

# 29TH ANNUAL WATEREUSE SYMPOSIUM

THE FAIRMONT DALLAS • DALLAS, TX • SEPTEMBER 7-10, 2014

THE WORLD'S PREMIER CONFERENCE DEVOTED TO SUSTAINING  
SUPPLIES THROUGH WATER REUSE & DESALINATION

**SYMPOSIUM PROGRAM**

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**ONE WATER INNOVATIONS**

Expanding Reuse Globally

# ONE WATER INNOVATIONS GALA

A Celebration of Innovations in Water Reuse

**Sunday, September 28, 2014**

**6:00 p.m. - 10:00 p.m.**

The Republic | New Orleans | Louisiana

#### GUEST SPEAKERS

Senator **Jean-Paul J. Morrell**, Louisiana State Senate  
Administrator **Gina McCarthy**, EPA, *Invited*

Water Reuse plays a critical—yet often unacknowledged—role in the food that we eat, the drinks we enjoy, and the products that we produce. Join the WaterReuse Association during WEFTEC® 2014 for an evening celebrating the creative partnerships among agencies, industries, and producers that have increased the water resources pie.

### Don't Miss the Celebration!

- A dinner featuring foods and drinks produced with recycled water
- Cocktails and a micro-beer challenge
- A short, but inspirational program
- Musical entertainment and dancing

To learn more, visit [www.watereuse.org/one-water-gala](http://www.watereuse.org/one-water-gala)



The WaterReuse Association and Research Foundation work to promote water sustainability through research and education.

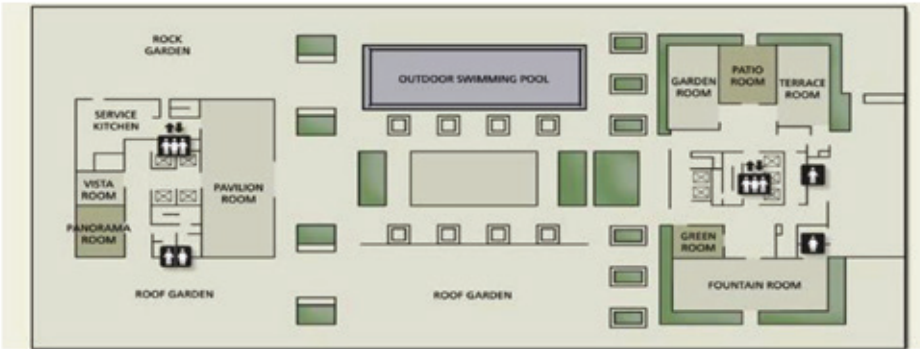
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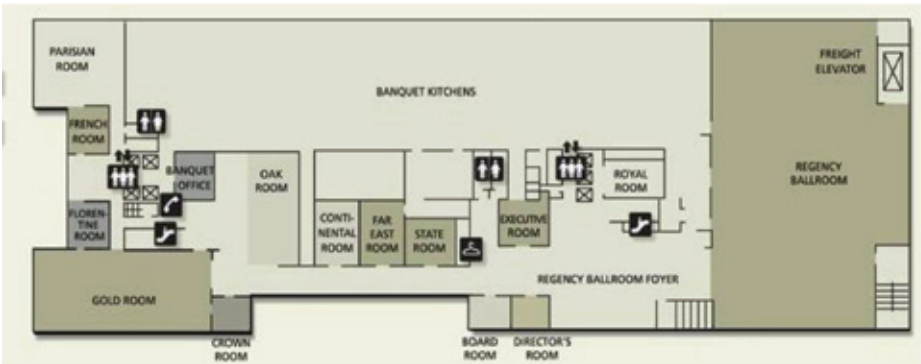
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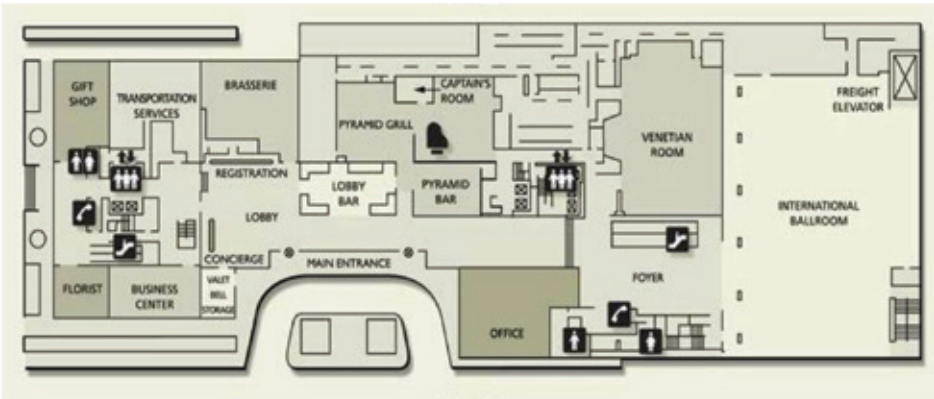
# HOTEL MAP



*Terrace Level*



*Banquet Level*



*Lobby Level*

# SCHEDULE OF EVENTS

SUNDAY, SEPTEMBER 7TH		
1:00 p.m. – 6:00 p.m.	Registration Open	Regency Ballroom Foyer
1:30 p.m. – 3:00 p.m.	<b>Technical Sessions</b> <ul style="list-style-type: none"><li>• <b>A1:</b> Panel Discussion: Food and Beverage Water Reuse: What's Good for the Goose</li><li>• <b>B1:</b> Water Reuse Planning: Overcoming Obstacles</li><li>• <b>C1:</b> Purity of Reuse: Clarity of Purpose—Part 1</li><li>• <b>D1:</b> EPA Innovation Blueprint Roundtable Discussion</li></ul>	<ul style="list-style-type: none"><li>• Gold Room</li><li>• Parisian Room</li><li>• Pavilion Room</li><li>• Oak Room</li></ul>
3:00 p.m. – 3:30 p.m.	Networking Break	Regency Ballroom Foyer
3:30 p.m. – 5:00 p.m.	<b>Technical Sessions</b> <ul style="list-style-type: none"><li>• <b>A2:</b> Panel Discussion: Financial Considerations for Industrial Water Reuse Projects</li><li>• <b>B2:</b> Decentralized Reuse System Optimization—Part 1</li><li>• <b>C2:</b> Purity of Reuse: Clarity of Purpose—Part 2</li><li>• <b>D2:</b> Panel Discussion: The State Water Implementation Fund for Texas: Impacts on Implementation of Water Reuse</li></ul>	<ul style="list-style-type: none"><li>• Gold Room</li><li>• Parisian Room</li><li>• Pavilion Room</li><li>• Oak Room</li></ul>
5:30 p.m. – 7:00 p.m.	Exhibit Hall Open	Regency Ballroom
5:30 p.m. – 7:00 p.m.	Welcome Reception	Regency Ballroom
MONDAY, SEPTEMBER 8TH		
7:30 a.m. – 4:00 p.m.	Registration Open	Regency Ballroom Foyer
7:30 a.m. – 4:00 p.m.	Exhibit Hall Open	Regency Ballroom
7:30 a.m. – 8:30 a.m.	Continental Breakfast	Regency Ballroom
8:30 a.m. – 10:00 a.m.	<b>Opening Session and Awards Presentation</b>	International Ballroom
10:00 a.m. – 10:30 a.m.	Networking Break	Regency Ballroom
10:00 a.m. – 10:30 a.m.	Poster Sessions	Regency Ballroom
10:30 a.m. – 12:00 p.m.	<b>Technical Sessions</b> <ul style="list-style-type: none"><li>• <b>A3:</b> WaterReuse Research Foundation DPR Research</li><li>• <b>B3:</b> Comparing Quality: Reuse vs. Potable—Part 1</li><li>• <b>C3:</b> Decentralized Reuse System Optimization—Part 1</li><li>• <b>D3:</b> Water Reuse Planning—Part 1</li></ul>	<ul style="list-style-type: none"><li>• Gold Room</li><li>• Parisian Room</li><li>• Pavilion Room</li><li>• Oak Room</li></ul>
12:00 p.m. – 1:30 p.m.	<b>Networking Luncheon with the Exhibitors</b>	Regency Ballroom
12:00 p.m. – 1:30 p.m.	Industrial Reuse Committee Meeting	Garden Room
1:30 p.m. – 3:30 p.m.	<b>Technical Sessions</b> <ul style="list-style-type: none"><li>• <b>A4:</b> Join the Debate: Most Significant Threat to Water Reuse?</li><li>• <b>B4:</b> Comparing Quality: Reuse vs. Potable—Part 2</li><li>• <b>C4:</b> Water Reuse: Pure, Safe &amp; Secure—Part 1</li><li>• <b>D4:</b> Water Reuse Planning—Part 2</li></ul>	<ul style="list-style-type: none"><li>• Gold Room</li><li>• Parisian Room</li><li>• Pavilion Room</li><li>• Oak Room</li></ul>
3:30 p.m. – 4:00 p.m.	Networking Break	Regency Ballroom
3:30 p.m. – 4:00 p.m.	Poster Sessions	Regency Ballroom
4:00 p.m. – 5:30 p.m.	<b>Technical Sessions</b> <ul style="list-style-type: none"><li>• <b>A5:</b> Panel Discussion: Stories from the Trenches: Drivers, Challenges and Success Stories from Utilities Implementing DPR in Texas</li><li>• <b>B5:</b> Maximizing Reuse Advocacy: Working Together to Achieve Success</li><li>• <b>C5:</b> Decentralized Reuse System Optimization—Part 2</li><li>• <b>D5:</b> Water Reuse Planning—Part 3</li></ul>	<ul style="list-style-type: none"><li>• Gold Room</li><li>• Parisian Room</li><li>• Pavilion Room</li><li>• Oak Room</li></ul>

## TUESDAY, SEPTEMBER 9TH

7:30 a.m. – 2:00 p.m.	Registration Open	Regency Ballroom Foyer
7:30 a.m. – 4:00 p.m.	Exhibit Hall Open	Regency Ballroom
7:00 a.m. – 8:00 a.m.	Continental Breakfast	Regency Ballroom
7:30 a.m. – 8:30 a.m.	International Committee Meeting	Terrace Room
7:30 a.m. – 8:30 a.m.	National Legislative Committee Meeting	Patio Room
7:30 a.m. – 8:30 a.m.	Public Education & Outreach Committee Meeting	Garden Room
8:30 a.m. – 10:30 a.m.	<b>Technical Sessions</b> <ul style="list-style-type: none"> <li>• <b>A6:</b> Water Reuse Planning—Part 4</li> <li>• <b>B6:</b> Direct vs. Indirect Potable Reuse: Why vs. Why Not?—Part 1</li> <li>• <b>C6:</b> Industrial Reuse—Part 1</li> <li>• <b>D6:</b> Environmental Review &amp; Permitting of Desal</li> </ul>	<ul style="list-style-type: none"> <li>• Gold Room</li> <li>• Parisian Room</li> <li>• Pavilion Room</li> <li>• Oak Room</li> </ul>
10:30 a.m. – 11:00 a.m.	Networking Break	Regency Ballroom
10:30 a.m. – 11:00 a.m.	Poster Sessions	Regency Ballroom
11:00 a.m. – 12:30 p.m.	<b>Technical Sessions</b> <ul style="list-style-type: none"> <li>• <b>A7:</b> Water Reuse Planning—Part 5</li> <li>• <b>B7:</b> Direct vs. Indirect Potable Reuse: Why vs. Why Not?—Part 2</li> <li>• <b>C7:</b> Industrial Reuse—Part 2</li> <li>• <b>D7:</b> Advances in Desal Technologies—Part 1</li> </ul>	<ul style="list-style-type: none"> <li>• Gold Room</li> <li>• Parisian Room</li> <li>• Pavilion Room</li> <li>• Oak Room</li> </ul>
12:30 p.m. – 2:00 p.m.	<b>General Manager Roundtable Discussion and Luncheon</b> (Requires a Ticket. Additional Fees Apply)	Regency Ballroom
12:30 p.m. – 2:00 p.m.	Lunch on Your Own	
12:30 p.m. – 2:00 p.m.	Potable Reuse Committee Meeting	Far East Room
12:30 p.m. – 4:30 p.m.	<b>Technical Tour:</b> North Texas Municipal Water District—Raw Water Supply Project Facility	buses will depart from the Hotel Lobby
2:00 p.m. – 3:30 p.m.	<b>Technical Sessions</b> <ul style="list-style-type: none"> <li>• <b>A8:</b> Water Research Foundation Past, Present and Future Support for Integrated Water Management and Potable Reuse</li> <li>• <b>B8:</b> Online, Real-Time Monitoring for Direct Potable Reuse—Part 1</li> <li>• <b>C8:</b> Industrial Reuse—Part 3</li> <li>• <b>D8:</b> Advances in Desal Technologies—Part 2</li> </ul>	<ul style="list-style-type: none"> <li>• Gold Room</li> <li>• Parisian Room</li> <li>• Pavilion Room</li> <li>• Oak Room</li> </ul>
3:30 p.m. – 4:00 p.m.	Networking Break	Regency Ballroom
3:30 p.m. – 4:00 p.m.	Poster Sessions	Regency Ballroom
4:00 p.m. – 5:30 p.m.	<b>Technical Sessions</b> <ul style="list-style-type: none"> <li>• <b>A9:</b> Water Reuse and Brackish Desalination Overarching BMPs for Drought-Proofing and Supply Augmentation in Texas, Florida and California</li> <li>• <b>B9:</b> Online, Real-Time Monitoring for Direct Potable Reuse—Part 2</li> <li>• <b>C9:</b> Industrial Reuse—Part 4</li> <li>• <b>D9:</b> Decentralized Reuse System Optimization</li> </ul>	<ul style="list-style-type: none"> <li>• Gold Room</li> <li>• Parisian Room</li> <li>• Pavilion Room</li> <li>• Oak Room</li> </ul>
7:00 p.m. – 10:00 p.m.	<b>Dinner and Discovery at the Perot Museum of Nature and Science</b>	Walking Directions can be found in your registration packet

## WEDNESDAY, SEPTEMBER 10TH

7:30 a.m. – 10:00 a.m.	Registration Open	Regency Ballroom Foyer
7:30 a.m. – 8:30 a.m.	Continental Breakfast	Regency Ballroom Foyer
8:30 a.m. – 10:30 a.m.	<b>Technical Sessions</b> <ul style="list-style-type: none"> <li>• <b>B10:</b> Reuse &amp; Hydrofracking</li> <li>• <b>C10:</b> Water Reuse: Pure, Safe &amp; Secure—Part 2</li> <li>• <b>D10:</b> International Water Reuse Planning</li> </ul>	<ul style="list-style-type: none"> <li>• Parisian Room</li> <li>• Pavilion Room</li> <li>• Oak Room</li> </ul>
10:30 a.m. – 12:20 p.m.	<b>Closing Plenary Session—International Experience in Potable Reuse</b>	International Ballroom
12:20 p.m. – 12:30 p.m.	<b>Executive Director's Vision for the Future</b>	International Ballroom



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### WATER CONSERVATION

- financial analysis
- water loss studies
- water user analysis
- strategic conservation planning
- program implementation support
- public awareness and involvement programs
- industrial, commercial, and institutional audits
- water conservation and drought contingency plans

### WATER REUSE

- conveyance system planning and design
- permitting and regulatory support
- program implementation support
- treatment evaluations and design
- reuse program master planning
- demand and supply assessments
- reuse customer development
- rate and financial analysis
- water quality evaluations
- funding support

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# SYMPOSIUM HIGHLIGHTS

## EXHIBIT HALL HOURS

The Exhibit Hall is the central hub for the WaterReuse Symposium and is located in the Regency Ballroom. Within the Exhibit Hall, you will find the WaterReuse Conference Bookstore, an Espresso Bar sponsored by WaterReuse Texas, and the Poster Sessions. The Exhibit Hall will be open during the following times:

Sunday, September 7 .....5:30 pm – 7:00 pm  
Monday, September 8.....7:30 am – 4:00 pm  
Tuesday, September 9.....7:30 am – 4:00 pm

## EXHIBIT HALL RAFFLE

Stop by the Exhibit Hall and participate in the daily raffle drawings for your chance to win great prizes! Drawings will be held during the morning and afternoon breaks on both Monday and Tuesday. The more exhibitors you visit, the greater your chance to win!

Exhibit Hall Raffle information can be found in your registration packet.

## KIDS RECYCLED WATER ART & WRITING CONTEST

*Sponsored by ARCADIS*

Winning entries from the 29th Annual WaterReuse Symposium Recycled Water Art and Writing Contest will be on display throughout the conference. The purpose of the art and writing contest was for students to promote the importance of water management and the infinite possibilities for conserving, protecting, and advancing technologies and projects that result in greater water reuse, recycling and efficient management of water resources. The winning entries will also be recognized during the Opening Session and Awards Presentation on Monday, September 8.

## SESSION AND PRESENTATION SURVEYS

Your feedback is important to us so please remember to rate each of the sessions that you attend at the Symposium. Surveys for each session can be found on the Symposium Mobile App. They are located within each session and/or presentation under the “Actions” tab.

## DINNER AND DISCOVERY AT THE PEROT MUSEUM OF NATURE & SCIENCE

*Sponsored by Alan Plummer Associates, Inc.*

Tuesday, September 9th.....7:00 pm – 10:00 pm  
\*\*Walking Directions can be found in your registration packet\*\*

We hope you will join us on Tuesday evening for a chance to experience the new Perot Museum of Nature and Science. You will have the chance to explore the museum, enjoy great food and drink and network among your colleagues and friends.

The Perot Museum of Nature and Science, which opened on Dec. 1, 2012, offers dynamic experiences to stimulate curiosity in visitors of all ages. With 180,000 square feet of space, standing 170 feet tall (equivalent to an average 14-story building) the revolutionary Perot Museum extends beyond the typical “museum” perception. The extraordinary building and outdoor space serves as a living science lesson, offering provocative illustrations of engineering, technology and conservation.

The exhibit halls feature video and 3D computer animation with thrilling, life-like simulation. Tabletop landscapes and computer-generated flyovers provide eye-popping enhancement supported with timely, relevant and engaging lessons and programs. Hands-on activities, interactive kiosks and educational games encourage and excite visitors of every age.

## SYMPOSIUM MOBILE APP

*Sponsored by Black & Veatch*

We are excited to announce the 2014 WaterReuse Symposium Mobile App, powered by EventLink. It is a native application for smartphones (iPhone and Android), a hybrid web-based app for Blackberry, and there's also a web-based version of the application for all other web browser-enabled phones.

**The Mobile App provides easy-to-use interactivity that will enhance your Symposium experience:**

- The Dashboard keeps you organized with up-to-the-minute info
- Browse the technical program by time or speaker and easily organize schedules with one click
- View speaker bios
- View, download, and e-mail PowerPoint presentations from the mobile app
- Interactively locate your sessions with the Maps feature
- Rate the sessions you attend and comment on them, too
- Connect with Sponsors and Exhibitors and view or download their handouts
- Use the Photo Gallery to save and share your Symposium experiences
- Connect with your colleagues with the Friends feature
- Receive important real-time communications during the Symposium
- Stay connected before and during the conference with Twitter updates #SympTX
- View local dining options including the address, phone number, rating and a map with directions

## Downloading the WaterReuse Symposium Mobile App is easy!

Simply:

- Scan the QR Code below
- Search the app store for WaterReuse (Android & iOS) OR
- Type the following URL into your mobile device's browser: <http://m.core-apps.com/watereuse14>



## POWERPOINT PRESENTATIONS

PowerPoint Presentations can be found on the Symposium Mobile App.

Once you've downloaded the App, downloading the PowerPoint Presentations is easy!

There are a few different routes you can take to get to the Presentations:

- You can go under the "Sessions" icon and once you choose a particular session, you will then choose the individual presentation you are looking for. Under the individual presentations, scroll to the bottom and find the PowerPoint Presentation listed as PDFs.
- You can go under the "Speakers" icon and find a particular speaker you are looking for. Once you've clicked on the speaker's name, you can scroll down to see all of the presentations they will be giving. Click on the name of the presentation you are interested in and then scroll to the bottom and find the PowerPoint Presentation listed as a PDF.
- If you don't have access to the Mobile App through your phone or iPad, a link will be sent out after the conference where you can access the PowerPoint Presentations through a website.

# 2014 WATEREUSE AWARD WINNERS

Congratulations to our 2014 WaterReuse Award Winners. Be sure and view the Award Winners icon on the Symposium Mobile App where you can find the full award descriptions as well as informational videos the award winners have put together for the attendees to view.

## WATEREUSE PROJECT OF THE YEAR—LARGE

Santa Clara Valley Water District (San Jose, CA)

## WATEREUSE PROJECT OF THE YEAR—DESAL

Flemington In Situ Desalination Project  
(Victoria, Australia)

## WATEREUSE INDUSTRIAL PROJECT OF THE YEAR

Tirupur ZLD Project (Tamilnadu, India)

## WATEREUSE PUBLIC EDUCATION PROGRAM OF THE YEAR

City of North Port Utility Public Education Program  
(North Port, FL)

## WATEREUSE CUSTOMER OF THE YEAR

San Francisco 49ers (San Francisco, CA)

## WATEREUSE INSTITUTION OF THE YEAR

Meridian Metropolitan District (Englewood, CO)

## WATEREUSE EQUIPMENT/MANUFACTURER OF THE YEAR

Xylem Inc.

## WATEREUSE PERSON OF THE YEAR

Professor Karl G. Linden, University of  
Colorado Boulder

## WATEREUSE INTERNATIONAL AWARD

National Demonstration Education & Engagement  
Program, a project of the Australian Water Recycling  
Centre of Excellence (New South Wales, Australia)

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Aerial view of Occoquan Reservoir, which is recharged with reclaimed water, courtesy of Roger Snyder, Manassas, Virginia

Leo J. Vander Lans Advanced Water  
Treatment Facility, Long Beach, California

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- METAWATER USA, INC.
- Municipal Valve & Equipment Co. Inc.
- Nova Water
- Purifics
- Real Tech Inc.
- Reuse Water Solutions
- Smith Seckman Reid
- SolarBee/GridBee (Medora Corp.)
- Stantec Consulting Services Inc.
- Sustainable Water
- Texas Commission on Environmental Quality
- Trojan Technologies
- UOP, A Honeywell Company
- Xylem

The CH2M HILL logo is displayed in white, bold, sans-serif capital letters. The 'H' is stylized with a horizontal bar that extends to the left, creating a unique graphic element. A registered trademark symbol (®) is located to the upper right of the 'L'.

**CH2MHILL®**

A wide-angle photograph of a large-scale agricultural irrigation system. Multiple long, straight pipes or canals stretch across a vast, green field, with water being distributed to the crops. The background shows rolling hills under a clear sky.

We provide our clients with a full range of services from studying the feasibility of implementing reuse, through the design, construction, and operation of a facility. Our staff of experts in a wide variety of fields enables us to bring our clients the capacity to permit, design, research, install, manage, and monitor municipal reuse projects. We offer our clients one-of-a-kind design-build-operate services that often solve environmental problems at lower costs and faster schedules than conventional approaches.

# Water Reuse Solutions



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# SUNDAY, SEPTEMBER 7, 2014

1:00 p.m. – 6:00 p.m. Registration Open [Regency Ballroom Foyer](#)

	<b>A1</b> <b>Panel Discussion:</b> <b>Food and Beverage Water</b> <b>Reuse: What's Good for</b> <b>the Goose</b>	<b>B1</b> <b>Water Reuse Planning:</b> <b>Overcoming Obstacles</b>	<b>C1</b> <b>Purity of Reuse:</b> <b>Clarity of Purpose—</b> <b>Part 1</b>	<b>D1</b> <b>EPA Innovation Blueprint</b> <b>Roundtable Discussion</b>
Room	Gold Room	Parisian Room	Pavilion Room	Oak Room
Moderator	<i>Thomas Steinwinder, Brown and Caldwell</i>	<i>Shannon Smith, City of Houston</i>	<i>Ken Hall, CH2M HILL</i>	<i>Jon Freedman, GE Water &amp; Process Technologies</i>
<b>1:30 p.m. – 2:00 p.m.</b>	This panel will discuss the drivers, opportunities, and limitations of water reuse in the food & beverage industry. Non-contact, nonpotable, and potable reuse applications will be explored.	Addressing Regulatory Obstacles for Nonpotable Reuse and Indirect Potable Reuse at Camp Pendleton  <b>Robert Beggs,</b> <i>Brown and Caldwell</i>	Source Water Impacts on Performance and Reliability at Orange County Water District's Groundwater Replenishment System  <b>Sunny Wang,</b> <i>Black &amp; Veatch</i>	Technology has transformed the way we live, work and play. And it has the power to change the way we use water. Technology, applied in the right way, can allow us to produce the right water for the right use, including DPR. This Roundtable Discussion will highlight the role and perspectives of different stakeholders in the implementation of sustainable water resources as it related to general reuse and specifically DPR implementation. Each panel member will open with a 5 minute description of their role/ focus in the water reuse space, to set the stage for the roundtable discussion.
<b>2:00 p.m. – 2:30 p.m.</b>	Representatives from leading companies in this sector will discuss their experiences and lessons learned as they relate to water reuse. Ultimately, this panel will provide guidance to companies, practitioners, and leaders in the food & beverage sector by establishing how water reuse projects can be both environmentally and economically successful.	Even a Good Problem Needs a Solution: When Customers Want Too Much Reuse  <b>Richard Weatherly,</b> <i>Freese and Nichols and</i> <b>Kristine Day,</b> <i>City of Kerrville</i>	Running Largest (130 mgd) Title 22 Cloth Media Tertiary Filtration System at the City of Los Angeles Donald C. Tillman Water Reclamation Plant  <b>Al Bazzi,</b> <i>City of Los Angeles</i>	
<b>2:30 p.m. – 3:00 p.m.</b>	<b>Panelists:</b>  <b>Liese Dallbauman,</b> <i>PepsiCo</i>  <b>Michael Miller,</b> <i>Dean Foods, Inc.</i>  <b>Lairy Johnson,</b> <i>Fort Worth Brewery,</i> <i>MillerCoors (invited)</i>	Interactive, Graphical Model Simplifies Prioritization of Recycled Water Projects  <b>Robert Eimstad,</b> <i>Carollo Engineers and</i> <b>Steve Kebbe,</b> <i>Clean Water Services</i>	New Darsait 50 MLD MBR—Implemented Technological Solutions  <b>Javier Arrieta, Cadagua</b>	<b>Panelists:</b>  <b>Phil Oshida,</b> <i>U.S. Environmental Protection Agency</i>  <b>Rich Nagel,</b> <i>West Basin Municipal Water District</i>  <b>Cindy Wallis-Lage,</b> <i>Black &amp; Veatch</i>  <b>Bob Johnson,</b> <i>McManus Johnson Consulting Engineers</i>  <b>Mark O'Donohue,</b> <i>Australian Water Recycling Centre of Excellence</i>  <b>Blake Guillory,</b> <i>South Florida Water Management District</i>

3:00 p.m. – 3:30 p.m. Networking Break [Regency Ballroom Foyer](#)

## SUNDAY (continued)

	<b>A2</b> <b>Panel Discussion:</b> <b>Financial Considerations</b> <b>for Industrial Water</b> <b>Reuse Projects</b>	<b>B2</b> <b>Decentralized Reuse</b> <b>System Optimization—</b> <b>Part 1</b>	<b>C2</b> <b>Purity of Reuse:</b> <b>Clarity of Purpose—</b> <b>Part 2</b>	<b>D2</b> <b>Panel Discussion:</b> <b>The State Water</b> <b>Implementation Fund</b> <b>for Texas: Impacts on</b> <b>Implementation of</b> <b>Water Reuse</b>
Room	Gold Room	Parisian Room	Pavilion Room	Oak Room
Moderator	<i>Abigail Antolovich, UOP LLC, A Honeywell Company</i>	<i>Tom Taggart, City of San Marcos</i>	<i>Ken Hall, CH2M HILL</i>	<i>Martin Rochelle, Lloyd Gosselink</i>
<b>3:30 p.m. – 4:00 p.m.</b>	Increasing water rates, stringent wastewater discharge limitations, water shortages, and consumer pressure for sustainable products are key drivers for water reuse projects at industrial manufacturing facilities.	Onsite Reuse—A Shortcut to Reclaimed Water Irrigation  <i><b>Damann Anderson,</b> Hazen and Sawyer</i>	Advanced Oxidation to Control Biofouling of RO Membranes for Water Reuse  <i><b>Jason Wert,</b> RETTEW Associates and <b>Cory Miller,</b> University Area Joint Authority</i>	In 2013, Texas took a dramatic step toward implementation of the State Water Plan with the passage of House Bill 4 by the Texas Legislature and the subsequent approval by Texas voters of a transfer of \$2 billion into the State Water Implementation Fund for Texas (SWIFT). One of the key features of HB 4 is the requirement that no less than 20% of the funds in the SWIFT be utilized for conservation and reuse projects included in the State Water Plan.
<b>4:00 p.m. – 4:30 p.m.</b>	The panelists for this session bring with them a wide variety of perspectives on this topic and will provide the audience with valuable information on key financial considerations for industrial water reuse projects, how to evaluate these projects, financing vehicles, and experiences associated with industrial water reuse project implementation.	Potential and Strategies for Campus Water Reuse  <i><b>Timothy Baldwin,</b> McKim &amp; Creed</i>	Ceramic Membranes: Are They a Good Fit for Nonpotable and Direct Potable Reuse Applications?  <i><b>Ufuk Erdal,</b> CH2M HILL</i>	This panel will provide insight into the background of HB 4 and the creation of the SWIFT, as well as its legislative history. It will also provide an update regarding implementation of HB 4 and discuss opportunities for project sponsors to receive funding for reuse projects.
<b>4:30 p.m. – 5:00 p.m.</b>	<b>Panelists:</b>  <i><b>Zach Gallagher,</b> Natural Systems Utilities</i>  <i><b>Frank Johns,</b> Tetra Tech</i>  <i><b>Jenny Murray,</b> Denver Water</i>  <i><b>Jonathan Lanciani,</b> Sustainable Water</i>	Using Decentralized Systems to Capture, Treat and Beneficially Use Urban Runoff in Los Angeles  <i><b>Tom West,</b> Carollo Engineers and <b>Wing Tam,</b> City of Los Angeles</i>	Chemically Enhanced Biological Filtration: An Alternative Treatment for Removal of Trace Chemical Constituents  <i><b>Jennifer Smith,</b> CDM Smith</i>	<b>Panelists:</b>  <i><b>Heather Harward,</b> H204Texas</i>  <i><b>Kathleen Jackson,</b> Texas Water Development Board</i>  <i><b>Kevin Ward,</b> Trinity River Authority</i>
<b>5:30 p.m. – 7:00 p.m.</b>	Exhibit Hall Open <a href="#">Regency Ballroom</a>			
<b>5:30 p.m. – 7:00 p.m.</b>	Welcome Reception <a href="#">Regency Ballroom</a>			

# WHAT YOU LEARN ► WHO YOU MEET ► GOES BEYOND ► HERE

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## MONDAY, SEPTEMBER 8, 2014

7:30 a.m. – 4:00 p.m. Registration Open [Regency Ballroom Foyer](#)

7:30 a.m. – 4:00 p.m. Exhibit Hall Open [Regency Ballroom](#)

7:30 a.m. – 8:30 a.m. Continental Breakfast [Regency Ballroom](#)

8:30 a.m. – 10:00 a.m. **Opening Session and Awards Presentation** [International Ballroom](#)

### **Smarter Planet 2.0**

Advances in computing, connectivity and sensing are changing our lives and have led to the age of clouds, continuous monitoring and big data, but are we using these new resources to their full potential? This presentation will examine progress to date and next steps through the perspective of the IBM Smarter Cities program as we move from collecting and quantifying data to predicting and optimizing outcomes.

**Dr. Sean McKenna**, Senior Research Manager for Water and the Environment,  
IBM Research Smarter Cities Technology Centre

10:00 a.m. – 10:30 a.m. Networking Break [Regency Ballroom](#)

10:00 a.m. – 10:30 a.m. Poster Sessions [Regency Ballroom](#)

	<b>A3</b> WaterReuse Research Foundation DPR Research	<b>B3</b> Comparing Quality: Reuse vs. Potable— Part 1	<b>C3</b> Decentralized Reuse System Optimization— Part 1	<b>D3</b> Water Reuse Planning— Part 1
Room	Gold Room	Parisian Room	Pavilion Room	Oak Room
Moderator	<i>Julie Minton, WaterReuse Research Foundation</i>	<i>Jason Dadakis, Orange County Water District</i>	<i>Brian Good, Denver Water</i>	<i>George Maseeh, ARCADIS</i>
10:30 a.m. – 11:00 a.m.	<p>The WaterReuse Research Foundation (WRRF) has been the authority in direct potable reuse (DPR) research, conducting research valued at almost \$10 million since initiating it's DPR program in 2011.</p> <p>The 2013 program, the focus of this session, is funded by the CA DPR Initiative, which was launched in 2012 to remove regulatory, scientific, technical, and attitudinal barriers to DPR through rigorous scientific research. The moderator will give a brief background on the Foundation's DPR research, and introduce the speakers who are leading the 2013 DPR program work.</p> <p><b>Speakers:</b></p> <p><b>Troy Walker</b>, <i>Hazen and Sawyer</i></p> <p><b>Ben Stanford</b>, <i>Hazen and Sawyer</i></p> <p><b>Mark Millan</b>, <i>Data Instincts, Public Outreach Consultants</i></p> <p><b>Alan Rimer</b>, <i>Black &amp; Veatch</i></p>	<p>Evaluating Direct Potable Reuse Treatment with and without Reverse Osmosis</p> <p><b>Fredrick Gerringer</b>, <i>Trussell Technologies</i></p>	<p>How Satellite Treatment Facilities Can Help the City of Los Angeles Meet its Additional Water Recycling Goals</p> <p><b>Martin Adams</b>, <i>Los Angeles Department of Water and Power</i>, <b>Doug Walters</b>, <i>City of Los Angeles</i> and <b>Harmik Aghanian</b>, <i>Carollo Engineers</i></p>	<p>From Return Flow to Direct Potable Reuse—50 Year Evolution of Water Reuse in Texas</p> <p><b>Don Vandertulip</b>, ARCADIS</p>
11:00 a.m. – 11:30 a.m.		<p>Characterization and Treatability of Endocrine Disrupting Compounds and Pharmaceutical and Personal Care Products</p> <p><b>Steven Jones</b>, <i>Garver USA</i></p>	<p>Green Keeping: WRF Removal Challenges at a Reuse—Dependent Arizona Golf Resort Community</p> <p><b>Brian McBride</b>, <i>AMEC Environment and Infrastructure</i></p>	<p>Inland Potable Reuse Plans and Progress in Tucson, AZ and El Paso, TX</p> <p><b>Corin Marron</b>, ARCADIS</p>
11:30 a.m. – 12:00 p.m.		<p>Let's Compare Recycled Water and Potable Water Quality Requirements in California</p> <p><b>Allegra da Silva</b>, <i>CDM Smith</i></p>	<p>How an Audit can Improve UV Reactor Reliability and Reduce Costs: Case Studies</p> <p><b>Varun Gandhi</b>, <i>Carollo Engineers</i></p>	<p>Developing Potable Reuse in San Diego</p> <p><b>Marsi Steirer</b>, <i>City of San Diego Public Utilities</i></p>

# MONDAY (continued)

12:00 p.m. – 1:30 p.m. **Networking Luncheon with the Exhibitors** [Regency Ballroom](#)

12:00 p.m. – 1:30 p.m. Industrial Reuse Committee Meeting [Garden Room](#)

	<b>A4</b> Join the Debate: Most Significant Threat to Water Reuse?	<b>B4</b> Comparing Quality: Reuse vs. Potable— Part 2	<b>C4</b> Water Reuse: Pure, Safe & Secure— Part 1	<b>D4</b> Water Reuse Planning— Part 2
Room	Gold Room	Parisian Room	Pavilion Room	Oak Room
Moderator	<i>Daniel Gerrity, University of Nevada, Las Vegas</i>	<i>Don Vandertulip, ARCADIS</i>	<i>Ray Longoria, Freese and Nichols</i>	<i>Gary Revoir, Tetra Tech</i>
1:30 p.m. – 2:00 p.m.	This interactive session will provide a debate-style forum with the goal of identifying the most significant threat to water reuse. Each speaker will represent a single topic area and will attempt to convince the audience that his/her issue poses the greatest threat to widespread adoption or continued implementation of water reuse.  Topics will include trace organic contaminants, pathogens, treatment and sustainability, and public perception.	Potable Reuse: Past, Present and Considerations for a Guiding Framework  <i>Kati Bell, CDM Smith</i>	CEC Water Quality Evaluation Supports Sedona Injection Well Program  <i>Brad Jeppson, Carollo Engineers</i>	EPWU Board Approves Transition from Conventional Reclaimed Water to Direct Potable Reuse  <i>Hector Gonzalez, El Paso Water Utilities</i>
2:00 p.m. – 2:30 p.m.	Audience feedback will be compiled in real-time, and the “most significant threat” to the water reuse industry will be identified.  <b>Speakers:</b>  <i>Andy Salveson, Carollo Engineers</i>  <i>Mark Millan, Data Instincts, Public Outreach Consultants</i>	Case Study of Full Scale Cloth Media Filter to Achieve Low Phosphorus Levels $\leq 0.1$ mg/L  <i>Jia Ma, Aqua-Aerobics Systems</i>	Replenishing Los Angeles Groundwater Supplies  <i>Martin Adams, Los Angeles Department of Water and Power</i>	Direct Potable Reuse in Raleigh: Comparing Potable Reuse Scenarios to Current De Facto Reuse Along the Neuse River  <i>Eileen Navarrete, City of Raleigh Public Utilities Department and Allegra da Silva, CDM Smith</i>
2:30 p.m. – 3:00 p.m.	<i>Speakers:</i>  <i>Andy Salveson, Carollo Engineers</i>  <i>Mark Millan, Data Instincts, Public Outreach Consultants</i>	Impacts of Ozone, BAC, Ion Exchange, and UV/AOP on NDMA and PFAS in Indirect Potable Reuse  <i>Ben Stanford, Hazen and Sawyer</i>	Protecting the Environment and Public Health: A Comparison of Recycled Water Regulations and Practices in Florida and California  <i>David MacIntyre, Parsons Brinckerhoff and Eric Hansen, Independent Consultant</i>	Potable Reuse in Santa Clara County, CA  <i>Hossein Ashktorab, Santa Clara Valley Water District</i>
3:00 p.m. – 3:30 p.m.	<i>Brian Pecson, Trussell Technologies</i>	Occurrence and Fate of Trace Constituents in Drinking Water and Wastewater in the Yucaipa Valley  <i>James Vickers, Separation Processes</i>	Potential Impact of Recycled Water Use, for Irrigation and Fertilization of Landscape and Agriculture, on Groundwater Quality  <i>Bahman Sheikh, Water Reuse Consultant</i>	Proofing Potable Reuse with Piloting; Clearwater’s Experience  <i>Dave MacNevin, Tetra Tech and Nan Bennett, City of Clearwater</i>
3:30 p.m. – 4:00 p.m.	Networking Break <a href="#">Regency Ballroom</a>			
3:30 p.m. – 4:00 p.m.	Poster Sessions <a href="#">Regency Ballroom</a>			

MONDAY (continued)

	<b>A5</b> Panel Discussion: Stories from the Trenches: Drivers, Challenges and Success Stories from Utilities Implementing DPR in Texas	<b>B5</b> Maximizing Reuse Advocacy: Working Together to Achieve Success	<b>C5</b> Decentralized Reuse System Optimization— Part 2	<b>D5</b> Water Reuse Planning— Part 3
<b>Room</b>	Gold Room	Parisian Room	Pavilion Room	Oak Room
<b>Moderator</b>	<i>Ellen McDonald, Alan Plummer Associates</i>	<i>Jeff Mosher, National Water Research Institute</i>	<i>Don Vandertulip, ARCADIS</i>	<i>Chuck Drake, Tetra Tech</i>
<b>4:00 p.m. – 4:30 p.m.</b>	This session will provide an opportunity for attendees to learn from the experiences of Texas utilities implementing DPR projects or planning to implement DPR projects. Each utility participant will provide a brief overview of their project, including drivers, proposed treatment, schedule and status of project. The panel will address a number of topics including public acceptance, regulatory issues, planning strategies, monitoring and operational protocols, and other relevant topics.	This session will focus on the current status of the 2014 mid-term congressional elections, as well as anticipated legislative/administrative federal water policy/funding changes in 2014 and beyond and how the major associations are working together to make it successful.  <b>Melissa Meeker,</b> <i>WaterReuse Association</i>	Building-scale Wastewater Treatment and Reuse—A Net Energy Producer?  <b>Paul Knowles,</b> <i>Natural Systems Utilities</i>	Tucson Water Plans to Build Upon Past Successes to Expand its Recycled Water Program  <b>Tim Francis,</b> <i>ARCADIS and Jeff Biggs,</i> <i>Tucson Water</i>
<b>4:30 p.m. – 5:00 p.m.</b>		<b>Eileen O'Neill,</b> <i>Water Environment Federation</i>	Graywater Reuse for Toilet Flushing at a Colorado State University Residence Hall: Operational Experience and Perceptions by Use  <b>Sybil Sharvelle,</b> <i>Colorado State University</i>	Planning for the City of the Future  <b>Timothy Baldwin,</b> <i>McKim &amp; Creed</i>
<b>5:00 p.m. – 5:30 p.m.</b>	<b>Panelists:</b>  <b>David Harris,</b> <i>City of Brownwood</i>  <b>Daniel Nix,</b> <i>City of Wichita Falls</i>  <b>John Grant,</b> <i>Colorado Municipal Water District</i>  <b>Fernando (Fernie) Rico,</b> <i>El Paso Water Utilities</i>  <b>Linda Brookins,</b> <i>Texas Commission on Environmental Quality</i>	<b>Mark Limbaugh,</b> <i>The Ferguson Group</i>  <b>Paula MacIwaine,</b> <i>American Water Works Association</i>  <b>Brenna Mannion,</b> <i>National Association of Clean Water Agencies</i>	Developing Performance Ratings for Residential Greywater Recycling Systems  <b>Madeleine Craig,</b> <i>Ryerson University and Carl Robb,</i> <i>Canplas Industries Ltd.</i>	Using A Satellite Treatment Facility To Enhance The Nation's Largest Recycled Water System  <b>Jonathan Vorheis,</b> <i>CH2M HILL</i>

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## TUESDAY, SEPTEMBER 9, 2014

7:30 a.m. – 2:00 p.m.	Registration Open <a href="#">Regency Ballroom Foyer</a>
7:30 a.m. – 4:00 p.m.	Exhibit Hall Open <a href="#">Regency Ballroom</a>
7:30 a.m. – 8:30 a.m.	Continental Breakfast <a href="#">Regency Ballroom</a>
7:30 a.m. – 8:30 a.m.	International Committee Meeting <a href="#">Terrace Room</a>
7:30 a.m. – 8:30 a.m.	National Legislative Committee Meeting <a href="#">Patio Room</a>
7:30 a.m. – 8:30 a.m.	Public Education & Outreach Committee Meeting <a href="#">Garden Room</a>

	<b>A6</b> Water Reuse Planning— Part 4	<b>B6</b> Direct vs. Indirect Potable Reuse: Why vs. Why Not?—Part 1	<b>C6</b> Industrial Reuse— Part 1	<b>D6</b> Environmental Review & Permitting of Desal
<b>Room</b>	Gold Room	Parisian Room	Pavilion Room	Oak Room
<b>Moderator</b>	<i>Inge Wiersema, Carollo Engineers</i>	<i>Keel Robinson, Xylem</i>	<i>Eric Rosenblum, Envirospesctives</i>	<i>Neil Callahan, Leidos</i>
<b>8:30 a.m. – 9:00 a.m.</b>	A Multi-Barrier Approach to Pathogen Reduction: A Case Study Based on the Expanded Alamitos Barrier Recycled Water Project  <b>Cathy Chang</b> , Water Replenishment District of Southern California	Outreach Perspectives on DPR  <b>Linda Macpherson</b> , CH2M HILL	Self-healing Corrosion Resistant Coatings: An Enabling Technology to Permit the Use of Alternate Waters for Cooling  <b>Ganesh Rajagopalan</b> , Kennedy/Jenks Consultants	Salt, Sewer or Steal—Supplemental Water Supply Options in Santa Cruz, CA  <b>Dawn Taffler</b> , Kennedy/Jenks Consultants
<b>9:00 a.m. – 9:30 a.m.</b>	Evaluation of RO Concentrate Treatment and Disposal Options for the Santa Clarita Valley  <b>Bruce Mansell</b> and <b>Tamara Nikonova</b> , Sanitation Districts of Los Angeles County	A Practical Approach to Addressing Risks Associated with Direct Potable Reuse—Perspectives from WRRF and Big Spring, TX  <b>Eva Steinle-Darling</b> , Carollo Engineers	Water Reuse in Petroleum Refineries and Chemical Plant Cooling Tower Systems—Guidelines For Success  <b>Paul Puckorius</b> , Puckorius & Associates	Desalination's Shifting Competitive Landscape  <b>Erin Bonney Casey</b> , Bluefield Research
<b>9:30 a.m. – 10:00 a.m.</b>	The Development of a Recycled Water Salt Management Plan for Irvine Ranch Water District  <b>Stephanie Shamblin Gray</b> , HDR Engineering	Alternative Technologies for Indirect Potable Reuse: A New Paradigm  <b>Enrique Vadiveloo</b> , Hazen and Sawyer	Treated Effluent Reuse for Cooling Water Make-up in a Chemical Processing Plant  <b>Tamim Popalzai</b> , WorleyParsons and <b>Joseph Guida</b> , Fluor	Arizona's 2011 Water Reuse Project of the Year—A Model for Salinity Management  <b>Eric Dole</b> , Tetra Tech and <b>Martin Jessen</b> , Rayne Corporation
<b>10:00 a.m. – 10:30 a.m.</b>	Reservoirs: Not Just for Potable Systems Anymore! An Overview of the 500 MG Boyette Road Reclaimed Water Reservoir  <b>Kerstin Lesley Kenty</b> , CH2M HILL	Potable Reuse for Inland Applications: Pilot Testing Results from a New Potable Reuse Treatment Scheme  <b>Larry Schimmoller</b> , CH2M HILL	Lessons Learned from a Hero-Based ZLD System  <b>Michael McMenus</b> and <b>Julia Horn</b> , Kiewit Power Engineers	Importance of Communicating about a Desal Project: Development of Public Communication Toolkit for Desalination Projects  <b>Patricia Tennyson</b> , Katz & Associates and <b>Mark Millan</b> , Data Instincts, Public Outreach Consultants

## TUESDAY (continued)

10:30 a.m. – 11:00 a.m. Networking Break [Regency Ballroom](#)

10:30 a.m. – 11:00 a.m. Poster Sessions [Regency Ballroom](#)

	<b>A7</b> <b>Water Reuse Planning—</b> <b>Part 5</b>	<b>B7</b> <b>Direct vs. Indirect</b> <b>Potable Reuse: Why vs.</b> <b>Why Not?—Part 2</b>	<b>C7</b> <b>Industrial Reuse—</b> <b>Part 2</b>	<b>D7</b> <b>Advances in Desal</b> <b>Technologies—Part 1</b>
Room	Gold Room	Parisian Room	Pavilion Room	Oak Room
Moderator	<i>Nan Bennett,</i> <i>City of Clearwater</i>	<i>Keel Robinson,</i> <i>Xylem</i>	<i>Andy Shea,</i> <i>HDR</i>	<i>Arun Subramani,</i> <i>MWH</i>
11:00 a.m. – 11:30 a.m.	City of Escondido Water Reuse Planning to Provide a Drought-Proof Water Supply and Expand Recycled Water Use  <b>Jay DeCarolis,</b> <i>Black &amp; Veatch</i>	An Update on the Steering Committee on Arizona Potable Reuse  <b>Tim Thomure,</b> <i>HDR Engineering</i>	Industrial Water Reuse in the Food & Beverage Industry: Opportunities, Drivers, and Limitations  <b>Thomas Steinwinder,</b> <i>Brown and Caldwell</i>	Understanding Accuracy and Precision: Development of a Manual of Practice for Regulatory Approval of RO Membranes  <b>Justin Sutherland,</b> <i>Carollo Engineers</i>
11:30 a.m. – 12:00 p.m.	The Benefits of a Regional Reclaimed Water System, The Hillsborough County Experience  <b>Lynn Spivey,</b> <i>ARCADIS</i> and <b>Bart Weiss,</b> <i>Hillsborough County Water Department</i>	Update on the State of California's Expert Panel on Direct Potable Reuse Criteria  <b>Jeff Mosher,</b> <i>National Water Research Institute</i>	Two Food Industries Reuse Process Water to Drinking Water Quality for Food Contact—Lessons Learned  <b>Al Goodman,</b> <i>CDM Smith</i>	Aggressive, High TDS Waste Stream Treatment with Brine Bulb Technology  <b>Eric Dole,</b> <i>Tetra Tech</i>
12:00 p.m. – 12:30 p.m.	Subregional Approach to Water Reuse in the High Desert of California  <b>Andrew Gilmore,</b> <i>Carollo Engineers</i>	Wichita Falls Innovative Conjunctive Reuse Response to Texas' Drought  <b>Brad Castleberry,</b> <i>Lloyd Gosselink</i>	Water Recovery and Reuse in Garment Manufacturing  <b>Stephen Lupton,</b> <i>UOP LLC—A Honeywell Company</i>	An Innovative Approach to Remove Metals and Metalloids from Reverse Osmosis Concentrate Using Drinking Water Treatment Sludge  <b>Lu Lin,</b> <i>New Mexico State University</i>
12:30 p.m. – 2:00 p.m.	<b>General Manager Roundtable Discussion and Luncheon</b> <a href="#">Regency Ballroom</a> (Requires a ticket. Additional fees apply) A discussion on: <ul style="list-style-type: none"> <li>the big picture—what is the outlook for water reuse over the next 5–10 years?</li> <li>what qualities do you look for in the ideal vendor/supplier, both equipment and services?</li> <li>provide some definite “do’s” and “don’ts”—helpful hints to potential suppliers of equipment and services. (i.e., equipment suppliers and consulting engineers)</li> </ul>			
12:30 p.m. – 2:00 p.m.	Lunch On Your Own			
12:30 p.m. – 2:00 p.m.	Potable Reuse Committee Meeting <a href="#">Far East Room</a>			
12:30 p.m. – 4:30 p.m.	<b>Technical Tour—North Texas Municipal Water District—Raw Water Supply Project Facility</b> <a href="#">Departing from the Hotel Lobby</a>			

**TUESDAY (continued)**

	<b>A8</b> Water Research Foundation Past, Present and Future Support for Integrated Water Management and Potable Reuse	<b>B8</b> Online, Real-Time Monitoring for Direct Potable Reuse—Part 1	<b>C8</b> Industrial Reuse—Part 3	<b>D8</b> Advances in Desal Technologies—Part 2
<b>Room</b>	Gold Room	Parisian Room	Pavilion Room	Oak Room
<b>Moderator</b>	<i>John Whittler, Water Research Foundation</i>	<i>Wade Miller, Consultant</i>	<i>Guy Carpenter, Carollo Engineers</i>	<i>Andrew Gilmore, Carollo Engineers</i>
<b>2:00 p.m. – 2:30 p.m.</b>	Water Research Foundation is establishing a new research focus area, Integrated Water Management—Planning for Future Water Supplies, to develop a multi-year agenda supporting the advancement of innovative tools and approaches to diversifying water supply portfolios. An overview of the proposed approaches for two recently funded DPR projects will also be provided.	New Techniques for Real-Time Monitoring of Membrane Integrity for Virus Removal (WRF-09-06b)  <b>Val Frenkel,</b> <i>Erler &amp; Kalinowski, Inc.</i>	Removal of Active Pharmaceutical Ingredients from Wastewater  <b>Greg Claffey,</b> <i>Xylem</i>	Selective Removal of Arsenic and Monovalent Ions from Desalination  <b>Xuesong Xu,</b> <i>New Mexico State University</i>
<b>2:30 p.m. – 3:00 p.m.</b>		Online Sensor Monitoring for Detection of Trace Organic Contaminant Oxidation and Microbial Inactivation during UV/H <sub>2</sub> O <sub>2</sub> Process  <b>Hye-Weon Yu,</b> <i>University of Arizona</i>	Pollution Prevention and Industrial Water Reuse—A Major Water Reuse Growth Sector  <b>Alan Rimer,</b> <i>Black &amp; Veatch</i>	Desalination Technology, Procurement and Cost Trends with an Example Case Study  <b>Vasu Veerapaneni,</b> <i>Black &amp; Veatch</i>
<b>3:00 p.m. – 3:30 p.m.</b>	<b>Speakers:</b>  <b>John Whittler,</b> <i>Water Research Foundation</i>  <b>Allegra da Silva and Kati Bell,</b> <i>CDM Smith</i>  <b>Andrew Salvesson,</b> <i>Carollo Engineers</i>	Testing of a Prototype Continuous Coliphage Detection System  <b>Robert Salter,</b> <i>Charm Sciences</i>	Industrial Water Reuse with Semi-Batch Reverse Osmosis  <b>Michael Spinhirne,</b> <i>Desalitech</i>	Influence of Different Parameter on the Boundary Layer near Ion Exchange Membrane  <b>Azadeh Ghorbani,</b> <i>New Mexico State University</i>

## TUESDAY (continued)

3:30 p.m. – 4:00 p.m. Networking Break [Regency Ballroom](#)

3:30 p.m. – 4:00 p.m. Poster Sessions [Regency Ballroom](#)

	<b>A9</b> Water Reuse and Brackish Desalination Overarching BMPs for Drought-Proofing and Supply Augmentation in Texas, Florida and California	<b>B9</b> Online, Real-Time Monitoring for Direct Potable Reuse— Part 2	<b>C9</b> Industrial Reuse— Part 4	<b>D9</b> Decentralized Reuse System Optimization
<b>Room</b>	Gold Room	Parisian Room	Pavilion Room	Oak Room
<b>Moderator</b>	<i>Ane Deister, Parsons</i>	<i>Andrew Salveson, Carollo Engineers</i>	<i>Guy Carpenter, Carollo Engineers</i>	<i>Jean McLain, University of Arizona</i>
4:00 p.m. – 4:30 p.m.	In this session, expert water reuse professionals describe the evolution of water reuse and brackish desalination from its early roots to today's cutting edge applications.	Starting Up DPR— Special Challenges  <i>David Sloan, Freese and Nichols</i>	Produced Water Treatment for Reuse Using the Anti-Fouling Membrane System  <i>Joon Min, BKT</i>	Impact of Surface Characteristics on Virus Removal within Membrane Bioreactors  <i>Rabia Chaudhry, University of California, Berkeley</i>
4:30 p.m. – 5:00 p.m.	<b>Introduction and Overview:</b> <i>Ane Deister and Chandra Mysore, Parsons</i>  <b>Texas Case Studies:</b> <i>Stephanie Bache, Parsons</i>	Full-Scale Testing of Alternative UV Advanced Oxidation Processes for Potable Reuse  <i>Greg Wetterau, CDM Smith</i>	Industrial Reuse Panel Discussion:  <i>Greg Claffey, Xylem</i>  <i>Alan Rimer, Black &amp; Veatch</i>	Health Risk Management of Water Reuse in Military Contingency Operations  <i>Ginn White, U.S. Army Institute of Public Health</i>
5:00 p.m. – 5:30 p.m.	<b>Florida Case Studies:</b> <i>Tory Champlin, Parsons</i>  <b>California Case Studies:</b> <i>Surendra Thakral, Satish Kamath, Don Leighton, Parsons</i>  <b>Best Management Practices; Looking into the Future:</b> <i>Ane Deister, Parsons</i>	Developments in Real-time, Online High Pressure Membrane Integrity Monitoring  <i>Arun Subramani, MWH</i>	<i>Michael Spinhirne, Desalitech</i>  <i>Joon Min, BKT</i>	Does Ozone Pretreatment Provide Enough Benefits for Flux Improvement— A Case Study  <i>Ufuk Erdal, CH2M HILL</i>
7:00 p.m. – 10:00 p.m.	<b>Dinner and Discovery at the Perot Museum of Nature and Science</b> <a href="#">Walking directions can be found in your registration packet</a>			

# LET'S MAKE WATER REUSE A REALITY. LET'S SOLVE WATER.

**Reuse is the name of the game when it comes to water resource management and Xylem is here to solve your concerns.** Let's implement the treatment solutions that make water reuse both safe and sustainable. Xylem's broad technology expertise enables us to deliver complete reuse solutions that are energy efficient, reduce waste and proactively address regulations and public perception.

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**To see how Xylem is making water reuse a reality visit booth #16 at the 29th Annual WaterReuse Symposium September 7-10 in Dallas TX.**



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# INDUSTRIAL & COMMERCIAL WATER REUSE CONFERENCE

February 2-3, 2015

HILTON AUSTIN | Austin, TX

## EVERY BUSINESS NEEDS A RELIABLE WATER SUPPLY

Water reuse is becoming a key strategy in competitiveness, corporate social responsibility, and environmental compliance for many industries. The 2015 Industrial and Commercial Water Reuse Conference will examine how industries are using water reuse technologies to secure their futures and protect the environment.

Water reuse is both a bottom line and a "green" solution.

## PROGRAM HIGHLIGHTS

- Corporate Issues in Water Reuse
- Economic and Regulatory Aspects of Commercial and Institutional Water Reuse
- Established and Emerging Water Reuse Treatment Technology
- Industrial and Commercial Water Reuse Research
- Trends in Industrial Water Reuse
- Water Reuse in the Energy Industry
- Water Reuse in the Food & Beverage Industry
- Water Reuse in Manufacturing & Mining



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## WEDNESDAY, SEPTEMBER 10, 2014

7:30 a.m. – 10:00 a.m. Registration Open [Regency Ballroom Foyer](#)

7:30 a.m. – 8:30 a.m. Continental Breakfast [Regency Ballroom Foyer](#)

	<b>B10</b> Reuse & Hydrofracking	<b>C10</b> Water Reuse: Pure, Safe & Secure—Part 2	<b>D10</b> International Water Reuse Planning
Room	Parisian Room	Pavilion Room	Oak Room
Moderator	<i>Al Goodman, CDM Smith</i>	<i>David Jackson, Freese and Nichols</i>	<i>Bahman Sheikh, Water Recycling Consultant</i>
8:30 a.m. – 9:00 a.m.	Reuse of Water from Hydrofracking Operations: Efficacy of Treatment  <i>Joseph Jacangelo, MWH</i>	An Innovative Approach to Regional Water Reuse Master Planning: A Florida Success Story  <i>Janeen Wietgreffe, Hazen and Sawyer</i>	Water Reuse in the Middle East: Focus on Secondary Treatment Impacts  <i>Siva Sankaramanchi, Xylem</i>
9:00 a.m. – 9:30 a.m.	Commercial Flowback Recycling/ Reuse Facility  <i>Ryan Mastowski, RETTEW Associates</i>	Water Reuse using Constructed Wetlands  <i>Ronald Crites, Brown and Caldwell</i>	Maturing the European Water Reuse Sector: A Strategic Assessment of Research and Development Priorities  <i>Paul Jeffrey, Cranfield University</i>
9:30 a.m. – 10:00 a.m.	Treatment of Fracking and Concentrated Animal Feeding Operation Wastewaters Using Selected Biochar  <i>Valentine Nzengung, University of Georgia</i>	Legionella Growth, Survival, and Transport Phenomena in Reclaimed Water through Recharge Basin Media  <i>Lauren McBurnett, Arizona State University</i>	Algeria Looks to Water Reuse  <i>David Ammerman, AECOM</i>
10:00 a.m. – 10:30 a.m.	Using Dynamic Simulation to Implement Effective Reuse Strategies in Oil and Gas Development  <i>Alyssa Neir, Golder Associates</i>	On-Campus Water Reuse: Savings, Reliability & Readiness  <i>Jonathan Lanciani, Sustainable Water</i>	Pauanui—A New Zealand Award Wining Example of Treated Community Effluent Reuse  <i>Rodney Ruskin, Geoflow</i>
10:30 a.m. – 12:20 p.m.	<b>Closing Plenary Session—International Experience in Potable Reuse</b> <a href="#">International Ballroom</a>  Efforts on water reuse span the globe. The IWA Water Reuse Specialty Group (WRSG) is by far the largest specialty group within the International Water Association with approximately 2,700 members. The WRSG has organized a jointly sponsored session with WRA on international experiences in potable reuse. Each speaker will provide a presentation that discusses potable water reuse history, case studies, regulation, and future trends.  <b>Introduction to Session—Jörg Drewes, Technische Universität</b>  <b>The Australian Experience—Greg Oliver and Mark O'Donohue, Australian Water Recycling Centre of Excellence</b>  <b>A Comparison of International Management Strategies in Potable Reuse—Jörg Drewes, Technische Universität München and Shane Snyder, The University of Arizona</b>  <b>Panel Discussion with Q&amp;A</b>		
12:20 p.m. – 12:30 p.m.	<b>Executive Director's Vision for the Future</b> <a href="#">International Ballroom</a>		

# UPCOMING EVENTS

## ONE WATER INNOVATIONS GALA

**The Republic**  
New Orleans, LA  
September 28, 2014

## 2015 INDUSTRIAL AND COMMERCIAL WATER REUSE CONFERENCE

**Hilton Austin**  
Austin, TX  
February 2–3, 2015

## 2015 WATEREUSE CALIFORNIA ANNUAL CONFERENCE

**Millennium Biltmore Hotel**  
Los Angeles, CA  
March 15–17, 2015

## 30TH ANNUAL WATEREUSE SYMPOSIUM

**Sheraton Seattle**  
Seattle, WA  
September 13–15, 2015

**Thank you to our 29th Annual WaterReuse Symposium Planning Committee for your dedication and time in making this conference such a success!**

### 29th Annual WaterReuse Symposium Planning Committee

#### Conference Chairs

*Ellen McDonald*,  
Alan Plummer Associates  
*Don Vandertulip*, ARCADIS  
*Chris Stacklin*, Orange County  
Sanitation District  
*Rebecca West*,  
Spartanburg Water

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Water Recycling Consultant  
*Chris Stacklin*, Orange County  
Sanitation District  
*Don Vandertulip*, ARCADIS  
*Nikolay Voutchkov*,  
Water Globe Consulting

#### Opening Session

*Ellen McDonald*,  
Alan Plummer Associates

#### Awards

*Alan Rimer*, Black & Veatch (Chair)  
*Brian Aylaian*, AECOM  
*Leita Bennett*, Atkins  
*Cathy Chau*, Los Vegas Valley  
Water District  
*Catherine Ferrari*,  
Water Corporation of Australia  
*Sean Goldwasser*, Black &  
Veatch  
*Tony Greiner*, Hazen and Sawyer  
*Ronald Jager*, Gannett Fleming  
*Ian Law*, IBL Solutions  
*Bruce Lazenby*, Rose Hills  
Memorial Park and Mortuary  
*Cheryl Munoz*, San Francisco  
Public Utilities Commission

#### Kids Art/Writing Contest

*Eric Redmond*, CH2M HILL

#### Facility Tours

*Ellen McDonald*,  
Alan Plummer Associates  
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#### Sponsors and Exhibitors

*Andrea Odegard-Begay*, Garver