2012 Water / Wastewater and Automatic Controls Symposium

Holiday Inn Castle Resort.......Orlando, Florida, USA.......**Aug 7-9, 2012**

Presented by the ISA Water / Wastewater Industries Division - *www.isawwsymposium.com*

Technical Co-Sponsors: WEF Automation and Info Tech Committee and the Florida AWWA Section

Attendee and Registration Information

Setting the Standard for Automation™

Presented by the Water and Wastewater Division of ISA, in collaboration with the Florida AWWA and the WEF Automation and Information Technology Committee, the WWAC Symposium helps professionals in the water and wastewater industries understand how instrumentation, SCADA (supervisory control and data acquisition), and automatic control applications affect the processing and distribution of water treatment. It also provides an excellent opportunity to gain valuable technical information and training.

This 3-day symposium is focused on the challenges associated with automation and instrumentation in the water and wastewater sectors. It features 2 full days of presentations (two speaking tracks), a tour of a local water/wastewater facility, a general reception, networking events, a poster session, and a supplier showcase.

Travel Information

Accomodations

The 2012 ISA Water/Wastewater Symposium will be held at The Holiday Inn Resort Orlando – The Castle in Orlando, FL. This boutique hotel offers luxury accommodations and is only steps from International Drive's world-famous shopping, dining and entertainment. It is also situated close to both Walt Disney World Resort and Universal Studios' theme parks.

Hotel Registration

We have arranged a special discounted hotel rate of $79/night for symposium attendees for the Mon, Tues, Wed, and Thurs nights. Please mention "ISA WWAC Symposium" when booking. If registering on-line use the group code "ISA". The special symposium rate is available until July 15, 2012.

Holiday Inn Castle Resort Hotel
8629 International Dr. Orlando Florida 32819
www.thecastleorlando.com
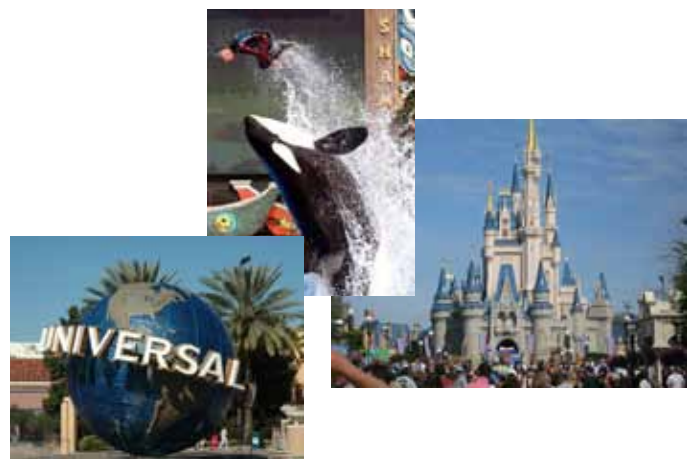info@thecastleorlando.com
1.877.317.5753 (toll free)
407.248.8181 (fax)

Map & Directions

Flying: The hotel is approximately 13 miles from Orlando International Airport (airport code: MCO). The airport has a large number of rental car agencies. Shuttle bus and taxi service from the airport is available via Mears Transportation by visiting *www.mearstransportation.com* or by calling 1-800-223-3868. A one-way taxi trip from the airport to the hotel typically costs around $35 USD.

Driving: The hotel is not far from Interstate 4, the Florida 528 Highway, and the Florida Turnpike. Situated on International Drive, the hotel is easy to get to and offers ample parking.

Local Attractions

The Orlando area provides a wealth of visitor experiences. The hotel is centrally located in the heart of the fun. The Walt Disney World Resort, Sea World and Universal Studios are minutes away. Bring your family and take advantage of the many experiences to be had. For more information on local attractions visit *www.visitorlando.com.*

Invited Speakers

KEYNOTE

Facing Utility Challenges: Managing Risk and Addressing Aging Infrastructure Needs

Celine Hyer, Principal, Malcolm Pirnie/ARCADIS

Aging infrastructure and managing risk are major concerns in our industry. A recent US EPA study estimated that $334.8 billion needs to be spent over the next 20 years on drinking water infrastructure needs. A similar study from the Amercian Society of Civil Engineers pegged an even higher cost for wastewater infrastructure renewal in the US. Automation, instrumentation and SCADA systems play an important role in solving the infrastructure challenges related to mitigating and managing risk.

INVITED SPEAKER - Day 1

An Overview of ISA99 for the Water or Wastewater SCADA Specialist

Bryan Singer, Princial Consultant, Kenexis Security Corp

The move to using open standards such as Ethernet, TCP/IP, and web technologies in SCADA (supervisory control and data acquisition) systems can expose these systems to the same types of cyberattacks that have plagued the IT world. This talk will provide a brief overview how the ISA99 "Industrial Automation and Control Systems Security" standards represent a key tool in addressing these challenges, and how they can be used by SCADA/DCS professionals in the municipal water and wastewater sectors.

INVITED SPEAKER - Day 2

The High Performance HMI – Better Graphics for Operations Effectiveness

Bill Hollifield, Principal HMI Consultant, PAS

Human Machine Interface (HMI) improvement has become a hot topic. Traditional HMI designs often suffer from "low performance" issues such as clutter, poor situational awareness, and being difficult to use during process upsets. The knowledge, technology, and control capabilities now exist for creating High Performance HMIs. This talk provides an introduction to HMI design techniques for improved situational awareness, improved surveillance and control, easier training, and verifiable cost savings. A High Performance HMI is both practical and achievable.

Why you should attend

Opportunity to learn from others and "talk shop" with people who understand the challenges of your sector

Earn CEUs (continuing education units) for your operator license

Earn PDHs (professional development hours) for your PE license

Get to compare experiences and lessons learned

Learn about new technologies, products and services

Be actively involved in your professional development

Establish contacts in the industry

Share ideas and experiences with others in the sector

Learn Something

Have Fun

Benefits for Water Utilities

Inexpensive profressional development

2.0 CEUs for $350

Group discounts available

Opportunity for staff to learn about new ideas and industry innovations

Benefits for Engineering Firms

Exposure to new ideas

Learn from plant case studies

Talk to operations and maintenance professionals in an informal environment

Learn about new products and techniques

Schedule of Events

Day 1 - Tuesday, August 7

8:00am-3:00pm	**Automation & SCADA Security Short Course**
3:00pm-3:45pm	Badge Pick-up for Tour Attendees
3:45pm-6:30pm	**Tour of Southern Regional Water Supply Facility**
6:30 pm	Free Evening

Day 2 - Wednesday, August 8

7:15am   Registration & Breakfast

7:45am   Opening Remarks

8:00am   Welcome from ISA President Bob Lindeman

8:15am   *Keynote Speaker*
Facing Utility Challenges: Managing Risk and Addressing Aging Infrastructure Needs
Celine Hyer, Principal, Malcom Pimie/ARCADIS

8:45am   *Invited Speaker*
An Overview of ISA99 for the Water or Wastewater SCADA Specialist
Bryan Singer, Principal Consultant, Kenexis Security Corporation

9:15am   **Securing Critical Control Systems in the Water Sector – Where do I begin?**
Don Dickinson, Phoenix Contact

9:45am   **Using Cyber Security Evaluation Tool (CSET) for a Wastewater Treatment Plant**
Bob Dusza, Manchester Water & Sewer Dept. - Manchester, CT

10:15am   Coffee Break & Exhibits

10:30am   **Wastewater Plant Process Protection: Process Hazard Analysis**
Thomas McGovern, Broward County Water and Wastewater Services - Broward County, FL

11:00am   **Improving Water and Wastewater SCADA Cyber Security: Based on Work Performed for Large and Small Utilities**
Bill Phillips and Norman Anderson, CH2M HILL

11:30am   **Mobile Devices for SCADA Integration and Beyond: Considerations, Security and Applications**
Pavol Segedy and Brandon Erndt, Brown & Caldwell

12:00pm   Lunch & Exhibits

1:15pm   **Solar Powered Wireless Sensors & Instrumentation**
Michael Macchiarelli, Imagine Instruments

1:45pm   **HMI Testing of Multiple PLCs using Simulations on Virtual Machines**
Marcelo Avendano and Kevin Patel, CDM Smith

2:15pm   **High Fidelity Extended Period Dynamic Simulation in Development and Testing of Control Systems for Water Treatment and Distribution Facilities**
Creig Wilson and Jared Thorpe, CH2M HILL

2:45pm   Poster Session, Coffee, and Exhibits

4:00pm   **Successful SCADA specifying and Implementation for Water and Wastewater Projects**
Robert Reinhart, ControlsLink

4:30pm   **FOUNDATION Fieldbus Provides a Unified Solution for Remote Operations Management**
Larry O'Brien, Fieldbus Foundation

5:00pm   **Developing an Integrated Business Solution with Telemetry and GIS**
Michael Waddell, CDM Smith and Isabel Szendrey, Puerto Rico Water Authority

5:30pm   General Reception with Cash Bar

Day 3 - Thursday, August 9

Time	Session
7:15am	Breakfast
7:45am	Opening Remarks
7:50am	**Welcome from ISA Tampa Bay Section** *Bob Rienhart, President, ISA Tampa Section*
8:00am	<u>*Invited Speaker*</u> **The High Performance HMI – Better Graphics for Operations Effectiveness** *Bill Hollifield, PAS*
8:45am	<u>*Guest Speaker*</u> **Automation Technology Trends in the Wastewater Sector** *Tom DeLaura, Chair, WEF Automation and Info Tech Committee*
9:00am	<u>*Guest Speaker*</u> **Florida Drinking Water Trends and Automation Trends** *Kim Kunihiro, Orange County Utilities, on behalf of the Florida Section of the AWWA*
9:15am	**Common Pitfalls that Affect Water and Wastewater Instrumentation, Control and Automation Systems** *Francisco Alcala and Tim Wiley, CDM Smith*
9:45am	**Integrated Process Control & Management Systems: Creating More Effective Working Environments** *Mark Presti, Gray Matter Systems*
10:15am	Coffee Break & Exhibits
10:30am	**Hybrid RO & Softening Water Treatment Plant Process Design** *Ali Farahmand, Nassir Gifani, and Mohsen Farivar, ToosAb Consulting Engineers Co., Iran*
11:00am	**Flowmeter Challenges in a Multi-Pass Reverse Osmosis System** *Chris Caglioti and Andrew Fenske, City of Cape Coral, and David Ramsey, AMJ Equipment Corp.*
11:30am	**Should we Keep DO for Nitrification Control? The Proof is the Ammonium Electrodes** *Robert Lagrange, Lagrange Consulting; Sue Baert, Wheaton Sanitary District; Amanda Poole and Dave Green, Baxter & Woodman Inc.; Nick Camin, Endress+Hauser*
12:00pm	Lunch & Exhibits
1:15pm	**Modernization and Improved Operations: Process Automation Upgrade of the Gilder Creek WWTP** *Scott Whitmore, CDM Smith and Blake Visin, Renewable Water Resources (ReWa) – Greenville, SC*
1:45pm	**Efficient Control of Potable Water Distribution** *Raed Al Nuaimi, Rajendra Kumar Ramakrishnan and Mohammed Barghothi, AECOM (United Arab Emirates)*
2:15pm	**Optimization of Wastewater Lift Stations for Reduction of Energy Usage and Greenhouse Gas Emissions** *David Wilcoxson, MWH Americas and Travis Crane, JEA*
2:45pm	Poster Session, Coffee Break & Exhibits
3:30pm	**The Role of Rugged HMIs in Water and Wastewater Plants** *Jeff Hayes, Beijer Electronics*
4:00pm	**SCADA Upgrades to Otay Water Treatment Plant** *Noune Garounts, MWH Global*
4:30pm	**So you have SCADA, what's next?** *Grant Van Hemert, Schneider Electric*
5:00pm	**Asset Tracking and Revision Control for Automated Water/Wastewater Control Systems** *Blair Sooley, Trihedral Engineering*
5:30pm	**An Overview of Applicable ISA Standards to the Water and Wastewater sectors** *Graham Nasby, Eramosa Engineering*
6:00pm	Closing Remarks

Technical Co-Sponsors

We are pleased to announce that this year's WWAC symposium has the following technical co-sponsors.

American Water Works Association
AWWA FLORIDA
Florida's Water Professionals

The Florida Section of the American Water Works Association is dedicated to ensuring Florida's present and future generations a sufficient supply of high quality drinking water by providing critical information and opportunities to over 2,500 members. We offer comprehensive technical training and continuing education programs, effective legislative and regulatory policy development, high quality member services and networking opportunities related to the water industry. For more information see www.fsawwa.org

Water Environment Federation
the water quality people

Founded in 1928, the Water Environment Federation (WEF) is a not-for-profit technical and educational organization of 36,000 individual members and 75 affiliated Member Associations representing water quality professionals around the world. WEF members, Member Associations, and staff proudly work to achieve our mission to provide bold leadership, champion innovation, connect water professionals, and leverage knowledge to support clean and safe water worldwide. For more information see www.wef.org

Continuing Education Credits – CEUs & PDUs

Symposium participants will earn valuable Continuing Education Units (CEUs) and Professional Development Hours (PDHs) by attending the symposium. Participants will receive their choice of CEUs or PDHs from one of the following organizations:

2.0 CEUs or 20 PDHs **water operators** **wastewater operators** **engineers** **American Water Works Association** **AWWA FLORIDA** **Florida's Water Professionals**	Florida state licensed water operators and wastewater operators can earn up to 2.0 Florida Department of Environmental Protection approved CEUs by attending in the symposium. Florida state licensed engineers can also earn up to 20 Florida DEP-approved PDHs by attending the symposium. As part of the partnership between the ISA and the Florida Section of the AWWA, official certificates for these CEUs and PDHs will be issued by the FSAWWA. **These CEU credits can be used by both water operators and wastewater operators.** Florida Statutes require anyone who operates a drinking water treatment plant or a domestic wastewater treatment plant to be licensed by FDEP. Beginning May 1, 2011, licensure for Water Distribution System Operators became mandatory. CEUs and PDHs that attendees receive at the symposium can be used to satisfy the continuing education requirements for their licenses.
ISA — **Symposium 20 PDHs**	Attendees also have the option of receiving a certificate for 20 Professional Development Hours (PDHs) from the ISA. These PDHs can be used towards your ISA CAP or CCST certification, or towards continuing education requirements in other jurisdictions as applicable.
0.7 CEUs — **AUTHORIZED IACET PROVIDER** **0.7 CEUs**	For the optional full-day training course on SCADA & Automation Security, attendees can receive either: • 0.7 CEUs certified by the Florida DEP (issued by the FSAWWA) • 0.7 CEUs certified by IACET (issued by the ISA)

Symposium Tour

Orange County Utilities Southern Regional Water Supply Facility

Tuesday August 7th, late afternoon

Located approximately 20 minutes from the symposium hotel, the tour offers a unique look at a state-of-art ozone-based water treatment facility. The plant, which was brought on line in 2012, uses a highly optimized process for removing the naturally-occurring sulfide that is present in much of Florida's groundwater. Its fully automated and redundant control system ensures that the plant is able to continuously provide a reliable source of water for both drinking and fire-protection needs in Orange County. The tour will give symposium attendees a glimpse at how leading edge automation is being used in the municipal water sector to minimize costs, increase efficiency, and offer enhanced reliability.

Optional Short Course

Introduction to Industrial Automation Security and the ANSI/ISA99 Standards (IC32C) - *SCADA & Automation Security*

Date: Tues, August 7, 2012
Instructor: Bryan Singer
Length: 1 day
CEU Credits: 0.7
Course Hours: 8:00 a.m. – 3:30p.m.
Register: www.isawwsymposium.com/register
Cost: $630 ($495 for ISA members)

Security for Automation, SCADA and DCS systems is a hot topic in our sector. Recent news reports about hackers infiltrating public utility control systems has brought renewed attention to the importance of security for our all-important water/wastewater infrastructure. As part of the WWAC symposium, we are offering a timely automation security course that gives an overview of why automation security is needed, how to identify potential risks, and how to go about putting a program in place to mitigate risks.

This full day course covers the basics of the ANSI/ISA99 Security for Industrial Automation and Control Systems family of standards and how these can be applied in a typical water or wastewater district. You will be introduced to the terminology, concepts, and models of ANSI/ISA99 CyberSecurity. As well, the elements of creating a CyberSecurity management system will be explained along with how these should be applied to commonly used SCADA, DCS and Automation Systems in the water and wastewater

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Symposium Registration

Early-Bird Rate (up until June 15, 2012)

☐ Regular Attendee $400
☐ ISA Member $300
☐ AWWA or FSAWWA Member $350
☐ WEF or FWEA Member. $350
☐ Student Registration. $110
☐ Author/Speaker Registration $100

Regular Registration (after June 15, 2012)

☐ Regular Attendee $425
☐ ISA Member $325
☐ AWWA or FSAWWA Member $375
☐ WEF or FWEA Member $375

Your Full Symposium registration includes:

* 2 full days of papers and presentations
* poster session
* networking events
* tour of a local water treatment facility on Aug 7
* admission to supplier showcase
* light breakfasts on Aug 8 and Aug 9
* full buffet lunches on Aug 8 and Aug 9
* evening reception on Aug 8, with cash bar
* name badge
* list of symposium attendees with contact info
* printed onsite program booklet
* printed copy of symposium proceedings

Optional Full-Day Training Course:
Introduction to Industrial Automation Security and the ANSI/ISA99 Standards (I32C-FL)
August 7, 2012, 8:00 am. - 3:30 p.m. - Attendees will recieve 0.7 CEUs (continuing education units)
☐ Regular Price $630
☐ ISA Member Price $495

Register at www.isawwsymposium.com/register

2012 Water / Wastewater and Automatic Controls Symposium

Founded in 1945, the International Society of Automation is a leading, global, nonprofit organization that is setting the standard for automation by helping over 30,000 worldwide members and other professionals solve difficult technical problems, while enhancing their leadership and personal career capabilities. Based in Research Triangle Park, North Carolina, ISA develops standards; certifies industry professionals; provides education and training; publishes books and technical articles; and hosts conferences and exhibitions for automation professionals.

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