

INTERNATIONAL EMERGING TECHNOLOGY SYMPOSIUM PROGRAM



MAY 1 – 2, 2012
MARRIOTT BETHESDA NORTH HOTEL

CO-CONVENED BY



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Dear Symposium Participant:

IAPMO and the World Plumbing Council wish to thank you for your participation in the Third International Emerging Technology Symposium. Since debuting in 2008 in Chicago and building on the initial success again two years ago in Ontario, Calif., this enlightening and engaging event has brought a spotlight to our industry and its most exceptional minds.

Organizers have assembled top international representatives, who will provide global perspectives on efficiency opportunities. You will hear industry association perspectives on efficiency issues and get the latest information on research from leading manufacturers, as well as some newer companies, who have signed up to share their innovations.

You will also experience engaging discussions and solutions that IAPMO, the World Plumbing Council and the symposium benefactors and sponsors will be hearing and seeing for the first time. No subject matter has been previewed and no speaker has been restricted from participating. Therefore, it is important to understand that the accuracy and relevance of all subject matter is the responsibility of the speakers.

We have designed this symposium as an opportunity for everyone to learn and share equally. We will build on what we know already, introduce new concepts, increase our knowledge and facilitate the goals we are seeking for ourselves and society in general.

I hope you come away from the event with a better idea of where our industry is headed in the future and how you can become integral to the advancement.

Sincerely,



GP Russ Chaney

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International Association of Plumbing and Mechanical Officials
4755 East Philadelphia Street • Ontario, California - USA 91761-2816



Tuesday, May 1, 2012

DAY 1: MORNING SESSION

- 7:30 a.m. – 8:00 a.m. **Continental Breakfast**
- 8:00 a.m. – 8:30 a.m. **Welcoming Remarks**
Russ Chaney, CEO of The IAPMO Group and WPC Chairman
- Introduction of Special Guests, Benefactors, Patrons, and Sponsors**
- Introduction of Moderators:**
Bob Miodonski and Bob Mader

Day 1 Moderator – Bob Miodonski

- 8:30 a.m. – 9:00 a.m. **Podium Presentation**
“Potable and Process Pipe and Fitting Advances Utilizing Radio Frequency Fusion Welding Techniques”
Stephen R. Barrett, Product Director, Watts Water Technologies
- 9:00 a.m. – 9:30 a.m. **Podium Presentation**
“The Future of Water and Energy Efficiency in Commercial Applications; Even the tipping points are changing!”
Bill Hoffman, Jr., P.E., H.V. (Bill) Hoffman & Associates, LLC and *Tom Meyer*, National Environmental Balancing Bureau
- 9:30 a.m. – 10:00 a.m. **Podium Presentation**
“Research Paves Way for High-Performing, Water-Saving Spray Valves”
Stephanie Tanner, U.S. EPA WaterSense
- 10:00 a.m. – 10:30 a.m. **Refreshment Break & Visitation of Perimeter Displays**
- 10:30 a.m. – 11:00 a.m. **Podium Presentation**
“The Defective Trap Seal Identification System”
Steven White, Director, Dyteqta Limited
- 11:00 a.m. – 11:30 a.m. **Podium Presentation**
“The Last Mile of Safe Water Delivery: A Global Problem”
Kyle Onda, The Water Institute, UNC Chapel Hill
- 11:30 a.m. – 12:00 p.m. **Podium Presentation**
“Improving Irrigation Water Use Efficiency with New Controller Technology”
Brent Mecham, Industry Development Director, Irrigation Association

12:00 p.m. – 1:00 p.m. **Lunch**

DAY 1: AFTERNOON SESSION

1:00 p.m. – 1:30 p.m.

Keynote

Kerri-Ann Jones, Assistant Secretary for Oceans and International Environmental and Scientific Affairs for the U.S. State Department

1:30 p.m. – 2:00 p.m.

Podium Presentation

“Progress in Defining the Water-Energy Nexus: What’s Next?”

Mary Ann Dickinson, Executive Director, Alliance for Water Efficiency

2:00 p.m. – 2:30 p.m.

Podium Presentation

“Potential Health Risks from Reclaimed Water: What to Know and Avoid”

Dr. Janet Stout, Special Pathogens Laboratory

2:30 p.m. – 3:00 p.m.

Podium Presentation

“Impact of Electronic Faucets and Water Efficiency Guidelines on a Legionnaires Disease Outbreak in a Healthcare Facility”

Tim Keane, Legionella Risk Management, Inc.

3:00 p.m. – 3:30 p.m.

Refreshment Break and Visitation of Perimeter Displays

3:30 p.m. – 5:00 p.m.

Panel Discussion –

“Keeping Our Plumbing Systems Safe; Exploring and Mitigating the Risk of Legionellosis and Other Pathogens”

Moderator, Jim Kendzel – Executive Director, American Society of Plumbing Engineers

- *Dr. Jamie Bartram* – Director, The Water Institute, UNC at Chapel Hill
- *Dr. Joseph Cotruvo* – Principle, Joseph Cotruvo & Associates LLC
- *Tim Keane* – Consultant, Legionella Risk Management, Inc.
- *Dr. William McCoy* – Chief Technology Officer, Phigenics, LLC / Chair of ASHRAE Guide 12
- *Dr. Janet Stout* – PhD, Special Pathogens Laboratory
- *Charles White* – Vice President of Technical and Code Services, PHCC-National Association

5:30 p.m. – 7:00 p.m.

Travel to Networking Reception

7:00 p.m. – 8:30 p.m.

Networking Reception @ 101 Constitution Ave.

Welcoming Remarks: Gil Sperling, Senior Policy Advisor
U.S. Department of Energy
Office of Energy Efficiency and Renewable Energy

Wednesday, May 2, 2012

DAY 2: MORNING SESSION

- 7:30 a.m. – 8:00 a.m. **Continental Breakfast**
- 7:50 a.m. – 8:00 a.m. **Brief Opening Remarks** –
Russ Chaney, CEO of The IAPMO Group & WPC Chairman
- Day 2 Moderator – Bob Mader*
- 8:00 a.m. – 8:30 a.m. **Podium Presentation**
“Las Vegas: a Heavyweight Water User Reformed”
Doug Bennett, Conservation Manager,
Southern Nevada Water Authority
- 8:30 a.m. – 9:00 a.m. **Podium Presentation**
**“Trends, Technologies and Barriers to Implementation
of Efficient Water Use”**
Rob Zimmerman, Kohler Co.
(Presentation developed by John Koeller & Rob Zimmerman)
- 9:00 a.m. – 9:30 a.m. **Podium Presentation**
**“Rainwater Harvesting – What Is It Good For?
Absolutely Everything!”**
Bob Boulware, President, Design-Aire Engineering, Inc.
- 9:30 a.m. – 10:00 a.m. **Podium Presentation**
“Technologies for Industrial/Municipal Water Reuse”
Peter Cartwright, PE, Cartwright Consulting Co.
- 10:00 a.m. – 10:30 a.m. **Refreshment Break and Visitation of Perimeter Displays**
- 10:30 a.m. – 11:00 a.m. **Podium Presentation**
“Measuring Sustainability – Credibility and Accountability”
Len Swatkowski, Plumbing Manufacturers International
- 11:00 a.m. – 12:00 p.m. **Panel Discussion**
“Policies to Support New Water Efficiency Technologies”
Moderator - Bob Mader
- *Hunter Fanney* – Chief of the Energy and Environment Division, NIST
 - *Josh Johnson* – Professional Staff, Senate Energy and Natural Resource Research Committee
 - *Kevin Kampschroer* – Director, Office of Federal High-Performance Green Buildings, GSA
 - *Kelly A. Kryc* – AAAS Science Policy Fellow with the Senate Energy and Natural Resources Committee
 - *Chris Miller* – Senior Policy Advisor to Senate Majority Leader Reid
 - *Ed Osann* – Senior Policy Analyst, Natural Resources Defense Council

12:00 p.m. – 1:00 p.m. **Lunch & Visitation of Perimeter Displays**

DAY 2: AFTERNOON SESSION

- 1:00 p.m. – 1:30 p.m. **Podium Presentation**
“Thermal Insulation and Domestic Hot Water Systems”
Chris Crall, National Insulation Association
- 1:30 p.m. – 2:00 p.m. **Podium Presentation**
“Standards – Improving Quality & Efficiency for your Industry”
Christine DeJong, Manager, Technical Committee Operations, ASTM International
- 2:00 p.m. – 2:30 p.m. **Podium Presentation**
“How the testing adjusting and Balancing spec affects Green buildings, IAQ, energy loss due to commissioning of the HVAC system”
John Hamilton, Tab Certified
- 2:30 p.m. – 3:00 p.m. **Refreshment Break and Visitation of Perimeter Displays**
- 3:00 p.m. – 3:30 p.m. **Podium Presentation**
“Grease Traps and Advanced Organic Waste Disposal”
Alexander Brinkhoff, ACO Passavant GmbH
- 3:30 p.m. – 4:00 p.m. **Podium Presentation**
“Final Barrier: A New Global Approach to Water Treatment”
Pauli Undesser, WQA
- 4:00 p.m. – 4:30 p.m. **Podium Presentation**
“Are Water Efficiency Programs Reaching the End of the Line?”
Bill Gauley, Veritec Consulting
- 4:30 p.m. – 5:00 p.m. **Closing Remarks**
Russ Chaney, Moderators, Speakers, Panelists and Attendees

MODERATORS



Robert Mader is the Editorial Director for Penton Media Inc.'s CONTRACTOR magazine and its supplements Green Mechanical Contractor magazine and Radiant Living magazine. He has been with CONTRACTOR since 1984. With the help of the best editorial staff in the business, he oversees the development and continuous improvement of www.contractormag.com, along with the magazine's Facebook pages, its Twitter feed that now has more than 6,500 followers, and its LinkedIn page. His blog, As I See It, can be found at <http://contractormag.com/blog/i-see-it>.

Bob's first job was with Contracting Business magazine and he covered the HVACR industry for years.

He is a graduate of the University of Notre Dame with an A.B. in American Studies with a Communications Concentration.



Robert Miodonski is Brand Leader of BNP Media's Plumbing Group, which consists of industry-leading print and digital magazines, websites and e-newsletters. Titles include: Plumbing & Mechanical, Supply House Times and PM Engineer magazines; PVF e-News; Radiant & Hydronics e-news; and www.RadiantAndHydronics.com.

Bob has covered the plumbing, piping and HVAC industry for more than 22 years as an editor and publisher of business-to-business construction magazines. He previously worked in the newspaper business as a general assignment reporter and editor. He holds a bachelor's degree from Vanderbilt University, where he graduated summa cum laude, and a master's degree from the Northwestern University Medill School of Journalism, where he also has worked as a part-time instructor.

Bob is married and the father of three adult children.

PANEL MODERATOR



Jim Kendzel, MPH, CAE currently serves as the Executive Director/CEO of the American Society of Plumbing Engineers (ASPE). ASPE is a professional society of over 6,500 members having the mission to continually enhance and promote the profession of plumbing engineering and design while assisting in improving public health and safety on a global scale. Prior to coming to ASPE Jim served as the Executive Director for the Institute for Credentialing Excellence and also served as the Senior Vice President, Administration at NSF International, a leading provider of public/environmental health standards and conformity assessment services. Jim has over 25

years experience in leadership roles associated with standards development, quality systems management, testing and product/personnel certification. Jim has served in volunteer roles for organizations such as the American National Standards Institute, ASTM International, IAPMO, International Code Council, and the International Organization for Standardization. He received his Masters of Public Health from the University of Michigan and is a Certified Association Executive.

KEYNOTE SPEAKER



Kerri-Ann Jones, Assistant Secretary for Oceans and International Environmental and Scientific Affairs for the U.S. State Department

Dr. Kerri-Ann Jones was sworn-in as the Assistant Secretary of State for Oceans and International Environmental and Scientific Affairs on August 20, 2009.

Before joining the leadership of the U.S. Department of State, Dr. Jones served as an independent consultant specializing in strategic planning and the development of research and education portfolios. Her most recent position in federal government was as Director of the National Science Foundation's (NSF) Office of International Science and Engineering (2002-2005). Her prior professional experience includes serving as the Director for the Experimental Program to Stimulate Competitive Research (EPSCoR) for the state of Maine (2000-2002), and as Associate Director for National Security and International Affairs at the White House Office of Science and Technology Policy (OSTP). She has also worked in management and technical positions with the U.S. Agency for International Development (USAID) and the National Institutes of Health (NIH).

Dr. Jones obtained her Ph.D. from the Department of Molecular Biophysics and Biochemistry at Yale University, where she studied the effects of stress on protein expression and metabolism, using nuclear magnetic resonance. She holds a bachelors degree in chemistry from Barnard College, Columbia University.

GUEST SPEAKER



Gil Sperling, Senior Policy Advisor
U.S. Department of Energy
Office of Energy Efficiency and Renewable Energy

Gil Sperling currently serves as Senior Policy Advisor to the Assistant Secretary for the Office of Energy Efficiency and Renewable Energy at the U.S. Department of Energy. Prior to that, he served as the Program Manager for the Office of Weatherization and Intergovernmental Program (OWIP) at DOE, with a budget in excess of \$11.6 Billion. At DOE, Gil has been charged with transforming legacy programs into current, market responsive

efforts that support large scale energy efficiency and renewable energy projects. Through his national public outreach, Gil facilitates the grantees' successful implementation of American Recovery and Reinvestment Act initiatives. Specifically, the Office of Energy Efficiency and Renewable Energy has been tasked by President Obama to administer \$16.8 Billion in funding including \$5 Billion for Weatherization Programs, \$3.1 B for State Energy Programs, and \$3.2 B for Energy Efficiency and Conservation Block Grant Programs.

Mr. Sperling served in private practice for more than twenty years before joining DOE, providing regulatory, corporate, and finance related services for companies developing power and related energy projects in the U.S. and overseas. While in private practice, he served for eighteen years as General Counsel to the Natural Gas Vehicle Coalition and as Senior Energy Policy Advisor for INFORM, Inc. In the mid 1980s, Gil served as Senior Counsel to the House Subcommittee on Energy Conservation and Power, chaired by Congressman Edward J. Markey, and to the Subcommittee on Transportation and Hazardous Materials, chaired by Congressman Tom Luken, both were Subcommittees of the House Energy and Commerce Committee.

PODIUM PRESENTERS

Stephen R. Barrett is a Product Director for Watts Water Technologies based out of their corporate headquarters in North Andover, Massachusetts.

Mr. Barrett has been associated with the plumbing, heating and refrigeration industries for over twenty-five years in various sales, marketing and product management capacities, and been a significant contributor in the areas of new product development and product commercialization.

In his current position, Mr. Barrett is responsible for the product management of Watt's potable PEX (WaterPEXTM), Residential Fire Sprinkler, Quick-Connect, and Brass & Tubular product categories as well the development and commercialization of the company's new Triton™ Radio Frequency Fusion Weld Pipe and Fitting product line.

Mr. Barrett received his BS degree from the Indiana University of Pennsylvania in 1987, and has since held management positions with Superior Valve Company, a manufacturer of AC&R and compressed valves, Armstrong Pumps, and Watts Regulator Company. He has been affiliated with several industry trade organizations including the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE), Refrigeration Service Engineers Society (RSES), and the National Fire Protection Association (NFPA).

Mr. Barrett is married with two children and is actively involved with local civic groups and youth sports leagues in his hometown of Danvers, Massachusetts.

Doug Bennett has more than 24 years' professional experience relating to water management. As the Conservation Manager for the Southern Nevada Water Authority in Las Vegas, Nevada, he oversees one of the most comprehensive water conservation programs in the United States.

Since 2008, he has served as Program Chair for the WaterSmart Innovations Conference, the world's largest professional event dedicated to urban water efficiency. For the past two years, he has served as a water efficiency technical advisor to the U.S. Green Building Council. Bennett holds a bachelor of arts in agriculture and a master of arts in business and personnel management from New Mexico State University.

Bob Boulware is Founder and President of Design-Aire Engineering (www.designaire.com), a Mechanical/Electrical/Energy Consulting Engineering firm specializing in providing solutions for off-grid mechanical and electrical needs, energy related retrofit of building mechanical/electrical systems; LEED certified structures design; and assists clients to obtain financial assistance to upgrade inefficient mechanical and electrical systems.

Bob received his BS in Mechanical Engineering from Purdue University and his MBA from Indiana University. He is presently the 2011/2012 National President of the American Rainwater Catchment Systems Association (ARCSA) and an Accredited Rainwater Systems Design Professional; is Life Member of ASHRAE and ASPE; is past president of the Central Indiana Chapter of ASPE and serves on the ASPE National Standards Committee.

His latest publication, *Alternative Water Sources and Waste Management* (McGraw-Hill), is scheduled to be published third quarter of 2012. Mr. Boulware is a registered Professional Engineer in 30 states and the US Virgin Islands.

Alexander Brinkhoff is the product manager for Separators and Process Engineering with ACO Passavant GmbH, Germany. His professional background includes Research and Development in Process Engineering/Wastewater Treatment.

He holds a Master of Science in Environmental Technology with an emphasis of Environmental protection from the University Rostock, Germany and is a graduate engineer in water resources management and wastewater treatment from the University of applied sciences Magdeburg-Stendal, Germany.

PODIUM PRESENTERS

Peter Cartwright entered the water purification and wastewater treatment industry in 1974, and has had his own consulting engineering firm since 1980. He has a degree in Chemical Engineering from the University of Minnesota (1961) and is a registered Professional Engineer in that state.

Peter has provided consulting services to more than 250 clients globally. He has authored approximately 200 articles, written several book chapters, presented over 160 lectures in conferences around the world, and is the recipient of several patents. He also provides extensive expert witness testimony, and technology training courses.

He is a founding member of the Technical Review Committee for *Water Conditioning & Purification* magazine, on the Editorial Advisory Committee for *Industrial WaterWorld* magazine, the Reader Advisory Board for *Processing Magazine*, and the Editorial Advisory Board of *Filtration News* magazine. A peer reviewer for the *Journal of Membrane Science*, he is also on the faculty of the University of Wisconsin- Madison College of Engineering annual course, "Process Piping Systems Design and Operation."

Peter is a recipient of both the Award of Merit and Lifetime Member Award from the Water Quality Association, and is the Technical Consultant for the Canadian Water Quality Association.

Chris Crall is a mechanical engineer with expertise in thermal insulation and energy usage in commercial and industrial facilities. Mr. Crall is currently providing technical consulting services to the National Insulation Association in the areas of building energy standards, energy analysis, heat and moisture transport and mechanical insulation standards and specifications.

Previously Mr. Crall was Technical Manager for Industrial and Metal Building Products for a major insulation manufacturer. In this position he was responsible for providing technical support to sales and marketing for pipe, equipment and metal building insulation businesses. He has over 35 years of experience in research, product development, and technical support on residential, commercial, and industrial insulation applications.

Mr. Crall received degrees in mechanical engineering from The Ohio State University and in business from Xavier University. He is an ASHRAE member and is the past chairman of TC 1.8 on Mechanical Insulation Systems. He was the primary author of the 2005 ASHRAE Handbook chapter titled Insulation for Mechanical Systems. He is also active as a member of the ASTM Committee on Thermal Insulation (C-16), where he is past chairman of the ASTM C16.20 Subcommittee on Homogeneous Inorganic Thermal Insulations. He is a Registered Professional Engineer in Ohio.

In 2008, **Christine DeJong** joined the Technical Committee Operations division of ASTM International. In her role as Staff Manager, she coordinates activities for multiple industries and directs the operations and strategic initiatives related to the standards work of over ten technical committees. She serves as staff support for the Committee on Technical Committee Operations, a standing committee of the ASTM Board of Directors, which oversees the maintenance of ASTM's Regulations and various aspects of committee operations. Christine also provides bilingual support to the organization and its members.

Christine holds a Bachelor of Arts in Law and Justice and Bachelor of Arts in Spanish from Rowan University; certificate in translation and she is currently pursuing a Masters in Central and Eastern European Studies from LaSalle University.

Mary Ann Dickinson is the President and CEO of the Alliance for Water Efficiency, a non-profit organization dedicated to promoting the efficient and sustainable use of water in the United States and Canada. Based in Chicago, the Alliance works with over 350 water utilities, water conservation professionals in business and industry, planners, regulators, and consumers.

Mary Ann has over 35 years of experience in water resources and water efficiency. A graduate of the University of Connecticut, she currently serves as Chair of the Efficient Urban Water Management Specialist Group for the International Water Association, past Chair of the American Water Works Association National Water Conservation Division, and serves on the boards of the Texas Water Foundation and River Network. She has presented numerous papers on water conservation internationally and all across the United States and Canada.

PODIUM PRESENTERS

Bill Gauley is a professional engineer and a partner in Veritec Consulting. His entire professional career has been focused on improving water efficiency. He has completed a number of important water efficiency projects with his colleague John Koeller, who unfortunately could not attend this year, including developing the Maximum Performance or MaP testing program for toilets.

His entire professional career has been focused on improving water efficiency. He has completed a number of important water efficiency projects with his colleague John Koeller, who unfortunately could not attend this year, including developing the Maximum Performance or MaP testing program for toilets.

John Hamilton is the Chief Operating Officer of the Testing Adjusting and Balancing Bureau (ICB/TABB) for the National Energy Management Institute. He serves on the SMACNA/SMWIA TAB Taskforce, HVAC Technician Certification Committee, Commissioning Taskforce, and liaison on the International Certification Board (ICB) for TABB. He has given numerous IAQ seminars and presented many TAB seminars and workshops for AIA, ASHRAE, CSI, SMACNA and SMWIA. John is a member of the following ASHRAE committees, Duct Design-TC05.02, Testing and Balancing-TC07.07, Also involved in the ASHRAE committee to develop the ASHRAE Commissioning certification exam.

Previously John worked at the International Training Institute (ITI) as a Regional Coordinator, served as technical expert for many of the current ITI HVAC training modules, including: Fire Life Safety, Sound and Vibration, Piping Systems, Ventilation/IAQ, Pumps, Fans, Psychometrics, TABB home study course for Test and Balance, and the new ITI Testing Adjusting and Balancing Manual. John holds many certifications in the HVAC field and teaches several courses within the field. He received his BA from Baltimore University.

Bill Hoffman has over 45 years of water conservation and water resource planning experience. He has been instrumental in the development of water conservation legislation and in the development of new rating tools for both the US Green Building Council's LEED and the Green Globe's Green Building rating systems. He is also a member of the International Association of Plumbing and Mechanical Officials (IAPMO) Green Technology Committee. He is a former Trustee and Vice-Chair of the AWWA's Water Conservation Division. He has authored numerous papers, articles, and co-authored several books on all aspects of water conservation. This includes the new Best Management Practice Guide for commercial, institutional and industrial (CII) water efficiency for the State of California.

Mr. Hoffman has audited numerous commercial, institutional, and industrial facilities including university campuses industries, hospitals, laboratories, hotels, government facilities, and related facilities. Mr. Hoffman has worked in six countries on water conservation related projects. He currently serves on several councils and commissions related to water sustainability. He has both a BS and Masters degrees in Engineering from the University of Texas at Austin.

Tim Keane is a Legionella control engineering consultant and owner of Legionella Risk Management. He is a licensed Marine Engineer with 35 years engineering experience in various capacities include design, construction, commissioning, facility management and water system consulting engineer. He has been a water system consulting engineer for 23 years with the last 12 focused on waterborne pathogen management.

Tim brings a unique and comprehensive engineering perspective to the issue of waterborne pathogen control from facility design thru commissioning and operation.

He has worked with Healthcare, Commercial, Industrial and Municipal Water Providers in the US and Internationally, implementing waterborne pathogen programs, performing outbreak investigations and consulting on water treatment issues. He is member of the ASHRAE committee that developed the new ASHRAE standard on Legionella control and is the author of research articles, Guidelines including the "Guidelines for Control of Legionella in Ornamental Water Features" and recently coauthored a book titled, "Infection Control During Construction Manual: Policies, Procedures, and Strategies for Compliance".

PODIUM PRESENTERS

John Koeller is a registered professional engineer with extensive experience in and focus on water-efficient technologies and products. Internationally recognized as a specialist in these fields, Mr. Koeller is a consultant to numerous North American water authorities and private sector firms.

Mr. Koeller is the co-promoter of both the Maximum Performance (MaP) testing for toilet fixtures and the Uniform North American Requirements (UNAR) for toilet fixtures, both highly successful water utility-sponsored initiatives to raise the bar on performance these products. MaP-testing.com is now the leading independent web-based resource in North America for consumers.

Unfortunately John could not be here to participate in the presentation of the paper he co-authored with Rob Zimmerman, "Trends, Technologies and Barriers to Implementation of Efficient Water Use"

Brent Mecham, is the Industry Development Director for the Irrigation Association; a trade organization for irrigation manufacturers, dealers, distributors, consultants, technical experts and contractors with a mission to promote efficient irrigation.

His career experience includes a BS degree in landscape horticulture, owning a landscape and irrigation contracting company and creating an award winning landscape water management program for a water conservancy district in Colorado. He has shared his passion for being a water steward by teaching and developing curriculum for both academia and industry. He believes in certification as a way to demonstrate competency and is IA certified as an irrigation water manager, designer, contractor, auditor, and agricultural irrigation specialist.

Tom Meyer is Director of Technical Programs for the National Environmental Balancing Bureau (NEBB).

Recently he was Director, Government and Professional Affairs for The ESCO Group. Mr. Meyer is a graduate of The Ohio State University with over 25 years experience in hydronics.

He is a past president of Precision Hydronics Corporation, an international hydronics design, consulting and training firm.

Mr. Meyer was the founding Executive Director of the Green Mechanical Council (GreenMech), a non-profit providing education to create and maintain environmentally sound, high performance and energy efficient structural mechanical systems.

He was president of Praxis Green Incorporated - an international sustainability consulting and training firm. He assists countries, including India, Turkey and Kuwait, to develop new high performance and sustainable building standards. Recently, Mr. Meyer co-authored the new Residential Building Code for Kuwait, which was passed into law this year. He twice taught the new Code to Kuwait government engineers at the University of Kuwait. He is an advisor and project coordinator for the Office of the Architect of the Capitol (AOC) in Washington DC.

As a member of National Institute of Building Science (NIBS) Consultative Council, Mr. Meyer sits on four Topical Committees including *Education and Training*; *Energy and Water*; *Sustainability*; and *Existing Buildings*. He is presently the Council's Secretary and incoming Vice Chairman.

Mr. Meyer has been a speaker for organizations such as RPA, RSES, AHR, IAPMO, CFI, MREA, COSA, and the Green Mechanical Council, as well as seminars in Germany, Italy, India, Turkey and Kuwait.

He has written many articles, training modules and textbooks including *GreenSpeak*; *Building Water Systems*; *A Comparative Analysis of Building Rating Systems*; and co-authored the *Green Awareness* course. Mr. Meyer co-wrote *Residential Energy Analyst*, an 800-contact hour curriculum.

PODIUM PRESENTERS

Kyle Onda is a graduate research assistant at the Water Institute of UNC, and a graduate student at the University of North Carolina-Chapel Hill in the departments of Environmental Sciences & Engineering and City & Regional Planning. He received a BS in Environmental Engineering from Stanford University in June 2011.

Dr. Janet E. Stout is the Director of Special Pathogens Laboratory, and an Associate Professor at the University of Pittsburgh Swanson School of Engineering in the Department of Civil and Environmental Engineering.

A clinical and environmental microbiologist, Dr. Stout is internationally recognized for her more than 30 years of authoritative research in Legionella—the bacteria that causes Legionnaires' Disease. Her expertise includes disinfection and control strategies for the prevention of Legionnaires' disease and other waterborne pathogens.

Dr. Stout's research Legionnaires' disease in water systems of homes, buildings, hospitals, hotels and utility water systems has been reported in over 100 medical and scientific publications.

An invited speaker to international and national scientific and professional organizations, Dr. Stout is a member of the American Society for Microbiology, the Association for Professionals in Infection Control, the Cooling Technology Institute, and the American Society of Heating, Refrigerating and Air-conditioning Engineers (ASHRAE), in which she is a member of the ASHRAE Legionella Standards Committee.

Dr. Stout holds a master's degree and PhD in infection disease microbiology from the University of Pittsburgh, and a BS in biology from Clarion University.

Len Swatkowski joined Plumbing Manufacturers International (PMI) as Technical Director in June of 2011 where he is responsible for analyzing and reporting on proposed legislation, code and standard changes and certification agencies and coordinating with industry peers.

Prior to joining PMI Len was a program manager for Jarden Consumer Solutions in Boca Raton Florida where he directed the US and Asian staff in the home environment segment. During the 1990's, Len spent a decade in an executive technical role for the Association of Home Appliance Manufacturers (AHAM) in Chicago, IL before the organization relocated to Washington D.C. He has also held engineering management positions for a number of consumer product manufacturing companies including Maytag, Whirlpool Corporation and Invensys Controls.

Len holds B.S.M.E.T., M.B.A. and M.S.M.E.T. degrees from Western Illinois University and is a certified Six Sigma Black Belt.

Stephanie Tanner is the Lead Engineer for the U.S. Environmental Protection Agency's WaterSense® Program. She is responsible for all technical aspects of the development of labeled products, including setting efficiency and performance criteria as well as managing the certification process.

Prior to EPA Ms. Tanner was a Senior Project Leader for the National Renewable Energy Laboratory where she managed a water efficiency program for Federal Facilities. She has written a number of guides to water efficiency for federal and institutional facilities as well as developed the goal and supporting guidance for Federal water efficiency under Executive Order 13123 and 13423. Before her work in the efficiency sector, Ms. Tanner worked for the U.S. and German Navies and served during the First Persian Gulf War as a shipboard operating engineer.

She holds Bachelor of Science in Marine Engineering from the Merchant Marine Academy and a Master of Engineering Management from the George Washington University.

PODIUM PRESENTERS

Pauli Undesser is the Director of Regulatory and Technical Affairs for the nonprofit Water Quality Association (WQA). She also maintains the title of Toxicology Manager for the WQA Gold Seal Product Certification Program and is the technical liaison for the Water Quality Research Foundation (WQRF). WQA is an international trade association of more than 2,500 member companies worldwide who manufacture and sell point-of-use (POU) and point-of-entry (POE) water treatment equipment. WQRF formed in 1949 to serve, on behalf of the Water Quality Association (WQA), as a universally recognized, independent research organization.

Pauli holds a bachelor's degree in Chemistry from the University of Illinois at Urbana-Champaign and a master's degree in Biochemistry from Northern Illinois University. After 11 years of applied laboratory work ranging from wet chemistry and organic chemistry to molecular biology and protein expression, her background in chemistry and biochemistry were applied at the Water Quality Association managing third party certification of drinking water treatment products and developing an internal toxicology program. Once those positions were well under her belt, Pauli transitioned into her current role as Director of Regulatory and Technical Affairs.

Pauli is a member of several professional societies including the Society of Toxicology, American Water Works Association, Water Environment Federation, International Code Council, and the International Association of Plumbing and Mechanical Officials.

Steven White is Director and Project Manager for Dyteqta International Limited. He has been involved with the development of Dyteqta from the onset; sitting on the initial steering committee for the "Trap Seal Identification System," later renamed the "Dyteqta-System." Since the completion of its research and development at Heriot-Watt University, Steven has been establishing this commercial venture, to bring this technology to market.

Steven has also sat on numerous product standards and code committees around the world and has presented technical papers at CIB, W62, and ASPE. Steven has over 12 years experience in the industry, and his specialty is in drainage venting solutions.

Rob Zimmerman is currently the Manager—Engineering, Water Conservation, and Sustainability at Kohler Co., in Kohler, Wisconsin. In his position at Kohler Co., he is involved with all aspects of water conservation and sustainability related to plumbing fixtures and faucets.

Some of his responsibilities include working with government regulators and water utilities on water conservation program and code development, helping professionals in the green building industry understand how to design water-efficient buildings, and supporting and growing Kohler's line of water-efficient plumbing products. Rob has presented training sessions on water conservation at national conferences, written numerous articles for trade publications, and is frequently quoted on water efficiency issues in the media. He is also actively involved in developing and implementing Kohler's internal sustainability programs.

Rob currently co-chairs the WaterSense and Water Efficient Products Committee for the Alliance for Water Efficiency, and is a member of both the Green Technical Committee for IAPMO, and US Green Building Council's Water Efficiency Technical Advisory Group. He is a member of the Board of Directors of the Wisconsin Green Building Alliance (an affiliate of the US Green Building Council), and of ASBE, the Alliance for Sustainable Built Environments. Rob is a LEED Accredited Professional.

Rob has a BS in Chemical Engineering from Purdue University, and a MS in Engineering Management from the Milwaukee School of Engineering.

PANELISTS

Keeping Our Plumbing Systems Safe; Exploring and Mitigating the Risk of Legionellosis and Other Pathogens

Panelists: *Dr. Jamie Bartram*, Director, The Water Institute, UNC at Chapel Hill
Dr. Joseph Cotruvo, Principle, Joseph Cotruvo & Associates LLC
Tim Keane, Consultant, Legionella Risk Management, Inc.
Dr. William McCoy, Chief Technology Officer, Phigenics, LLC /
Chair of ASHRAE Guide 12
Dr. Janet Stout, Director, Special Pathogens Laboratory
Charles White, Vice President of Technical and Code Services,
PHCC-National Association

Policies to Support New Water Efficiency Technologies

Panelists: *Hunter Fanney*, Chief of the Energy and Environment Division, NIST
Josh Johnson, Professional Staff, Senate Energy and Natural Resource
Research Committee
Kevin Kampschroer, Director, Office of Federal High-Performance
Green Buildings, GSA
Kelly A. Kryc, Professional Staff, Senate Energy and Natural Resource
Research Committee
Chris Miller, Senator Majority Leader Harry Reid
Ed Osann, Senior Policy Analyst, Natural Resources Defense Council

PANELISTS

TUESDAY, MAY 1, 2012

Keeping our Plumbing Systems Safe: Exploring and mitigating the risk of legionellosis and other pathogens

Dr. Jamie Bartram has been a Professor at the University of North Carolina at Chapel Hill since 2009 and is the Director of the 'Water Institute at UNC'. He was awarded the IWA (International Water Association) 'Grand Award' in 2004 and holds Honorary Professorships at the University of Wales at Aberystwyth, University of Bristol and University of Surrey, UK.

Dr. Bartram has over 20 years experience of international policy, research and advisory work in public health and disease prevention, especially in relation to environment and health and water supply and sanitation; and in more than 30 developing and developed countries worldwide. He is author of more than 60 academic papers and more than 40 book chapters, and editor of around 25 books including on aspects of global monitoring, water supply, sanitation and hygiene. He spent 10 years as coordinator of Water, Sanitation, Hygiene and Health at the World Health Organization headquarters where he lead reform of its international monitoring and standard-setting activities and the development of a series of influential communities of practice.

Dr. Joseph Cotruvo's career ranges from water chemistry and technology, federal and international regulatory development, health guidance, water science, technology and toxicology research, and water and wastewater system oversight. He is President of Joseph Cotruvo & Associates LLC. His PhD is in Physical Organic Chemistry from Ohio State University. He was first Director of USEPA's Drinking Water Standards Division, and also Director of USEPA's Risk Assessment Division in Toxics. He developed much of the methodology for US drinking water standards, and applied it initially to THM regulations. He is a core member of the World Health Organization's Committee developing Guidelines for Drinking Water Quality. He has produced major water and health policy products for WHO including: Zoonoses, HPCs, Health and Environmental Aspects of Desalination, aircraft water sanitation, and food process disinfection. He edited the WHO/WPC monograph on Health Aspects of Plumbing, and prepared Calcium and Magnesium in Drinking Water: Public Health Significance. He has worked on desalination-related issues in the Middle East, and he advises Singapore on drinking water standards.

Joe has been principal or co-principal investigator on studies of drinking water safety, technology, security, decontamination, point-of-use treatment, disinfection byproducts and health issues. Currently he is PI on an investigation of bromate risks in drinking water, and participating in studies of nitrosamines, endocrine active chemicals, and on health significance of trace residues in recycled water. He is chairman of the Regulatory Committee of the WaterReuse Foundation, and serves on the Health Advisory Board for the Orange County, CA Groundwater Replenishment System, and San Diego and Los Angeles water reuse science advisory panels. He is an honorary life member of AWWA, and he consults with IAPMO, and chairs the Water Quality Committee of the Board of Directors of DC Water.

Tim Keane is a Legionella control engineering consultant and owner of Legionella Risk Management. He is a licensed Marine Engineer with 35 years engineering experience in various capacities include design, construction, commissioning, facility management and water system consulting engineer. He has been a water system consulting engineer for 23 years with the last 12 focused on waterborne pathogen management.

Tim brings a unique and comprehensive engineering perspective to the issue of waterborne pathogen control from facility design thru commissioning and operation. He has worked with Healthcare, Commercial, Industrial and Municipal Water Providers in the US and Internationally, implementing waterborne pathogen programs, performing outbreak investigations and consulting on water treatment issues. He is member of the ASHRAE committee that developed the new ASHRAE standard on Legionella control and is the author of research articles, Guidelines including the "Guidelines for Control of Legionella in Ornamental Water Features" and recently coauthored a book titled, "Infection Control During Construction Manual: Policies, Procedures, and Strategies for Compliance."

PANELISTS

TUESDAY, MAY 1, 2012

Keeping our Plumbing Systems Safe: Exploring and mitigating the risk of legionellosis and other pathogens

Dr. William McCoy, PhD, is Co-Founder of Phigenics LLC, a solutions provider for problems associated with building water systems.

For the American Society of Heating, Refrigerating and Air-conditioning Engineers (ASHRAE), he serves as Chair of Standard Project Committee 188 writing Standard 188P: *Prevention of Legionellosis Associated with Building Water Systems*. Previously, he was elected to the Environmental Health Committee and then served as Chair. Most recently, Bill has been elected to serve a 4-year term on the ASHRAE Research Administration Committee (RAC) which manages an annual \$3 million budget.

Bill is the recipient of the: International Water Association Medal for Outstanding Contribution to Management and Science (Berlin 2001); Inventor of the Year Award from the Intellectual Property Law Association (USA 2001); Grand Prize Technical Innovation Trophy from the SUEZ Group (Brussels 2000); Governor's Pollution Prevention Award from the State of Illinois (USA 1999); R&D 100 Award from Research and Development Magazine (USA 1998). The International Water Association published his full-length book entitled *Preventing Legionellosis* in 2005. Bill has published 29 US patents (all with international equivalents), 8 book chapters and over 100 peer-reviewed scientific articles.

Dr. Janet E. Stout is the Director of Special Pathogens Laboratory, and an Associate Professor at the University of Pittsburgh Swanson School of Engineering in the Department of Civil and Environmental Engineering.

A clinical and environmental microbiologist, Dr. Stout is internationally recognized for her more than 30 years of authoritative research in Legionella-the bacteria that causes Legionnaires' Disease. Her expertise includes disinfection and control strategies for the prevention of Legionnaires' disease and other waterborne pathogens.

Dr. Stout's research Legionnaires' disease in water systems of homes, buildings, hospitals, hotels and utility water systems has been reported in over 100 medical and scientific publications.

An invited speaker to international and national scientific and professional organizations, Dr. Stout is a member of the American Society for Microbiology, the Association for Professionals in Infection Control, the Cooling Technology Institute, and the American Society of Heating, Refrigerating and Air-conditioning Engineers (ASHRAE), in which she is a member of the ASHRAE Legionella Standards Committee.

Dr. Stout holds a master's degree and PhD in infection disease microbiology from the University of Pittsburgh, and a BS in biology from Clarion University.

Charles White is a 1978 Purdue Graduate in Building Construction and Contracting with an emphasis in plumbing and HVAC. He has over 30 years experience in plumbing, mechanical, and electrical contracting work as well as working for a small engineering firm in the South Bend, Indiana area. His experience covers a range of systems from single family residential, multi-family apartment facilities, office building systems, up to large industrial process piping and heating systems. He has taught plumbing apprenticeship for 21 years and has been a member of the North American Technician Excellence (NATE) Technical Committee for 10 years. In December 2010, he was hired to provide technical expertise for the Plumbing Heating Cooling Contractors National Association as Vice President of Technical and Code Services. In this position he serves as Secretariat for the National Standard Plumbing Code, is a member of the Plumbing Efficiency Research Coalition Technical Committee, is the PHCC Liaison to the American Backflow Prevention Association, and represents PHCC contractor members on many joint technical initiatives.

PANELISTS

WEDNESDAY, MAY 2, 2012

Policies to Support New Water Efficiency Technologies

Dr. A. Hunter Fanney is the chief of and a supervisory mechanical engineer in the Building Environment Division (BED) of the Engineering Laboratory (EL) at the National Institute of Standards and Technology (NIST). Dr. Fanne joined the National Institute of Standards and Technology (NIST) in 1977. He initially lead a team that conducted experimental and analytical studies of solar water-heating systems. In 1984 he became leader of the Heat Transfer and Alternative Energy Systems Group. He was selected to lead NIST's Building Environment Division in 2007.

Before joining NIST, Dr. Fanne worked as a research and development engineer at E.I. du Point de Nemours and Company. His duties included development, testing, and commercialization of equipment used in production of textile fibers, and development of innovative instrumentation.

In 2009, Dr. Fanne was recognized with a Department of Commerce Silver Medal for the development of appliance test procedures that forms the basis of the U.S. Appliance Energy Labeling Program.

Josh Johnson has served in the United States Congress for the past 17 years and has worked for both the US Senate and the US House of Representatives. Mr. Johnson is currently a Professional Staff Member for the U.S. Senate Energy and Natural Resources Committee. As a member of the Republican staff, he is responsible for the Water and Power Subcommittee, the Memorandum of Understanding between the Department of Defense and the Department of Energy regarding facility and operational energy issues, as well as several initiatives pertaining to energy efficiency. Prior to joining the Senate, Mr. Johnson was the Staff Director of the U.S. House of Representatives Resources Committee's Subcommittee on Water and Power. Mr. Johnson has a Masters Degree from the London School of Economics and a Masters Degree in National Security and Strategic Studies from the U.S. Naval War College.

Kevin Kampschroer is the Director of the Office of Federal High-Performance Green Buildings at the U.S. General Services Administration (GSA). He has created the framework for which GSA responds to the challenges of greenhouse gas emissions reductions and of the American Recovery and Reinvestment Act's mandate to move GSA's Federal building inventory toward high-performance green buildings. He has devised a challenge for companies to dramatically improve the government's ability to achieve deep retrofits through Energy Savings Performance contracts. His team manages the government's implementation of a comprehensive improvement in the training and certification of facility managers and personnel across the entire Federal government (Federal Buildings Personnel Training Act of 2010).

Mr. Kampschroer was the Project Manager for the Ronald Reagan Building & International Trade Center (344 M2), and he has lectured at various universities such as MIT, Harvard and Yale. His most recent publication as a contributing author is the first medical study showing the link between building characteristics on office worker stress and heart function-which showed the beneficial results of good lighting, natural light and IEQ. He has worked for GSA for over 37 years and is a graduate of Yale University.

PANELISTS

WEDNESDAY, MAY 2, 2012

Policies to Support New Water Efficiency Technologies

Kelly Kryc brings an interdisciplinary background spanning the physical and life sciences to the 2011–2012 GSA-USGS Congressional Science Fellowship. Her experience encompasses two decades of academic research and non-profit sector program management.

She earned a B.A. with honors in geology and marine science from Middlebury College (1994), an M.S. in oceanography from the Graduate School of Oceanography at the University of Rhode Island (1998), and a Ph.D. in earth science from Boston University (2002). She subsequently conducted post-doctoral research at Stanford University.

Kryc notes that she is honored by her selection to serve as the 2011–2012 GSAUSGS Congressional Science Fellow. She is excited by the potential to contribute the skills she has, and those she hopes to develop, in multiple policy areas. Among these, climate change and energy independence stand out for their urgency, and for the critical need in these areas for substantive and accessible science to support public policy.

Chris Miller is a senior policy advisor on energy and environmental issues for U.S. Senator Harry Reid (D-NV), the Senate Majority Leader. He handles many Nevadaspecific matters in these areas as well as helping coordinate related policy and legislative priorities for the Senate Democratic Caucus.

Prior to re-joining Senator Reid's staff in September 2005, he was a professional staff member and then senior policy advisor with the U.S. Senate Committee on Environment and Public Works. While there he worked under the direction of the lead Democrat/ Independent on the Committee - Senator James M. Jeffords (Independent-VT), Senator Reid, and Senator Max Baucus (D-MT), respectively. He handled climate change, the Clean Air Act, and energy and environmental technology issues for the Committee.

He has an M.S. in Natural Resource Management, Planning and Policy and a B.A. in Political Science from the University of Michigan. He is originally from Detroit, Michigan.

Ed Osann is a Senior Water Policy Analyst with NRDC's Water Program, working from NRDC's office in Santa Monica. In this capacity, he oversees an interdisciplinary team of eight professionals working to advance regional, state, and national policies and technologies that improve the efficiency of water use. In 1996, he established Potomac Resources, a consulting practice specializing in state and federal energy and water resources policy. He served as coordinator for the Steering Committee for Water Efficient Products, a coalition of manufacturers, water utilities, and environmental organizations successfully advocating for the establishment and expansion of the voluntary water-efficient product labeling program now known as WaterSense.

He received a master's degree in Urban and Regional Planning from George Washington University and a bachelor's degree in International Relations from Georgetown University. In 2010, Ed received the Mike Moynihan Excellence Award for statewide innovation in water conservation from the California Urban Water Conservation Council, where he cochairs the Council's Utility Operations Committee.

CO-CONVENERS



The International Association of Plumbing and Mechanical Officials has been protecting the public's health and safety for more than eighty years by working in concert with government and industry to implement comprehensive plumbing and mechanical systems around the world.

As a membership-based association, IAPMO is proud to utilize an open consensus process in the development of our flagship *Uniform Plumbing Code*® and *Uniform Mechanical Code*®. These codes are established through scientific research, debate, and analysis, strengthening our position at the forefront of the plumbing and mechanical industries.

The IAPMO Group is a complete service organization, providing code development assistance, industry-leading education, and a manufacturer-preferred quality assurance program. Each component of the IAPMO Group works toward our ultimate goal of protecting the health of people everywhere.



The mission of the World Plumbing Council is to unite the world plumbing industry to safeguard and protect the environment and the health of nations, for the benefit of all.

- To develop and promote the image and standards of the Plumbing Industry worldwide.
- To encourage and facilitate the exchange of information, ideas and technology between Plumbing Industry Organizations and individuals worldwide.
- To promote and assist in Plumbing Industry Education and Training, recognizing the need for appropriate standards and their international recognition.
- To create an awareness of the Plumbing Industry's role in protecting the environment by providing safe fresh water and sanitation through proper management, care, reuse, and conservation of natural resources.
- To provide and share information regarding research projects and technology that may be applicable to the Plumbing Industry and the people they serve.



Russ Chaney, CEO of The IAPMO Group and WPC Chairman
Russ Chaney began his plumbing apprenticeship while attending university in 1975 later graduating with a Bachelor of Arts (BA) Degree in Personnel Management and Labor Relations. Mr. Chaney later achieved a Degree in Accounting while concluding his plumbing apprenticeship. In 1979 he achieved Journeyman status, followed in 1981 obtaining licensure as a Master Plumber followed in 1984 by achieving his Plumbing Inspector License ~ all in the State of New Jersey.

Mr. Chaney became involved in the development and maintenance of model plumbing and mechanical codes in the mid 1980's. Since joining The IAPMO Group in 1995 as Executive Director, he has worked to forward IAPMO's public health and safety mission through the promulgation of the Uniform Plumbing and Mechanical Codes.

Mr. Chaney has been active in the World Plumbing Council since 1995 and has volunteered his time in support of the WPC's mission to "Unite the world plumbing industry ~ to safeguard and protect the environment and the health of nations, for the benefit of all."

BENEFACTORS



The **Mechanical Contractors Association of America and the Plumbing Contractors of America (PCA)** gives you the tools you need to develop or enhance these skills. As part of your MCAA membership, the PCA provides you with education and information you can use to compete in today's changing environment.



National Inspection Testing Certification (NITC) is a third-party provider of certification services to the Piping Industry. We test and certify personnel in the Plumbing, Piping, HVACR and Related Piping Industries. NITC also specializes in Test Development and Test Administration and is ISO 9001:2008 certified and offers a large number of personnel certifications that include but are not limited to Journey and Mastery Levels, Medical Gas, IAPMO Voluntary Plumbing and Mechanical Inspector, and assorted City, County and State Government requirements. NITC is non-discriminatory in accepting applications and issuing certifications to candidates in regards to membership in any trade, association, union, etc., and is in compliance with Federal and State ADA regulations.



Plumbing-Heating-Cooling Contractors Association – Dedicated to the promotion, advancement, education and training of the industry, for the protection of our environment and the health, safety, and comfort of society.



P.I.P.E. was formed in 1980 to improve communications between labor and management, to explore joint approaches to problems and to prevent potential problems, to improve occupational safety and health and other working conditions. The P.I.P.E. Partnership is a 3-way partnership between Labor, Management, and the customer. We are the joint Labor and Management cooperation committee and trust fund for the unionized plumbing, piping and HVACR industries in Southern California. We are the vehicle through which union contractors and union pipe trades workers advance the industry.



United Association of Plumbers & Pipefitters

With over 300,000 members across North America, representing the plumbing and pipe fitting industry, the United Association is very proud of our membership and our work. Our motto, "We Do It Right the First Time," shows our integrity and determination to not only do our best, but with expertise. We strive to improve our members' skills and excellence through our robust training programs.

BENEFACTORS



Watts Water Technologies (NYSE: WTS) through its subsidiaries, designs and manufactures water safety and flow control products primarily for the water quality, water safety, water flow control, and water conservation markets in North America, Europe and China.

The Watts Water Technologies family of companies has expanded its traditional flow control product lines to include water filtration, radiant heat and instrumentation products to address all of the flow control needs of the worldwide plumbing & heating and water quality markets. This broad array of products, designed to ensure Comfort, Quality, Conservation, Safety and Control, enables many of our customers to purchase all of their plumbing & heating and water quality flow control solutions from one source. Thus, from a small machine shop supplying parts to the textile mills of the 19th century, Watts Water Technologies, Inc. has grown into an international manufacturer of Innovative Water Solutions for the plumbing & heating, and water quality markets.



The mission of the **World Plumbing Council** is to unite the world plumbing industry to safeguard and protect the environment and the health of nations, for the benefit of all.

PATRONS



The American Society of Sanitary Engineering is an ANSI Accredited standards developer and professional qualifications body whose members represent all segments of the plumbing industry. ASSE's product performance standards, professional certification and product listing programs are developed in the interest of public health and the society's motto: "Prevention Rather Than Cure."



The National Energy Management Institute is a not for profit organization jointly funded and managed by the Sheet Metal and Air Conditioning Contractors' National Association (SMACNA) and the Sheet Metal Workers' International Association (SMWIA). NEMI identifies emerging market opportunities for its constituents. We develop programs seeking to create or expand employment opportunities for SMWIA members and programs that assist SMACNA contractors.



TOTO is the world's largest plumbing products manufacturer. We offer a complete line of commercial and decorative plumbing fixtures and fittings, faucets, accessories, shower and flush valves, as well as lavatories, toilets, Air Baths and urinals. More than 1,500 TOTO engineers and their colleagues are committed to achieving the seamless integration of performance, conservation, technology, and innovation.

SPONSORS



ASTM International is one of the largest voluntary standards development organizations in the world—a trusted source for technical standards for materials, products, systems, and services. Known for their high technical quality and market relevancy, ASTM International standards have an important role in the information infrastructure that guides design, manufacturing and trade in the global economy. Standards developed at ASTM are the work of over 30,000 ASTM members. These technical experts represent producers, users, consumers, government and academia from over 120 countries. Participation in ASTM International is open to all with a material interest, anywhere in the world.



The first national non-profit organization on water efficiency has finally been created. Based in Chicago, the new **Alliance for Water Efficiency (AWE)** is building its organization and membership and is launching a comprehensive web site with information on water efficiency programs and research.

Announced in 2006 by EPA Administrator Steven Johnson, AWE was created in partnership with numerous national, regional, and state organizations. The Alliance received seed funding from EPA to build a water efficiency information clearinghouse and to work on plumbing and appliance codes and standards issues. The primary role of the organization will be as an advocate for water efficiency research, evaluation, and education.



Bayzone Holdings PTY LTD

With a plumbing background Peter McCallum the inventor of the quick fit meter adaptor, (QFMA) who has manufactured various water saving devices decided that it did not matter how much water saving you implemented if you could not measure it you could not manage it, sub metering seemed so hard in many instances, it took very little time to decide we needed a new product, the QFMA with international patents was born, this is the release of the product to the world. We are seeking agents/ manufacturer distributors for various countries.



Dyteqta International Limited is at the forefront of emerging technologies in the plumbing industry, and exclusively offers the Dyteqta-System, the world's first dedicated remote, non-invasive and non-destructive water drainage monitoring and diagnostic system, which can be easily fitted to any new or existing building. The Dyteqta-System ensures that good quality of public health is continually maintained within the building environment, by protecting the occupants from the harmful sewer gases and pathogens found within drainage systems.



Sloan is the world's leading manufacturer of commercial plumbing systems and has been in operation since 1906. Headquartered in Franklin Park, Illinois, the company is at the forefront of the green building movement and provides sustainable restroom solutions by manufacturing water- and energy-efficient products such as flush valves, electronic faucets and soap dispensing systems, sink systems, and vitreous china fixtures for commercial, industrial and institutional markets worldwide.

SPONSORS



Special Pathogens Laboratory, The Legionella Experts, provides the healthcare and water treatment industries, hotels, and commercial and industrial sectors a comprehensive solution for the prevention and control of Legionella. Founded by Dr. Janet Stout and Dr. Victor Yu, internationally recognized experts in Legionnaires' disease, SPL offers a cohesive strategy to detect, control, and remediate Legionella and waterborne pathogens.



The **Water Institute at UNC** provides vision and scientific leadership at the nexus of water, sanitation, and hygiene (WaSH), health and development. Our collaborative, forward-thinking research program addresses urgent problems and responds to new and emerging issues and knowledge gaps. We focus on technical solutions as well as innovations in policy, finance, and entrepreneurship that lead to substantive and sustainable real-world progress through transformational and adaptive change. Networking and partnerships are essential to leveraging our impact to achieve sustainable change. Our annual Water and Health Conference attracts over 450 participants from more than 30 and includes over 160 presentations, 25 networking and workshop events, and keynote addresses by global leaders in WaSH. We are also establishing strategic partnerships with international organizations, governments, universities, the private sector and NGOs. Through knowledge management, we create, synthesize and share critical insights for practice and policy. Teaching and learning are core to our mission of training the next generation of WaSH leaders and meeting the world's growing demand for WaSH professionals of all types.



IAPMO is a proud partner of the **WaterSmart Innovations** Conference and Exposition (WSI). WSI is the world's largest event for urban water efficiency and the only event to bring together many professional disciplines to accelerate adoption of water efficiency products, practices, policies and programs.

WaterSmart Innovations will be held October 3 - 5, 2012, in Las Vegas. The event features more than 130 presentations from five nations and 20 U.S. states. More than 100 exhibitors will display innovative water efficiency products and services. Last year, attendees represented more than 40 U.S. states and over a dozen water-challenged nations.

Join IAPMO and other progressive organizations as we connect attendees with the resources they need in an atmosphere of networking, collaboration and learning. Together, we're creating a new wave in urban water efficiency. Visit www.WaterSmartInnovations.com for complete information.

INTERNATIONAL EMERGING TECHNOLOGY SYMPOSIUM on YouTube

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Review the research of world renowned water and
energy efficiency experts today.





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