Engineering Inc.  
Matthew Phillips, City of Guelph (Ontario, Canada)

Timeslot: 11:30 a.m. – 12:15 p.m.

## **Abstract:**

The need for standardization of its SCADA infrastructure led the City of Guelph, Ontario, Canada (population: 132,000) to develop a set of comprehensive SCADA standards to guide the continuing expansion and upgrading of its water facilities.

Supervisory Control and Data Acquisition (SCADA) has become a vitally important tool for the operation, management, and monitoring of public water utilities throughout North America. SCADA now has an ever-present role that includes looking after all automatic control and alarm management, logging of critical process data, and providing operators with remote access to equipment. However, unlike many other fields of engineering, SCADA is a comparatively newer field with many of its current features only becoming available in the last 10-15 years. With SCADA only recently maturing as a technology, most water utilities tend to have wide range of installed SCADA equipment/networks that can vary considerably in terms of age, feature-set, connectivity, and vendor-support. In addition, most systems have been built piecemeal over the years by a wide variety of contractors, vendors, and consultants, each with their own programming approach. The result: many water utilities now find themselves with complex, varied and comingled systems that are often difficult to manage in terms of operations, maintenance and overall system robustness.

In 2003 the City of Guelph realized that a new approach to SCADA was needed for its waterworks. The SCADA system they had worked, but it was difficult to maintain in a consistent fashion and it required a large ever-growing investment in terms of staff training, staff time and the use of external consultants. These considerations, as well as the increasing demands for data-logging to meet regulatory requirements, drove the city's need for a more uniform SCADA system.

This presentation will focus on the steps the City of Guelph Water Services Department took to develop a set of comprehensive SCADA standards, the successes/challenges from implementing them, and how the standards were adopted as part of the workflow for all new capital projects. Comments will be made on which standards documents (tagging, hardware selection, programming standards, etc.) were most useful in practice and what aspects of the system may be left up to the discretion of the system integrator. Four short case studies will illustrate how the City applied the new standards to existing facilities in order to upgrade them in an organized manner while controlling cost and risk. A fifth case study will outline how the new standards were applied to one of the City's brand new waterworks facilities.

## **About the Speakers:**

**Graham Nasby, P.Eng., PMP** is a licensed professional engineer who has worked in various industries ranging from IT and software development to pharmaceuticals and semiconductor manufacturing. He currently designs automated control and monitoring systems for the municipal water/wastewater sector at Eramosa Engineering Inc. Graham is also a contributing member of the ISA18, ISA101, and CSC/IEC TC65 standards committees.



**Matt Phillips, P.Eng.** is a licensed professional engineer who has worked in the field of SCADA and software systems for over 10 years. As the City of Guelph's Water Security Coordinator (SCADA) he manages the planning, construction, operation, and maintenance of the SCADA infrastructure for the city's Water Services department.



# SPEAKER ABSTRACTS & BIOGRAPHIES



**Title:**                **Establishing a Successful Commissioning Program**  
**Presenters:**        Richard Birdsell, Orange County Sanitation District (OCSD)  
                              Mike Puccio, OCSD  
**Timeslot:**           1:15 p.m. – 1:55 p.m.

## **Abstract:**

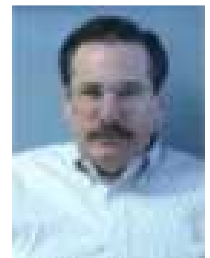
The goals of any water/wastewater utility engineering department are to deliver projects that are on schedule, on budget, do the function intended and that can be operated and maintained. Keeping projects on budget and schedule was and is a priority of the Orange County Sanitation District (California, USA). As a result, many processes were developed and an entire Project Management Office (PMO) was created. In 2002, OCSD embarked on a two billion dollar plus capital improvement program (CIP) tasking the Engineering and Construction Department with the challenge of starting up and testing many projects with parallel schedules and make them ready to be turned over to the Operations and Maintenance Department (O&M). As in any construction industry, water/wastewater has been challenged with executing one of the most critical stages of a construction project, commissioning, at the end of the project when the risk of budgets being exhausted is very high and there is significant pressure to complete the contractor's work. Another challenge is that the facility is operating during commissioning and when the contractor is done with all the specified testing, the owner starts operating and maintaining the next day. This requires careful planning and control throughout the design, construction and commissioning phases.

OCSD identified a significant risk in commissioning a two billion dollar CIP which included: New 300 MGD Headworks Facility, New 30 MGD Trickle Filter Secondary Treatment Facility, New 60 MGD Activated Sludge Secondary Treatment Facility, New 60 MGD Trickle Filter/Solids Contact Secondary Treatment Facility, New Co-Thickening and Dewatering Centrifuge Facility, New Primary Sludge Distribution Pump Station, Rehabilitation of Primary Clarifiers, Secondary Treatment Facility, Digesters and Central Generation Facility, and Replacement of six Lift Stations. With this many complicated projects in different phases of design and construction it was important to develop a detailed plan to commission that would include a cultural change with regards to commissioning in most departments of the organization

This paper will describe the details of establishing and administering a water/wastewater commissioning program. Several case study projects will be included with honest lessons learned. The audience for this paper will primarily be water/wastewater owners.

## **About the Speakers:**

**Richard Birdsell, PE** has been involved in design, construction and commissioning for refineries, power plants, water and waste water facilities for over 30 years. He is currently a Senior Engineer responsible for the Orange County Sanitation District (OCSD) commissioning program.



**Mike Puccio, PE** has over 20 years of experience in the design and commissioning of water and wastewater facilities. He currently is the Engineering Supervisor for Orange County Sanitation District (OCSD) overseeing in-house and consultant designed projects including commissioning.



# SPEAKER ABSTRACTS & BIOGRAPHIES



Title: **The Sustainable Real Time Water Enterprise**  
Presenter: Gary Wong, OSIsoft LLC  
Timeslot: 2:00 p.m. – 2:40 p.m.

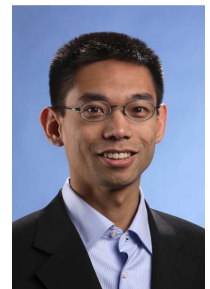
## **Abstract:**

With water becoming scarcer and its demand ever increasing, water utilities around the world feel the increasing pressure of remaining sustainable. With the continued social, economic, and environmental challenges, this paper discusses how real-time and historical data enables water utilities to save money, provide safe drinking water, meet stringent environmental discharge regulations and achieve sustainability. From the thousands of water and wastewater utilities around the world, many are not collecting or fully utilizing the data they are regularly generating from their instrumentation and controls systems.

This is due in large part to the challenges of disparate data systems, lack of understanding about advanced data analysis and ever-changing technology environments. Case studies will demonstrate how utilities leverage real-time information to integrate their operations and disparate systems, as well as provide enterprise visibility in support of real-time decision making at all levels of the organization. With real-time data, water utilities manage assets and increase their lifecycle, defer millions of dollars in capital expenditures, streamline billing systems, reduce water leakage, optimize operations, reduce energy and chemical consumption, enable capacity planning, meet and monitor environmental compliance, ensure public safety, and achieve corporate sustainability in a secure and auditable manner.

## **About the Speaker:**

**Gary Wong, P.Eng., MBA, CME** is OSIsoft's Global Water Industry Executive and has extensive international experience providing sustainable, strategic and cost-effective business solutions, particularly in the water and wastewater industry. Gary has worked with major international organizations in both the public and private sector on sustainability, IT strategy, planning, operations, and engineering. Gary holds a Bachelors Degree in Chemical Engineering, is registered as a Professional Engineer in Computer Engineering, holds an M.B.A., and is also a Certified Management Accountant.



# SPEAKER ABSTRACTS & BIOGRAPHIES



Title: **Flow Measurement Advantages Using Magnetic Flow Meters**  
Presenter: Scott Holzborn, Siemens  
Timeslot: 3:45 p.m. – 4:25 p.m.

## **Abstract:**

As water becomes an ever-more precious natural resource, communities and local governments are looking for more efficient water / wastewater solutions. A prerequisite of managing water more efficiently is an accurate understanding of existing water use. Many communities still employ mechanical meters to measure water flow. While mechanical meters are typically the least expensive to buy upfront, they are the most expensive in the long run. Costly maintenance issues quickly increase the lifetime cost of mechanical meters making magnetic flowmeters a better value and less expensive option within a short period of time.

The lower cost of ownership derives from specific attributes of magnetic flowmeters including:

- No moving parts
- Obstruction free
- Maintenance free for up to six years
- Unaffected by dirty water
- Tamper resistant
- Minimal installation requirements

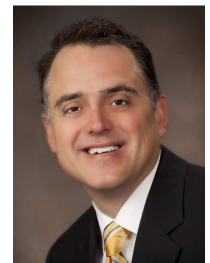
The value of magnetic flowmeters can also be measured by their:

- Accuracy at low flow
- Ability to be attached through a retrofit on underground pipes
- SCADA integration offering on-board diagnostics, data logging and communications

Attendees will leave this session with a comprehensive understanding of the benefits and value offered by magnetic flowmeters.

## **About the Speaker:**

**Scott Holzborn** has been applying instrumentation in the Water & Wastewater Industry for almost 20 years. Scott's current position with Siemens as Marketing Manager - Americas tasks him with marketing responsibility in the North and South American markets. Typical responsibilities include product portfolio management, sales channel efficiency, & marketing collateral development. Scott resides in St. Louis, Missouri with his wife and two children.



# SPEAKER ABSTRACTS & BIOGRAPHIES



Title: **Wireless Measurement & Control Opportunities**  
Presenter: Gregory K. McMillan, CDI – Process & Industrial  
Timeslot: 4:30 p.m. – 5:15 p.m.

## **Abstract:**

Wireless measurements can reduce maintenance and noise problems in addition to installation costs by the elimination of wiring problems and electromagnetic interference. Less recognized are the opportunities afforded by wireless measurements for troubleshooting and optimizing measurement locations as well as developing and prototyping process control innovations. However, battery life and network integrity raise reliability, security, and maintenance questions. Communication interruptions and discontinuous updates can cause oscillations for traditional PID controllers.

This paper addresses these concerns and discusses the potential use of wireless pH measurements for minimizing noise, maximizing sensor performance, selecting sensor technology, predicting sensor life, and developing inferential measurements. An example of the use wireless conductivity and pH measurements as inferential measurements of solvent and carbon dioxide is given to enable the optimization of absorber operation. The advantage of using spare wireless transmitters instead of lab meters for communicating test data for inferential measurements and calibration data from standardization methods with grab samples is offered. A simple enhancement of the PID algorithm for wireless control to extend battery life is explained and test results are presented for measurement failures, setpoint response, load upsets, and valve stiction. The effect of wireless transmitter settings such as “default update rate” and “trigger level” on control loop performance is estimated for unmeasured disturbances in terms of the additional deadtime added by wireless settings

## **About the Speaker:**

**Gregory K. McMillan** is a retired Senior Fellow from Solutia/Monsanto and an ISA Fellow. Presently, Greg contracts in Emerson DeltaV R&D via CDI Process & Industrial in Austin. Greg received the ISA “Kermit Fischer Environmental” Award for pH control in 1991, the Control Magazine “Engineer of the Year” Award for the Process Industry in 1994, was inducted into the Control “Process Automation Hall of Fame” in 2001, was honored by InTech Magazine in 2003 as one of the most influential innovators in automation, and received the ISA Life Achievement Award in 2010. Greg is the author of numerous books on process control, his most recent being Essentials of Modern Measurements and Final Elements for the Process Industry and Advanced Temperature Measurement and Control. Greg has been the monthly “Control Talk” columnist for Control magazine since 2002. Greg’s expertise and virtual plants are available on the web sites: [www.modelingandcontrol.com](http://www.modelingandcontrol.com) and [www.processcontrollab.com](http://www.processcontrollab.com).



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## Introduction to the Management of Alarm Systems (IC39C) - MO

Date: Wednesday, 22 June 2011

Time: 8:00 AM – 4:00 PM

Instructor: Bill Hollifield

This course focuses on the key activities of the alarm management lifecycle provided in the ANSI/ISA18.00.02 standard, Management of Alarm Systems for the Process Industries. The activities include the alarm philosophy development, alarm rationalization, basic alarm design, advanced alarm techniques, HMI design for alarms, monitoring, assessment, management of change, and audit.

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