

Valve Manufacturers Association of America

Technical Seminar & Exhibits

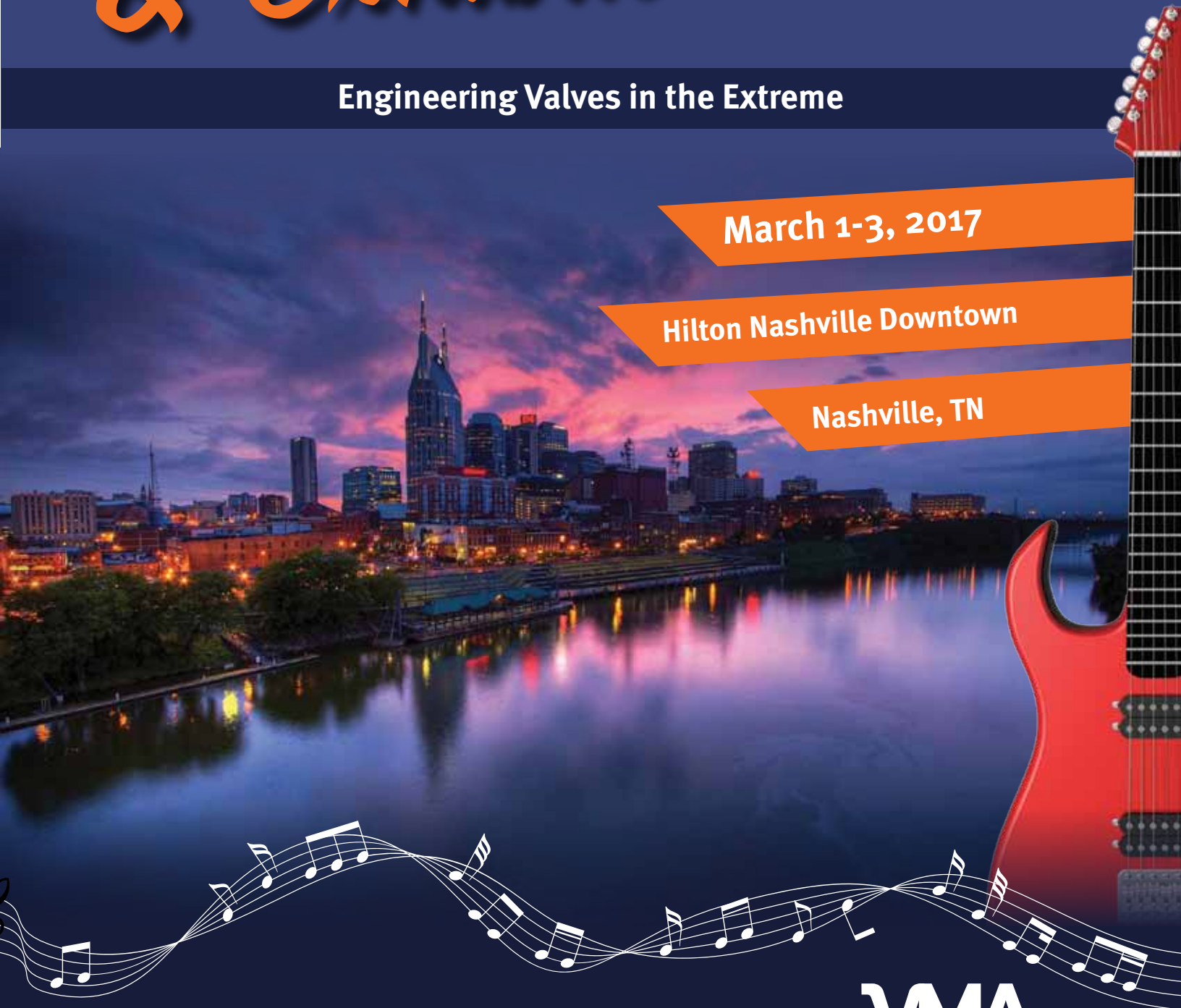
CORVETTE ASSEMBLY PLANT
& MUSEUM TOUR

Engineering Valves in the Extreme

March 1-3, 2017

Hilton Nashville Downtown

Nashville, TN



VMA

About the Program

ENGINEERING VALVES IN THE EXTREME

The 2017 Technical Seminar Exhibits and Tour will be held March 1-3, in Nashville, Tennessee. The meeting is open to members and non-member of VMA and VRC.

The VMA Technical Seminar attendees are senior engineers, product and business development managers, and directors of application engineering who help shape API's and control language that operate valves and controls. Those who attend come to learn about topics such as Safety and Environment, Compliance with Emission Standards, and Advances in Valve Design, Tools and Technology.

The theme for this year is Engineering Valves in the Extreme and will address some of the ever increasing demands being made on the industry.

WHO SHOULD ATTEND?

Mid-to-senior level management, engineering and technical personnel in valve manufacturing companies, suppliers to the industry, distributors, valve repair facilities and end-users. This meeting is open to members of VMA, as well as non-members.

WHO SHOULD EXHIBIT?

Companies that sell or provide services to valve manufacturers and end-users. This exhibit program is open to VMA members as well as non-member companies. Exhibit program is **March 2**. See Exhibitor Prospectus for more details.

REGISTRATION INFORMATION

Early bird registration fees of \$595 for the first registrant, and \$495 for additional registrants from the same company will be in effect until January 27, 2017. After that date registration fees are \$645 for the first registrant and \$545 for any additional registrants. Your registration fee covers the two day seminar, speaker handouts, and all food functions to include continental breakfasts, breaks, lunch and Welcome Reception as well as access to the exhibit area. Registration is open to all VMA/VRC members and industry non-members.

A tour of the Corvette Assembly Plant and Museum on March 1st is not included in your registration but can be purchased separately for \$75.

REGISTERING ADDITIONAL ATTENDEES

Multiple attendees can be registered at the discounted rate of \$495 until January 27th and \$545 thereafter. There is no limit to the additional attendees that can be registered, however you must have someone from your company registered at the full registration fee. Additional attendee registration fee includes the two day seminar, a copy of the speaker handouts, and all food functions including continental breakfast, breaks, lunch and Welcome Reception. as well as access to exhibits. A tour of the Corvette Assembly Plant and Museum on March 1st is not included in the additional attendee registration fee but can be purchased separately for \$75.

EXHIBIT REGISTRATION

For information on exhibiting, please download the Exhibitor Prospectus from www.vma.org for qualifications and registration pricing.



Members of the VMA Technical Committee are as follows:

Jim Barker, DeZurik APCO; Arie Bregman, DFT Inc.; David Escobar, Chairman, Metso Flow Control USA, Inc.; Dale Friemoth, Crane Fluid Handling; Jeff Hager, Weir Valves and Controls, Inc; Ken Juncewicz, GE Oil & Gas; Nicolas Lourdel, Velan Valve Corporation; Ryan McCall, Technetics Group; Ron Manson, Cameron Valve and Measurement; Stephane Meunier, Cowan Dynamics.

Optional Tour

March 1, 2017



8:00 am - 4:00 pm

Corvette Assembly Plant & Museum Tour
Bowling Green, KY

\$75 fee

(fee applies in addition to registration, both attendees and exhibitor personnel are welcome)



VMA has secured a private tour for attendees of the 2017 Technical Seminar on March 1 at the Corvette Assembly Plant & Museum. However, because of logistical concerns and transportation considerations, tour participation is limited to the first fifty (50) participants. Attendees and exhibitors are welcome to purchase a ticket for the tour. Watch the fascinating assembly process of America's favorite sports car, the Chevrolet Corvette. Witness an engineering marvel as the chassis and body come together in "marriage" and brand new Corvettes roll off the assembly line. Once the tour of completed attendees will then get back on the bus for a short drive to the Corvette Museum where we will have lunch.

For safety reasons, no crutches or walking assists are allowed. Purses, fanny packs or other containers may not be brought into the plant except by special request (for medical reasons, etc.) If there is a need for an exception, please contact Malena Malone-Blevins mmaloneblevins@vma.org well in advance. Also, all electronic devices such as cell phones, tablets, or walkie-talkies are not allowed in the facility. There are no holding facilities onsite for guests' personal belongings. Please indicate that you wish to attend the tour when you register by purchasing the tour ticket.

Please meet in the lobby of the Hilton Nashville Downtown and check in when you arrive. Bus will leave promptly at 8:15 am.



Hotel Reservations



Accommodations for the 2017 VMA Technical Seminar have been arranged at a discounted rate of **\$259 per night** (king/queen/double). Discounted rate is valid from February 28 - March 3 ONLY. Limited rooms are available on Friday, March 3, 2017 and group rate is not guaranteed outside of block. To make online reservations go to www.vma.org and click on link under HOTEL RESERVATIONS on the Technical Seminar webpage.

For guests that prefer to phone in their reservations, please call Hilton Nashville Downtown Reservations Center at 1-615-620-1000 to secure a reservation at the discounted rate. Currently, the name of the group is listed as VALVE MANUFACTURERS ASSOCIATION however, callers should mention the group code VMA to ensure you receive the correct rate. Cut-off date for making reservations at the discounted rate is **January 29, 2017**.

REGISTRATION CANCELLATION POLICIES

- Cancellations received up to 30 days before the event are refundable, minus a 5% administration fee.
- Cancellations received between 15 and 29 days before the event are 75% refundable.
- Due to hotel and other event guarantees, cancellations received between 0 and 14 days prior to the day of the event are non-refundable. Substitutions can be made until February 24, 2017.

The last day to register in-house is February 24, 2017. After that, registrations will be accepted on-site in Nashville. Please come to the registration desk for assistance.

QUESTIONS?

Contact Malena Malone-Blevins at mmaloneblevins@vma.org or by phone at 202-331-8105 ext. 310.

Hilton Nashville Downtown

Nashville, TN

Hilton Reservations Center
1-615-620-1000





Program

ENGINEERING VALVES IN THE EXTREME

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THURSDAY, MARCH 2

7:00 am

Registration and Continental Breakfast

Boone Pre-function area

The Technical Seminar will take place in the Boone Room all day on Thursday, March 2 unless otherwise noted.

8:00 am

Welcome

Dave Escobar, Director of Engineering, Metso Flow Control, VMA Technical Committee Chairman

8:10 - 9:00 am

Keynote Address: Global Natural Gas Outlook

Keynote Speaker: Angelina LaRose, Director of the Office of Integrated and International Energy Analysis within the U.S. Energy Information Administration's (EIA) Office of Energy Analysis

Moderator: Dale Friemoth, V.P. Technology and Business Development, Crane Fluid Handling

Since 2000, U.S. natural gas production has grown by 40%, led by growth in production of U.S. shale resources. Increases in production in areas that had traditionally imported natural gas combined with prices that are the lowest in over a decade have wide reaching implications across the energy economy, including shifting the electric generation mix, supporting higher levels of natural gas exports, and altering the flow of natural gas across the country.

In this keynote address, the U.S. Energy Information Administration will provide their perspective on domestic energy markets, particularly as related to natural gas and electric power, and present their recent projections from the Annual Energy Outlook 2017 (AEO2017). Projections in the AEO2017 focus on the factors expected to shape U.S. energy markets through 2050.

9:00 - 9:45 am

Just a Second Ago

Speaker: Brad Livingston, Professional Safety Speaker

Moderator: Dave Escobar, Director of Engineering, Metso Flow Control, Technical Committee Chairman

Brad Livingston was involved in back to back explosions that were 100% preventable. The contributing factors to these explosions were the same as what exists in EVERY type company EVERYWHERE - Shortcuts; Complacency; Pride; Bad Attitudes; Improper Perspectives. Brad overcame a 5% chance of surviving his injuries and now shares his story.

9:00 - 11:30 am

Exhibits Set-up

Crockett Room

9:45 am - 10:00 am

Morning Break

Boone Pre-function area

10:00 - 10:45 am

Design, Specifications and Future Challenges for Cryogenic Valves

Speaker: Brandon Bounds, Senior Piping Material Engineer, Bechtel Oil, Gas, and Chemicals, Inc.

Jim Tesch, Senior Piping Materials Specialist, Bechtel Oil, Gas, and Chemicals, Inc.

Moderator: Dale Friemoth, V.P. Technology and Business Development, Crane Fluid Handling

All around the world the consumption of natural gas is on the rise. With the United States positioned to export more and more liquefied natural gas (LNG) for years to come, the demand for cryogenic valves will certainly increase. This presentation will discuss the industry standards focused on cryogenic valve design, materials, and testing. Discussion will also include future challenges for cryogenic valve design and testing and real life issues with suggestions on how to prevent them.

10:45 - 11:30 am

Flexible Operation and Future Options for the Fossil Power Generation Fleet

Speaker: John Shingledecker, Program Manager, Fossil Materials & Repair, Electric Power Research Institute

Moderator: Dale Friemoth, V.P. Technology and Business Development, Crane Fluid Handling

Today's power plants are being asked to operate in a much more flexible mode of operation due to significant changes in the industry. Increased intermittent renewable generation (wind and solar), the development of more distributed generation sources leading consumers of electricity to become producers, and increased regulations on emissions from coal-fired power plants coupled with low-cost natural gas have led to dramatic changes in the mission of the fossil power generation fleet in the US.

This presentation will explore these industry changes and projections for the future which is effecting the operation of the current generation of power plants and the construction and deployment of the newest generation of gas turbine combined cycle power plants. The presentation will also explore future transformational technologies, such as Advanced Ultrasupercritical (A-USC) steam Rankine and supercritical CO₂ (sCO₂) Brayton power cycles, which are being researched to shape the future of the power industry.

11:30 am - 1:00 pm

Lunch/Exhibits Open

Crockett Room

1:00 - 1:45 pm

Design Considerations for High Temperature Sealing

Speaker: Ryan McCall, Product Manager, High Performance Metal Seals, Technetics Group

Moderator: Dave Escobar, Director of Engineering, Metso Flow Control, VMA Technical Committee Chairman

As the valves industry evolves, design engineers are being challenged to design for extreme environments which often include high temperatures. High temperature environments present unique challenges in seal design, especially when traditional materials are at the limit of their effective operating range. This presentation will address typical issues considered in selecting and designing seals for high temperature service. Topics will include materials selection, leak rates and sealing design concepts.

1:45 - 2:30 pm

Thermal Spray Coatings in Severe Service

Speakers: Elaine Motyka, Principal Materials Engineer, Technetics Group

Moderator: Ryan McCall, Product Manager, High Performance Metal Seals, Technetics Group

Thermal spray coatings can be highly cost effective surface protection under severe wear and corrosion conditions. This presentation will cover reviews of some common thermal spray processes and materials used in such conditions to show how thermal spray process parameters affect the structure of these protective coatings and how the structure contributes to wear and corrosion response.

2:30 - 3:15 pm

Afternoon Break with Exhibits Open

Crockett Room

3:15 - 4:00 pm

Material Requirements and Specifications for Supercritical Power Plants

Speaker: Charles Henley, Principal Mechanical Engineer, Black and Veatch

Moderator: Jeff Hager, Product Development, WEIR Valves & Controls, USA, Inc

The design conditions for new supercritical power plants have increased in severity and hence the design and material requirements for piping and valves installed in these facilities have similarly changed. Whether it is greater temperature and pressure requirements, better corrosion/erosion resistance, or a complex control philosophy, the designer's ultimate goal has been to have a reliable and cost effective design. The purpose of this presentation is to present a brief history of how changing design conditions in supercritical power plant applications have affected piping and valve design requirements and material applications, and based on this history what can be expected in the next generation of supercritical power plants. Recent and proposed ASME Code changes which impact the specification of these valve materials will be discussed as well as methods and materials utilized in other countries' Codes and Standards.

4:00 - 4:45 pm Lean Product Development

*Speaker: **Cliff Welborn**, Associate Professor, Middle Tennessee State University*

*Moderator: **Nicolas Lourdel**, Manager, Product Development Process, Velan Valve Corporation*

A fundamental principle of a Lean system is the continuous effort to eliminate waste in the form of any activity that consumes resources while not adding value from the customer's perspective. While many professionals are familiar with Lean concepts applied in a manufacturing environment, Lean thinking is just as applicable in the product development process. Sources of waste come from; Defects, Over production, Waiting, Non-utilized resources, Transportation, Inventory, Motion, and Excess processing. Research has shown that as much as 70% of a product's cost has been determined by decisions made during the design process. This presentation will identify typical sources of waste in the product design process and outlines practical strategies to eliminate these sources of waste.

4:45 - 5:30 pm Panel Discussion

*Moderator: **Dave Escobar**, Director of Engineering, Metso Flow Control, VMA Technical Committee Chairman*

This panel discussion with speakers gives the audience more time for question and answer on the topics presented.

5:30 - 6:30 pm VMA Welcome Reception with Exhibits Open

Crockett Room

6:30 - 8:30 pm Exhibit Breakdown

Crockett Room

FRIDAY, MARCH 3

NOTE: Continental Breakfast and today's seminar presentations have been moved to the Bredesen Room for Friday, March 3rd.

7:30 - 8:00 am Continental Breakfast

Bredesen Room (inside)

8:00 - 8:45 am Smart Technology

*Speaker: **Mike Devrell**, Senior Systems Design Engineer, Rotork Controls*

*Moderator: **Stephane Meunier**, Director of International Business Development, Cowan Dynamics*

Gartner says we'll have 21 billion connected devices by 2020. While the majority of these will be consumer devices, Internet of Things (IoT) technology has a growing adoption in industry too.

This presentation includes an overview of what the Industrial Internet of Things (IIoT) is, some of the current smart technologies being used and how these technologies are being applied in the valve and actuator industry now, and what we may see in the future. There are benefits and savings that come from using such technology as well as challenges implementing it including connectivity and security.

8:45 - 9:30 am Design for Oxygen Service

*Speaker: **Kurt Larson**, Process Control Engineer, Air Products*

*Moderator: **Dave Escobar**, Director of Engineering, Metso Flow Control, VMA Technical Committee Chairman*

This presentation will explain design considerations unique to high purity Oxygen systems and the valve design features driven by these unique requirements.

9:30 - 9:45 am Morning Break



9:45 - 10:30 am

Valve Qualification Standards and Specifications

*Speaker: **Alberto Daglio**, Principal Applications Engineer
Cameron Valves and Measurement*

*Moderator: **Ron Manson**, Engineering Fellow, Cameron Valves
and Measurement*

The presentation will review the diversification of national codes, standards and user specifications for performance type testing of valves. The requirements of these documents will be presented and discussed in relation to qualification aspects such as Fugitive Emissions, Fire Testing and sealing performance, and how they are used in the different segments of the Oil & Gas Industry (Upstream/Midstream/Downstream)

10:30 - 11:15 am

2017 Industry Standards Update

*Speaker: **Carlos Davila**, Product Manager, Crane ChemPharma
and Energy*

*Moderator: **Jim Barker**, Director of Customer Order
Management and Field Services, DeZurik APCO*

This presentation will provide an update to US Industry standards organizations and their corresponding published valve standards. Three organizations will be covered including ASME B16 Codes and Standards, API Refining and Manufacturers Standardization Society, MSS. Important revisions to ASME B16.34 and B16.5, Valves and Flanges, will be discussed. Several API product and testing standards covering check, globe and butterfly valves will be covered. Additionally, current activities and standard updates to MSS SP's related to steel castings, both visual and sampling quality, steel flanges and procedures for oxygen cleaning and cryogenic service testing will be outlined.

11:15 am - Noon

Panel Discussion

*Moderator: **Dave Escobar**, Director of Engineering, Metso Flow
Control, VMA Technical Committee Chairman*

This panel discussion with speakers gives the audience more time for question and answer on the topics presented.

Noon

Seminar Adjourns

Professional Development Hours

Beginning in 2017, attendees to the Technical Seminar will receive a certificate for twelve (12) Professional Development Hours (PDH) for attending the Technical Seminar. Certificates will be given to attendees at the conclusion of the seminar on **March 3, 2017**.





Seminar Presenters

(IN ALPHABETICAL ORDER)

Brandon Bounds

Senior Piping Material Engineer, Bechtel Oil, Gas, and Chemicals, Inc.

Brandon is a Senior Piping Material Engineer at Bechtel Oil, Gas, and Chemical with nine years of experience focused on valves and piping materials. He graduated from The University of Texas at Austin with a Bachelor of Science in Mechanical Engineering. He holds a professional engineering license in the state of Texas and serves as Chair on the ASME B31.3 Subgroup on High Pressure Piping committee and a member of the ASME B31 Materials Technical Committee.

Brandon's expertise is in bringing client, project, and industry requirements together to create piping material classes. He works closely with valve manufacturers to ensure the requirements specified are complete, accurate and available on the market. He has developed his skills on a variety of projects in downstream, upstream, off-shore, LNG, and chemical applications.

Alberto Daglio

Principal Applications Engineer, Cameron Valves and Measurement

Alberto Daglio graduated from Università degli Studi di Pavia (Italy) in 2008 with a master's degree in Electronics Engineering. At the beginning of his career he worked as an Application Engineer in Italy for the Cameron Grove Valve group. He moved to Malaysia (Kuala Lumpur) as a Technical Advisor in 2012 for the Application Engineering Center of Excellence, coordinating complex projects for international customers during FEED stage. In 2014, he moved to the United States of America (Houston, Texas) taking the role of Principal Application Engineer in the Cameron Valves and Measurements Headquarter. He recently moved to the R & D group for the Critical Service Upstream segment, developing new products for the Oil & Gas Industry. He has actively participated in the API committee with a major revision of the pipeline valve standard and has made a significant contribution to API 6D committee in defining valve testing parameters and types.

Carlos Davila

Product Manager, Crane ChemPharma and Energy

Mr. Davila is a registered professional engineer, PE, and a graduate of the University of Houston with a Bachelor of Science in Mechanical Engineering. With over 48 years of experience in the valve industry, Carlos background includes design, development, application and production of valves. Currently he is Product Manager-Americas, for Crane ChemPharma/ Energy (Fluid Handling). His previously held positions include Chief Engineer, Technical Operations Manager and General Manager. He has written and published several papers in ASME, Hydrocarbon Engineering, VMA and LNG publications. Active voting member of the API Manufacturers Subcommittee on Piping and valves for 35 years. Vice-Chair of ASME B16 Standards Committee, Chair of B16 Subcommittee on Pressure/Temperature ratings, member of B16 Subcommittee C, Flanges, Subcommittee N, valves and the USTAG committee. Voting participant in ASME B31.3 Standards Committee addressing Process Piping. Current member of the MSS Board of Directors and chair of Technical Committees on Quality Standards, Diaphragm Valves and Steel Flanges. Active in ISO standards activities as member of the ANSI/ISO Team and Chair of ISO TC5/SC10, Metallic Flanges and Components.

Mike Devrell

Senior Systems Design Engineer, Rotork Controls

Mike has over seven years' experience working for Rotork and is currently the development architect for Rotork's Intelligent Asset Management system. In a previous role at Rotork, Mike was involved in integration troubleshooting at customers' sites across the world and development of FDT/DTM technology software used for configuration and asset management. Mike graduated from Southampton University, United Kingdom with a Master of Electronics (hons) degree in 2002.

Seminar Presenters

Charles Henley

Principal Mechanical Engineer, Black and Veatch

Charles Henley is the Principal Mechanical Engineer at Black & Veatch where he is the process owner responsible for mechanical design and material selection for all mechanical equipment and is the corporate subject matter expert related to piping, pressure vessels, and in-line equipment. In this role, he works with various project teams to ensure standards are effectively and correctly implemented, conducts training on Code and Standards, performs special studies on non-standard designs, researches new and innovative approaches to power and oil/gas design applications, and performs fit-for-service and failure analysis investigations. Mr. Henley has held several prior positions at Black & Veatch including Chief Engineer for the Water Business Unit, Chief Piping Engineer for the Energy Business Unit, Project Design Engineer for multiple power plants, Supervising Engineer of the Stress Analysis Section, mechanical design engineer on numerous fossil and nuclear power plant projects, as well as being a field construction and startup engineer on two combined cycle power plants.

In addition to his responsibilities for Black & Veatch, Mr. Henley is an active member of the American Society of Mechanical Engineers. He currently serves a member on the ASME B31.1 Power Piping Code Subcommittee, the ASME B31 Materials Technical Committee, ASME B31.1 Materials Subgroup, Vice-Chairman of the Nonmetallic Pressure Piping Committee, and Chairman of the Subcommittee on Reinforced Thermoplastic Piping. Mr. Henley received his Bachelors and Masters degrees in Mechanical Engineering from the University of Missouri, and is a Registered Professional Engineer in 7 states, a Certified Welding Inspector, and a Certified Six Sigma Black Belt.

Angelina LaRose

Director of the Office of Integrated and International Energy Analysis within the U.S. Energy Information Administration's (EIA) Office of Energy Analysis.

Angelina LaRose is the Director of the Office of Integrated and International Energy Analysis within the U.S. Energy Information Administration's (EIA) Office of Energy Analysis. Her office is responsible for the integration of analysis and modelling for EIA's long-term domestic and international projections, as published in EIA's Annual Energy Outlook and International Energy Outlook, respectively, as well as short-term forecasts, as published in EIA's Short-Term Energy Outlook. Additionally, her office produces EIA's country-level analysis and international energy statistics. Prior to serving in this role, Ms. LaRose led EIA's natural gas analysis team. She had worked in natural gas analysis for EIA for over ten years and was the product manager of EIA's Today in Energy when that publication was launched. Prior to her work at EIA, she worked for as a senior energy analyst at a private consulting firm. Ms. LaRose has a BA in Government and Politics and an MBA in Finance from the University of Maryland, College Park.

Kurt Larson

Process Control Engineer, Air Products

Kurt has been working as a Process Control Engineer with Air Products and Chemicals in Allentown Pennsylvania for 28 years. During his career Kurt has specified process instrumentation and has programmed Process Automation Systems for many of Air Products' technologies with an emphasis on Air Separation. Kurt has also been involved in many plant commissioning and startup efforts both domestically and abroad (Mexico, Korea, Chile). Currently Kurt is the Technology Manager for Process Measurement and Control consulting globally with Engineering, Operations and Sourcing on matters relating to valve and instrument hardware. He also serves on Air Products' Oxidizer Safety Committee.



Seminar Presenters

Brad Livingston

Professional Safety Speaker

After being employed by a natural gas pipeline company for 10 years, Brad Livingston was involved in a potentially life-ending incident on the job that was 100% preventable. During his presentation, you will hear words like perspective, attitude, short-cut, pride and complacency. You will learn how each of these played a role in the actions that led to his injuries, and how those injuries have affected every day of the rest of his life. Brad Livingston and his wife Bobbi currently live in Elkhart, KS. They have 3 grown daughters and 9 grandchildren.

Ryan McCall

Product Manager, High Performance Metal Seals,
Technetics Group

Ryan McCall has been involved in the sealing industry for over 25 years. Beginning as a Sales Engineer, Ryan has held a wide range of positions and responsibility within Technetics. Most recently, Ryan was involved in the Technetics Innovation system and was the Intellectual Property lead for the R&D group. As the Product Manager for High Performance Metal Seals, Ryan is focused on utilizing his many years of experience to help customers and research partners further sealing development for extreme environments. He resides in Columbia, SC with his wife and two children.

Elaine Motyka

Principal Materials Engineer, Technetics Group

Elaine Motyka is the Principal Materials Engineer at Technetics Group. An EnPro Industry Company, which provides engineered solutions for critical applications in aerospace, oil & gas, semi-conductor, and nuclear industries. Ms. Motyka has expertise in thermal spray coating materials and processes, powder metallurgy, sintering, failure analysis, and material selection. She received her B.S. in Mechanical Engineering from Worcester Polytechnic Institute in Worcester MA in 1988 and her M.S. in Materials Engineering from Rensselaer Polytechnic Institute in Troy NY in 1990. Her career in materials engineering over 25 years focused on surface modification and

product/process development for a broad range of industries including aerospace, industrial gas turbine power generation, oil & gas, pulp & paper, semi-conductor, and medical. Her interest is in developing specific surfaces and structures to improve material performance by combining understanding of the application with knowledge of material properties and processing.

John Shingledecker

Program Manager, Fossil Materials & Repair, Electric
Power Research Institute

Dr. John Shingledecker, leads EPRI's Fossil Materials and Repair program to provide the power industry with material use and selection guidelines, welding and repair solutions, corrosion mitigation methodology, and remaining life tools to increase plant availability, reduce failures, and improve efficiency. Dr. Shingledecker was the technical lead for a major public-private partnership, the US DOE/OCDO Advanced Ultrasupercritical (A-USC) Steam Boiler and Turbine Consortia, which developed the materials technology to greatly increase steam temperature and pressure in conventional power plants. He conducts research in the areas of high-temperature metallurgical degradation, application of computational thermodynamics to solve engineering problems, and high and low temperature corrosion in power plants. Prior to joining EPRI in 2008, he was a research staff member working with a variety of industries on high-temperature materials at Oak Ridge National Laboratory. He has won numerous awards for his research which includes over 150 journal papers, conference proceedings, articles, and reports. He resides in Concord, NC with his wife and eight children.

Jim Tesch

Senior Piping Materials Specialist, Bechtel Oil, Gas and
Chemicals, Inc.

Jim is currently employed at Bechtel Oil, Gas and Chemicals, Inc. and has more than 39 years of global experience in project management, consultancy, supervision, piping engineering and detailed design involving a variety of onshore and offshore multi-discipline projects in the oil, gas, pipeline, power,



Seminar Presenters

petrochemical and specialty chemical industries. Prior to his career with Bechtel, Jim worked at MW Kellogg, WorleyParsons and AkerKvaerner. Jim has extensive LNG experience working on numerous projects worldwide and also has been involved in the evaluation of valve manufacturers for LNG projects, witnessing cryogenic testing and failure analysis when issues have occurred. Jim is heavily involved with the Process Industry Practices (PIP) Piping Function Team where he is an active member of the PIP Valve Task Team and a former Piping Function Team Leader.

Cliff Welborn

Associate Professor, Middle Tennessee State University

Cliff Welborn has held management positions in Engineering, Operations, and Supply Chain Management with three Fortune 500 corporations. During his 18 year professional career he established Supply Chain relationships with both domestic and international vendors. Dr. Welborn is a Certified Lean Six Sigma Black Belt, Continuous Process Improvement Facilitator & Trainer, and MTM analyst. He has been the recipient of a US patent, the Westinghouse Signature Award for Excellence in Manufacturing, and the Power Generation Performance Award. Dr. Welborn teaches supply chain Management, Operations Management, and Quality Management at the undergraduate and graduate levels at Middle Tennessee State University. He has provided consulting and training services in Process Improvement, Supply Chain Management, and Lean Six Sigma certification, to manufacturing and service organizations. Dr. Cliff Welborn received his Ph.D. in Industrial Engineering from The University of Texas at Arlington. He received his M.S. and B.S. in Industrial Engineering from Auburn University and Kansas State University.

Technical Seminar & Exhibits

March 1-3, 2017

Hilton Nashville Downtown | Nashville, TN

Fees

First Registrant

\$595

Early Bird Registration

Before January 27, 2017

\$645

Late Registration

After January 27, 2017

Includes technical seminar, exhibit area admittance, as well as all food events. Does not include tour.

Additional Registrant

\$495

Early Bird Registration

Before January 27, 2017

\$545

Late Registration

After January 27, 2017

Must have prior full-price registrant from same company. Includes technical seminar, exhibit area admittance, as well as all food events. Does not include tour.

Corvette Assembly Plant & Museum Tour

\$75

March 1st (see brochure schedule for details) This ticket includes your transportation and lunch.

Please copy this form for each Registration or Additional Registrant. Complete information is needed for each registrant type.

Name _____

First Name for Badge _____

Company _____

Email _____

Address _____

City _____ State _____ Zip _____

Phone _____

Fax _____

ATTENDEE REGISTRATION FEES

	Fee	Quantity	Total
Before January 27, 2017			
First Registrant	\$595		
Additional Registrant	\$495		
After January 27, 2017			
First Registrant	\$645		
Additional Registrant	\$545		
Corvette Assembly Plant & Museum Tour	\$75		

TOTAL AMOUNT DUE \$

Registration Cancellation Policies

- Cancellations received up to 30 days before the event are refundable minus a 5% registration service charge
- Cancellations received between 15 and 29 days before the event are 75% refundable.
- Due to hotel and other event guarantees, cancellations received between 0-14 days before the event are non-refundable.
- Substitutions are allowed but must be given to Malena Malone-Blevins, Meetings Manager, in writing. Please send all substitutions to mmaloneblevins@vma.org by February 24, 2017.

4 WAYS TO REGISTER

Online:
www.vma.org/events

Fax:
202.296.0378

Email:
mmaloneblevins@vma.org

Mail: VMA
1050 17th Street, NW
Suite 280
Washington, DC 20036

Payment by check \$ _____ representing _____ registration(s)

Payment by Credit card

VISA MasterCard Discover American Express **Amount to charge \$** _____

Card Number _____ Exp. Date _____

Security Number _____ Billing Zip Code _____

Name on Card _____

Signature _____