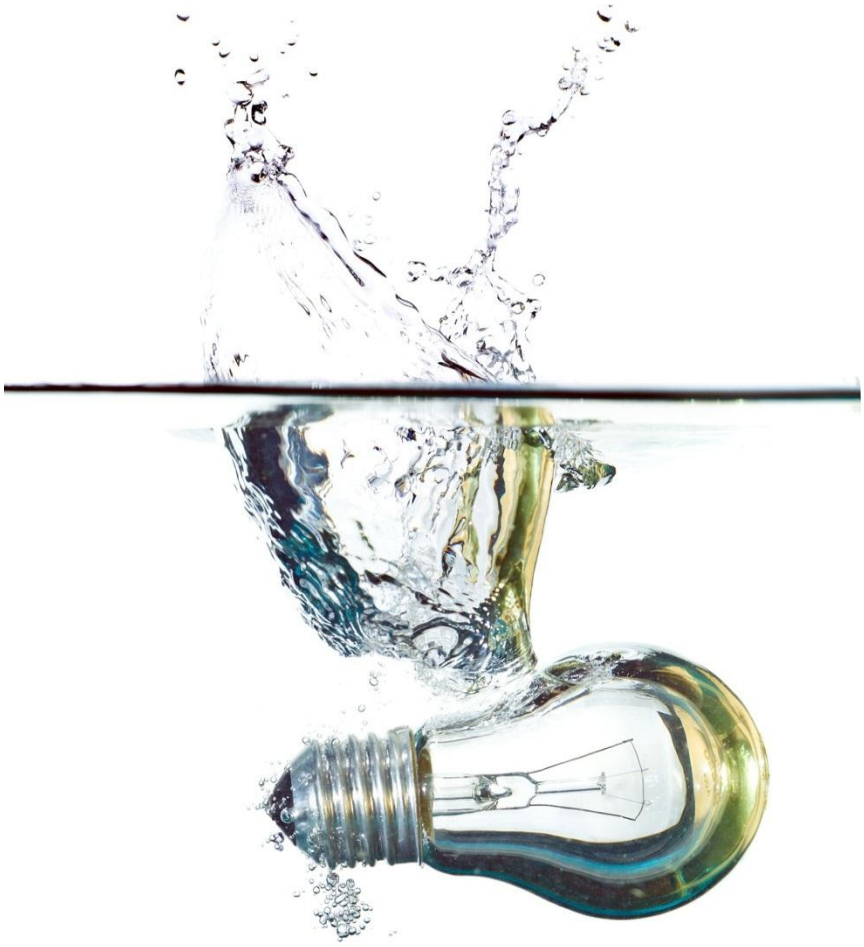
innovation showcase



WEFTEC Innovation Showcase shares successes, fosters progress

In the water sector, innovation happens at all levels. But until now, the industry has lacked the dedicated entrepreneurial community that drives innovation in other sectors. The Water Environment Federation (WEF; Alexandria, Va.) seeks to change that with the Innovation Showcase at WEFTEC® 2012 in New Orleans.

The Innovation Showcase is divided into two parts: the pavilion and programming. The Innovation Pavilion showcases inventions, products, services, and tactics that provide solutions to challenges and advances in thinking.

Innovation Pavilion

The pavilion also presents simple solutions submitted via the Operator Ingenuity Contest. Selected speakers will present their ideas in the pavilion. These quick, clever solutions underscore how the need to fix a problem with the tools at hand can inspire great creativity.

The pavilion features winners and finalists from WEF and our innovation partners, Imagine H2O and BlueTech Research. Award programs include the WEF Innovative Technology Award, the Imagine H2O prize, and the 2012 BlueTech® Forum.

Innovation Programming

Kicking off Innovation Programming, Lisa P. Jackson, Administrator of the U.S. Environmental Protection Agency, will deliver the keynote address at a special water leaders session Monday, Oct. 1. “Rethinking Water Services: Navigating Our Water’s

Future" is a timely session that will discuss smarter and more efficient ways to manage water to best meet present and future demands and related challenges. Jackson's presentation, "40 Years of Clean Water and Innovation for Tomorrow" sets the stage for a panel of key thought leaders who will look at the big picture of water and explore a new vision for success.

In another featured session, Andrew Benedek, who founded Zenon Environmental (which was purchased by GE in 2006) and now serves as CEO of Anaergia (Burlington, Ontario) will discuss Zenon's success story and lessons learned, including starting a business, selecting partners, and avoiding excess competition at the start.

Additional sessions focus on how to get innovative products to market by helping entrepreneurs connect with and gain insight from sector leaders, investors, and universities that have commercialized their technologies successfully.

Partnerships enhance innovation at WEFTEC

In the past year, WEF partnered with Imagine H2O and BlueTech Research (Vancouver, British Columbia). "The partnership allows WEF to connect with startups in the water sector and help them leverage our community and resources," said Barry Liner, director of the WEF Water Science and Engineering Center.

Imagine H2O is a nonprofit organization that empowers people to turn water challenges into opportunities. The organization's annual competition and business accelerator program supports early-stage entrepreneurs in the water sector.

"There's no Silicon Valley for water," said Scott Bryan, chief operating officer of Imagine H2O. "We're building a global ecosystem for water entrepreneurship and innovation that provides a path-to-market resource."

BlueTech Research, an O_2 Environmental Company, is an independent market intelligence and consulting firm that focuses exclusively on the water sector, raises the profile of companies with the potential to solve water challenges and apply "disruptive" technologies. Disruption can be a positive force to replace the conventional with the more effective. "The partnership between WEF and BlueTech Research is based on a shared vision of a smarter, more efficient water system," explained BlueTech CEO Paul O'Callaghan. "Both organizations share an unparalleled commitment to promoting water technology innovation and leveraging knowledge across the water sector."

Turning challenges into opportunities

The water sector faces mounting pressures, from urbanization to aging infrastructure. "In the recent past, when fresh water was abundant and energy was cheap, change was not necessary," O'Callaghan said. "In fact, there was little pressure to change business as usual. We don't have that luxury anymore."

The Innovation Pavilion helps practitioners understand future trends and entrepreneurs effectively capitalize on market opportunities. According to Imagine H2O, the wastewater market alone is valued at $200 billion per year across industrial, commercial, and residential sectors worldwide.

— Adapted from the August 2012 issue of Water Environment & Technology

The Innovation Showcase encompasses all-things-innovative. The Showcase features the Innovation Pavilion, Booth 1957, and a meeting room full of Innovation Programming, both located in Hall C.

Innovation Pavilion

Booth #1957 | Hall C

The Innovation Pavilion, a component of the Innovation Showcase established through a WEF, Imagine H_20, and BlueTech Research partnership, will house ten companies offering cutting-edge products and services. Featured exhibitors include finalists and winners of the Imagine H_2O Water Innovation Prize and the 2012 BlueTech Forum Showcase. The Pavilion will include interactive displays of ingenious ideas, and a theater where presentations will be given all week by the exhibitors, WEF Innovative Technology Award winners, the Operator Ingenuity Contest winners, and others.

WEF Innovative Technology Award Showcase

Monday, October 1 | 3:30 pm – 5:00 pm

Learn about the 2012 WEF Innovative Technology Award winners who have introduced new innovative products or services related to the construction, operation, or maintenance of treatment facilities, and see their projects:

Company: InfoSense Inc.
Technology: Sewer Line Rapid Assessment Tool (SL-RAT)

Company: JCS Industries, Inc.
Technology: JCS Mod 4100 Automatic Liquid Vacuum Doser

Company: Wastewater Compliance Systems, Inc.
Technology: Bio-Domes

Matchmaking Reception

Monday, October 1 | 5:00 – 6:00 pm

Entrepreneurs, venture capitalists, and utilities seeking information are welcome to attend this networking reception. It will provide the opportunity for investors, strategic partners, entrepreneurs, and end users the time to get to know the ideas, products, and needs in the industry in a casual and energetic gathering.

Operator Ingenuity Contest Winners

Wednesday, October 3 | 10:30 am – 12:00 pm

Innovation is a way of thinking and doing that can help you to do more with less, with more efficiency. Come hear from the contest finalists on their innovative ideas in all areas of operations.

Work for Water Session

Wednesday, October 3 | 1:30 pm – 3:00 pm

A career in water is nearly recession-proof. This featured session will discuss ways WEF and EPA are working with nontraditional government agencies such as the Department of Labor and the Department of Veteran Affairs as a means to increase the awareness of jobs in water and demonstrate how skills from typical apprentice jobs and military experiences can be transferable to working in the water sector.

Exhibit Hall C | Booth #1957

Innovation Pavilion

Featured exhibitors include Imagine H2O finalists and winners, 2012 BlueTech Forum Showcase winners along with other innovative products and services. The Pavilion will include a theater where presentations will take place all week. Presenters will include WEF Innovative Technology Award winners, the Operator Ingenuity Contest winners, and others. Because innovation does not just mean a new product, the Pavilion will include displays of ingenious ideas as well.

innovation showcase

Monday

Time	Event
9:00 AM – 5:00 PM	**Exhibit Hall Open**
9:15 AM – 9:30 AM	**Innovation Showcase Pavilion Opening Ceremony** *with brief remarks by EPA Administrator Lisa Jackson, Undersecretary of Commerce Francisco Sanchez,* and *WEF President Elect Cordell Samuels*
12:15 PM – 1:15 PM	**Innovations in Stormwater** • Seth Brown, WEF Stormwater Program Manager *Why is Stormwater Important and Why Innovate?* • Bob Adair, Convergent Water *Innovate or Die in Stormwater* • Larry Coffman, Stormwater Services, LLP *The Evolution of Low Impact Development* • Corey Simonpietri, ACF *An Innovative Stormwater Application*
2:00 PM – 3:30 PM	**French Water Innovations** *Company overviews hosted by UBIFRANCE include Aqualter, Footways, Envolure, Ijinus, Ultraflux, Polymem, and WatchFrog*
3:30 PM – 5:00 PM	**WEF Innovation Awards** *Winners present their award-winning submissions*
5:00 PM – 6:15 PM	**Innovation Reception**

Tuesday

Time	Event
9:00 AM – 5:00 PM	**Exhibit Hall Open**
10:00 AM – 10:30 AM	**SymbioCity** Presented by the Swedish Trade Delegation *The SymbioCity concept saves your environment and money at the same time. The secret: Combine your urban systems and benefit from the synergies.*
1:00 PM – 2:00 PM	**BlueTech Research presents winners from the BlueTech Forum** *Including Ecolyse and WRT*
2:00 PM – 2:15 PM	**Imagine H2O announces the 2013 Consumer Innovations Program**
2:15 PM – 2:45 PM	**Imagine H2O Presents Past Winners** *Including Hydrovolts and Black Gold Biofuels*
2:45 PM – 4:15 PM	**Imagine H2O Presents 2012 Winners and Finalists** *Including New Sky Energy, Tusaar, Arbsource, NGenStar, Atlantis Technologies, MicroBio Engineering*

Wednesday

Time	Event
9:00 AM – 5:00 PM	**Exhibit Hall Open**
9:15 AM – 9:45 AM	**The WEF Energy Roadmap: Driving Water and Wastewater Utilities to More Sustainable Energy Management**
10:30 AM – 12:00 PM	**Operator Ingenuity** *Presentations from finalists and award presentations for imaginative, inventive, and effective ways operators have overcome problems.*
1:30 PM – 3:00 PM	**Work For Water** *WEF and EPA are working with non-traditional government agencies such as the Department of Labor and the Department of Veteran Affairs as a means to increase the awareness of jobs in water and demonstrate how skills from typical apprentice jobs and military experiences can be transferable to working in the water sector. Panelists include representatives from WEF, EPA, and the Department of Veteran Affairs. Moderated by WEF Executive Director Jeff Eger*

BlueTech Research
An O_2 Environmental Company
www.bluetechresearch.com

IMAGINE H_2O
www.imagineh2o.org

Water Environment Federation
the water quality people
www.wef.org

Ecolyse, Inc.

NEW SKY

InfoSense, Inc
Innovating Acoustic Inspection Technology™

WRT

μB

JCS Industries Inc.

ARB SOURCE

Wastewater Compliance Systems Inc.

Deionizing
Atlantis Technologies, Inc.

Tusaar Inc.

BLACKGOLD

Hydrovolts

Arbsource LLC (Tempe, Arizona)

Arbsource's patent-pending Arbcell biotechnology is a scalable bioreactor solution optimized for low-energy biotreatment of organic materials in wastewaters common to the food and beverage industry. Our value proposition is three-fold: lower wastewater treatment cost, hydrogen byproduct generation, and flexible physical footprint. By using up to 70% less electricity and producing up to 80% less solid sludge compared to status quo aeration methods, the Arbcell at least matches treatment performance and reduces wastewater operations costs for typical customers by 50% or more! Hydrogen generated from our process can be used either as a versatile commodity chemical or a carbon free energy source.

Atlantis Technologies (Boulder, Colorado)

Atlantis Technologies, Inc. was a finalist in the Imagine H2O competition. The company has developed a low cost chemical free desalination system that can remove salt from oil, gas, mining, and industrial waste water called Radial Deionization (RDI™)

The patented RDI™ safely remove low solubility species and high total dissolved solids streams without fouling for up to 75% less cost than state of the art systems such as reverse osmosis and brine concentrators. The system can handle low solubility species such as silica, barium/calciumstrontium sulfate, high tds streams such as produced/fracture water and RO reject, and high tds acid from mine drainage. System is scalable to process tds above 100,000 ppm and flow rates up to 1,000 gpm. For some streams, the concentrated reject is the desired product. We are able to adjust the concentration of this stream to be 10–20 times greater than the incoming, with clean water recovery above 90%.

In applications where water must be cleaned prior to steam generation, the RDI™ can take the place of multiple units operations such as silica removal, hardness removal, and tds reduction.

BlackGold (Philadelphia, Pennsylvania)

BlackGold was founded in 2004 as a subsidiary of The Energy Cooperative, a Philadelphia-based, member-owned energy company. In 2005, BlackGold opened the first R&D facility in the country exclusively dedicated to deriving biodiesel from sewer greases. Here BlackGold developed its landmark FOG-to-Fuel® technology and established the proof of concept prototype. The company established a formal collaboration with the U.S. Department of Agriculture, working intensively with their industry-renowned team of PhD biodiesel research scientists. In 2006, BlackGold successfully road-tested its fuel in more than 50 vehicles, over 20,000 miles. These vehicles represented a cross-section of the diesel market and duty cycles, from multi-ton school buses to light passenger cars. Participants included Great Valley School District, the City of Philadelphia, AAA MidAtlantic, Temple University Facilities Department, and the University of Pennsylvania, as well as many citizens from the region. BlackGold spun out from The Energy Cooperative in 2007. The first commercial FOG-to-Fuel® system came online in 2010 at the Oceanside Water Pollution Control Plant for the San Francisco Public Utilities Commission.

Hydrovolts (Seattle, Washington)

Hydrovolts grew out the most advanced study of tidal power feasibility in the USA to date. In 2005, the City of Tacoma, Washington proposed a 16 MW renewable tidal power project in the Tacoma Narrows of Puget Sound in Washington State. Tacoma Power, the city electric utility, hired Hydrovolts founder Burton Hamner and his company Puget Sound Tidal Power LLC (now Hydrovolts, Inc.) for the Tacoma Narrows Tidal Power Feasibility Study in February 2007.

The team conducted advanced 3-D current modeling, field studies, location and power analysis for turbines, a survey of all the existing tidal and river turbine technology, and permitting and economic analysis. The study concluded in December 2007 that utility-scale tidal power generation is very challenging, and it is not economically competitive at the Tacoma site.

Burt Hamner recognized that turbine technology could be successful at a smaller scale in rivers, canals and waterways. Following the Tacoma study, Hamner started Hydrovolts, Inc. The new company has invented and and is patenting new in-stream hydrokinetic turbines. These new turbines will revolutionize renewable in-stream power generation and make it cost-effective around the world.

Microbio Engineering (San Luis Obispo, California)

MicroBio Engineering, Inc. (MBE) employs a system that uses CO_2 and algae to treat wastewater at a low energy input.

MBE is an engineering and technology company focused on microalgal technologies for wastewater reclamation, biofuel production, and cultivation for feeds and nutraceuticals.

Our clients include Fortune 100 firms in industries such as water, petroleum, aviation, and agriculture. We also serve startups and universities.

Our expertise extends from laboratory research through large-scale cultivation engineering. Drawing on over 50 years of experience by its founders, plus vigorous monitoring of current developments, MBE can rapidly provide clients with efficient plans for their R&D and full-scale facility needs.

The principals are John Benemann, who is one of the world's most sought-after algae consultants, and Tryg Lundquist, a leading university researcher in algae wastewater reclamation and biofuels.

New Sky Energy (Boulder, Colorado)

Companies and societies get locked into conventional technologies that have become or have always been inefficient. "Innovation can be really disruptive in a good way," said Deane Little, CEO of New Sky Energy (Boulder, Colo.). "It can upset conventional industrial processes and replace them with much cleaner, cost effective technologies."

New Sky Energy won Imagine H2O's early revenue track for a technology that takes two major waste products from industry—carbon dioxide and salts—and creates important chemical compounds called carbonates. Carbonates are an essential part of multi-billion dollar industrial chemical markets, including plastics, glass, building materials manufacturing, flue gas emission control and water treatment.

"There are many, many uses for carbonates, and we are able to target any of those market uses," said Little. The process is a win-win situation that "provides an exciting opportunity to work with clients who are producing waste streams and those who need chemicals."

Tusaar, Inc. (Lafayette, Colorado)

Tusaar is commercializing a unique media based technology to remove contaminating heavy-metals from multi-chemical process and waste water. Using base technology licensed from the University of Colorado-Boulder, the team at Tusaar has developed a media that sequesters over 40 different metals from industrial waters and provides a solution to coal combustion fly ash pond management and related groundwater contamination, a serious problem for coal-fired power plants. Tusaar media also enables customers to separate toxic waste metals from other hazardous chemicals thereby simplifying disposal and management. Waste volume and related cost reduction of over 95% has been achieved at customer sites leading to payback in less than one year. The Tusaar team of five has over 75 years of relevant technology and industry experience. CEO & founder, Gautam Khanna, has business development experience at Dell, Whirlpool & Pentair, has served as CEO of Pentair Water India and been involved in the global water industry for over twelve years.

Ecolyse (Boulder, Colorado)

Ecolyse provides products and services to remediate pipeline corrosion, reservoir souring and ethanol production disruption as well as a variety of other bacterial, fungal and algae problems in industrial settings. Ecolyse provides a variety of services that complement their development of biocontrol products such as bacterial consulting investigations, monitoring, testing and training.

Microorganisms can contribute to pipeline corrosion, Nocardia foaming, and ethanol production disruption, for example. "Rather than using toxic chemical biocides to control bacteria, Ecolyse harnesses the power of Mother Nature," said James Lancaster, Ecolyse CEO.

Ecolyse won the BlueTech Forum's Disrupt-o-Meter™ Award for their phage-based biocontrol products. Bacteriophages are viruses that naturally prey on bacteria.

"Bacteriophages can restore the natural balance of bacteria [in a system] by leveraging natural predator-prey relationships," Lancaster said. Ecolyse creates special phage blends that can target specific problems, such as corrosion-causing bacteria.

Featured Session 03

Booth #1957, Hall C
Monday, Oct. 1 | 3:30 pm – 5:00 pm

WEF Innovative Technology Award Showcase

Moderator: Chris Enloe

Learn about the 2012 WEF Innovative Technology Award winners and their appealing projects. These companies spend considerable resources staying on top of the industry and developing new technologies and services. The Award is given to WEF Associate Members who have introduced new innovative products or services related to the construction, operation, or maintenance of treatment facilities.

2012 INNOVATIVE TECHNOLOGY AWARD WINNERS

3:30 **InfoSense, Inc.**
George Selembo

Technology: Sewer Line Rapid Assessment Tool (SL-RAT)
The Sewer Line Rapid Assessment Tool, aka the SL-RAT, from InfoSense is an innovative condition assessment tool for collection system crews, providing quick diagnostics of a sewer pipeline segment without the time and expense of a CCTV inspection.

4:00 **JCS Industries, Inc.**
Brian Whitmore

Technology: JCS Mod 4100 Automatic Liquid Vacuum Doser
After working as a rep firm in the chemical dosing field for water and wastewater treatment, JCS Industries decided to become their own manufacturer of vacuum liquid dosing systems and worked to improve upon problems the dosing industry is facing. Those problems included air binding, feed rate fall off, and calibration errors.

4:30 **Wastewater Compliance Systems, Inc.**
Dr. Kraig Johnson

Technology: Bio-Domes
Wastewater Compliance Systems worked with the University of Utah to commercialize an innovative fixed-film, nutrient removal technology called Bio-Domes for wastewater lagoons. The system is unique in that it has extremely low capital and operational costs and is effective even during harsh winter conditions when nutrient removal can be difficult.

InfoSense, Inc.; Sewer Line Rapid Assessment Tool (SL-RAT)

The Sewer Line Rapid Assessment Tool, aka the SL-RAT, from InfoSense, is an innovative condition assessment tool for collection system crews, providing quick diagnostics of a sewer pipeline segment without the time and expense of a CCTV inspection.

The SL-RAT diagnostic equipment consists of a mobile transmitter and a receiver which are dropped down a manhole at opposite ends of a sewer line hundreds of feet apart. A low frequency sonic wave travels down the pipeline and the resulting acoustic wave pattern is interpreted by computer formulas to indicate the likelihood the line is fully open or blocked. The SL-RAT produces instant results – a clear acoustic pattern the trained operator can view. It also integrates with GIS systems so data can quickly be stored.

While it's an advanced, computerized system, the concept is as basic as yelling down the sewer line and measuring what comes out the other end, according to InfoSense. The SL-RAT can detect sewer defects, roots, grease, offset joints and full pipe sags – all things that cause sewer back-ups and overflows if left untreated.

InfoSense was formed to commercialize technology developed by Dr. Ivan Howitt of the University of North Carolina, Charlotte.

Wastewater Compliance Systems, Inc.; Bio-Domes

Wastewater Compliance Systems worked with the University of Utah to commercialize an innovative fixed-film, nutrient removal technology called Bio-Domes for wastewater lagoons. The system is unique in that it has extremely low capital and operational costs and is effective even during harsh winter conditions when nutrient removal can be difficult.

The Bio-Dome technology comes along at the right time – lagoon operators face tighter regulations and need to reduce ammonia, nitrogen and phosphorus. In field studies and several recent installations since 2010 the Bio-Dome is proving it can reduce nutrient loads.

The Bio-Dome is a plastic shell encapsulating several layers of polypropylene balls which are dosed with air bubbles from below. The shaded environment inside the Bio-Dome grows a biofilm with bacteria that remove various nutrients. The air is cycled on and off at different intervals depending on the nutrient that needs to be removed.

Wastewater Compliance Systems listed eight installations and claimed a combined savings of $11-million for the facilities, since installing Bio-Domes into a lagoon is far less expensive than building a treatment plant. The Bio-Domes treatment system was also recently named in the EPA's 2011 Design Manual for Wastewater Lagoons.

JCS Industries, Inc.; JCS Mod 4100 Automatic Liquid Vacuum Doser

JCS Industries Inc.

JCS Industries set out to improve liquid chemical dosing in water and wastewater treatment. Common problems include air binding, feed rate fall off, and calibration errors. The company's answer is the Model 4100 Liquid Vacuum Doser.

- The doser is self-regulating and self-adjusting. A feedback signal adjusts a valve to increase or decrease feedrate to overcome air bubbles and other issues, ensuring a consistent flow of material. There is also no pulsing pressure with the vacuum.
- Accuracy and calibration errors were fixed by replacing the rotameter with an electronic flow sensor.
- Leaks were prevented by reducing the number of seals to just two.

JCS Industries clearly demonstrated a breakthrough product for safely dosing treatment chemicals such as sodium hypochlorite, sodium bisulfate, aluminum sulfate, acids and other chemicals. JCS also demonstrated a passion for innovation by working with their wastewater customers to develop a safer and more efficient dosing system.

The Model 4100 Liquid Vacuum Doser also integrates with SCADA, and feedrates can be monitored and adjusted from the control room. The feeder automatically regulates with several modes including fixed rate, flow paced, residual control and compound loop.

The Sewer Line Rapid Assessment Tool, aka the SL-RAT, from InfoSense, Inc.

Wastewater Compliance Systems, Inc. Bio-Domes

JCS Industries, Inc., Model 4100 Liquid Vacuum Doser

Contest

Booth #1957, Hall C
Wednesday, Oct. 3 | 10:30 am – 12:00 pm

Operator Ingenuity Contest Winners

Ceremony Moderator: Deb Houdeshell, Senior Associate, Hazen and Sawyer

Innovation is a way of thinking and doing that can help you to do more with less, with more efficiency. Come hear from your colleagues on their innovative ideas in all areas of operations.

Ten finalists will present, and six will be awarded at WEFTEC for the following categories:

- Safety
- Maintenance
- Process Control
- Work Environment
- Water Quality ("Walk the Talk")
- General Resourcefulness

JUDGES

- Deb Houdeshell, Senior Associate, Hazen and Sawyer
- Mike Kyle, Executive Director, Lancaster, Pa., Area Sewer Authority
- Russ Martin, Retired from EPA Region 5

FINALISTS

General Resourcefulness

- Dennis Palmer, Landis Sewerage Authority

Process Control

- Ron Johnson, Santa Margarita Water District
- Lawrence Bastian, DC Water

Maintenance

- Gerald Glenn, City of Delaware
- Dave Goen, Gourdie-Fraser

Safety

- Roy Hutchinson, CH2M Hill
- Steve Wold, United Water
- Mike Sedon, Cranberry Township

Walk the Talk

- Don Wasko, City of Carlsbad
- Work Environment
- Joe Bates, City of Yellow Springs

Featured Session 17

Booth # 1957, Hall C
Wednesday, October 3 | 1:30 pm – 3:00 pm

Work for Water Session

Moderator: Jeff Eger, Executive Director, WEF

Innovation is not just new products from start-up companies. It is a way of working that includes routine tasks such as hiring. Looking for employees in today's market and current economic climate requires new and different techniques.

A career in water is nearly recession proof. *Readers Digest* recently listed water/wastewater treatment plant and system operators as one of the top ten jobs Americans cannot live without. According to the Bureau of Labor Statistics, employment of environmental engineers is expected to increase 31% nationally (between 2008 and 2018) while water/wastewater operator jobs are expected to increase by 20%. With new and innovative practices such as energy neutrality and stormwater management, new skills and expertise are needed in the water sector. While the jobs exist, not many people know about them. This featured session will discuss ways WEF and EPA are working with non-traditional government agencies such as the Department of Labor and the Department of Veteran Affairs as a means to increase the awareness of jobs in water. It will also demonstrate how skills from typical apprentice jobs and military experiences can be transferable to working in the water sector. Workforwater.org, a joint AWWA and WEF project, will also be showcased.

PANELISTS

Panelists will include representatives from WEF, EPA, and the Department of Veteran Affairs.

Promoting Veteran Workforce for the Water Sector

- Randy Hill, Acting Office Director, Office of Wastewater Management, USEPA
- Angela Wilcher, Coming Home to Work Coordinator, Department of Veteran Affairs

National Wastewater Systems Operator Apprenticeship Guidelines

- Christine Radke, Manager, WEF

Work for Water

- Jamie Eichenberger, Senior Engineer, Brown and Caldwell and WEF Work for Water Chair

Panel Discussion

- Ron Spooner, Active Reservist, Sewerage & Water Board of New Orleans
- Peter Brown, Active Reservist, Sewerage & Water Board of New Orleans
- Fred Edgecomb, Water Reclamation Manager, Rancho California Water District
- Joseph Miraban, Sewerage & Water Board of New Orleans

innovation

Water Leaders 2012: Rethinking Water Services: Navigating Our Water's Future

Monday, October 1 | 10:30 am – 12:00 pm

NOMCC, New Orleans Theater

Lisa Jackson, Administrator of the U.S. Environmental Protection Agency, will keynote a panel of thought leaders to look at the big picture of water and explore better ways to achieve success. The discussion will be grounded in practice and experience but will examine both what the reinvented utility will look like in 20 years and how the sector can collectively and proactively take steps to get there.

Commercializing Campus Technology

Monday, October 1 | 1:30 pm – 3:00 pm

Exhibit Hall Meeting Room C | Hall C

This session looks at how some universities and research institutes with innovative technologies have had a straightforward "lab to market" journey culminating in the development of a commercial enterprise, while many others have not had the same experience. Many of their technologies sit on a shelf waiting to be discovered. This session addresses what it takes for successful commercialization of products.

BlueTech RESEARCH
AN O_2 ENVIRONMENTAL COMPANY

Lessons Learned in the Commercialization of Water Industry Products

Tuesday, October 2 | 9:00 am – 9:30 am

Exhibit Hall Meeting Room C | Hall C

This presentation will outline the unusual success story of Zenon and summarize the lessons learned including models for starting a business, ways to avoid too much competition at the start, and recommendations on selecting partners.

Innovations From Imagine H_2O

Tuesday, October 2 | 10:00 am – 12:00 pm

Exhibit Hall Meeting Room C | Hall C

Winners of the 2011 and 2012 prize will discuss their ideas and how they have progressed in funding, product development, and delivery to market.

IMAGINE H_2O

Investors Forum: What You Need To Know About Venture Capital and Investors

Tuesday, October 2 | 1:30 – 5:00 pm

Exhibit Hall Meeting Room C | Hall C

Learn from the investors the different types of investors and what their interests are, ways to demystify investment capital, and how to access financing to turn your breakthrough into business.

Water Entrepreneurship: Funding Through Strategic Partners

Wednesday, October 3 | 10:30 am – 12:30 pm

Exhibit Hall Meeting Room C | Hall C

Strategic partners will be letting you in on their secrets to finding new products in partnership with other companies. This session also gives end users the opportunity to learn how to mitigate risks and establish win-win strategic partnerships. Start-up companies, investors, and those looking to form partnerships will find this lively discussion of interest.

BlueTech RESEARCH
AN O_2 ENVIRONMENTAL COMPANY

Exhibit Hall C
Meeting Room C

Innovation Programming

The Innovation Pavilion will be host to several featured sessions dedicated to different ways of solving problems in the water sector.

FEATURED SESSION

Rethinking Water Services: Navigating Our Water's Future

Facilitator: Jeff Eger, Executive Director, Water Environment Federation

Monday, October 1, 2012 | 10:30 am – 12:00 pm | New Orleans Theater, Level 2, NOMCC

The water sector is at a crossroads. We are stewards of this most precious resource, and the challenges we face are clear. We must meet the needs of fastgrowing populations and address issues such as climate change and emerging contaminants, while dealing with aging infrastructure, lack of support for investment, and increasingly strained budgets.

The path to success can be hard to navigate, but we have the tools, the knowledge, and the experience that we need to succeed. It's time to find smarter ways to manage water.

It's time to think more holistically about water management and to use valuable data to make better decisions. In this age of recycling, it's time to be more efficient about recovering the value of resources in wastewater. It's time we pursue a new way of thinking in the areas of technology, policy, and practices. By doing so, we can save water, resources, and money. To get there, we need a new vision for success.

Framing this important discussion will be a special keynote from Lisa Jackson, Administrator of the U.S. Environmental Protection Agency. Ms. Jackson's presentation, "40 Years of Clean Water and Innovation for Tomorrow" will set the stage for a panel of thought leaders to look at the big picture of water and explore better ways to achieve success. The discussion will be grounded in practice and experience but will examine both what the reinvented utility will look like in 20 years and how the sector can collectively and proactively take steps to get there.

Then it's your turn...come prepared to share your views on a new shared vision for water management and how the sector can achieve it. Your thoughts will help provide input to WEF's aspirations to support innovation in water services.

FEATURING KEYNOTE SPEAKER
LISA JACKSON, U.S. EPA

SPEAKERS

Public Utility Perspective
George Hawkins
General Manager, DC Water

Private Utility Perspective
Jeff Sterba
President and Chief Executive Officer, American Water Works Company, Inc.

Technology Provider Perspective
Gretchen McClain
Chief Executive Officer, Xylem, Inc.

Regulator Perspective
The Honorable Lisa Jackson
Administrator, *U.S. Environmental Protection Agency*

Academic Perspective
Kala Vairavamoorthy
Executive Director, University of South Florida's Patel School of Global Sustainability

The Honorable Lisa Jackson

Administrator, U.S. Environmental Protection Agency

EPA Administrator Lisa P. Jackson leads EPA's efforts to protect the health and environment for all Americans. She and a staff of more than 18,000 professionals are working across the nation to usher in a green economy, address health threats from pollution in our air, water and land, and renew the public's trust in EPA's work.

Raised a proud resident of New Orleans, Louisiana, Administrator Jackson is a summa cum laude graduate of Tulane University and earned a master's degree in chemical engineering from Princeton University. In 2011, she received an honorary doctorate degree from Florida A&M University. She has also received an honorary law degree from Pace Law School.

She started with the EPA as a staff-level scientist in 1987 and spent the majority of her career working in EPA's Region 2 office in New York. In 2002, Jackson joined the New Jersey Department of Environmental Protection and was appointed Commissioner of the agency in 2006.

Administrator Jackson has pledged to focus on seven priorities for EPA's future: taking action on climate change; improving air quality; cleaning up our communities; protecting America's waters; assuring the safety of chemicals; expanding the conversation on environmentalism; working for environmental justice; and building stronger state and tribal partnerships.

As a scientist herself, Jackson has vowed that EPA's efforts will follow the best science, using it as "the backbone for EPA programs." She has also ensured that EPA adheres to the rule of law and acts with unparalleled transparency.

George Hawkins

General Manager, DC Water

George Hawkins has served as General Manager of the District of Columbia Water and Sewer Authority (DC Water) since Sept. 3, 2009. With an operating and capital budget of nearly $1 billion dollars, DC Water provides drinking water delivery and wastewater collection and treatment for a service area of 725 mi^2. DC Water serves 1.6 million people throughout the District of Columbia, as well as Montgomery and Prince George's counties in Maryland and Fairfax and Loudoun counties in Virginia. DC Water's Blue Plains is the world's largest advanced wastewater treatment plant with a capacity of 370 million gallons per day and a peak daily capacity of more than a billion gallons.

Hawkins has launched an ambitious agenda at DC Water that complements a vast 10-year program to improve aging infrastructure and comply with ever more stringent regulatory requirements. DC Water is designing and implementing a $2.6 billion program, the Clean Rivers Project, to nearly eliminate overflows of sewage and stormwater to the Anacostia, Potomac and Rock Creek. DC Water is also investing $950 million to achieve the next level of nutrient reductions and help restore the Chesapeake Bay. In addition, DC Water is implementing a $400 million digester program to help manage solids being removed from reclaimed water that will become the region's biggest source of renewable energy, reduce the volume of biosolids by almost half, and disinfect the biosolids to be clean enough to sell as fertilizer at retail stores. The digester project will be the first in North America to use the CAMBI treatment process, and the largest installation of CAMBI in the world. Finally, Hawkins has gained approval from the board of directors to triple the rate of DC Water's program to replace water and sewer infrastructure frequently installed generations ago.

Jeff Sterba

President and Chief Executive Officer, American Water Works Company, Inc.

Jeffry Sterba is president and chief executive officer (CEO) of American Water, the largest investor-owned U.S. water and wastewater utility company. Mr. Sterba brings more than 30 years of exceptional operational experience and a wealth of industry knowledge to American Water.

Mr. Sterba leads a team of more than 7,000 dedicated professionals who provide drinking water, wastewater and other related services to approximately 16 million people in 35 states and Ontario and Manitoba, Canada. He is responsible for developing the overall strategy and vision of American Water and directing its key business development initiatives.

Prior to joining American Water on August 16, 2010, Mr. Sterba served as Chairman and CEO of PNM Resources, Inc., the parent company of PNM, Texas-New Mexico Power Company (TNMP) and First Choice Power, from 2000 until March 2010. He currently serves as Non-Executive Chairman of PNM Resources.

Mr. Sterba is a nationally recognized thought leader in the areas of energy policy, climate change legislation, renewable energy, and sustainability. He has served as chair of Edison Electric Institute, the national association of shareholder owned utilities, and chair of the Electric Power Research Institute, a non-profit center for energy and environment research. He serves on the board of directors of the Meridian Institute and is a member of the Business Environmental Leadership Council for the Pew Center on Global Climate Change. Mr. Sterba also previously served on the board of directors of the U.S. Chamber of Commerce, and is a recipient of the Keystone Leadership in Industry Award and numerous other national and local honors.

Gretchen McClain

Chief Executive Officer, Xylem, Inc.

Gretchen W. McClain was named Chief Executive Officer of Xylem Inc., when the company was formed from the spinoff of the water businesses of ITT Corporation in 2011. She joined ITT in September 2005 as the President of the company's Residential & Commercial Water business. She was named President of ITT Fluid Technology in March 2007 and promoted to Senior Vice President and President of ITT Fluid and Motion Control in December 2008.

Prior to joining ITT, McClain served in a number of senior executive positions at Honeywell Aerospace, including Vice President and General Manager of the Business, General Aviation & Helicopters (BGH) Electronics division, and Vice President for Engineering and Technology, as well as for Program Management in Honeywell Aerospace's Engines, Systems & Services division. She joined AlliedSignal in 1999, which later merged with Honeywell.

Earlier, McClain spent nine years with NASA and served as Deputy Associate Administrator for Space Development—where she played a pivotal role in the successful development and launch of the International Space Station Program as Chief Director of the Space Station, and Deputy Director for Space Flight.

McClain graduated from the University of Utah with a B.S. in Mechanical Engineering.

Kala Vairavamoorthy

Executive Director, Patel School of Global Sustainability, University of South Florida

Dr. Kala Vairavamoorthy joined the faculty of Civil and Environmental Engineering and became a director in the School of Global Sustainability at USF in the fall of 2010. Dr. Vairavamoorthy received a BS in Civil Engineering from King's College, University of London. He has both a PhD in Environmental and Water Resources Engineering and a M.S. in Environmental Engineering from Imperial College, University of London.

He came to USF from the University of Birmingham in the UK, where he was a Chair of Water Engineering. Before joining the University of Birmingham, he was Professor of Sustainable Urban Water Infrastructure Systems at UNESCO-IHE, Delft, Netherlands. Additionally, he has served as scientific director of SWITCH (Sustainable Water Management Improves Tomorrow's Cities Health), the European Union's Integrated Project for Sustainable Urban Water Management.

Dr. Vairavamoorthy specializes in urban water systems. His research involves the development and application of risk-based decision support systems and optimization tools for the design, operation and management of water-related infrastructure systems. The decision support systems and optimization tools contribute to the planning of long term, sustainable strategies for improved infrastructure performance at the best available cost with the least environmental impact.

He was responsible for the development of the International Guidelines for the "Design and control of intermittent water supplies." He was also responsible for the development of the GIS based tool IRA-WDS (integrated risk assessment of water distribution systems).

Dr. Vairavamoorthy's teaching interests include the development of teaching modules for urban water distribution systems, asset management systems, integrated urban water modeling, water treatment, hydroinformatics, and wastewater treatment.

Commercializing Campus Technology

Moderator: Tyler Algeo, BlueTech Research

Universities and research institutes across the world have produced innovative technologies with straightforward "lab to market" journeys culminating in the development of a commercial enterprise — Ostara, NanoH2O, and Oasys, for example. Many technologies have not made this journey and sit on a shelf just waiting to be discovered.

What does it take for successful commercialization? This dynamic session will answer that question. Speakers and panelists will present best practices in commercialization and provide insights on:

- **Why new technologies must address industry issues** – success starts with understanding the issues facing the water market and creating technologies that address problems faced by the industry. How do universities and research institutes ensure that: a) their research is commercially relevant, b) they are developing "a better mouse-trap," c) another organization is not creating a similar or even better mouse-trap, d) they are working on a technology that gets rid of mice entirely (a disruptive solution), and e) ensuring that that the product will be practical and cost effective?
- ***Protecting the idea*** – while there is a strong push for universities to publish research, patenting is a critical part of the commercialization process. How do research institutes strike the right balance between publishing and patenting? What makes for a robust and licensable patent?
- ***Test the idea in real-world conditions*** – there is a big difference between piloting technologies under simulated conditions and testing under real-life conditions. How important is it to pilot off-campus in real-world conditions? Does co-development with an industry partner affect the success of commercializing campus technologies?
- ***Licensing the idea*** – How does an inventor find, and then evaluate a licensing partner? How do you establish royalty rate agreement structures that are fair, transparent, and simple?
- ***Life after licensing*** – technologies cannot be stationary. They must evolve. Can the university or research institute continue to contribute to the technology development? How does one deal with IP, patents, and royalties when new innovations and new generations of technologies emerge?

Join academics, research institutes, water technology startups, and corporations that license university and research institutes' technologies as they discuss what it takes to successfully commercialize a campus technology.

SPEAKERS

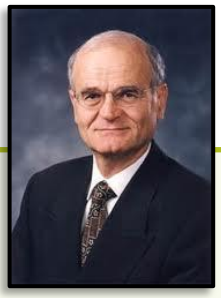
- Ahren Britton
  Chief Technology Officer, Ostara Nutrient Recovery Technologies
- Ashish Aneja
  Advanced Technologies Leader, GE Power & Water
- Jeff Guild
  Vice President, Business Development and Professional Services, BlueTech Research
- Joseph Zuback
  President & Founder, Global Water Advisors
- Mark Stephenson
  Business Development Director, Palo Alto Research Center (PARC)
- David E. J. Garman
  Dean School of Freshwater Sciences, University of Wisconsin Milwaukee

Featured Session 07

Exhibit Hall Meeting Room C
Tuesday, Oct. 2 | 9:00 am – 9:30 am

Lessons Learned in the Commercialization of Water Industry Products

Dr. Andrew Benedek will outline briefly the unusual success story of Zenon. He will also summarize lessons learned that are relevant to other entrepreneurs trying to build a successful business. Lessons covered will include models for starting a business, ways to avoid too much competition at the start, and recommendations on selecting partners.



Dr. Andrew Benedek
Chief Technology Officer, Anaergia and Founder, ZENON Environmental Inc.

Dr. Andrew Benedek is the Executive Chairman and Chief Technology Officer for the Anaergia family of companies. He is actively involved in the development and management of technology related to biogas and other value recovery from waste organics, and has over 30 years of experience in wastewater treatment and breakthrough technology development.

A highly respected international authority in the field of water and wastewater treatment technology, Dr. Benedek is recognized by his colleagues as a visionary engineer, global leader and philanthropist.

Dr. Benedek was a professor of Chemical and Civil Engineering, specializing in water treatment, at McMaster University in Hamilton, Ontario for 10 years until he founded ZENON Environmental Inc. in 1980. Under Dr. Benedek's leadership, many of the key membrane technologies used for water and wastewater treatment were developed, and ZENON became the global leader in this field. In 2006, the company was sold to General Electric, becoming a subsidiary of GE Water & Process Technologies.

Dr. Benedek graduated from McGill University with a Bachelor of Chemical Engineering and receiving a PhD in the same field from the University of Washington. He has also been awarded 3 Honorary Doctorates from North American Universities.

Dr. Benedek is the recipient of many industrial and personal awards, including the prestigious Stockholm Water Industry award in 2003 and the Lee Kuan Yew Water Prize in 2008. Noted as a leading authority on global water issues, he has written more than 100 papers and lectured around the world. Dr. Benedek has served on many public boards and was a founding member of the Council of Distinguished Water Professionals of the International Water Association.

Featured Session 08

Exhibit Hall Meeting Room C
Tuesday, Oct. 2 | 10:00 am – 12:00 pm

Innovations From Imagine H2O

Moderator: Scott Bryan, COO, Imagine H2O

Building a Successful Water Business.

Hear from the entrepreneurs behind some of the sector's most promising startups. Learn about their path-to-market success and how their business models have evolved. Selected as winners in the Imagine H2O Prize, these companies are successfully bringing new innovations to market.

IMAGINE H2O

WEF partnered with Imagine H2O to cultivate entrepreneurship and innovation in the water sector. Imagine H2O inspires and empowers people to solve water challenges and turn them into opportunities. We offer annual prize competitions for water innovation, including the 2009 Water Efficiency Prize, 2010 Water-Energy Nexus Prize and 2011 Wastewater Prize. In addition to cash prizes for the best ideas, Imagine H2O fosters an accelerator program to help competing entrepreneurs turn their plans into game-changing, real-world solutions.

Previous Imagine H2O winners, such as Water Smart Software, BlackGold Biofuels, Fruition Sciences, Hydrovolts and Fogbusters leveraged the Accelerator's resources to secure outside investment and new customers. In March 2012, Imagine H2O announced New Sky, Bilexys, Nexus eWater and Tusaar as the winners of its Wastewater Prize. Learn more at www.ImagineH2O.org.

Scott Bryan, Chief Operating Officer, Imagine H2O

Scott Bryan is the COO of Imagine H2O, a nonprofit that inspires and empowers people to turn water challenges into opportunities. Prior to joining Imagine H2O, Scott was a Financial Consultant at Royal Bank of Canada where he specialized in sustainable investment strategies for foundations and private investors. He has a BA in Economics from Colorado College.

SPEAKERS

Interview with entrepreneurs about building a business

- Burt Hamner
  Founder & CEO, Hydrovolts (Water Energy Nexus Prize – Winner)
- Deane Little
  CEO, New Sky (Wastewater Prize – Winner)
- Emily Bockian Landsburg
  CEO & Co-Founder, BlackGold Biofuels

Featuring companies from the Imagine H2O Wastewater Prize

- Gautam Khanna
  Tusaar
- Mark Sholin
  ARB Source
- Matt Hutton
  MicroBio Engineering
- Patrick Curran
  Atlantis Technologies

Featured Session 10

Exhibit Hall Meeting Room C
Tuesday, Oct. 2 | 1:30 – 5:00 pm

Investor's Forum: What You Need To Know About Venture Capital and Investors

Moderators: Ronald Duecker, President, JWC Environmental
Scott Bryan, COO, Imagine H2O
Paul O'Callaghan, CEO, BlueTech Research

Learn from investors about 1) different types of investors and what their interests are, 2) demystifying investment capital, and 3) accessing financing to turn your breakthrough into business.
This session fosters the important communication between the key players, including investors, inventors, companies, consulting engineers, and end users. Learn the basics to demystify the process, and get advanced tips from the investors themselves.

SPEAKER SCHEDULE

1:30 - 2:00 p.m.	**EPA's Technology Innovation Roadmap and Environmental Export Initiative** *Barbara Bennett, Chief Financial Officer, U.S. Environmental Protection Agency*
2:00 – 3:00 p.m.	**Investor's Panel** • Grant Garbers, Managing Director, Headwaters MB LLC • Jeffery Miehe, Managing Director, Windjammer Capital Investors • William Malarkey, Managing Director, Boenning & Scattergood • Steven Kloos, Partner, TrueNorth Ventures
3:30 – 4:00 p.m.	**Financing Water Companies in Turbulent Times** *David Gray, Director and Senior Advisor, Credit Suisse's Global Industrial Services Group*
4:00 – 4:30 p.m.	**Dream Big, Become Big – Gearing Your Start-up for a Sustainable Partnership with a Larger Company** *Jes Munk Hansen, CEO, Grundfos North America and Henrik Skov Laursen, Director, Grundfos Silicon Valley*
4:30 – 5:00 p.m.	**Closing Thoughts and Upcoming Events** *Scott Bryan, COO, Imagine H2O and Paul O'Callaghan, CEO, BlueTech Research*

Barbara Bennett, Chief Financial Officer, U.S. Environmental Protection Agency

Barbara J. Bennett was nominated by President Barack Obama to serve as Chief Financial Officer for EPA and was confirmed by the Senate on November 6, 2009. Ms. Bennett's responsibilities include oversight of EPA's annual planning and budget formulation, budget execution and financial management, performance and financial reporting, and strategic planning.

Ms. Bennett is a global business executive with over 25 years of experience. Prior to joining EPA, she served as Senior Executive Vice President and Chief Financial Officer of Discovery Communications, Inc. From 1990 to 2007, Bennett was a key member of the team that built the parent company of the Discovery Channel into one of the world's most extensive media enterprises, with more than 100 channels telecast in 170 countries, in over 30 languages to over one billion subscribers. As CFO, she was responsible for the worldwide financial functions and strategies of the company, including accounting, treasury, budgeting, reporting, audit, tax activities, and evaluation of new growth opportunities, and for leading a multi-cultural, multi-lingual team located in the five leading international hub offices in addition to corporate headquarters. From 2007 to 2009, Bennett was an independent consultant working with companies and nonprofit organizations with interests in media, hospitality, tourism, and professional sports. She earned her bachelor's degree from Vanderbilt University and completed executive programs at Harvard Business School and Yale University.

David Gray, Director and Senior Advisor, Credit Suisse's Global Industrial Services Group

David M. Gray is a Senior Advisor at Credit Suisse and head of the firm's Global Industrial Services Group. This includes managing corporate client relationships in the water, waste, facilities services, infrastructure services and rental services sectors. Mr. Gray and his team have completed over 100 financing and advisory transactions for clients in these sectors.

In the water sector, Mr. Gray and his team work on numerous financing and advisory assignments for many of the leading water companies – including Veolia, Suez Environment, American Water, Aqua America, GE Water, Siemens Water and Tyco.

Recent transactions include SembCorp's $452m acquisition of Cascal, Qatari Diar's $910m investment in Veolia, American Water's $889m follow-on equity offering, Energy Recovery's $137m IPO, Cascal's $144m IPO, Heckmann Corp's $400m IPO and Veolia's $1 billion sale of U.S. Filter to Siemens.

Prior to joining Credit Suisse in 2006, Mr. Gray was a Managing Director and Head of Deutsche Bank's Global Services Group. In his seventeen years at Deutsche Bank and its North American predecessor firms, Alex. Brown & Sons and Bankers Trust, Mr. Gray assisted clients in a variety of financing and advisory transactions around the world. Mr. Gray is a graduate of Harvard College and the Harvard Business School.

Henrik Skov Laursen, Director, Grundfos Silicon Valley

Henrik Skov Laursen manages Grundfos' cleantech office located in Palo Alto, California. In Palo Alto, Grundfos works with research, academic institutions and start-up companies to be the catalyst in creating new sustainable business and product solutions within water technologies and building efficiency.

Henrik Skov Laursen has led many new business creation activities in Grundfos, one of which has been the establishment of Grundfos' Water Technology Center in Fresno, California. Before this, Mr. Laursen worked as Business Director for industrial markets in North America and before that as Global Product Business Manager for Grundfos' new line of Digital Dosing pumps.

Mr. Laursen is the chairman of the BlueTechValley.org, a water hub initiative in California, and board member in one of Grundfos' strategic investments in Silicon Valley.

Jes Munk Hansen, CEO, Grundfos North America

Jes Munk Hansen is President and CEO of Grundfos North America and oversees Grundfos' activities in North America including R&D and engineering, production, marketing, sales and service. Mr. Hansen has spearheaded substantial Grundfos investments in the U.S., including the establishment of full R&D capabilities, increased production of pumps in the USA and the acquisition of three leading US pump companies.

Mr. Hansen earned his Master of Science in Forestry from the University of Copenhagen, Denmark and his MBA from London Business School, London, England.

Grant Garbers, Managing Director, Headwaters MB LLC

Grant Garbers, Managing Director, joined Headwaters from ISI Capital Partners, a middle-market boutique investment bank that he founded in 2004. Previously, Mr. Garbers was a Managing Director and Partner of Roth Capital Partners, a regional full service investment bank serving emerging growth and middle market companies, where he served as head of the Mergers and Acquisitions group from 1999 to 2004. Prior to Roth, Mr. Garbers was a principal and founder of Access Group, LLC, a private investment banking firm specializing in mergers and acquisitions formed in 1992.

Mr. Garbers has a BBA from the University of Georgia and has successfully completed the Mergers and Acquisitions Executive Education Program at the Wharton School of Business.

Jeffery Miehe, Managing Director, Windjammer Capital Investors

Jeff joined Windjammer in 2007 and has significant experience in private equity investing and mergers and acquisitions with over 18 years of experience in working solely with niche-oriented, middle-market companies. During his career, Jeff has been involved in 14 control equity investments with aggregate value in excess of $1 billion and advised on 15 merger and acquisition transactions with over $2 billion in aggregate value. Prior to Windjammer, Jeff was a principal at Industrial Growth Partners (IGP), a private equity firm focused exclusively on the manufacturing sector, where he was also a member of the firm's investment committee. While at IGP, Jeff played a significant role in a number of successful investments and had responsibility for sourcing, evaluating and executing investments as well as managing portfolio company divestitures and monitoring company performances.

Prior to IGP, Jeff was a principal at Kerlin Capital Group, a Los Angeles-based mergers and acquisitions boutique where he provided strategic and mergers and acquisitions advice to middle-market entrepreneurial companies as well as large corporations. At Windjammer, Jeff is responsible for sourcing, evaluating, negotiating, structuring, and consummating new investments and has a primary role in monitoring portfolio company performance and managing portfolio company divestitures. Jeff currently serves on the boards of BBB Industries, Infinite RF Holdings, and JWC Environmental. He was formerly on the boards of AmerCable, Jonathan Engineered Solutions, The Felters Company, Weasler Engineering, and Airpax Holdings (consisting of Thermal Sensing Products and Power Protection Products). Jeff received his BS from Stanford University. He is located in the Firm's Newport Beach office.

William Malarkey, Managing Director, Boenning & Scattergood

Mr. Malarkey heads Boenning & Scattergood's investment banking activities in the rapidly expanding water and infrastructure sectors. With two decades of experience in international utilities and infrastructure markets, his experience in the areas of strategy development, mergers and acquisitions, and project finance has made him a valuable strategic advisor to the firm's privately held and publicly traded clients across various segments of the industry, including investor-owned water utilities, equipment and technology companies, water rights developers and water services providers.

Prior to joining Boenning & Scattergood, Mr. Malarkey headed business development efforts for an affiliate of Wexford Capital LLC in the water and environmental sector. He also served as vice president of business development at American Water, the largest investor-owned water utility in the U.S. that was previously owned by German based RWE. At American Water, he was responsible for all merger and acquisition activities and joint ventures, along with managing major client and partner relationships. Prior to that, he held senior merger and acquisitions, and corporate development roles with the German utility groups RWE and E.ON. He also has worked as a management consultant and attorney in the utilities and infrastructure sectors.

Bill is an industry thought leader, authoring an annual sector Mergers and Acquisitions newsletter, speaking at industry events, and participating in a number of industry organizations. His professional affiliations have included terms as an advisory board member for the Urban Water Council of the U.S. Conference of Mayors, and as vice chairman of the Water Institute of the National Council for Public-Private Partnerships.

Steven Kloos, Partner, TrueNorth Ventures

Steve focuses on identifying early stage investment opportunities, identifying key technology trends and innovation and assisting portfolio companies post investment. Prior to joining TrueNorth, Steve served as the Advanced Technologies Leader for GE Water & Process Technologies where he defined GE Water's "Open for Innovation" strategy and stewarded internal advanced technology programs. From 2005-2009, Steve lived in Shanghai and established GE Water's R&D team in China and also built GE's Singapore Water Technology Centre. Steve started his career in 1994 with Osmonics, developing membranes.

Steve graduated with a PhD in Chemistry from North Dakota State University, as well as a B.S. in Chemistry from the University of Wisconsin River Falls.

Featured Session 15

Exhibit Hall Meeting Room C
Wednesday, Oct. 3 | 10:30 am – 12:30 pm

Water Entrepreneurship: Funding Through Strategic Partners

Moderator: Paul O'Callaghan, CEO, BlueTech Research

Attend this exciting session where strategic partners such as Veolia, Lucent Energy, and others will let you in on their secrets to finding new products in partnership with other companies. These companies spend considerable time and effort each year helping to bring new technologies to market using win-win partnerships. Start-up companies, investors, and those looking to form partnerships will find this lively discussion of interest. This session also gives end users the opportunity to learn how to mitigate risks and establish strategic partnerships.

This fireside chat with moderator Paul O'Callaghan will consist of 20–30 minute scripted interviews with these professionals. After individual interviews, all speakers and the moderator will answer questions for 30 minutes.

SPEAKERS

- William Wescott
  Vice President of Innovation, Americas, Veolia Environment
- Chibby Alloway
  BCR Environmental
- Lisette Provencher
  Senior Vice President of Operations Support, United Water
- Sally Gutierrez
  Director, USEPA National Risk Management Research Laboratory
- Mark LeChevallier
  Director of Innovation & Environmental Stewardship, American Water

Paul O'Callaghan, CEO, BlueTech Research

Paul O'Callaghan is CEO of BlueTech Research, the premier source of water technology market intelligence and the leading authority on innovative and disruptive water technologies and companies, and the founding CEO of O2 Environmental a leading consultancy providing Water Technology Market Expertise to support the commercialization of innovative water technologies.

He is the prime architect behind BlueTech Research Intelligence-on-Demand; the BlueTech Innovation Tracker™, the most extensive database of its kind on emerging water technologies; and BlueTech Webinars, an interactive online series that features insights and analysis by international experts on key emerging and innovative water technologies and the market opportunity for these solutions.

Paul was co-author of "Water Technology Markets 2010 – Key Opportunities and Emerging Trends" and a founder of the BlueTech Forum, an informative and dynamic annual event that provides game changing ideas for its high-level attendees, and addresses the development, financing and commercialization of innovative water technologies.

He has worked in Asia, Europe and North America with a range of water technology companies and investors to help accelerate the commercialization of innovative ways to manage water issues.

Paul holds a Bachelor of Science in Biochemistry, a Masters Degree in Water Resource Management, and has lectured on Sustainable Energy at the BC Institute of Technology, Vancouver. He has authored and presented numerous papers on emerging treatment technologies and together with the O2 Environmental Technology Assessment Group (TAG) carries out technology assessments for venture capital investors and water companies.

Paul O'Callaghan is an active member of the Water Environment Federation (WEF) and the International Water Association (IWA). He has been invited to speak on emerging technology opportunities in the water sector at conferences such as Blue, Green & Gold in Zurich, the Saudi Water & Power Forum in Jeddah, Always On Going Green, Water Innovations Alliance, European Energy Fair and the World Water Investment Summit.

William Wescott, Vice President of Innovation, Americas, Veolia Environment

Bill is Vice President, Innovation, Americas for Veolia Environnement. Prior to assuming his role at Veolia, Bill was the Managing Director of Cleantech Group's Advisory Services, which assist clients in public and private sectors accelerate their implementation of cleantech solutions.

An internationally recognized sustainability expert, Bill has helped organizations assess and adopt technologies and practices to minimize their impact on the environment for over 20 years. He has extensive experience in climate change, environmental control technologies, information/communication technologies, new venture development, and organizational governance as well as in the energy, natural resources, chemical, electronics, and consumer products sectors. A lifelong intra- and entrepreneur, Bill has worked with clients to create new cleantech ventures and with investors to assess cleantech opportunities. He has served as an advisor to organizations including the Romanian, Italian, Mexican, Brazilian, and U.S. governments, UNIDO, the Sustainable Performance Group Investment Fund, PROPEL Board of Directors, The Conference Board, The Pew Center on Global Climate Change, The Institute of the Americas, and World Resources Institute. Bill was an environment, health and safety consulting director at Arthur D. Little, Inc., where he worked for 15 years with over 100 clients across all sectors on 5 continents in 4 languages (English, Spanish, Portuguese, and Italian).

Bill has a PhD in Engineering and Public Policy from Carnegie Mellon and BSE in Chemical Engineering from Princeton.

Chibby Alloway, BCR Environmental

Chibby Alloway has more than 30 years of business development, design, build and operational experience in the water and wastewater utility industry. Alloway has a varied employment career providing him with a comprehensive prospective of water and wastewater technology. His technical expertise includes applied water and wastewater research and development, residual management, biological nutrient removal, process and consumable optimization programs, capital improvement plan development and execution, process engineering and modeling, and facility asset management programs.

Alloway worked for Veolia Water North America, where he served as Executive Vice President and Chief Technical Officer (CTO). There, he created and managed a 35-plus person technical engineering group, which provided a key strategy growth platform for developing and maturing new product lines.

Alloway has worked for federal and local agencies, private engineering companies, and specialty equipment companies during his tenure in the water and wastewater industry. Chibby holds a Grade V wastewater certification as awarded by the State of California and holds a Master of Environmental Engineering from Stanford University.

Lisette Provencher, Senior Vice President of Operations Support, United Water

Lisette Provencher serves as senior vice president, operations support, for United Water and its parent company, SUEZ ENVIRONNEMENT North America. In this role, Provencher oversees all aspects of the company's operations support group which includes capital planning, research and innovation, quality management, health, safety and security, and technical support and training. She also oversees the sustainable development program and works closely with other departments regarding environmental compliance matters and business development.

With more than 30 years of industry experience, Provencher has had operations and management experience at water and wastewater treatment facilities in Europe, Asia, North America and South America. Since joining the SUEZ ENVIRONNEMENT Group in 1986, Provencher has also held senior leadership positions in the water research field. She has high level experience in research and innovation, areas which are critical to the company's ongoing success.

She also has a keen interest in corporate social responsibility. As director of Aquassistance, the humanitarian arm of GDF SUEZ, Provencher oversaw volunteer projects in more than 40 countries, including Haiti, where United Water and SUEZ ENVIRONNEMENT are now working to rebuild the water infrastructure.

Provencher is past president of the Quebec Association of Water Techniques and a former member of the board of directors of the American Water Works Association. She also taught civil engineering at colleges in Africa and Canada.

Sally Gutierrez, Director, USEPA Environmental Technology Innovation Cluster Development Program

Sally C. Gutierrez was recently appointed Director of ORD's Environmental Technology Innovation Cluster Development Program. This new effort seeks to advance environmental protection in tandem with economic development through the formation of public private partnerships among environmental technology development companies, investors, researchers, economic development agencies, Federal government agencies and others. Over the past two years, she has been leading EPA's efforts to leverage its research and development capability in Cincinnati with community leaders to establish the region as a water technology innovation hub (http://watercluster.org).

Prior to this new appointment, she was the Director of the National Risk Management Research Laboratory (NRMRL) in Cincinnati, Ohio for 8 years. NRMRL is one of three Federal research laboratories within the USEPA's ORD. The Laboratory is responsible for conducting engineering and environmental technology research to support the Agency in development of policy, regulations and guidance to further environmental protection in the U.S. The research staff consists of 400 environmental and chemical engineers, chemists, microbiologists, economists, hydrologists and other scientists and support staff. Key areas of research include: treatment and control of contaminants in drinking water, restoration of ecosystems, control of air pollutants, remediation of contaminated sites, environmental sustainability and environmental technology testing and development.

Prior to her appointment as NRMRL Director, she was the Director of the Water Supply and Water Resources Division (WSWRD) with the Laboratory. During her tenure as Director of WSWRD, she was responsible for leading a national technology demonstration program for control of arsenic in drinking water. Prior to coming to EPA, she was responsible for administering water programs for the State of Texas environmental agency in the areas of drinking water, water monitoring, wastewater permitting, dam safety, water rights and utility rates.

As a member of the Senior Executive Service, she holds the highest career rank in the Federal government. She is a Registered Sanitarian in the State of Texas and a member of the American Water Works Association, the American Society of Civil Engineers and past President of the Texas Environmental Health Association.

Mark LeChevallier
Director, Innovation & Environmental Stewardship, American Water

Dr. Mark LeChevallier, Director of Innovation & Environmental Stewardship with American Water Works, Inc., has demonstrated his leadership abilities throughout his 27-year career with American Water, during which he has held increasingly challenging positions. Since 1985, Dr. LeChevallier has worked for American Water and currently directs the research and environmental compliance programs, including the development of environmental management plans for more than 1,000 operating centers, environmental audits to ensure compliance, development of a national cross connection control program, and implementation of environmental stewardship and greenhouse gas control programs. He also leads the company's Innovation Development Process (IDP), which tests and develops new technologies and processes for use in the company and the water industry.

The results of Dr. LeChevallier's leadership and expertise are evidenced by American Water's industry-leading compliance with EPA standards, achieving a score of greater than a 99.9 percent for drinking water, as well as by the innovations being brought to the industry by the company in the areas of water and wastewater treatment and water-energy efficiency.

Dr. LeChevallier's contributions to the water industry include 20 awards, 14 AWWA positions and over 100 research papers authored or co-authored. He has also served as principal investigator or co-investigator on nearly 60 research grants totaling over $25.5 million.

Dr. LeChevallier has been dedicated to advancing the science of water for more than 30 years through participation in national research foundations, including conducting nearly $1.5 million of research on the topic of water reuse and planning. Additionally, he has served on a variety of professional committees at the local and national level, including several for AWWA and U.S. EPA.

Despite the demands of his professional work, Dr. LeChevallier has always made it a point to serve his community. He is a mentor and guide for other scientists. He has actively engaged students at the elementary, high school, and college level, and has served on graduate student committees at numerous universities.

Dr. LeChevallier is also known around the industry for his talent for making complex scientific concepts more easily understandable to the general public.