Final Program

PVP 2025

2025 Pressure Vessels & Piping Conference

Pressure Vessel and Piping Technologies in a Rapidly Changing World

July 20 – 25, 2025
Hotel Bonaventure
Montreal, QC, Canada

ASME
SETTING THE STANDARD

WELCOME TO PVP 2025

Welcome to Montréal, Quebec, Canada for a new era of the ASME Pressure Vessels & Piping Conference (PVP). The PVP Conference is known to be the outstanding international technical forum for participants to further their knowledge base by being exposed to diverse topics, and exchange opinions and ideas both from industry and academia in a variety of topics related to Pressure Vessels and Piping technologies for the power and process industries. The PVP Conference is a great place to exchange ideas and to meet colleagues as we all work to create and advance Pressure Vessels and Piping technologies for our global community of practice. The PVP Conference is a recognized forum for fruitful exchange of ideas with participants from over 40 countries in Europe, Africa, the Middle East, Asia, the Americas, and the Oceania islands.

The ASME Pressure Vessels & Piping Division is the primary sponsor of this Conference, with additional participation by the ASME Nondestructive Evaluation, Diagnosis and Prognosis Division (NDPD). This year, the Conference Technical Program contains approximately 600 technical papers and presentations organized into approximately 165 technical and panel discussion sessions, four technical tutorials, one special tutorial, a special welcome and orientation session for Early Career Engineers and first-time attendees, and our outstanding Rudy Scavuzzo Student Paper Competition. An area dedicated to Technology Exhibits is also organized as part of our Technical Program.

Technical papers presented in this Conference are separated into tracks, according to their technical areas, and are available immediately prior to the Conference in a downloadable format. The program is published on the conference app, as well as this pdf format version that may be printed by the user if desired.

A key component of every PVP Conference is the opportunity to socialize and make new friends—this year's Conference offers several great possibilities. Enjoy the **Discover Montréal Motorcoach Tour** on Monday—this tour offers a panoramic exploration of the city's most iconic landmarks. Monday evening we all meet at the Conference-Wide Reception, which will be held in the St-Laurent 1/2 rooms. The **Explore Old Montreal Walking Tour** on Tuesday features the rich history, stunning architecture, and hidden gems of one of the city's most iconic neighborhoods. Additional details regarding these tours can be found later in this program.

PVP 2025 PROGRAM LAYOUT

	Sunday July 20, 2025	Monday July 21, 2025	Tuesday July 22, 2025	Wednesday July 23, 2025	Thursday July 24, 2025	Friday July 25, 2025
7:00 am 7:45 am	Arrival Registration Opens **(10:00 am – 6:00 pm)**	Authors' Breakfast/Briefing* Registration Open **(7:30 am – 4:00 pm)**	Authors' Breakfast/Briefing* Registration Open **(7:30 am – 4:00 pm)**	Authors' Breakfast/Briefing* Registration Open **(7:30 am – 3:00 pm)**	Authors' Breakfast/Briefing* Registration Open **(7:30 am – 10:00 am)**	Open
8:00 am 9:45 am	Open	**Block 1.1** Welcome & Orientation Technology Exhibits	**Block 2.1** Technical Sessions Technology Exhibits	**Block 3.1** Technical Sessions Technical Tutorial	**Block 4.1** Technical Sessions Technical Tutorial	**Block 5.1** Hydrogen Study Group
10:15 am 12:00 pm	Open	**Block 1.2** Plenary Session Technology Exhibits	**Block 2.2** Technical Sessions Technical Tutorial Technology Exhibits	**Block 3.2** Technical Sessions Technical Tutorial	**Block 4.2** Technical Sessions Technical Tutorial	**Block 5.2** Hydrogen Study Group
12:00 pm 1:45 pm	Open	Open	Technical Committee Meetings	Technical Committee Meetings	Open	Open
2:00 pm 3:45 pm	Open	**Block 1.3** Technical Sessions Technical Tutorial Technology Exhibits	**Block 2.3** Technical Sessions Technical Tutorial Technology Exhibits	**Block 3.3** Technical Sessions Technical Tutorial	**Block 4.3** Technical Session Conference General Committee Meeting	**Block 5.3** Hydrogen Study Group
4:15 pm 6:00 pm	Special Tutorial **(4:00 pm – 6:00 pm)**	**Block 1.4** Technical Sessions Technical Tutorial Technology Exhibits	**Block 2.4** Technical Sessions Technology Exhibits	**Block 3.4** Open	**Block 4.4** Technical Session Conference Evaluation	**Block 5.4** Hydrogen Study Group
Evening	Open	Conference-Wide Reception **(6:15 – 8:00 pm)**	Open	PVP Division Honors & Awards Assembly/ Dinner **(6:00 pm – 9:00 pm)**	Open	Open

* Author's Breakfast/Briefing open to those Presenting Authors on their scheduled day of presentation.

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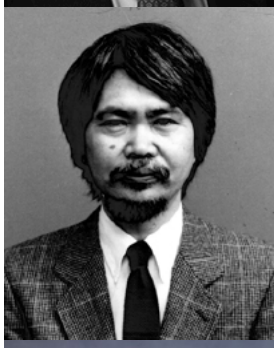
In Memorium

Warren Bamford was internationally known for his expertise in applications of fracture mechanics to operating nuclear power plants with special emphasis in probabilistic applications. Since 1974, he was an active member of the ASME Boiler & Pressure Vessel Code Subcommittee on Nuclear Inservice Inspection (Section XI), past Chair of the Subgroup on Evaluation Standards, and member of the Working Groups on Flaw Evaluation, Operating Plant Criteria, and Pipe Flaw Evaluation. He was also a charter member of the ASME Post Construction Standards Committee. Warren organized many PVP sessions on the topic of service experience in operating nuclear plants and developments in Section XI. He was elected an ASME Fellow in 2012, was the 1998 recipient of the PVP S.S. Chen Outstanding Service Award and was the 2006 recipient of the Bernard F. Langer Nuclear Codes and Standards Award.



Professor Fumio Hara published over 330 journal and proceedings papers in the fields of mechanical vibrations and controls, seismic analysis and design of piping systems and equipment, safety analysis of industrial facilities, robotics, and human machine interfaces. He made significant contributions to both ASME and JSME, including Co-Chair of two Joint ASME/ASME PVP Conferences, Associate Editor of the ASME Journal of Pressure Vessel Technology, and Vice President of JSME. He developed and chaired many technical sessions in PVP Conferences and co-edited several ASME Journal Special Publications on Flow-Induced Vibration. His awards include numerous certificates of appreciation from the PVP Division, including the Outstanding Technical Session at the 1995 PVP Conference, election as Fellow of both ASME and JSME, and was 2003 recipient of the ASME Pressure Vessel and Piping Medal.

Xhemal (Jim) Kaculi was an expert in high pressure – high temperature applications in the offshore oil and gas industry. He contributed to the High Pressure Technology Technical Committee particularly on the design and analysis of high-pressure equipment for oil and gas exploration and production. In addition to the PVP Division, he served the ASME Petroleum Division and was immediate past chair at the time of his passing. He also served on the advisory board of the new ASME conference on Digital Horizons: Transformation in Oil and Gas, and Beyond. Jim was elected an ASME Fellow in 2022 and was a 2024 recipient of the ASME Dedicated Service Award.

Professor Noel O'Dowd was internationally recognized in the areas of fatigue and fracture mechanics. He was an exemplary contributor to the PVP Division via the Materials & Fabrication Technical Committee, where he served as Secretary, Vice Chair, Technical Program Representative (2006), and Student Paper Competition Session Developer. He also served as an Associate Editor of the ASME Journal of Pressure Vessel Technology. He contributed as a session developer and chaired and co-chaired many sessions on topics such as fracture, welding residual stress, creep fatigue, application of fracture mechanics in failure assessment, and composite systems. He was recognized as author of the outstanding technical paper from the Materials & Fabrication Technical Committee at the 2013 PVP Conference and was recipient of the 2010 Sam Y. Zamrik Literature Award for the outstanding technical paper in the ASME Journal of Pressure Vessel Technology.

Michel J. Pettigrew was an internationally known expert on flow induced vibration with emphasis on two-phase flows and consulted to the nuclear, petrochemical and mining industries in his native Canada and internationally. Having developed design guidelines to prevent vibration problems in heat exchange equipment, he was holder of five patents and authored some 300 publications and technical reports. He organized several international symposia on flow induced vibration and contributed as editor for several PVP publication volumes on the subject, as well as serving as an Associate Editor of the ASME Journal of Pressure Vessel Technology. His awards include two ASME best paper awards, the Canadian Nuclear Society W.B Lewis Medal, and the Professional Engineers of Ontario Engineering Medal. He was elected an ASME Fellow in 1997 and was the 2006 recipient of the ASME Pressure Vessels and Piping Medal.

THE ASME PRESSURE VESSELS AND PIPING DIVISION
59 Years of Cutting Edge Research

The 2025 Pressure Vessels & Piping Conference marks the 59th Anniversary of the Pressure Vessels & Piping (PVP) Division. The Division's rich history began with the Pressure Vessel Research Committee (PVRC), which was the research arm of ASME. The PVRC united the most experienced members in the design and manufacture of pressure vessels, valves and pumps; and sponsored research programs on thin and thick shell vessels with the cooperation of the Atomic Energy Commission (AEC) and other organizations as early as 1958. Among a number of institutions that participated in the program, Pennsylvania State University dealt with stress analysis of pressure vessels with nozzle inserts with different types of reinforcement pads under combined loading. Donald E. Hardenbergh and Sam Y. Zamrik published their results in WRC Bulletin Nos. 89 and 96 in 1963 and 1964. Contributions to this work were also made by Charles E. Taylor at the University of Illinois using photoelasticity stress analysis, and Everett O. Waters at Yale University using computational analysis. In view of the growing interest in pressure vessel technology and research results, Frank S.G. Williams from Taylor Forge, who was a very active member, spearheaded an organizational meeting at the 1965 ASME Winter Annual Meeting (WAM) in Chicago to form a division dedicated to all technical aspects of pressure vessels and piping. Recommendations were made by Frank S.G. Williams and Dana Young to create the Pressure Vessels and Piping Division. The recommendation passed unanimously, and Dana Young was named the first Division Chair on April 13, 1966.

The PVP Division evolved from a small Division with four Technical Committees to the robust Division it is today with eight Technical Committees and a strong, vital and international membership. The Division leadership in the early years had possessed a global vision: to represent an international membership with industry experts involved in the Division growth. To ensure the achievement of their vision, PVPD leadership established a Mission, Vision, and Core Values to build upon:

- **The Mission** is to serve the pressure vessels and piping community by promoting, sharing, and disseminating state of the art pressure vessels, piping and related technologies, and providing personal and professional development opportunities.
- **The Vision** is to be the preeminent source of knowledge for pressure vessels, piping and related technologies.
- **The Core Values** are to embrace integrity and ethical conduct and to provide a welcoming climate for a diverse global community of students and engineers to foster creativity, innovation, and intellectual growth.

To disseminate its mission, global conferences were organized to bring the technical community together and to exchange the technology development in the pressure vessels industry. The continued success of PVP Conferences is due to the dedication of our volunteers and the support of their companies.

ASME is truly an international organization and the PVP Division is an appropriate reflection of this worldwide reach. From 1991 to 2000, the number of contributors from outside of North America grew from approximately one-third to more than two-thirds. Our annual conferences continually host attendees from 35 to 42 different countries representing all regions of the globe. Needless to say that the technical content and the quality of PVP Conference sessions have benefited considerably from overseas participation.

To encourage students' active participation in the annual PVP Conference, the Rudy Scavuzzo Student Paper Competition is organized. The PVP Division encourages students and early-career engineers to get involved with the Conference and the Division. PVP Conference attendees are also encouraged to include their spouses in their conference travel plans. This provides and promotes a welcoming atmosphere that further develops friendship, broadens relationships and extends interaction and networking. Our PVPD Senate Operations Committee (and spouses) actively participate in creating and maintaining the "PVP Family" atmosphere that makes our social events successful. The PVP Division is ever grateful for their unwavering commitment.

The American Society of Mechanical Engineers
Pressure Vessels & Piping Division

PVP 2025 Conference Committees

Ravi Baliga
Conference Chair

David Gross
Technical Program Chair

Douglas A Scarth
Conference Advisor

Clay D Rodery
Conference Operations Advisor

Sam Y Zamrik
Division Advisor

PVP Technical Program Representatives

Codes & Standards	Suresh Kalyanam
	Thomas Damiani
Computer Technology & Bolted Joints	Massimiliano De Agostinis
	Carlos Girao
Design & Analysis	Andrew Owens
	Kevin Mandeville
Fluid-Structure Interaction	Marwan Hassan
	Joaquin Moran
High-Pressure Technology	Sean Berg
	Megan Tribble
Materials & Fabrication	Preeti Doddihal
	Jessica Lam
Operations, Applications & Components	Ciska de Haan de Wilde
	Sarah Suffield
Seismic Engineering	Satoru Kai
	Gianluca Quinci
ASME NDPD Division	Vivek Agarwal
	Min Zhang

PVP Division Management Committee (2024-2025)

Yasumasa Shoji	Chair
Ravi Baliga	Vice Chair
David Gross	Communications Chair
Kannan Subramanian	Honors & Awards Chair
Alton Reich	Incoming Communications Chair

PVP Senate of Past Division Chairs

Clay D. Rodery	2023–24
Andrew J. Duncan	2022–23
Matthew R. Feldman	2021–22
Trevor G. Seipp	2020–21
Hakim A. Bouzid	2019–20
Pierre Mertiny	2018–19
Maher Y.A. Younan	2017–18
Douglas A. Scarth	2016–17
Marina B. Ruggles-Wrenn	2015–16
Daniel T. Peters	2014–15
Michael E. Nitzel	2012–14
Ronald S. Hafner*	2011–12
Young W. Kwon	2010–11
Luc H. Geraets*	2009–10
Artin A. Dermenjian	2008–09
James F. Cory, Jr.	2007–08
Judith A. Todd	2006–07
M. K. Au-Yang*	2005–06
Ismail T. Kisisel	2004–05
William J. Bees	2003–04
Howard H. Chung	2002–03
Joseph Sinnappan	2001–02
A. G. (Jack) Ware	2000–01
Robert F. Sammataro*	1999–00
Thou-Han Liu*	1998–99
William E. Short, II	1997–98
Richard C. Gwaltney*	1996–97
Shoei-Sheng Chen*	1995–96
Greg L. Hollinger	1994–95
Carl E. Jaske	1993–94
Rudy J. Scavuzzo*	1992–93
Sam Y. Zamrik	1991–92
G. E. Otto Widera*	1990–91
Robert H. Mallett*	1989–90
Robert W. Swindeman	1988–89
Alexander H. C. Marr	1987–88
Jeffrey T. Fong	1986–87
Don B. Van Fossen	1985–86
James R. Farr*	1984–85
Charles F. Nash	1983–84
Donald S. Griffin	1982–83
Richard H. Gallagher*	1981–82
L. Eugene Hulbert*	1980–81
Robert E. Nickell*	1979–80
Roger F. Reedy*	1978–79
David H. C. Pai*	1977–78
Pedro V. Marcal	1976–77
Harold H. Waite*	1975–76
Robert L. Cloud*	1974–75
Charles V. Moore	1973–74
Irwin Berman*	1972–73
Danos Kallas*	1971–72
Robert J. Cepluch*	1970–71
Charles F. Larson	1969–70
Gunther P. Eschenbrenner*	1968–69
Vito L. Salerno*	1967–68
Dana Young*	1966–67

*Deceased

PVP Division Technical Committee Chairs

Codes & Standards	Valéry Lacroix
Computer Technology & Bolted Joints	Reza Adibi-Asl
Design & Analysis	Alicia C. Avery
Fluid-Structure Interaction	Kazuaki Inaba
High-Pressure Technology	Kumarswamy Karpanan
Materials & Fabrication	Mo Uddin
Operations, Applications & Components	Alton Reich
Seismic Engineering	Osamu Furuya

PVP Division Administrative Committee Chairs

Membership & Engagement Chair	Vacant
Website & PVPD Newsletter Editor	David Gross
International Coordination	Hubert LeJeune

ASME Journal of Pressure Vessel Technology

Editor	Spyros A. Karamanos

ASME President and Executive Director/CEO

President	Lester K. Su (2025-2026)
Executive Director/CEO	Thomas Costabile

ASME Staff

Senior Manager, TEC Operations	Jamie Hart
Manager, Conferences and Events	Kim Miceli
Manager, Conferences and Events	Danielle Rojas
Manager, Conference E-Tools	Mark Avila
PVP Web Producer	Joe Okonkwo
Sr. Meetings Coordinator, Events Management	Josalind Mercado

WELCOME and ORIENTATION

A welcome and orientation session will be held on Monday, July 21st at 8:00 am in the Montréal Ballroom 4-5. Attendees will be introduced to how the conference is organized into technical sessions, tutorials and workshops, technology exhibits, technical committee meetings, as well as the various networking and social events. The Schedule at a Glance (SAAG) will be explained which, along with the Daily Session Listing, will help attendees to determine which presentations best fit their specific interests. Suggestions will be offered to assist attendees to make the most out of their PVP experience. Attendees will be given the opportunity to ask questions to get a better understanding and equip them for making their PVP experience a success from a personal and professional perspective.

OPENING CEREMONY and PLENARY SESSION

Pressure Vessel and Piping Technologies in a Rapidly Changing World

The Conference opens in the Montréal Ballroom 4-5 on Monday, July 21st at 10:15 am. Representatives of the PVP Division Leadership Team will welcome the attendees. The first plenary presentation will be delivered by Ralph S. Hill III, Managing Member of Hill Engineering Solutions LLC. The second plenary presentation will be delivered by Brian Macejko, Principal Engineer at The Equity Engineering Group, Inc.

Plenary Speaker

Ralph S Hill III
Hill Engineering Solutions, LLC
Meridian, ID, USA

Managing Complexity and the Authoritative Source of Truth

Two of the greatest challenges of technology in our rapidly changing world are complexity, how we manage it, and how we ensure that the information we use is from an authoritative source of truth. This presentation discusses the role of engineers in managing technical complexity using the integrated design workflow in the new ASME Plant Systems Design standard. It also discusses use of integrated project teams as authoritative sources of truth for use with new design tools, including artificial intelligence.

Plenary Speaker

Brian Macejko, P.E.
Principal Engineer I
The Equity Engineering Group, Inc., Shaker Heights, OH, USA

Leveraging Recent Advancements in Technology to Harmonize Equipment & Piping Minimum Permissible Temperature Limits

The ASME Board on Pressure Technology Codes and Standards recently initiated a task group to investigate the inconsistencies and inadequacies that exist between the various codes and standards that are used to establish minimum permissible temperature limits for pressure vessels and piping. The objective of the task group is to employ state-of-the-art fracture mechanics principals in the development of alternative methods to determine design and operating constraints. This presentation will summarize the associated background and technical basis (where applicable) of existing brittle fracture screening procedures while highlighting deficiencies and discrepancies. The presentation will also outline a new proposed approach, anchored in modern fracture mechanics, to safely optimize minimum temperature limits by leveraging knowledge of each key input parameter that drives susceptibility to brittle fracture. The new methodology would permit harmonization and alignment with the various design margins (i.e., allowable stress basis) associated with the different ASME codes and standards. The proposed procedures may be considered in the design and construction of new pressure vessels and piping systems as well as for implementation in post-construction Fitness-For-Service assessments of existing equipment and piping.

Coffee Breaks and Refreshments

Coffee and refreshments are available throughout the week in St-Laurent 1-2 (Congres Level). This hub of activity features exhibit booths and coffee breaks. Additionally, posters submitted from registrants as well as the finalists of the Rudy Scavuzzo Student Paper Competition will be on display.

HONORS and AWARDS ASSEMBLY

The ASME PVP Division Honors and Awards Assembly and Dinner, during which Division and selected ASME Society awards are presented, will be held on Wednesday, July 23, from 6:00 pm until 9:00 pm, in the Montréal Ballroom 4-8. The top PVP Division award, the ASME S. Y. Zamrik PVP Medal, will be presented to Dr. Hakim A. Bouzid.

ASME S. Y. Zamrik PVP Medal Recipient

Dr. Hakim A. Bouzid

Montréal, Quebec, Canada

Dr. Bouzid earned his undergraduate degree in Mechanical Engineering from the University of Nottingham, UK, in 1980. He then pursued a master's degree in Tribology at the Mechanical Engineering Department of the University of Leeds, UK, completing it in 1981. Following his MS, Dr. Bouzid worked in the energy sector, specializing in pressure equipment. He served as a maintenance and design engineer at Sonatrach (Oil & Gas), Algeria, and Invap SE (Nuclear), Argentina, until the mid-1980s.

He later transitioned into research, joining the HCR (Haut Commissariat à la Recherche) in Algeria as a research scientist until 1990. In 1991, he embarked on a Ph.D. program at École Polytechnique de Montréal, Canada, focusing on bolted flange connections. During his doctoral studies, Dr. Bouzid made pioneering contributions to bolted joint research, including significant work on creep-relaxation and leakage tightness of bolted flange joints. His publication, The Effect of Creep Relaxation on the Leakage Tightness of Bolted Flanged Joints, received the Outstanding Student Paper Award at the 1993 ASME PVP Conference, marking the beginning of his influential academic career.

After earning his Ph.D. in 1995, Dr. Bouzid took on a research management role at the Tightness Testing and Research Laboratory at École Polytechnique de Montréal. There, he continued his groundbreaking work on bolted joints through both experimental and analytical methods. One of his most highly cited contributions was the development of an accurate method for evaluating relaxation in bolted flange connections. His research extended to gasket performance, including corrosion quantification tests for graphite-based gaskets and service temperature characterization of polytetrafluoroethylene-based gaskets.

In 2000, Dr. Bouzid joined ÉTS (École de Technologie Supérieure), Canada, as an Associate Professor, earning tenure as a full Professor in 2005. He has since continued his research in bolted joints while teaching both undergraduate and graduate courses in Mechanical Engineering. Over the years, he has advised more than 65 graduate students and has authored over 250 publications in bolting and fastening analysis and advanced engineering methods.

Dr. Bouzid has also played a key role as an Editor and Reviewer for scientific journals and conferences. He served as an Associate Editor for the ASME Journal of Pressure Vessel Technology from 2012 to 2017. Additionally, he has been actively involved in developing engineering codes and standards, contributing to ASME's Special Working Group on Bolted Flange Connections and the Post Construction Subcommittee on Flange Joint Assembly (PCC-1). His contributions have been integral to the development of ASME PCC-1 Standard, ASME Non-Mandatory Appendix BFJ, ASTM WK61856, and ASTM F2836.

Since 2003, Dr. Bouzid has been a key figure in ASME's Pressure Vessels & Piping (PVP) Division. He organized the Symposium on the Analysis of Bolted Joints and, in 2007, became the Technical Program Representative for Computer Technology and Bolted Joints (CTBJ). Elevated to ASME Fellow in 2010, he later chaired the CTBJ Committee (2010-2013) and ascended to Division Leadership, serving as Conference Chair for PVP2019 in San Antonio, Texas, and as PVP Division Chair in 2019.

Dr. Bouzid has demonstrated exceptional leadership in ASME, particularly through the establishment of the ASME Bolted Joint Reliability Symposium, which attracts professionals from the petrochemical, refining, and utility industries. He served on the ASME Fellows Review Committee from 2018 to 2024 and the S.Y. Zamrik PVP Medal Committee from 2020 to 2023 and has received numerous accolades from ASME and the PVP Division, recognizing his invaluable contributions to the field and the engineering community.

At present, Dr. Hakim is a Professor of Mechanical Engineering Department at École de Technologie Supérieure, Montreal, Québec, Canada.

TUTORIALS

Tutorials offer both the experienced and early career engineers excellent opportunities to refresh their knowledge and to venture into specific technical areas outside their expertise. Admission to the tutorials is free for Conference Registrants.

Special Tutorial: This is a one-hour or two-hour conference session, held on Sunday afternoon. The session leader will make available the necessary presentation material.

Technical Tutorials: These tutorials are approximately four hours in length. Technical Tutorials fill two consecutive Conference session blocks and are integrated into the Conference session schedule. The Technical Tutorial notes will be available in electronic format.

Each attendee will receive a Certificate of Attendance, as proof that the attendee has participated in the Special Tutorial, or the Technical Tutorial.

PVP Division will not assign Continuing Education Units (CEUs) on these certificates. However, attendees may negotiate CEU credits with their respective licensing boards.

Outlines of the tutorials for the 2025 PVP Conference are presented below.

SPECIAL TUTORIAL

Developing Yourself into a Future PVP Leader

Clay D Rodery, C&S Technology LLC

Sunday, July 28, 4:00 pm – 6:00 pm
Montreal 1-2 (Congres Level))

Industry continues to experience attrition of experienced specialists and advisors, and the pressure vessels and piping community is no exception. There is a continuous challenge in developing and sustaining competent technical and business-savvy individuals to step in and continue to contribute effectively. This represents a golden opportunity for those early career professionals who choose to seize it. This special tutorial will offer insights and tips to aspiring PVP leaders, including: how to be more effective, good technical/communication/behavioral skills to develop, interview tips, and other ideas on how to enhance their personal and professional value. The tutorial will include panelists who themselves are emerging leaders within the PVP Divisions who will provide their own insights. Panelists include Nathan Barkley (Becht), Ciska de Haan-de Wilde (NRG), Andrew Owens (TerraPower), Haiyang Qian (GE Gas Power) and Melanie Sarzynski (Becht).

Some of the topics to be covered include:

- Suggestions on how to develop and enhance your technical skills
- Developing business awareness to help make balanced technical/business decisions and recommendations
- The role of studying industry failures to help one ask better questions on "what can go wrong?" and understanding the role of consequences in making better decisions
- Writing and speaking—you are going to be doing a lot, so you better get good at it
- Interviewing: some different types and some ideas on how to prepare to put your best foot forward
- How to help your boss understand your value and advocate for you

TECHNICAL TUTORIALS

A Detailed Overview of ASME PCC-2; Repair of Pressure Equipment and Piping

Steven Roberts, Shell Global Solutions (US) Inc.

Monday, July 21, 2:00 pm – 3:45 pm (Part 1), and 4:15 pm – 6:00 pm (Part 2)

Montreal 1-2 (Congres Level)

This technical tutorial will provide a detailed review of each article contained in ASME Standard PCC-2. As applicable, the presentation will cover the following elements for each article. Description Limitations Design Fabrication Examination Pressure Testing The session will conclude with a brief summary of new items under consideration by the Committee.

Attendees will learn the history of the Post Construction Committee and then move into each Part of the standard. Attendees will gain understanding on how the content is delivered, what is in the scope of the standard and what is not in the scope of the standard.

Attendees will gain understanding that PCC-2 provides methods for repair of equipment, piping, pipelines, and associated ancillary equipment within the scope of ASME Pressure Technology Codes and Standards after they have been placed in service. These repair methods include relevant design, fabrication, examination, and testing practices and may be temporary or permanent, depending on the circumstances.

The presentation will be by PowerPoint slides with discussion opportunities for the content of the articles.

PCC-2 is one of three standards under the Post Construction Committee (PCC).

PCC-1 is Pressure Boundary Bolted Flange Joint Assembly

PCC-3 is Inspection Planning Using Risk-Based Methods.

All three standards are approved as American National Standards by ANSI.

Artificial Intelligence in Engineering for Pressure Vessels and Piping

Maria Ortiz de Zúñiga López-Chicheri, Fusion for Energy, Ross Allen, Consultant; Nawal Prinja, Prinja and Partners

Tuesday, July 22, 10:15 am – 12:00 pm (Part 1), and 2:15 pm – 4:00 pm (Part 2)

Montreal 1-2 (Congres Level)

The artificial intelligence wave has been building up for the last decades and is now at its peak. As the world embraces the transformative power of Artificial Intelligence (AI), the role of mechanical engineers in industry evolution becomes increasingly pivotal. The "Integrating AI in Mechanical Engineering for Pressure Vessels and Piping" workshop aims to equip mechanical engineers with the knowledge and skills to harness AI technologies for innovation and automation within their field. Mechanical engineering, and more specifically the field of pressure vessels and piping, has recently started exploring AI as a new set of solutions and the potential of its application in the field.

As a summary, this tutorial will delve into the fundamental concepts of AI and its applications in mechanical engineering, providing participants with a comprehensive understanding of how AI can enhance traditional engineering practices.

A special forum session on the future of AI within the PVP Conference will take place after the break following Part 2 of the AI tutorial, in the same room. Members of the Committee on Growth will begin with a brief presentation on the current developments and growth of AI in PVP Division. This will be followed by an open discussion exploring the relevance, opportunities, and future integration of AI in the conference and across the various PVP technical committees.

Probabilistic Fracture Mechanics – Then, Now and Tomorrow

David Rudland, United States Nuclear Regulatory Commission; DJ Shim, EPRI; Nate Glunt, EPRI

Wednesday, July 23, 8:00 am – 9:45 am (Part 1), and 10:15 am – 12:00 pm (Part 2)

Montreal 1-2 (Congres Level)

Probabilistic Fracture Mechanics (PFM) has been a technique used over the years to better quantify uncertainties and more accurately represent the behavior structural nuclear components. It has been used to provide the technical justification for the performance demonstration of Non-Destructive Examination (NDE) systems, to rank the locations for Risk Informed In-Service Inspection (RI-ISI), to help define regulations, to optimize requirements and to enhance the technical basis of Probabilistic Risk Assessment (PRA).

To meet the increasing demand to extend the design life of the existing nuclear power plants to 60 years and beyond, the structural integrity assessment of pressure boundary components is moving away from conservative deterministic assessments to probabilistic assessments to quantify the uncertainty in critical input parameters such as material properties (particularly fracture toughness and tensile properties), flaw growth rate, and inspection uncertainty. This movement toward more use of probabilistic techniques is driven by this need but allowed due to advances in computer capability.

The objective of this tutorial is to provide the audience a high-level summary of the history, development, uses and ongoing strides for regulatory approval of PFM This tutorial includes three modules.

An Overview of ASME Section VIII, Division 3 Design Methods

Daniel T. Peters, Atlas Consulting, LLC

Thursday, July 24, 8:00 am – 9:45 am (Part 1), and 10:15 am – 12:00 pm (Part 2)

Montreal 1-2 (Congres Level)

ASME Boiler and Pressure Vessel Code Section VIII Division 3 is intended to provide requirements applicable to the design, fabrication, inspection, testing, and certification of pressure vessels dedicated to high-pressure vessels, typically those operating above 10,000 psi. This presentation offers a unique perspective on the design methods covered in the code by one who has been engaged in design and manufacture of high-pressure vessels for 30 years and served as committee chair for the past 9 years. Design topics will be discussed in depth and will provide an overview of methods and be used as a companion to Division 3 by Manufacturers and Users of high-pressure vessels.

TECHNOLOGY EXHIBITS

Monday, July 21, 8:00 am – 6:00 pm and Tuesday, July 22, 8:00 am – 6:00 pm

St-Laurent 1-2 (Congres Level)

The Conference Exhibits will be held on Monday July 21st and Tuesday July 22nd. Exhibitors and sponsors will present and discuss their capabilities, equipment, and services in the St-Laurent 1-2 Room.

NETWORKING RECEPTION

Tuesday, July 22, 5:30 pm – 7:00 pm

St-Laurent 1-2 (Congres Level)

A Networking Reception will be held from 5:30 to 7:00 pm on Tuesday, July 22. This event brings together industry and academia around a table to discuss possible future collaboration on potential projects. Snacks and a cash bar will be served.

SOCIAL PROGRAMS and TOURS

Conference-Wide Reception

Monday, July 21, 6:15 pm – 8:00 pm

St-Laurent 1-2 (Congres Level)

All who registered are invited to attend the Conference Wide Reception. Meet with your colleagues, many of whom you may not have seen for a while. Join with the registrants and guests for a relaxing evening. We will have displays of

student paper posters at the reception. All student authors who participate in the 27th Rudy Scavuzzo Student Paper Symposium and Competition are invited to present their posters.

No charge for registered conference participants and guests.

Discover Montréal: A 4-Hour Sightseeing Motorcoach Tour

Monday, July 21, 10:00 am (lunch on your own)

Embark on an enchanting 4-hour sightseeing tour of Montreal, where history, culture, and breathtaking views come together for an unforgettable experience. This guided tour offers a panoramic exploration of the city's most iconic landmarks without visiting any sites, allowing you to admire their beauty from the comfort of the coach. Along the way, you'll enjoy short stops at select locations for photo opportunities and to stretch your legs. A lunch break is also included. Throughout the tour, your expert guide will share fascinating stories and historical insights, offering a deep dive into Montreal's heritage - all while you sit back and enjoy the ride. Tour includes: Bus transportation, live guided commentary, short stops at key locations for photos, a lunch break (meal not included.

Tickets: $85 per person ($50 for Children under 18 years).

You may go back into your conference registration to add tickets online. Instructions are in your confirmation email or contact.

Explore Old Montreal: Walking Tour through History and Architecture

Tuesday, July 22, 10:00 am or 11:00 am (lunch on your own)

Join us on an exciting 2-hour walking tour through the heart of Old Montreal, where you'll uncover the rich history, stunning architecture, and hidden gems of one of the city's most iconic neighborhoods. From underground passages to lively squares, this tour is an immersive experience that will bring Montreal's past to life.

There are 2 Old Montreal Walking Tours offered with a limited number of attendees allowed at each. You may only select either Tour 1 (Starts at 10 am) or Tour 2 (starts at 11 am).

Tickets: $50 per person (Adults and Children).

You may go back into your conference registration to add tickets online.

CONFERENCE INFORMATION

Technical Sessions and Programs

All technical sessions will be held in the meeting area of the hotel. Each room will be equipped with an LCD projector that can be connected to a personal computer for electronic presentations (e.g., Microsoft PowerPoint). Please note that ASME will not provide personal computers. Personal computers are the responsibility of the Session Developer, or presenter. It is strongly recommended that authors provide their materials to the Session Developer or Session Chair at, or before, the Authors' Breakfast, so that all the papers in a session can be loaded onto a single computer. Authors are recommended to transfer their presentation utilizing file sharing methods as opposed to USB devices, for which many companies have restrictions on their use due to security concerns.

The location of the session rooms is shown in the hotel floor plan on the inside back cover of this program.

Badge Required for all Events

Please wear your badge for admission to all Conference activities.Your badge also provides a helpful introduction to other Conference attendees.

Rudy Scavuzzo Student Paper Competition

The Rudy Scavuzzo Student Paper Competition was sponsored by the Senate of Past Chairs of the PVP Division for the 2025 Conference. The undergraduate and graduate student papers were judged in two categories: the BS/MS level and the Ph.D. level. Papers were judged and winners were selected prior to the Conference. In each category (i.e., BS/MS and Ph.D.), $1,500 will be awarded to the lead author of the Outstanding Student Paper; $1,200 will be awarded to the lead author of the First Runner-Up Student Paper, and $1,000 will be awarded to the lead author of the Second Runner-Up Student Paper. Students in the competition must attend the Conference. The winners will be announced at the Honors and Awards Assembly and Dinner.

Technical Committee Meetings
Tuesday, July 22, 12:00 pm – 1:45 pm
Wednesday, July 23, 12:00 pm – 1:45 pm

The Pressure Vessels & Piping Division Technical Committees will meet during the noon breaks on Tuesday, July 22, and Wednesday, July 23. Visitors are encouraged to attend and take an active part in PVP committee activities. All committee meetings, schedules and rooms are listed under PVP 2025 Committee Meetings on page _.

PVP Division Honors and Awards Assembly and Dinner
Wednesday, July 23, 6:00 pm – 8:30 pm
Montreal Ballroom 4-8, Congres Level

The Honors and Awards Assembly and Dinner, honoring all Division Award Recipients and the 2025 ASME S.Y. Zamrik PVP Medalist, Hakim Bouzid, will be held on Wednesday, July 23, from 6:00 pm until 9:00 pm, in the Montreal Ballroom 4-8. One ticket is included in the full Conference registration fee. Additional tickets may be purchased at the Conference Registration desk.

Authors' Breakfast/Briefing
Monday, July 21 – Thursday, July 24, 7:00 am – 7:45 am
Salon Ville-Marie, Lobby Level (Monday)
Montreal Ballroom 4-5, Congres Level (Tuesday – Thursday)

Authors, Panelists, Chairs, and Co-Chairs are required to attend a breakfast briefing in the indicated rooms on Monday through Thursday, at 7:00 am, on the morning of their sessions. Session protocol will be discussed, and the participants will have the opportunity to become better acquainted with one another before their scheduled sessions. Authors are encouraged to place all the presentations for their session on a single computer before or at the Authors' Breakfast.

Registration Hours

Inscription, Congres Level

Located in Inscription, the ASME registration desk will be open during the following hours, to provide advance registrants with their materials, to process on site registrations, and to provide additional Conference information.

Sunday, July 20	10:00 am – 6:00 pm
Monday, July 21	7:30 am – 6:00 pm
Tuesday, July 22	7:30 am – 4:00 pm
Wednesday, July 23	7:30 am – 3:00 pm
Thursday, July 24	7:30 am – 10:00 am

On-Site Registration Fees

For those not registered in advance, the On-Site Registration Fees are as follows:

	Full Registration*	One Day Registration**
ASME Member	$1250	$800
Cooperating Society Member***	$1250	$800
Non-Member****	$1450	$960
ASME Life Member †	$600	$385
ASME Student Member ‡	$600	$385
Student Non-Member ‡	$700	$450
Extra Ticket Awards Dinner (Wednesday Night)	$75	–

*	Full Registration fees include admission to all technical sessions, coffee breaks, Conference-Wide Reception, one (1) ticket for the Honors and Awards Assembly and Dinner (please RSVP during registration), and online access to the Conference Technical Papers.
**	One Day Registration Fee includes: Admission to all technical sessions, and coffee breaks for the one day.
***	To qualify for discounted registration fees, you must be a member of ASME, or one of the Cooperating Societies. If you are a member of a cooperating society please contact micelik@asme.org.
****	Anyone paying the non-member fee is eligible to receive 4 month membership to ASME as part of their registration fee.
†	Registration under this category includes admission to all technical sessions, coffee breaks, Conference-Wide Reception, one (1) ticket for the Honors and Awards Assembly and Dinner, and online access to the Conference Technical Papers.
‡	Student Registration Fees include admission to all technical sessions, coffee breaks, Conference-Wide Reception, and online access to the Conference Technical Papers. Students not in the Student Paper Competition will be required to purchase a ticket to attend the Honors and Awards Assembly and Dinner.
‡‡	Guests wishing to attend the Honors and Awards Assembly and Dinner will be required to purchase a ticket.

Cooperating Societies

If you are a member of a Cooperating Society, you may register at the ASME member rate.

Conference App

PVP2025 will utilize a mobile event app, ASME Conferences, in place of a printed program. All registered attendees will receive an email with instructions for download and use of the app. The subject of the email will be: Log on to PVP2025 and get started with the ASME Conferences App!

The ASME Conferences App allows the user to access event content and connect with other attendees in advance. It also allows for attendees to "build" their own schedule by sessions, individual presentations, networking sessions, committee meetings and more. Schedule sections may be searched by paper number, session number, author, presentation type, track, date, or session organizer.

It is recommended that attendees only download the ASME Conferences app through the official Apple App Store or Google Play Store to avoid counterfeit websites offering mobile apps. Attendees can apply the same login credentials used to activate their ASME profile to access the ASME Conferences app. Attendees should make sure their phone's operating system is up to date, and are running the most recent version of the app for the best experience.

Conference Publications

Information on paper titles and authors are included in the Final Program. All attendees registered for the entire Conference (i.e., Full Registration) will receive online access to the Conference Technical Papers presented at the Conference. If you pre-register to the Conference prior to July 19, 2025 you will be able to download the technical papers online at the link that will be sent to you by email prior to the conference. It is recommended to download the batch file before coming to the Conference. Conference papers will also be available on the conference app.

Post-conference, papers presented at the Conference will be published as the official Proceedings on the ASME Digital Collection. (http://asmedigitalcollection.asme.org)

The official proceedings will also be available post-conference in printed bound volumes of the Official Conference Proceedings. Printed proceedings can be ordered at https://www.proceedings.com/ approximately three to four months after the Conference. All ASME Conference Proceedings are submitted to be indexed in Scopus, Compendex, ISI Conference Proceedings Citations Index, and in multiple other indexing publishers.

Disabled Registrants

Whenever possible, arrangements can be made for disabled registrants, if advance notice is given. Please indicate any special needs on the registration form or contact Kim Miceli at: micelik@asme.org to process your request.

Tax Deductibility

Expenses of attending professional meetings have been held to be tax deductible as ordinary business expenses for U.S. citizens. Please verify the tax regulations in your country to determine whether Conference expenses are deductible.

Guest/Family Programs

Guests and family members of registrants are welcome to the Guest Programs that include: Discover Montreal Motorcoach Tour (Monday), the Conference Wide Reception in St-Laurent 1-2 (Monday evening), and the Explore Old Montreal Waling Tour (Tuesday). Tickets are required for admission to all events. Please also note that some tours have an associated fee for participants. Early registration is strongly recommended for the events that require fees, as they are available only on a first-come, first-served basis.

Childcare Services

We are pleased to offer childcare reimbursement for attendees of PVP2025. For those who need childcare services, ASME will reimburse up to a total of $250/per registered attendee for services incurred by a licensed service provider in Montreal, Quebec, Canada. This offering will be available from July 20 – 25, 2025, during the hours of days in which technical presentations are offered.

To be reimbursed, you must complete the ASME Volunteer Travel Expense Contribution form, which may be found at the following link: https://event.asme.org/Events/media/library/resources/Volunteer-Expense-Reimbursment-Report-2022.xlsx

All requests for reimbursements must be received by ASME, with itemized receipts, no later than TWO WEEKS FROM LAST DAY OF CONFERENCE.

If you have questions related to this benefit, please contact Krishna Hernandez at hernandezk@asme.org.

NOTE: ASME suggests you may wish to consult with your local hotel concierge for licensed service provider suggestions.

Professional Development Hours Available

Professional Development Hours are available for your attendance at the PVP Conference. Simply stop by the Registration Desk and fill out a certificate request form with the sessions that you have attended. The certificates will be sent to the emails specified on the forms.

Publishing Conference Papers in the ASME Journal of Pressure Vessel Technology

Technical papers presented at PVP2025 are published in the form of the ASME Conference Proceedings. Publication of papers in these proceedings does not preclude authors from publishing their papers in ASME archival journals, such as the ASME Journal of Pressure Vessel Technology (JPVT), which is the technical voice of the Pressure Vessels & Piping Division. Authors are encouraged to submit their papers to the Journal.

The Journal is edited by Dr. Spyros A. Karamanos, and manuscripts should be submitted to him through the URL address: https://journaltool.asme.org/home/JournalDescriptions.cfm?JournalID=14&Journal=PVT. Manuscripts should be prepared according to the ASME Journals author resources, which can be found in the link: https://journaltool.asme.org/home/AuthorResources.cfm

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PVP2025 COMMITTEE MEETINGS

Date/Time	Meeting	Room	Responsible Person
Saturday, July 19, 2025			
4:00 pm – 6:00 pm	PVPD Senate Operations Committee	Outremont 1	A. Duncan
Sunday, July 20, 2025			
8:30 am – 12:00 pm	PVP Division Leadership Team	Salon Bonaventure	Y. Shoji
Monday, July 21, 2025			
8:00 am – 9:45 am	PVPD Professional Development	Salon Bonaventure	A. Duncan
8:00 am – 9:45 am	Women in PVP Task Force	Outremont 5	M. Feldman
Tuesday, July 22, 2025			
8:00 am – 4:00 pm	ASME BPV Code Subgroup on High Pressure Vessels	Outremont 5	K. Subramanian/A. Dinizulu
8:00 am – 9:45 am	PVPD Communications Committee	Salon Bonaventure	D. Gross
10:15 am – 12:00 pm	PVP2026 Program Committee	Salon Bonaventure	D. Gross
12:00 pm – 1:50 pm	PVPD Codes and Standards Technical Committee	Montreal 1-2	V. Lacroix
12:00 pm – 1:50 pm	PVPD Operations, Applications and Components Technical Committee	Westmont 6	A. Reich
12:00 pm – 1:50 pm	PVPD High Pressure Technology Technical Committee	Outremont 5	K. Karpanan
12:00 pm – 1:50 pm	PVPD Design and Analysis Technical Committee	Salon Bonaventure	A. Avery
12:00 pm – 1:50 pm	PVPD Advanced Energy Special Technical Committee	Salon Ville-Marie	S. Finneran
2:00 pm – 3:45 pm	PVPD International Coordination Committee	Salon Bonaventure	H. Lejeune
4:15 pm – 6:00 pm	PVPD Honors and Awards Committee (CLOSED MEETING)	Salon Bonaventure	K. Subramanian
Wednesday, July 23, 2025			
10:15 am – 12:00 pm	JPVT Editors	Salon Bonaventure	S. Karamanos
12:00 pm – 1:50 pm	PVPD Materials and Fabrication Technical Committee	Montreal 1-2	M. Uddin
12:00 pm – 1:50 pm	PVPD Fluid-Structure Interaction Technical Committee	Westmont 6	K. Inaba
12:00 pm – 1:50 pm	PVPD Seismic Engineering Technical Committee	Outremont 5	O. Furuya
12:00 pm – 1:50 pm	PVPD Computer Technology and Bolted Joints Technical Committee	Salon Bonaventure	R. Adibi-Asl
4:15 pm – 5:30 pm	PVPD Early Career Engineers Feedback Session	Salon Bonaventure	T. Seipp
Thursday, July 24, 2025			
12:00 pm – 3:45 pm	PVPD General Committee	Salon Bonaventure	R. Baliga
4:15 pm – 6:00 pm	PVPD Conference Evaluation	Salon Bonaventure	M. Feldman
Friday, July 25, 2025			
8:15 am – 6:00 pm	Study Group on Materials Testing & Qualification for H2 Service	Montreal 1-2-3	C. San Marchi
7:30 am – 12:00 pm	PVP Division Leadership Team	Salon Bonaventure	R. Baliga

CALL FOR PAPERS

2026 ASME Pressure Vessels & Piping Conference

ABSTRACTS DUE – OCTOBER 13, 2025

JOIN US AT THE 2026 ASME PVP CONFERENCE

JULY 19 – 24, 2026, AT THE HILTON ANAHEIM

ANAHEIM, CA, USA

CELEBRATING 60 YEARS OF SERVICE TO THE PRESSURE VESSELS AND PIPING INDUSTRY

Join us in Anaheim, CA, USA as we celebrate the 60th Anniversary of the ASME Pressure Vessels & Piping® Conference! The PVP Conference is the ideal platform to keep up with new technologies, network and interact with experts, practitioners, and peers in the Pressure Vessels & Piping area. The PVP Conference is a recognized international forum with participants from more than 40 countries in Europe, Africa, the Middle East, Asia, the Americas and the Oceania islands. The ASME Pressure Vessels & Piping Division sponsors the PVP Conference with participation by the ASME NDPD Division.

PAPER & PANEL SESSIONS

More than 160 paper and panel sessions are planned, including tutorials, workshops, and Technology Exhibits. General topics will include:

- Advanced Energy (New!)
- Codes & Standards
- Computer Technology & Bolted Joints
- Design & Analysis
- Fluid-Structure Interaction
- High-Pressure Technology
- Materials & Fabrication
- Non-Destructive Examination
- Operations, Applications & Components
- Seismic Engineering

SCHEDULE FOR SUBMISSION [TENTATIVE]*

October 13, 2025	Abstracts are due
November 10, 2025	Abstract Accept/Reject Notification
January 20, 2026	Submission of Full-Length Paper for Review
March 2, 2026	Notification of Full-Length Paper Acceptance
March 17, 2026	Submission of Revised Full-Length Paper for Review (if required)
March 30, 2026	Notification of Acceptance of Revised Full-Length Paper
April 16, 2026	Copyright Agreement Form (for each paper co-author) Final Deadline
April 20, 2026	Technical Paper and Presentation Author Registration Deadline
April 20, 2026	Final Manuscripts in ASME format for publication due

**All final manuscripts must be submitted in the standard ASME format for publication. All presented technical papers will be published as citable documents available post-conference.*

FOR MORE INFORMATION

PVP Conference Chair
David Gross
Dominion Engineering, Inc.
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PVP Technical Program Chair
Kannan Subramanian
Structural Integrity Associates, Inc.
ksubramanian@structint.com

ASME SETTING THE STANDARD

SESSION TITLES BY SESSION BLOCK

Sessions are arranged in Session Blocks in the format X.YZ, where: X indicates the Day, Y indicates the Session Block, and Z indicates the Conference Session Room. Conference Session Rooms are as follows: A = St-Laurent 3; B = St-Laurent 4; C = St-Laurent 5; D = St-Laurent 6; E = St-Laurent 7; F = St-Laurent 8; G = Montreal 3; H = Montreal 6; I = Montreal 7; J = Montreal 8; K = Outremont 1; L = Outremont 4; M = Outremont 6; N = Outremont 7; O = Westmount 2; P = Westmount 5; Q = Westmount 6; R = Montreal 1-2; S = St-Laurent 1-2; T = Montreal 4-5. The parenthetical designations are the Technical Committee session references.

The Technical Committee and other acronyms used are shown below:

- CS = Codes & Standards
- CT = Computer Technology & Bolted Joints
- DA = Design & Analysis
- EI = Engineering Intelligence
- FSI = Fluid–Structure Interaction
- HT = High Pressure Technology
- MF = Materials & Fabrication
- NDE = ASME NDE, Diagnosis and Prognosis Division
- OAC = Operations Applications, & Components
- PS = Plenary Session
- SE = Seismic Engineering
- TE = Technology Exhibits
- TW = Technical Tutorials
- WO = Welcome and Orientation Session

All sessions are sponsored by the indicated Technical Committee unless specifically noted in the daily listing of individual sessions beginning on page 18.

Sunday, July 20, 2025

Block 0.4: Sunday, July 20, 2025 (4:00 pm – 6:00 pm)

0.4F (TW-01-01) SPECIAL TUTORIAL – DEVELOPING YOURSELF INTO A PVP LEADER

Monday, July 21, 2025

Block 1.1: Monday, July 21, 2025 (8:00 am – 9:45 am)

1.1T (WO-01-01) WELCOME AND ORIENTATION
1.1S (TE-01-01) TECHNOLOGY EXHIBITS – 1

Block 1.2: Monday, July 21, 2025 (10:15 am – 12:00 pm)

1.2T (PS-01-01) OPENING CEREMONY AND PLENARY LECTURES
1.2S (TE-01-02) TECHNOLOGY EXHIBITS – 2

Block 1.3: Monday, July 21, 2025 (2:00 pm – 3:45 pm)

1.3A (CS-25-01) FATIGUE AND FRACTURE ASSESSMENT & MANAGEMENT – A PROBABILISTIC PERSPECTIVE
1.3B (DA-12-01) THE NOEL O'DOWD MEMORIAL SYMPOSIUM ON FRACTURE: FRACTURE – 1
1.3C (HT-01-01) DESIGN, ANALYSIS AND LIFE PREDICTION OF HIGH-PRESSURE VESSELS AND EQUIPMENT
1.3D (MF-11-01) SMALL-SCALE AND MINIATURE MECHANICAL TESTING (JOINT WITH C&S)
1.3E (CS-01-01) STRUCTURAL INTEGRITY OF PRESSURE COMPONENTS – 1
1.3F (CS-07-01) THE WARREN H. BAMFORD MEMORIAL SYMPOSIUM ON RECENT DEVELOPMENTS IN ASME CODES AND STANDARDS – 1
1.3G (MF-06-01) MATERIALS AND TECHNOLOGIES FOR NUCLEAR POWER PLANTS – 1
1.3H (MF-02-01) MATERIALS FOR HYDROGEN SERVICE (JOINT WITH C&S) – 1
1.3I (DA-02-01) DESIGN AND ANALYSIS OF PIPING, PIPELINES, AND COMPONENTS – 1
1.3J (CT-01-01) DESIGN AND ANALYSIS OF BOLTED FLANGE JOINTS – 1
1.3K (HT-02-01) STRUCTURES UNDER EXTREME LOADING CONDITIONS (JOINT WITH FSI) – 1
1.3L (OAC-01-01) SAFETY, RELIABILITY, AND RISK MANAGEMENT
1.3M (MF-20-01) MATERIAL QUALITY AND FAILURE ANALYSIS – 1
1.3N (SE-01-01) EARTHQUAKE RESISTANCE AND SEISMIC MARGIN
1.3O (FSI-02-01) THE FUMIO HARA MEMORIAL SESSION ON TUBE ARRAYS 1
1.3P (MF-15-02) FATIGUE AND FRACTURE OF WELDS AND HEAT AFFECTED ZONES – 2 – SRC SYMPOSIUM – 1
1.3Q (DA-09-01) PIPING AND EQUIPMENT DYNAMICS AND DYNAMIC RESPONSE ANALYSIS – 1
1.3R (TW-02-01) TECHNICAL TUTORIAL – A DETAILED OVERVIEW OF ASME PCC-2; REPAIR OF PRESSURE EQUIPMENT AND PIPING – PART 1
1.3S (TE-01-03) TECHNOLOGY EXHIBITS–3

Block 1.4: Monday, July 21, 2025 (4:15 pm – 6:00 pm)

1.4A (MF-15-01) FATIGUE AND FRACTURE OF WELDS AND HEAT AFFECTED ZONES – 1
1.4B (DA-12-02) THE NOEL O'DOWD MEMORIAL SYMPOSIUM ON FRACTURE: FRACTURE – 2
1.4C (HT-06-01) DESIGN AND ANALYSIS OF HIGH-PRESSURE EQUIPMENT FOR OIL AND GAS EXPLORATION AND PRODUCTION
1.4D (CS-19-01) FRACTURE TOUGHNESS AND OTHER SMALL SPECIMEN MECHANICAL PROPERTIES (JOINT WITH M&F) – 1
1.4E (CS-01-02) STRUCTURAL INTEGRITY OF PRESSURE COMPONENTS – 2
1.4F (CS-07-02) THE WARREN H. BAMFORD MEMORIAL SYMPOSIUM ON RECENT DEVELOPMENTS IN ASME CODES AND STANDARDS – 2
1.4G (MF-06-02) MATERIALS AND TECHNOLOGIES FOR NUCLEAR POWER PLANTS – 2
1.4H (MF-02-02) MATERIALS FOR HYDROGEN SERVICE (JOINT WITH C&S) – 2
1.4I (DA-02-02) DESIGN AND ANALYSIS OF PIPING, PIPELINES, AND COMPONENTS – 2
1.4J (CT-01-02) DESIGN AND ANALYSIS OF BOLTED FLANGE JOINTS – 2
1.4K (HT-02-02) STRUCTURES UNDER EXTREME LOADING CONDITIONS (JOINT WITH FSI) – 2
1.4L (OAC-02-01) QUALIFICATION AND TESTING
1.4M (MF-20-02) MATERIAL QUALITY AND FAILURE ANALYSIS – 2
1.4N (SE-02-01) SEISMIC ISOLATION
1.4O (FSI-02-02) TUBE ARRAYS 2
1.4P (MF-15-03) FATIGUE AND FRACTURE OF WELDS AND HEAT AFFECTED ZONES – 3 – SRC SYMPOSIUM – 2
1.4Q (DA-09-02) PIPING AND EQUIPMENT DYNAMICS AND DYNAMIC RESPONSE ANALYSIS – 2
1.4R (TW-02-02) TECHNICAL TUTORIAL – A DETAILED OVERVIEW OF ASME PCC-2; REPAIR OF PRESSURE EQUIPMENT AND PIPING – PART 2
1.4S (TE-01-04) TECHNOLOGY EXHIBITS – 4

Tuesday, July 22, 2025

Block 2.1: Tuesday, July 22, 2025 (8:00 am – 9:45 am)

2.1A (CS-16-01) FATIGUE AND RATCHETING ISSUES IN PRESSURE VESSEL AND PIPING DESIGN – 1
2.1B (DA-12-03) THE NOEL O'DOWD MEMORIAL SYMPOSIUM ON FRACTURE: FRACTURE – 3
2.1C (CT-08-01) NEW AND EMERGING METHODS OF ANALYSIS AND APPLICATIONS
2.1D (CS-19-02) FRACTURE TOUGHNESS AND OTHER SMALL SPECIMEN MECHANICAL PROPERTIES (JOINT WITH M&F) – 2
2.1E (CS-24-01) PROBABILISTIC AND RISK-INFORMED METHODS FOR STRUCTURAL INTEGRITY ASSESSMENT (JOINT WITH M&F)
2.1F (CS-07-03) THE WARREN H. BAMFORD MEMORIAL SYMPOSIUM ON RECENT DEVELOPMENTS IN ASME CODES AND STANDARDS – 3
2.1G (MF-06-03) MATERIALS AND TECHNOLOGIES FOR NUCLEAR POWER PLANTS – 3
2.1H (MF-02-03) MATERIALS FOR HYDROGEN SERVICE (JOINT WITH C&S) – 3
2.1I (DA-02-03) DESIGN AND ANALYSIS OF PIPING, PIPELINES, AND COMPONENTS – 3
2.1J (CT-01-03) DESIGN AND ANALYSIS OF BOLTED FLANGE JOINTS – 3
2.1K (FSI-03-01) STRUCTURES UNDER EXTREME LOADING CONDITIONS – 1
2.1L (OAC-03-01) MONITORING, DIAGNOSTICS & INSPECTION – 1
2.1M (MF-25-01) HIGH STRENGTH STEELS FOR PRESSURE VESSELS AND PIPING APPLICATIONS
2.1N (SE-05-01) STRUCTURAL DYNAMICS – 1
2.1O (FSI-02-03) TUBE ARRAYS 3
2.1P (MF-15-04) FATIGUE AND FRACTURE OF WELDS AND HEAT AFFECTED ZONES – 4 – SRC SYMPOSIUM – 3
2.1S (TE-02-01) TECHNOLOGY EXHIBITS – 5

Block 2.2: Tuesday, July 22, 2025 (10:15 am – 12:00 pm)

2.2A (CS-16-02) FATIGUE AND RATCHETING ISSUES IN PRESSURE VESSEL AND PIPING DESIGN – 2
2.2B (DA-12-04) THE NOEL O'DOWD MEMORIAL SYMPOSIUM ON FRACTURE: FRACTURE – 4
2.2C (DA-08-01) FITNESS FOR SERVICE EVALUATIONS – 1
2.2D (CS-20-01) MASTER CURVE METHOD AND APPLICATIONS
2.2E (MF-10-01) PIPELINE INTEGRITY – 1
2.2F (CS-07-04) THE WARREN H. BAMFORD MEMORIAL SYMPOSIUM ON RECENT DEVELOPMENTS IN ASME CODES AND STANDARDS – 4
2.2G (MF-29-01) MECHANICAL PROPERTIES OF NUCLEAR GRAPHITE AND COMPOSITES AND THEIR IMPLEMENTATION IN CODES AND STANDARDS (JOINT WITH C&S)
2.2H (MF-02-04) MATERIALS FOR HYDROGEN SERVICE (JOINT WITH C&S) – 4
2.2I (DA-02-04) DESIGN AND ANALYSIS OF PIPING, PIPELINES, AND COMPONENTS – 4
2.2J (DA-10-01) DESIGN AND ANALYSIS OF BOLTED JOINTS
2.2K (FSI-03-02) STRUCTURES UNDER EXTREME LOADING CONDITIONS – 2
2.2L (OAC-03-02) MONITORING, DIAGNOSTICS & INSPECTION – 2
2.2M (MF-33-01) GENERAL PAPERS
2.2N (SE-05-02) STRUCTURAL DYNAMICS – 2
2.2O (FSI-02-04) TUBE ARRAYS 4 (GOVIKING)
2.2P (MF-30-01) CRYOGENIC PRESSURE VESSELS AND PIPING
2.2R (TW-02-03) TECHNICAL TUTORIAL – ARTIFICIAL INTELLIGENCE IN ENGINEERING FOR PRESSURE VESSELS AND PIPING – PART 1
2.2S (TE-02-02) TECHNOLOGY EXHIBITS – 6

Block 2.3: Tuesday, July 22, 2025 (2:00 pm – 3:45 pm)

2.3A (CS-16-03) FATIGUE AND RATCHETING ISSUES IN PRESSURE VESSEL AND PIPING DESIGN – 3
2.3B (MF-01-01) THE NOEL O'DOWD MEMORIAL SYMPOSIUM ON FRACTURE: APPLICATION OF FRACTURE MECHANICS IN FAILURE ASSESSMENT
2.3C (DA-08-02) FITNESS FOR SERVICE EVALUATIONS – 2
2.3D (DA-15-01) OPERATIONS, RELIABILITY, AND LIFE CYCLE OF COKE DRUMS – PART 1
2.3E (MF-10-02) PIPELINE INTEGRITY – 2
2.3F (CS-07-05) THE WARREN H. BAMFORD MEMORIAL SYMPOSIUM ON RECENT DEVELOPMENTS IN ASME CODES AND STANDARDS – 5
2.3G (CS-15-01) MECHANICAL PROPERTIES OF NUCLEAR GRAPHITE AND THEIR IMPLEMENTATION IN CODES AND STANDARDS (JOINT WITH M&F)
2.3H (MF-02-05) MATERIALS FOR HYDROGEN SERVICE (JOINT WITH C&S) – 5
2.3I (DA-02-05) DESIGN AND ANALYSIS OF PIPING, PIPELINES, AND COMPONENTS – 5
2.3J (CT-04-01) ASSEMBLY OF BOLTED JOINTS – 1
2.3K (DA-01-01) DESIGN AND ANALYSIS OF PRESSURE VESSELS, HEAT EXCHANGERS AND COMPONENTS – 1
2.3L (OAC-04-01) STORAGE AND TRANSPORTATION OF RADIOACTIVE AND OTHER HAZARDOUS MATERIALS
2.3M (DA-07-01) THERMAL STRESSES AND ELEVATED TEMPERATURE DESIGN
2.3N (SE-07-01) SEISMIC EVALUATION OF SYSTEMS, STRUCTURES AND COMPONENTS – 1
2.3O (FSI-02-05) ACOUSTICS 1
2.3R (TW-02-04) TECHNICAL TUTORIAL – ARTIFICIAL INTELLIGENCE IN ENGINEERING FOR PRESSURE VESSELS AND PIPING – PART 2
2.3S (TE-02-03) TECHNOLOGY EXHIBITS – 7

Block 2.4: Tuesday, July 22, 2025 (4:15 pm – 6:00 pm)

2.4A (CS-17-01) ENVIRONMENTAL FATIGUE ISSUES (JOINT WITH M&F) – 1: INCEFA SCALE
2.4B (MF-09-01) MECHANISTIC MODELLING OF DEFORMATION AND FRACTURE
2.4C (CS-22-01) REPAIR, REPLACEMENT AND MITIGATION FOR FITNESS-FOR-SERVICE RULES
2.4D (DA-15-02) COKE DRUM MATERIALS CONSIDERATIONS
2.4F (CS-08-01) THE WARREN H. BAMFORD MEMORIAL SYMPOSIUM ON RECENT DEVELOPMENTS IN ASME CODES AND STANDARDS: ASME CODE SECTION XI ACTIVITIES – 1
2.4G (MF-35-01) MATERIAL SURVEILLANCE FOR HIGH TEMPERATURE REACTORS (JOINT WITH C&S)
2.4H (MF-02-06) MATERIALS FOR HYDROGEN SERVICE (JOINT WITH C&S) – 6
2.4I (DA-02-06) DESIGN AND ANALYSIS OF PIPING, PIPELINES, AND COMPONENTS – 6
2.4J (CT-04-02) ASSEMBLY OF BOLTED JOINTS – 2
2.4K (DA-01-02) DESIGN AND ANALYSIS OF PRESSURE VESSELS, HEAT EXCHANGERS AND COMPONENTS – 2
2.4L (OAC-06-01) OPERATION AND MAINTENANCE OF PRESSURE VESSELS, HEAT EXCHANGERS, PIPING AND SUPPORTS – 1

2.4M (DA-19-01) SPECIAL CONSIDERATIONS IN THE DESIGN AND ANALYSIS OF SUPPORTS, RESTRAINTS, AND WELDED ATTACHMENTS
2.4N (SE-09-01) ADVANCED SEISMIC EVALUATION AND CODE (JOINT SESSION WITH C&S)
2.4O (FSI-02-06) ACOUSTICS 2
2.4R (EI-01-01) PRESENTATION AND DISCUSSION OF AI GROWTH IN PVP (FORUM SESSION)
2.4S (TE-02-04) TECHNOLOGY EXHIBITS – 8

Wednesday, July 23, 2025

Block 3.1: Wednesday, July 23, 2025 (8:00 am – 9:45 am)

3.1A (CS-17-02) ENVIRONMENTAL FATIGUE ISSUES (JOINT WITH M&F) – 2: INCEFA-SCALE
3.1B (MF-03-01) WELDING RESIDUAL STRESS AND DISTORTION SIMULATION AND MEASUREMENT – 1
3.1C (MF-05-01) FITNESS-FOR-SERVICE AND FAILURE ASSESSMENT – 1
3.1D (DA-15-03) OPERATIONS, RELIABILITY, AND LIFE CYCLE OF COKE DRUMS – PART 2
3.1E (CT-19-01) AI, DATA ENGINEERING AND DATA ANALYSIS – 1
3.1F (CS-08-02) THE WARREN H. BAMFORD MEMORIAL SYMPOSIUM ON RECENT DEVELOPMENTS IN ASME CODES AND STANDARDS: ASME CODE SECTION XI ACTIVITIES – 2
3.1G (MF-17-01) CHALLENGES IN STANDARDIZNG ADDITIVE MANUFACTURING FOR NUCLEAR SERVICE (JOINT WITH D&A) – 1
3.1H (MF-02-07) MATERIALS FOR HYDROGEN SERVICE (JOINT WITH C&S) – 7
3.1I (MF-34-01) POLYMERS FOR HYDROGEN SERVICE – 1
3.1J (CT-04-03) ASSEMBLY OF BOLTED JOINTS – 3
3.1K (OAC-07-01) PLANT LIFE EXTENSION: AGING & LIFE MANAGEMENT – 1
3.1L (OAC-06-02) OPERATION AND MAINTENANCE OF PRESSURE VESSELS, HEAT EXCHANGERS, PIPING AND SUPPORTS – 2
3.1M (CT-11-01) COMPUTATIONAL FEA FOR LIMIT LOAD AND ELASTIC-PLASTIC ANALYSIS AND CREEP
3.1N (SE-06-01) SEISMIC ANALYSIS AND DESIGN OF PIPING SYSTEMS – 1
3.1O (FSI-02-07) FSI APPLICATIONS 1
3.1P (DA-22-01) DESIGN AND ANALYSIS OF ABOVE GROUND LIQUID STORAGE TANKS
3.1R (TW-02-06) TECHNICAL TUTORIAL – PROBABILISTIC FRACTURE MECHANICS – THEN, NOW AND TOMORROW – PART 1

Block 3.2: Wednesday, July 23, 2025 (10:15 am – 12:00 pm)

3.2A (CS-17-03) ENVIRONMENTAL FATIGUE ISSUES (JOINT WITH M&F) – 3: INCEFA SCALE & INTERNATIONAL STUDIES
3.2B (MF-03-02) WELDING RESIDUAL STRESS AND DISTORTION SIMULATION AND MEASUREMENT – 2
3.2C (MF-05-02) FITNESS-FOR-SERVICE AND FAILURE ASSESSMENT – 2
3.2D (DA-15-04) 9TH INTERNATIONAL SYMPOSIUM ON COKE DRUM LIFE CYCLE MANAGEMENT – WHAT'S NEXT FOR THE INDUSTRY? (PANEL SESSION)
3.2E (CT-19-02) AI, DATA ENGINEERING AND DATA ANALYSIS – 2
3.2F (CS-11-01) RECENT DEVELOPMENTS IN EUROPEAN CODES AND STANDARDS
3.2H (MF-02-08) MATERIALS FOR HYDROGEN SERVICE (JOINT WITH C&S) – 8
3.2I (MF-34-02) POLYMERS FOR HYDROGEN SERVICE – 2
3.2J (CT-05-01) THREADED FASTENERS
3.2L (NDE-01-01) EMERGING NON-DESTRUCTIVE EVALUATION AND PROGNOSTIC TECHNIQUES AND APPLICATIONS
3.2M (CS-10-01) RECENT DEVELOPMENTS IN CHINESE CODES AND STANDARDS – 1
3.2N (SE-06-02) SEISMIC ANALYSIS AND DESIGN OF PIPING SYSTEM – 2
3.2O (FSI-02-08) FSI APPLICATIONS 2
3.2R (TW-02-07) TECHNICAL TUTORIAL – PROBABILISTIC FRACTURE MECHANICS – THEN, NOW AND TOMORROW – PART 2

Block 3.3: Wednesday, July 23, 2025 (2:00 pm – 3:45 pm)

3.3A (MF-16-01) CREEP AND CREEP-FATIGUE INTERACTION
3.3C (MF-05-03) FITNESS-FOR-SERVICE AND FAILURE ASSESSMENT – 3
3.3D (CS-21-01) CONSTRAINT EFFECTS ON C&S
3.3E (SE-04-01/ NDE-03-01) APPLICATIONS OF ENGINEERING INTELLIGENCE IN SEISMIC ANALYSIS OF INDUSTRIAL FACILITIES AND NDE RELIABILITY
3.3F (DA-04-01) INELASTIC, NONLINEAR, AND LIMIT LOAD ANALYSIS
3.3H (MF-02-09) MATERIALS FOR HYDROGEN SERVICE (JOINT WITH C&S) – 9
3.3I (MF-34-03) POLYMERS FOR HYDROGEN SERVICE – 3
3.3J (CT-03-01) LEAK TIGHTNESS AND FUGITIVE EMISSIONS
3.3L (NDE-02-01) NDE TECHNIQUES AND APPLICATIONS FOR PETROCHEMICAL AND POWER PLANT COMPONENTS
3.3M (CS-10-02) RECENT DEVELOPMENTS IN CHINESE CODES AND STANDARDS – 2
3.3N (FSI-04-01) FSI DESIGN AND AI FOR INDUSTRY
3.3O (FSI-02-09) FSI APPLICATIONS 3
3.3R (TW-02-08) TECHNICAL TUTORIAL – PROBABILISTIC FRACTURE MECHANICS – THEN, NOW AND TOMORROW – PART 3

Thursday, July 24, 2025

Block 4.1: Thursday, July 24, 2025 (8:00 am – 9:45 am)

4.1A (DA-03-01) FATIGUE-1
4.1B (MF-22-01) THE NOEL O'DOWD MEMORIAL SYMPOSIUM ON FRACTURE: 3D CRACK GROWTH SIMULATION USING FEA
4.1C (CS-23-01) IMPROVEMENT OF FLAW CHARACTERIZATION RULES FOR FFS
4.1D (CS-21-02) INTERNATIONAL BENCHMARK FOR CODIFICATION OF CONSTRAINT EFFECTS ON FRACTURE TOUGHNESS IN THE DUCTILE-BRITTLE TRANSITION REGION FOR NUCLEAR STRUCTURAL COMPONENTS – 1 (PANEL SESSION)
4.1E (NDE-03-02) NDE RELIABILITY USING ARTIFICIAL INTELLIGENCE, MODELING & SIMULATION, AND EXPERIMENTAL ANALYSIS
4.1F (CS-12-01) HIGH TEMPERATURE CODES AND STANDARDS – 1
4.1G (MF-17-02) ADVANCED AND ADDITIVE MANUFACTURING AND MATERIAL TECHNOLOGIES (JOINT WITH D&A) – 2
4.1H (CS-02-01) HYDROGEN EFFECTS ON MATERIAL BEHAVIOR FOR STRUCTURAL INTEGRITY ASSESSMENT (JOINT WITH M&F) – 1
4.1I (MF-34-04) POLYMERS FOR HYDROGEN SERVICE – 4
4.1J (DA-10-03) BOLTED JOINT INTERNATIONAL LIAISON SESSION – 1 (PANEL SESSION)
4.1K (OAC-07-02) PLANT LIFE EXTENSION: AGING & LIFE MANAGEMENT – 2

4.1L (CS-13-01) DEVELOPMENTS IN HDPE, BURIED AND NON-METALLIC PIPE CODES AND STANDARDS

4.1M (CS-10-03) RECENT DEVELOPMENTS IN CHINESE CODES AND STANDARDS – 3

4.1O (FSI-02-10) THE MICHEL J. PETTIGREW MEMORIAL SESSION ON FLOW INDUCED VIBRATION

4.1Q (MF-24-01) MATERIALS AND FABRICATION FOR REFINING – 1

4.1R (TW-02-09) TECHNICAL TUTORIAL – AN OVERVIEW OF ASME SECTION VIII, DIVISION 3 DESIGN METHODS – PART 1

Block 4.2: Thursday, July 24, 2025 (10:15 am – 12:00 pm)

4.2A (DA-03-02) FATIGUE – 2

4.2B (MF-12-01) THE NOEL O'DOWD MEMORIAL SYMPOSIUM ON FRACTURE: LEAK BEFORE BREAK

4.2C (CS-06-01) API 579/ASME CODE FITNESS-FOR-SERVICE ACTIVITIES

4.2D (CS-21-03) INTERNATIONAL BENCHMARK FOR CODIFICATION OF CONSTRAINT EFFECTS ON FRACTURE TOUGHNESS IN THE DUCTILE-BRITTLE TRANSITION REGION FOR NUCLEAR STRUCTURAL COMPONENTS – 2 (PANEL SESSION)

4.2F (CS-12-02) HIGH TEMPERATURE CODES AND STANDARDS – 2

4.2H (CS-02-02) HYDROGEN EFFECTS ON MATERIAL BEHAVIOR FOR STRUCTURAL INTEGRITY ASSESSMENT (JOINT WITH M&F) – 2

4.2I (DA-21-01) DESIGN AND ANALYSIS OF HYDROGEN PRESSURE EQUIPMENT

4.2J (DA-10-04) BOLTED JOINT INTERNATIONAL LIAISON SESSION – 2 (PANEL SESSION)

4.2L (MF-13-01) COMPOSITE AND NON-METALLIC SYSTEMS FOR PRESSURE VESSELS AND PIPING (JOINT WITH D&A)

4.2M (CS-10-04) RECENT DEVELOPMENTS IN CHINESE CODES AND STANDARDS – 4

4.2O (FSI-01-01) THERMAL HYDRAULIC PHENOMENA WITH VESSELS, PIPING AND COMPONENTS

4.2Q (MF-24-02) MATERIALS AND FABRICATION FOR REFINING – 2

4.2R (TW-02-10) TECHNICAL TUTORIAL – AN OVERVIEW OF ASME SECTION VIII, DIVISION 3 DESIGN METHODS – PART 2

Block 4.3: Thursday, July 24, 2025 (2:00 pm – 3:45 pm)

4.3H (HT-07-01) DESIGN AND ANALYSIS OF HIGH-PRESSURE HYDROGEN EQUIPMENT

Block 4.4: Thursday, July 24, 2025 (4:15 pm – 6:00 pm)

4.4H (CT-20-01) ANALYTICAL METHODS FOR HYDROGEN APPLICATIONS

DAILY SESSION LISTING

Sessions are arranged in Session Blocks in the format X.YZ, where: X indicates the Day, Y indicates the Session Block, and Z indicates the Conference Session Room. Conference Session Rooms are as follows: A = St-Laurent 3; B = St-Laurent 4; C = St-Laurent 5; D = St-Laurent 6; E = St-Laurent 7; F = St-Laurent 8; G = Montreal 3; H = Montreal 6; I = Montreal 7; J = Montreal 8; K = Outremont 1; L = Outremont 4; M = Outremont 6; N = Outremont 7; O = Westmount 2; P = Westmount 5; Q = Westmount 6; R = Montreal 1-2; S = St-Laurent 1-2; T = Montreal 4-5. The parenthetical designations are the Technical Committee session references.

The Technical Committee and other acronyms used are shown below:

- CS = Codes & Standards
- CT = Computer Technology & Bolted Joints
- DA = Design & Analysis
- EI = Engineering Intelligence
- FSI = Fluid–Structure Interaction
- HT = High Pressure Technology
- MF = Materials & Fabrication
- NDE = ASME NDE, Diagnosis and Prognosis Division
- OAC = Operations Applications, & Components
- PS = Plenary Session
- SE = Seismic Engineering
- TE = Technology Exhibits
- TW = Technical Tutorials
- WO = Welcome and Orientation Session

Note: Unless specifically listed in the individual sessions below, all sessions are sponsored by the indicated Technical Committee.

Papers and presentations for which a video presentation has been submitted are designated by the following symbol: ▼

SUNDAY, JULY 20

Block 0.4: Sunday, July 20, 2025 (4:00 pm – 6:00 pm)

SESSION 0.4F (TW-01-01)

Sunday, July 20, 4:00 pm – 6:00 pm, Montreal 1-2 (Congres Level)

SPECIAL TUTORIAL-DEVELOPING YOURSELF INTO A FUTURE PVP LEADER

Developed by: Clay D. Rodery, C&S Technology LLC, League City, TX, USA
Chair: Clay D. Rodery, C&S Technology LLC, League City, TX, USA
Co-Chair: Andrew Duncan, Savannah River National Laboratory, Aiken, SC, USA
Presenter: Clay D. Rodery, C&S Technology LLC, League City, TX, USA
Panelists:
Nathan Barkley, Becht, New Albany, MS, USA
Ciska de Haan - de Wilde, NRG, Petten, Netherlands
Andrew Owens, TerraPower, Round Rock, TX, USA
Haiyang Qian, GE Gas Power, Avon, CT, USA
Melanie Sarzynski, Becht, Houston, TX

MONDAY, JULY 21

Block 1.1: Monday, July 21, 2025 (8:00 am – 9:45 am)

SESSION 1.1T (WO-01-01)

Monday, July 21, 8:00 am – 9:45 am, Montreal 4-5 (Congres Level)

WELCOME AND ORIENTATION

Developed by: Ravi Baliga, Advent Energy Consultants, Inc., Redwood City, CA, USA; David Gross, Dominion Engineering, Inc., Reston, VA, USA; Clay D. Rodery, C&S Technology LLC, League City, TX, USA
Presented by: Ravi Baliga, Advent Energy Consultants, Inc., Redwood City, CA, USA; David Gross, Dominion Engineering, Inc., Reston, VA, USA; Clay D. Rodery, C&S Technology LLC, League City, TX, USA

SESSION 1.1S (TE-01-01)

Monday, July 21, 8:00 am – 9:45 am, St-Laurent 1-2 (Congres Level)

TECHNOLOGY EXHIBITS-1

Block 1.2: Monday, July 21, 2025 (10:15 am – 12:00 pm)

SESSION 1.2T (PS-01-01)

Monday, July 21, 10:15 am – 12:00 pm, Montreal 4-5 (Congres Level)

OPENING CEREMONY AND PLENARY LECTURES

Developed by: Ravi Baliga, Advent Energy Consultants, Inc., Redwood City, CA, USA; David Gross, Dominion Engineering, Inc., Reston, VA, USA
Chair: Ravi Baliga, Advent Energy Consultants, Inc., Redwood City, CA, USA
Co-Chair: David Gross, Dominion Engineering, Inc., Reston, VA, USA

A BRIEF HISTORY OF THE BIRTH AND GROWTH OF THE PVP DIVISION WITH OPPORTUNITIES FOR THE FUTURE

Doug Scarth, Kinectrics, Inc., Toronto, ON, Canada; Sam Y. Zamrik, Pennsylvania State University, State College, PA, USA

MANAGING COMPLEXITY AND THE AUTHORITATIVE SOURCE OF TRUTH

Ralph Hill, Hill Engineering Solutions, Meridian, ID, USA

LEVERAGING RECENT ADVANCEMENTS IN TECHNOLOGY TO HARMONIZE EQUIPMENT & PIPING MINIMUM PERMISSIBLE TEMPERATURE LIMITS

Brian Macejko, The Equity Engineering Group, Inc., Shaker Heights, OH, USA

SESSION 1.2S (TE-01-01)

Monday, July 21, 10:15 am – 12:00 pm, St-Laurent 1-2 (Congres Level)

TECHNOLOGY EXHIBITS-2

Block 1.3: Monday, July 21, 2025 (2:00 pm – 3:45 pm)

SESSION 1.3A (CS-25-01)

Monday, July 21, 2:00 pm – 3:45 pm, St-Laurent 3 (Congres Level)

FATIGUE AND FRACTURE ASSESSMENT & MANAGEMENT – A PROBABILISTIC PERSPECTIVE

Symposium on Fatigue and Creep Issues—Co-Sponsored by the Codes & Standards, Design & Analysis, and Materials & Fabrication Technical Committees

Developed by: Yogendra Garud, Simrand, LLC, San Jose, CA, USA; Anees Udyawar, Westinghouse Electric Company, Cranberry Township, PA, USA; Catrin Mair Davies, Imperial College London, London, United Kingdom; Haiyang Qian, GE Gas Power, Avon, CT, USA; Yun-Jae Kim, Korea University, Seoul, Republic of Korea; Rita Kirchhofer, Secretariat, Golden, CO, USA; Frederick (Bud) Brust, Engineering Mechanics Corporation of Columbus, Columbus, OH, USA; Mark Messner, Argonne National Laboratory, Plainfield, IL, USA; Michael McMurtrey, Idaho National Laboratory, Idaho Falls, ID, USA
Chair: Valéry Lacroix, Tractebel Engie, Brussels, Belgium
Co-Chair: David Rudland, US Nuclear Regulatory Commission, Frederick, MD, USA

PVP2025-154738: UNCERTAINTY QUANTIFICATION OF CREEP CRACK GROWTH PREDICTIONS IN IRRADIATED METALLIC COMPONENTS

Alvaro Garnica, Markian Petkov, Pierre-Alexandre Juan, Kairos Power LLC, Alameda, CA, USA

PVP2025-155993: RECENT DEVELOPMENTS IN CREEP CRACK GROWTH MEASUREMENT TECHNIQUES (Presentation Only)

Catrin Davies, Imperial College London, London, United Kingdom

PVP2025-154680: A MEASUREMENT-BASED APPROACH TO RELIABILITY-TARGET-DESIGN OF PRESSURE VESSELS, PIPING, PUMPS, AND VALVES IN NEW TYPES OF POWERPLANTS WHERE FAILURE PROBABILITIES BASED ON HISTORICAL RECORDS DO NOT EXIST

Jeffrey Fong, National Institute of Standards & Technology, San Bruno, CA, USA; N. Alan Heckert, National Institute of Standards and Technology, Gaithersburg, MD, USA; Marvin J. Cohn, Intertek, AIM, Santa Clara, CA, USA; Yogendra S. Garud, Simrand, LLC, San Jose, CA, USA; Steven R. Doctor, Independent

Consultant, Richland, WA, USA; Frank J. Schaaf, Jr., Independent Consultant, Webster, NY, USA

SESSION 1.3B (DA-12-01)

Monday, July 21, 2:00 pm – 3:45 pm, St-Laurent 4 (Congres Level)

THE NOEL O'DOWD MEMORIAL SYMPOSIUM ON FRACTURE: FRACTURE-1
Symposium on Fracture Mechanics and Analysis—Co-Sponsored by the Design & Analysis and Materials & Fabrication Technical Committees

Developed by: Shane Finneran, DNV, Columbus, OH, USA; Shunji Kataoka, JGC Corporation, Yokohama, Japan; Darren Pinto, Schenck Products, Sabetha, KS, USA; Ali Ok, Air Products-LNG Technology and Products, Allentown, PA, USA; Qin Ma, Walla Walla University, College Place, WA, USA
Chair: Shane Finneran, DNV, Columbus, OH, USA
Co-Chair: Qin Ma, Walla Walla University, College Place, WA, USA

PVP2025-151558: THE ROLE OF NON-ASSOCIATED FLOW RULE IN DUCTILE FRACTURE OF METALS (Presentation Only)
Frantisek Sebek, Radek Vobejda, Brno University of Technology, Brno, Czech Republic

PVP2025-151846: FRACTURE SIMULATION OF AL 6061 PLATE USING PHASE FIELD METHOD
Qianyu Shi, Mingbao Zhang, Zhijian Wang, Yanpeng Liu, Yuntian Zhang, Harbin Boiler Co., Ltd., Harbin, China

PVP2025-152793: MIXED-MODE CRACK PROPAGATION DIRECTION UNDER MULTIAXIAL FATIGUE LOADING
Nahla Helmy, Maher Y.A. Younan, The American University in Cairo, Cairo, Egypt

PVP2025-152858: INDUSTRIAL VARIATION OF THE BEREMIN MODEL APPLIED TO LOW ALLOY STEEL (Presentation Only)
Maxime Gantier, EDF R&D, Palaiseau, France; Stéphane Chapuliot, Anna Dahl, Cédric Sénac, EDF R&D, Ecuelles, France; Olivier Ancelet, Jules Louerat, Stéphane Marie, Framatome, Paris La Défense, France

SESSION 1.3C (HT-01-01)

Monday, July 21, 2:00 pm – 3:45 pm, St-Laurent 5 (Congres Level)

DESIGN, ANALYSIS AND LIFE PREDICTION OF HIGH-PRESSURE VESSELS AND EQUIPMENT

Developed by: Melanie Sarzynski, Becht, Houston, TX, USA; Erick Ritter, Structural Integrity Associates, Inc., Littleton, CO, USA; Nathan Barkley, Becht, New Albany, MS, USA; Rahul Kapadia, ASML, Eindhoven, Netherlands; Kannan Subramanian, Structural Integrity Associates, Inc., Metairie, LA, USA
Chair: Erick Ritter, Structural Integrity Associates, Inc., Littleton, CO, USA
Co-Chair: Melanie Sarzynski, Becht, Houston, TX, USA

PVP2025-151391: DISCUSSION OF CREEP PHENOMENA DURING INITIAL LOADING OF TYPE 4 COMPOSITE PRESSURE VESSELS
Bartosz Popiela, Stephan Günzel, Georg W. Mair, Bundesanstalt für Materialforschung und -prüfung (BAM), Berlin, Germany

PVP2025-154566: DEEP LEARNING APPLIED TO FRACTURE MECHANICS IN BOUNDARY PRESSURE VESSEL AND SUPPORT
Abdelhak Benrabia, Pascal Duranton, Olivier Vernhet, Amro El Betepasawy, Remi Bessonies, Framatome, Courbevoie, France

PVP2025-154707: ENHANCING THREAD LOAD DISTRIBUTION METHODOLOGY
Erick R. Ritter, Structural Integrity Associates, Inc., Littleton, CO, USA; Thomas R. Draper, Structural Integrity Associates, Inc., Denver, CO, USA

PVP2025-155615: PROPOSAL OF NEW FATIGUE EVALUATION METHOD IN KD-3 OF ASME SECTION VIII DIVISION 3
Susumu Terada, Kobe Steel, Ltd., Takasago, Japan

SESSION 1.3D (MF-11-01)

Monday, July 21, 2:00 pm – 3:45 pm, St-Laurent 6 (Congres Level)

SMALL-SCALE AND MINIATURE MECHANICAL TESTING (JOINT WITH C&S)
Symposium on Small-Scale Mechanical Testing—Co-Sponsored by the Codes & Standards and Materials & Fabrication Technical Committees

Developed by: Masato Yamamoto, Central Research Institute of Electric Power Industry (CRIEPI), Yokosuka, Japan; Mark Kirk, Phoenix Engineering Associates Inc., Claremont, NH, USA; William Server, Consultant, Black Mountain, NC, USA; Petra Klatovská, ÚJV Řež, a. s., Prague, Czech Republic; Marek Adamech, VUJE, a.s., Trnava, Slovakia; David Slnek, VUJE, a.s., Trnava, Slovakia; Noel O'Dowd, University of Limerick, Limerick, Ireland
Chair: Mark Kirk, Phoenix Engineering Associates Inc., Claremont, NH, USA
Co-Chair: Petra Klatovská, ÚJV Řež, a. s., Prague, Czech Republic

PVP2025-153360: ADVANCEMENTS IN RING AND AXIAL TENSION METHODS FOR SMALL-SCALE TESTING OF TUBULAR MATERIALS (Presentation Only)
Robert Hansen, Utah State University, Logan, UT, USA; Philip Petersen, Prasenjit Dewanjee, Aaron Colldeweih, Jake Stockwell, David Kamerman, Fabiola Cappia, Idaho National Laboratory, Idaho Falls, ID, USA

PVP2025-154673: USING MINIATURE CT SPECIMEN FOR THE CHARACTERIZATION OF FRACTURE TOUGHNESS OF RPV STEELS
Yupeng Cao, Ming Cao, Yinbiao He, Shanghai Nuclear Engineering Research and Design Institute, Shanghai, China; Kai Lu, Fuzhou University, Fuzhou, China; Shuangliang Yang, Kai Li, State Nuclear Power Plant Service Company, Shanghai, China

PVP2025-155454: EXPERIMENTAL VALIDATION OF SUB-SIZE FRACTURE TOUGHNESS SPECIMENS FOR SURVEILLANCE PROGRAMS OF RESEARCH REACTORS (Presentation Only)
Frideriki Naziris, Murthy Kolluri, Marcel Bregman, Martijn Heijnen, Matthé Pronk, Cisca De Haan De Wilde, NRG, Petten, Netherlands

PVP2025-155723: NUMERICAL STUDY BASED ON LOCAL APPROACH OF FRACTURE TO EVALUATE THE REFERENCE TEMPERATURE T0 FROM MINI-C(T) GEOMETRY
Benoit Tanguy, Pierrick François, Ludivine Evrard, Université Paris-Saclay (CEA), Gif-Sur-Yvette Cedex, France

SESSION 1.3E (CS-01-01)

Monday, July 21, 2:00 pm – 3:45 pm, St-Laurent 7 (Congres Level)

STRUCTURAL INTEGRITY OF PRESSURE COMPONENTS-1
Symposium on Structural Integrity—Co-Sponsored by the Codes & Standards and Materials & Fabrication Technical Committees

Developed by: Michael Benson, US Nuclear Regulatory Commission, Rockville, MD, USA; Steven Xu, Kinectrics, Inc., Toronto, ON, Canada
Chair: Steven Xu, Kinectrics, Inc., Toronto, ON, Canada
Co-Chair: Kiminobu Hojo, Mitsubishi Heavy Industries, Ltd., Kobe, Japan

PVP2025-152435: FLAW TOLERANCE EVALUATION OF PWR REACTOR COOLANT LOOP PIPING CAST AUSTENITIC STAINLESS STEEL SUSCEPTIBLE TO THERMAL AGING EMBRITTLEMENT
Lukas Wilson, Jacob Schwerer, Anees Udyawar, Westinghouse Electric Company, Cranberry Township, PA, USA

PVP2025-154354: INFORMATION GAP IN BUTT-WELDED PIPE FITTINGS AS CONSIDERED FOR DESIGN
Bhaskar Shitolé, Henry Sun, Lawrence Kwan, Wood PLC, Calgary, AB, Canada

PVP2025-154499: PLASTIC COLLAPSE ANALYSIS OF ELBOWS WITH CIRCUMFERENTIAL THROUGH-WALL CRACKS UNDER COMBINED LOADING CONDITIONS
Dong-Jun Kim, Seok-Pyo Hong, Sejong University, Seoul, Republic of Korea

SESSION 1.3F (CS-07-01)

Monday, July 21, 2:00 pm – 3:45 pm, St-Laurent 8 (Congres Level)

THE WARREN H. BAMFORD MEMORIAL SYMPOSIUM ON RECENT DEVELOPMENTS IN ASME CODES AND STANDARDS-1
Symposium on Recent Developments in Codes & Standards—Sponsored by the Codes & Standards Technical Committee

Developed by: Ting-Leung (Sam) Sham, US Nuclear Regulatory Commission, Rockville, MD, USA; Yanli Wang, Oak Ridge National Laboratory, Oak Ridge, TN, USA; Mark Messner, Argonne National Laboratory, Plainfield, IL, USA
Chair: Ting-Leung (Sam) Sham, US Nuclear Regulatory Commission, Rockville, MD, USA
Co-Chair: Yanli Wang, Oak Ridge National Laboratory, Oak Ridge, TN, USA

PVP2025-155149: A NEW ASME STANDARD: PLANT SYSTEMS DESIGN
Ralph Hill, Hill Engineering Solutions, Meridian, ID, USA; Michael Delamare, Bechtel, Phoenix, AZ, USA

PVP2025-156172: SYSTEMS ENGINEERING IN THE ASME PLANT SYSTEMS DESIGN STANDARD

Jared Harper, TerraPower LLC, Bellevue, WA, USA; Ralph Hill, Hill Engineering Solutions, Meridian, ID, USA; Michael Delamare, Bechtel Nuclear, Security and Environmental, Scottsdale, AZ, USA

PVP2025-156169: RISK EVALUATIONS IN PLANT SYSTEMS DESIGN

Pamela Nelson, David Quintanar-Gago, UNAM, Jiuiepec, Mexico; D. Allan Coutts, Amentum, Aiken, SC, USA; F. Gregory Hudson, Metcalfe PLLC, Concord, NC, USA; C.R. Grantom, Consultant, Huffman, TX, USA; Ralph S. Hill, Hill Engineering Solutions, Meridian, ID, USA

PVP2025-154737: IMPLEMENTING PROBABILISTIC COMPONENT DESIGN METHODS IN PLANT SYSTEMS DESIGN

Benjamin Pellereau, Rolls-Royce, Loughborough, United Kingdom; Mihai Diaconeasa, North Carolina State University, Raleigh, NC, USA; Adin Mann, Wood PLC, Cleveland Heights, OH, USA; Ralph Hill, Hill Engineering Solutions, Meridian, ID, USA; Ching Ng, US Nuclear Regulatory Commission, Rockville, MD, USA

PVP2025-154740: PROBABILISTIC COMPONENT DESIGN ASSESSMENTS IN PLANT SYSTEMS DESIGN – A CASE STUDY

Benjamin Pellereau, Rolls-Royce, Loughborough, United Kingdom; Mihai Diaconeasa, North Carolina State University, Raleigh, NC, USA; Adin Mann, Wood PLC, Cleveland Heights, OH, USA; Ralph Hill, Hill Engineering Solutions, Meridian, ID, USA

SESSION 1.3G (MF-06-01)

Monday, July 21, 2:00 pm – 3:45 pm, Montreal 3 (Congres Level)

MATERIALS AND TECHNOLOGIES FOR NUCLEAR POWER PLANTS-1

Symposium on Mechanical Properties of Nuclear Materials—Co-Sponsored by the Codes & Standards and Materials & Fabrication Technical Committees

Developed by: Yiyu Wang, Xiang (Frank) Chen, Oak Ridge National Laboratory, Oak Ridge, TN, USA; Rita Kirchhofer, Secretariat, Golden, CO, USA; Murthy Kolluri, Nuclear Research and Consultancy Group, Petten, Netherlands

Chair: Xiang (Frank) Chen, Oak Ridge National Laboratory, Oak Ridge, TN, USA

Co-Chair: Rita Kirchhofer, Secretariat, Golden, CO, USA

PVP2025-152100: HIGH TEMPERATURE PERFORMANCE OF ALLOY 800HT: EFFECT OF AGEING TREATMENT

Mehdi Mokhtarishirazabad, Christopher Truman, David Knowles, University of Bristol, Bristol, United Kingdom; Simon Lewis, EDF UK, Marc Chevalier, Gloucester, United Kingdom; Mahmoud Mostafavi, Monash University, Clayton, Australia

PVP2025-155297: HIGH-TEMPERATURE MECHANICAL PROPERTIES OF ALLOY 625 FOR MOLTEN CHLORIDE REACTOR EXPERIMENT APPLICATIONS (Presentation Only)

Caitlin Huotilainen, Jeff Koza-Reinders, Ramesh Rajasekaran, David Farache, Peter Tran, Daniel Walter, TerraPower LLC, Bellevue, WA, USA

PVP2025-154986: MECHANICAL PROPERTIES AND FRACTURE TOUGHNESS IN A RCCM 18MND5 (TYPE ASME A508 GR3) FORGING FOR NUCLEAR APPLICATIONS AFFECTED BY LOCAL SEGREGATIONS.

Pierre Joly, Lingtao Sun, Framatome, Courbevoie, France

PVP2025-153101: THERMAL AGING EFFECTS ON HIGH TEMPERATURE TENSILE STRENGTH OF MODIFIED 9 CR-1 MO STEEL WITH STRESS RELEASE TREATMENT

Kodai Toyota, Yuya Imagawa, Takashi Onizawa, Japan Atomic Energy Agency, Oarai-Machi Higashi-Ibaraki-Gun, Japan; Akihiro Suzuki, Ascend Co., Ltd., Oarai-Machi Higashi-Ibaraki-Gun, Japan

SESSION 1.3H (MF-02-01)

Monday, July 21, 2:00 pm – 3:45 pm, Montreal 6 (Congres Level)

MATERIALS FOR HYDROGEN SERVICE (JOINT WITH C&S)-1

Symposium on Materials for Hydrogen Service—Co-Sponsored by the Codes & Standards, Computer Technology & Bolted Joints, Design & Analysis, Fluid-Structure Interaction, and Materials & Fabrication Technical Committees

Developed by: Joe Ronevich, Chris San Marchi, Sandia National Laboratories, Livermore, CA, USA; Laurent Briottet, French Alternative Energies & Atomic Energy Commission, Grenoble, France; Steven Xu, Kinectrics, Inc., Toronto, ON, Canada; Sylvain Pillot, Le Creusot, Bourgogne-Franche-Comté, France; M. Kevin Mandeville Jr., DNV, Katy, TX, USA; Tim Krentz, Savannah River National Laboratory, Aiken, SC, USA; Zakaria Hsain, US Department of Energy, Washington, DC, USA; Farid Afshar, Element Materials Tech, The Hague, Netherlands

Chair: Joe Ronevich, Sandia National Laboratories, Livermore, CA, USA

Co-Chair: Janne Pakarinen, VTT Technical Research Centre of Finland Ltd., Espoo, Finland

PVP2025-154861: IMPACT OF HYDROGEN EMBRITTLEMENT ON CRYOGENIC MECHANICAL PROPERTIES OF 304 STEEL (Presentation Only)

Klaus-Peter Weiss, Camelia Schulz, Elvina Gaisina, Zahra Abbasi, Astrid Pundt, Karlsruhe Institute of Technology, Eggenstein-Leopoldshafen, Germany

PVP2025-155505: FRACTURE TOUGHNESS EVALUATION BY LARGE-SCALE TEST UNDER HYDROGEN LIQUEFACTION TEMPERATURE

Takashi Hiraide, Takahiro Sakimoto, JFE Steel Corporation, Chiba-City, Japan; Junji Boku, JFE Techno-Research Corporation, Chiba-City, Japan; Tomoya Kawabata, University of Tokyo, Bunkyo, Japan

PVP2025-155164: INVESTIGATION OF LOW-CYCLE FATIGUE PROPERTIES OF 316L TYPE STAINLESS STEEL IN A FULL-SCALE LARGE LIQUEFIED HYDROGEN STORAGE TANK

Yuji Ando, Shohei Uranaka, Tomoya Kawabata, University of Tokyo, Bunkyo-Ku, Japan

PVP2025-153135: EFFECT OF HYDROGEN ON THE MECHANICAL PROPERTIES OF API 5L X60, 9%NI, AND 316TI STEEL HOLLOW SPECIMENS AT AMBIENT AND CRYOGENIC TEMPERATURES (Presentation Only)

Elvina Gaisina, Klaus-Peter Weiss, Zahra Abbasi, Simeon Eckerle, Astrid Pundt, Karlsruhe Institute of Technology, Eggenstein-Leopoldshafen, Germany

SESSION 1.3I (DA-02-01)

Monday, July 21, 2:00 pm – 3:45 pm, Montreal 7 (Congres Level)

DESIGN AND ANALYSIS OF PIPING, PIPELINES, AND COMPONENTS-1

Developed by: Chakrapani Basavaraju, US Nuclear Regulatory Commission, Rockville, MD, USA; Bhaskar Shitolé, Wood, Calgary, AB, Canada; Kannan Subramanian, Structural Integrity Associates, Inc., Metairie, LA, USA; Bing Li, Kinectrics, Inc., Toronto, ON, Canada

Chair: Chakrapani Basavaraju, US Nuclear Regulatory Commission, Rockville, MD, USA

Co-Chair: Bhaskar Shitolé, Wood, Calgary, AB, Canada

PVP2025-151367: ASME SEC. III NB-3600-BASED ENVIRONMENTAL FATIGUE EVALUATION CONSIDERING CODE CASE N-779-BASED SIMPLIFIED ELASTIC-PLASTIC ANALYSIS

Bonghee Lee, Ilkwun Nam, Sangyun Park, Hyeongwook Kim, KEPCO Engineering and Construction Company, Gimcheon-Si, Republic of Korea

PVP2025-151829: UNDER-SUPPORTED MAIN STEAM PIPING, HANGER LOAD ADJUSTMENTS, FINITE ELEMENT ANALYSIS AND EFFECT ON CREEP LIFE

Ryan J. Bentley, Quest Integrity, Heidelberg Heights, Australia

PVP2025-152430: THERMO-MECHANICAL ANALYSIS AND STRUCTURAL IMPROVEMENTS FOR MITIGATING BRANCH DISPLACEMENT AND PIPE FAILURE IN A GAS PROCESSING UNITY GROUND FLARE

Claudio Mendonca, Petrobras, Belo Horizonte, Brazil; Rodrigo Penha Andrade Rocha, Ediberto Bastos Tinoco, Jorivaldo Medeiros, Petrobras, Rio De Janeiro, Brazil

SESSION 1.3J (CT-01-01)

Monday, July 21, 2:00 pm – 3:45 pm, Montreal 8 (Congres Level)

DESIGN AND ANALYSIS OF BOLTED FLANGE JOINTS-1

Symposium on Bolted Joints—Co-Sponsored by the Computer Technology & Bolted Joints and Design & Analysis Technical Committees

Developed by: Stefano Fini, University of Bologna, Bologna, Italy; Abdelgader Abdelgalil, SABIC, Jubail, Saudi Arabia

Chair: Stefano Fini, University of Bologna, Bologna, Italy

Co-Chair: Massimiliano De Agostinis, University of Bologna, Bologna, Italy

PVP2025-151660: STUDY FOR TIGHTENING PROCEDURE USING MULTIPLE TOOLS OF BOLTED CONNECTIONS WITH SWG

Koji Sato, Masato Takenaka, Nord-Lock Japan Co., Ltd., Minoh-Shi, Japan; Fabbro Lee, Nord-Lock Korea Co. Ltd., Haeundae-Gu, Republic of Korea

PVP2025-153921: STUD MANUFACTURING AND ITS EFFECT ON NUT FACTOR

Barrett Meigs, Scott Hamilton, VSP Technologies, Houston, TX, USA; James Province, Brad Tinney, Houston Fastener, Houston, TX, USA

PVP2025-154247: ANALYZING THE ACCURACY OF PCC-1 BOLTING PATTERNS

Barrett Meigs, Scott Hamilton, VSP Technologies, Houston, TX, USA; Jeffery Wilson, VSP Technologies, Prince George, VA, USA

PVP2025-155651: EFFECT OF PIPING LOADS ON BOLTED FLANGED JOINTS IN GRP PIPING

David Mair, Worley, North Sydney, Australia; Benjamin Francis, Max Holt, Worley, Melbourne, Australia

SESSION 1.3K (HT-02-01)

Monday, July 21, 2:00 pm – 3:45 pm, Outremont 1 (Congres Level)

STRUCTURES UNDER EXTREME LOADING CONDITIONS (JOINT WITH FSI)-1

Symposium on Structures Under Extreme Loading Conditions—Co-Sponsored by the Fluid-Structure Interaction and High-Pressure Technology Technical Committees

Developed by: Matt Edel, BakerRisk, Jihui Geng, San Antonio, TX, USA; Megan Tribble, Sandia National Laboratory, Albuquerque, NM, USA
Chair: Megan Tribble, Sandia National Laboratories, Albuquerque, NM, USA
Co-Chair: Matt Edel, BakerRisk, San Antonio, TX, USA

PVP2025-154368: LIFE ANALYSIS AND STRUCTURAL OPTIMIZATION OF THE OIL DISTRIBUTION PLATE IN ULTRA-HIGH PRESSURE DIAPHRAGM COMPRESSORS

Yaomei Long, Yuan Lv, Yun Li, Xi'an Jiaotong University, Xi'an, China

PVP2025-154498: STRESS TENSOR-BASED ASSESSMENT OF SECTIONAL BEHAVIOR IN CONTAINMENT WALL UNDER INCREASING INTERNAL PRESSURE

Hyemin Shin, Taehyun Kwon, Korea Atomic Energy Research Institute, Yuseong-Gu, Republic of Korea

PVP2025-152513: THE ANALYSIS OF TRANSIENT STRESS CONDITIONS DEVELOPED IN A TARGET CONFINING STRUCTURE OF A PROJECTILE LAUNCHING SYSTEM

Robert Valdiviez, Applied Mechanics Engineering, LLP, Orange, CA, USA; Robert Zill, Washington State University, Lemont, IL, USA

PVP2025-154338: ELASTIC-PLASTIC BEHAVIOR OF METAL RINGS DURING HIGH-SPEED ELECTROMAGNETIC COMPRESSION

Niels Van De Meulenhof, Fons Van De Ven, Arris Tijsseling, Eindhoven University of Technology, Eindhoven, Netherlands; Jean-Sebastien Dick, General Fusion, Richmond, BC, Canada

SESSION 1.3L (OAC-01-01)

Monday, July 21, 2:00 pm – 3:45 pm, Outremont 4 (Congres Level)

SAFETY, RELIABILITY, AND RISK MANAGEMENT

Developed by: Alton Reich, Streamline Automation, LLC, Huntsville, AL, USA; Sarah Suffield, Pacific Northwest National Laboratory, Richland, WA, USA
Chair: Alton Reich, Streamline Automation, LLC, Huntsville, AL, USA
Co-Chair: Mike Weber, Bundesanstalt für Materialforschung und -prüfung (BAM), Berlin, Germany

PVP2025-153729: QUANTITATIVE EVALUATION OF SAFETY RESILIENCE OF LARGE-SCALE OIL TANK AREA SYSTEM BASED ON IMPROVED IRML

Kangkai Xu, Gang Wu, Jinheng Luo, Shuyi Xie, Shuxin Zhang, Lifeng Li, CNPC Tubular Goods Research Institute, Xi'an, China; Zicong Han, Shangrui Xiao, China University of Petroleum, Beijing, China

PVP2025-154377: RESEARCH ON DAMAGE MODE ANALYSIS AND COUNTERMEASURES FOR ACCUMULATORS

Xiaolong Xue, Jun Si, Shanghai Institute of Special Equipment Inspection & Technical Research (SSEI), Shanghai, China; Ruiyi Ji, Machine Industry Shanghai Lanya Petrochemical Equipment Inspection Institute Co., Ltd., Shanghai, China; Yaping Niu, Ningbo Institute of Special Equipment Inspection, Ningbo, China

PVP2025-154405: A COMPREHENSIVE ACCIDENT MODEL FOR NATURAL GAS PROCESSING STATIONS: INTEGRATING IMPROVED SHIPP MODEL WITH BAYESIAN NETWORKS FOR DYNAMIC RISK PREDICTION

Shuyi Xie, Jinheng Luo, Gang Wu, Kangkai Xu, CNPC Tubular Goods Research Institute, Xi'an, China

PVP2025-154478: THE ANALYSIS OF FULL-LIFE CYCLE SERVICE RELIABILITY EVALUATION FOR LARGE DIAMETER X80 PIPELINE GIRTH WELDS

Han Zhang, Xiaoben Liu, Jia Shao, Hao Wang, Hong Zhang, China University of Petroleum, Beijing, China; Yue Yang, Jian Chen, Pengchao Chen, PipeChina Institute of Science and Technology, Tianjin, China

SESSION 1.3M (MF-20-01)

Monday, July 21, 2:00 pm – 3:45 pm, Outremont 6 (Congres Level)

MATERIAL QUALITY AND FAILURE ANALYSIS-1

Developed by: Kang Xu, Linde, Inc., Tonawanda, NY, USA; Jorge Penso, Shell Projects and Technology, Houston, TX, USA; Jay Cameron, Hartford Steam Boiler, Agawan, MA, USA; Michiel Brongers, Kiefner and Associates, Inc., Columbus, OH, USA
Chair: Kang Xu, Linde, Inc., Tonawanda, NY, USA
Co-Chair: Michiel Brongers, Kiefner and Associates, Inc., Columbus, OH, USA

PVP2025-152786: INVESTIGATING LOW TOUGHNESS EVENTS IN SA – 350 LF2 CL1 FLANGES: A CASE STUDY

Ricardo Hernandez Soto, Tecnicas Reunidas, Madrid, Spain; José María Gómez De Salazar, Complutense University of Madrid, Madrid, Spain

PVP2025-152923: FRACTURE TOUGHNESS TESTING QUALIFICATION STRATEGY OF THE HINKLEY POINT C UK EPR

Adam Cooper, Andrew Harrison, Amentum, Warrington, United Kingdom; Jacob Knight, Lorenzo Mezzera, EDF Energy, Gloucester, United Kingdom

PVP2025-154098: SUPER DUPLEX STAINLESS STEEL NARROW GAP WELDING WITH MACHINE GTAW

Dongmei Sun, Liburdi Group, Dundas, ON, Canada

SESSION 1.3N (SE-01-01)

Monday, July 21, 2:00 pm – 3:45 pm, Outremont 7 (Congres Level)

EARTHQUAKE RESISTANCE AND SEISMIC MARGIN

Developed by: Tomoyo Taniguchi, Tottori University, Tottori, Japan; Akira Maekawa, Osaka Sangyo University, Osaka, Japan; Izumi Nakamura, Tokyo City University, Setagata, Japan; Keisuke Minagawa, Saitama Institute of Technology, Saitama, Japan; Fabrizio Paolacci, Roma Tre University, Rome Italy
Chair: Akira Maekawa, Osaka Sangyo University, Osaka, Japan
Co-Chair: Atsuhiko Shintani, Osaka Metropolitan University, Sakai, Japan

PVP2025-151434: INELASTIC RESPONSE ANALYSIS OF MDOFS TO EARTHQUAKE MOTIONS BASED ON SUPERPOSITION OF ELASTOPLASTIC RESPONSE OF EACH MODE

Tomoyo Taniguchi, Tottori University, Tottori, Japan; Yasumasa Shoji, YS Corporation LLC, Musashino, Japan; Yukinobu Kimura, Kagoshima University, Kagoshima, Japan

PVP2025-154773: SHAKING TABLE EXPERIMENTS FOR EXAMINATION OF UPLIFT RESPONSE OF CYLINDRICAL LIQUID STORAGE TANKS DUE TO UNIAXIAL HORIZONTAL GROUND MOTION

Yuichi Yoshida, National Research Institute of Fire and Disaster, Chofu, Japan; Tomoyo Taniguchi, Tottori University, Tottori, Japan

PVP2025-154975: DAMAGE TO OIL STORAGE TANKS CAUSED BY THE 2024 NOTO PENINSULA, JAPAN EARTHQUAKE (MW7.5) (Presentation Only)

Ken Hatayama, Koya Tokutake, Yuichi Yoshida, National Research Institute of Fire and Disaster, Chofu, Japan

PVP2025-155862: STUDY ON IMPROVEMENT OF FUNCTIONAL MAINTENANCE PERFORMANCE FOR HIGH-PRESSURE GAS FACILITIES USING VIBRATION CONTROL DEVICES

Osamu Furuya, Tokyo Denki University, Saitama, Japan; Takanori Nagano, Yuhsaku Ichikawa, Masami Oshima, Chiyoda Corporation, Yokohama-Shi, Japan; Takashi Ono, High Pressure Gas Safety Association, Minato-Ku, Japan

SESSION 1.3O (FSI-02-01)

Monday, July 21, 2:00 pm – 3:45 pm, Westmount 2 (Congres Level)

THE FUMIO HARA MEMORIAL SESSION ON TUBE ARRAYS I

Symposium on Flow Induced Vibration—Sponsored by the Fluid-Structure Interaction Technical Committee

Developed by: Marwan Hassan, University of Guelph, Guelph, ON, USA; Atef Mohany, Ontario Tech University, Oshawa, ON, Canada; Salim El Bouzidi, Canadian Nuclear Laboratories, Chalk River, ON, Canada

Chair: Hugh Goyder, Cranfield University, Shrivenham, United Kingdom
Co-Chair: Ibrahim Gadelhak, Canadian Nuclear Laboratories, Petawawa, Canada

PVP2025-152499: SUPPRESSION OF FLOW INDUCED ACOUSTIC RESONANCE IN TUBE ARRAY
Rasha Noufal, Hossam Kishawy, Atef Mohany, Ontario Tech University, Oshawa, ON, Canada

PVP2025-154432: STREAMWISE FLUIDELASTIC INSTABILITY IN ROTATED SQUARE ARRAY WITH LOOSE SUPPORTS
Amro Elhelaly, Joaquin Moran, David Dawson, Marwan Hassan, University of Guelph, Guelph, ON, Canada

PVP2025-155939: A STUDY ON THE FLUIDELASTIC STABILITY OF A HYBRID LAYOUT ARRAY IN TWO-PHASE FLOW
Sameh Darwish, Ecole Polytechnique Montreal, Montreal, QC, Canada; Njuki Mureithi, Abdallah Hadji, Minki Cho, Doosan Enerbility, Changwon, Republic of Korea

SESSION 1.3P (MF-15-02)

Monday, July 21, 2:00 pm – 3:45 pm, Westmount 5 (Congres Level)

FATIGUE AND FRACTURE OF WELDS AND HEAT AFFECTED ZONES-2 - STRESS RELAXATION CRACKING SYMPOSIUM-1

Symposium on Fatigue and Creep Issues—Co-Sponsored by the Codes & Standards, Design & Analysis, and Materials & Fabrication Technical Committees

Developed by: Mo Uddin, Structural Integrity Associates, Inc., San Jose, CA, USA; Do Jun Shim, EPRI, Palo Alto, CA, USA; David Rudland, US Nuclear Regulatory Commission, Frederick, MD, USA; Foroogh Hosseinzaadhe, The Open University, United Kingdom; Adam Cooper, Amentum, Warrington, United Kingdom; Richard Colwell, Bechtel, Richmond, TX, USA; Jan-Willem Rensman, Fluor BV, Hoofddorp, Netherlands
Chair: Richard Colwell, Bechtel, Richmond, TX, USA
Co-Chair: Jan-Willem Rensman, Fluor BV, Hoofddorp, Netherlands

PVP2025-153141: STRESS RELAXATION CRACKING (SRC) SUSCEPTIBILITY ANALYSIS IN UNS S34751 STAINLESS STEEL WELD MICROSTRUCTURES FOR PETROCHEMICAL PIPING APPLICATIONS
Timothy Pickle, Zhenzhen Yu, Colorado School of Mines, Golden, CO, USA; Jorge Penso, Shell Global Solutions (US) Inc., Houston, TX, USA

PVP2025-152621: SUPERIOR STRESS RELAXATION CRACKING RESISTANCE OF UNS S34752
Takahiro Osuki, Nippon Steel Corporation, Futtsu-Shi, Japan; Yuhei Suzuki, Nippon Steel Europe GmbH, Düsseldorf, Germany; Kenta Yamada, Shinnosuke Kurihara, Hayato Kayama, Nippon Steel Corporation, Amagasaki, Japan; Masaki Ueyama, Nippon Steel Corporation, Chiyodaku, Japan; Katsuki Tanaka, Nippon Steel North America, Inc., Houston, TX, USA

PVP2025-154523: ARE DENUDED ZONES THE ROOT CAUSE OF STRESS RELAXATION CRACKING? - SRC MECHANISMS PART I
Jan-Willem Rensman, Fluor BV, Hoofddorp, Netherlands

PVP2025-154801: INVESTIGATION OF CRACKING FAILURE MICROSTRUCTURES IN UNS N06693 TUBULAR WELD FOR STEAM GENERATOR APPLICATIONS (Presentation Only)
Timothy Pickle, Zhenzhen Yu, Colorado School of Mines, Golden, CO, USA; Jorge Penso, Shell Global Solutions (US) Inc., Houston, TX, USA

SESSION 1.3Q (DA-09-01)

Monday, July 21, 2:00 pm – 3:45 pm, Westmount 6 (Congres Level)

PIPING AND EQUIPMENT DYNAMICS AND DYNAMIC RESPONSE ANALYSIS-1

Developed by: Pieter Van Beek, TNO, Rijswijk, Netherlands; Hao Jiang, Oak Ridge National Laboratory, Oak Ridge, TN, USA; Ashkan Eslaminejad, Structural Integrity Associates, Inc., Englewood, CO, USA; Ian Ty Cheong, QGC Pty Ltd., Brisbane, Australia
Chair: Pieter Van Beek, TNO, Rijswijk, Netherlands
Co-Chair: Ian Ty Cheong, QGC Pty Ltd., Brisbane, Australia

PVP2025-151845: TRANSIENT REACTION FORCE OF RELIEF VALVES DISCHARGING INTO A CLOSED PIPING SYSTEM
Shunji Kataoka, Hiroyuki Kosasayama, Takuro Honda, Takuya Asanuma, JGC Corporation, Yokohama, Japan

PVP2025-153716: MITIGATING FLOW INDUCED VIBRATION OF PROCESS PIPEWORK USING TUNED MASS DAMPERS
Gernot Wally, William Ho, XodusGroup Ltd., Glasgow, United Kingdom; Christian Meinhardt, Frank Dalmer, GERB Schwingungsisolierungen GmbH & Co. KG, Berlin, Germany

PVP2025-155944: PARAMETERS SELECTION FOR SPECTRUM ANALYSIS OF TRANSIENT WATER HAMMERING LOAD ON PIPE.
Seena Abu, Sargent & Lundy, San Jose, CA, USA

PVP2025-154685: FATIGUE ASSESSMENT OF A DAMAGED ANTI-SURGE VALVE – ROOT CAUSE ANALYSIS AND VIBRATION MITIGATION MEASURES.
Pieter Van Beek, Stefan Belfroid, TNO, Rijswijk, Netherlands; Steinar Orre, Equinor ASA, Stavanger, Norway; Andrew Limebear, Kenintrol, Brighouse, United Kingdom

SESSION 1.3R (TW-02-01)

Monday, July 21, 2:00 pm – 3:45 pm, Montreal 1-2 (Congres Level)

A DETAILED OVERVIEW OF ASME PCC-2; REPAIR OF PRESSURE EQUIPMENT AND PIPING-PART 1

Developed by: Steven Roberts, Shell Global Solutions (US), Inc., Houston, TX, USA
Chair: Steven Roberts, Shell Global Solutions (US), Inc., Houston, TX, USA
Co-Chair: Andrew Duncan, Savannah River National Laboratory, Aiken, SC, USA
Presented by: Steven Roberts, Shell Global Solutions (US), Inc., Houston, TX, USA

SESSION 1.3S (TE-01-01)

Monday, July 21, 2:00 pm – 3:45 pm, St-Laurent 1-2 (Congres Level)

TECHNOLOGY EXHIBITS-3

Block 1.4: Monday, July 21, 2025 (4:15 pm – 6:00 pm)

SESSION 1.4A (MF-15-01)

Monday, July 21, 4:15 pm – 6:00 pm, St-Laurent 3 (Congres Level)

FATIGUE AND FRACTURE OF WELDS AND HEAT AFFECTED ZONES-1

Symposium on Fatigue and Creep Issues—Co-Sponsored by the Codes & Standards, Design & Analysis, and Materials & Fabrication Technical Committees

Developed by: Mo Uddin, Structural Integrity Associates, Inc., San Jose, CA, USA; Do Jun Shim, EPRI, Palo Alto, CA, USA; David Rudland, US Nuclear Regulatory Commission, Frederick, MD, USA; Foroogh Hosseinzaadhe, The Open University, United Kingdom; Adam Cooper, Amentum, Warrington, United Kingdom; Richard Colwell, Bechtel, Richmond, TX, USA; Jan-Willem Rensman, Fluor BV, Hoofddorp, Netherlands
Chair: David Rudland, US Nuclear Regulatory Commission, Frederick, MD, USA, Frederick, MD, USA
Co-Chair: Mo Uddin, Structural Integrity Associates, Inc., San Jose, CA, USA

PVP2025-155026: HIGH-CYCLE AND LOW-CYCLE FATIGUE RESISTANCE OF WELDED T-JOINT PLATE CONNECTIONS MADE OF MILD AND HIGH-STRENGTH STEEL FOR OFFSHORE ENERGY APPLICATIONS
Theocharis Papatheocharis, Christos Mourlas, Ilias Gavriilidis, Spyros Karamanos, University of Thessaly, Volos, Greece; Anna Zervaki, National Technical University of Athens, Athens, Greece

PVP2025-155420: STUDY ON FATIGUE ASSESSMENT FOR WELDED IN-PLANE GUSSET JOINTS
Jeong K. Hong, Yuan Tian, Vahid Barzegar, Xin Chu, Zhi Zhang, Thornton Tomasetti, New York, NY, USA

PVP2025-155787: LARGE SCALE VIBRATION ASSESSMENT UTILISING A HYBRID MEASUREMENT APPROACH TO INFORM DETAILED FINITE ELEMENT MODELLING
Christopher Welsh, Gernot Wally, XodusGroup Ltd., Glasgow, United Kingdom

SESSION 1.4B (DA-12-02)

Monday, July 21, 4:15 pm – 6:00 pm, St-Laurent 4 (Congres Level)

THE NOEL O'DOWD MEMORIAL SYMPOSIUM ON FRACTURE: FRACTURE-2

Symposium on Fracture Mechanics and Analysis—Co-Sponsored by the Design & Analysis and Materials & Fabrication Technical Committees

Developed by: Shane Finneran, DNV, Columbus, OH, USA; Shunji Kataoka, JGC Corporation, Yokohama, Japan; Darren Pinto, Schenck Products, Sabetha, KS, USA; Ali Ok, Air Products-LNG Technology and Products, Allentown, PA, USA; Qin Ma, Walla Walla University, College Place, WA, USA

Chair: Qin Ma, Walla Walla University, College Place, WA, USA

Co-Chair: Shane Finneran, DNV, Columbus, OH, USA

PVP2025-154451: A COMPARATIVE STUDY OF FRACTURE TOUGHNESS J1C MEASUREMENT BASED ON DIGITAL IMAGE CORRELATION AND ACOUSTIC EMISSION TECHNIQUE AND THE ASTM D6068 PROTOCOLS

Yue Zhang, Sixiang Liang, Zechao Liu, Shijiazhuang Tiedao University, Shijiazhuang, China

PVP2025-154488: IMPACT OF WELDING RESIDUAL STRESSES (WRS) ON THE RISK OF FRACTURE IN THE BRITTLE TO DUCTILE TRANSITION OF FERRITIC STEELS – LARGE SCALE EXPERIMENTS

Anna Dahl, EDF R&D, Stéphane Chapuliot, Radhia Chaib, Willy Vincent, EDF R&D, Moret-Sur-Loing, France

PVP2025-154551: DAMAGE ANALYSIS OF PIPELINE DENTS BASED ON THE DUCTILE FRACTURE CRITERION

Jiaqing Zhang, Xiaoben Liu, China University of Petroleum, Beijing, China

PVP2025-154560: BENDING FRACTURE BEHAVIOR OF D1219 X80 STEEL PIPELINE WITH GIRTH WELD CRACK DEFECTS: A FULL-SCALE EXPERIMENTAL AND NUMERICAL INVESTIGATION

Xiaoben Liu, Haonan Zhang, Jiaqing Zhang, Dong Zhang, Mengkai Fu, Hao Wang, Hong Zhang, China University of Petroleum, Beijing, China; Qingshan Feng, Lianshuang Dai, China Oil & Gas Pipeline Network Corporation, Beijing, China

SESSION 1.4C (HT-06-01)

Monday, July 21, 4:15 pm – 6:00 pm, St-Laurent 5 (Congres Level)

THE JIM KACULI MEMORIAL SESSION ON DESIGN AND ANALYSIS OF HIGH-PRESSURE EQUIPMENT FOR OIL AND GAS EXPLORATION AND PRODUCTION

Developed by: Gaurav Bansal, SLB. Houston, TX, USA; Kumarswamy Karpanan, Kairos Power, Houston, TX, USA; Sreelatha Kilambi, TD Williamson, Tulsa, OK, USA; Barry Stewart, Technip FMC, Glasgow, United Kingdom; Thiago Daflon, Technip FMC, Rio de Janeiro, Brazil; Przemyslaw Lutkiewicz, DNV, Drammen, Norway

Chair: Gaurav Bansal, SLB, Houston, TX, USA

Co-Chair: Kumarswamy Karpanan, Kairos Power, Houston, TX, USA

PVP2025-153563: FLANGE CONNECTIONS DESIGN RESISTANCES IN LIGHT OF THE LRFD METHODOLOGY PRESENTED BY DNV ST-F101 STANDARD

Przemyslaw Lutkiewicz, DNV, Høvik, Norway

PVP2025-154125: ANALYTICAL STUDY OF TORSIONAL CAPACITY IN API 6BX TYPE FLANGE DESIGN AND COMPARISON WITH FEA

Sam (Kwok Lun) Lee, Ramu Valliappan Manickam, TechnipFMC, Houston, TX, USA

PVP2025-154663: ENVIRONMENTAL ASSISTED CRACKING ASSESSMENT OF HPHT PRODUCTS UNDER CATHODIC PROTECTION AND SEAWATER ENVIRONMENT

Fabio Alves, Thiago Daflon, Marcella Lage, Mateus Porto, TechnipFMC, Rio De Janeiro, Brazil; Barry Stewart, TechnipFMC, Glasgow, United Kingdom; Sam (Kwok Lun) Lee, TechnipFMC, Houston, TX, USA

SESSION 1.4D (CS-19-01)

Monday, July 21, 4:15 pm – 6:00 pm, St-Laurent 6 (Congres Level)

FRACTURE TOUGHNESS AND OTHER SMALL SPECIMEN MECHANICAL PROPERTIES (JOINT WITH M&F)-1

Symposium on Small-Scale Mechanical Testing—Co-Sponsored by the Codes & Standards and Materials & Fabrication Technical Committees

Developed by: Mark Kirk, Phoenix Engineering Associates Inc., Claremont, NH, USA; Masato Yamamoto, Central Research Institute of Electric Power Industry (CRIEPI), Yokosuka, Japan; William Server, Consultant, Black Mountain, NC, USA; Dongmei Sun, Liburdi Group of Companies, Guelph, ON, Canada; Brian Hall, Westinghouse Electric Company, Churchill, PA, USA; Yoosung Ha, Japan Atomic Energy Agency, Naka-gun, Japan; Kiminobu Hojo, Mitsubishi Heavy Industries, Ltd., Kobe, Japan; Russell Cipolla, Intertek AIM, Santa Clara, CA, USA

Chair: Sergio Cicero Gonzalez, University of Cantabria, Santander, Spain

Co-Chair: Marek Adamech, VUJE, a.s., Trnava, Slovakia

PVP2025-154701: EVALUATION OF EUROFER97 MINIATURE BEND BAR FRACTURE TOUGHNESS AFTER 200-350°C 20 DPA NEUTRON IRRADIATION (Presentation Only)

Xiang (Frank) Chen, Josina W. Geringer, Thak Sang Byun, Tim Graening, Yutai Katoh, Oak Ridge National Laboratory, Oak Ridge, TN, USA; Michael Rieth, Karlsruhe Institute of Technology, Eggenstein-Leopoldshafen, Germany

PVP2025-154555: FRACTURE TOUGHNESS EVALUATION WITH DIFFERENT SAMPLING POSITIONS IN BUTT-WELDED HAZ OF RPV STEEL

Yoosung Ha, Masaki Shimodaira, Jinya Katsuyama, Japan Atomic Energy Agency, Naka-Gun, Japan

PVP2025-154623: MINIATURE CT FRACTURE TOUGHNESS TESTING OF HARVESTED MATERIALS FROM AN AGED PWR PRESSURIZER

Brian Hall, Westinghouse Electric Company, Churchill, PA, USA; Catherine Cmar, Westinghouse Electric Company, Pittsburgh, PA, USA; Elliot Long, EPRI, Palo Alto, CA, USA

PVP2025-154983: MODELING CRACKING IN IRRADIATED SS PLATE MATERIAL USING PHASE FIELD MODEL AND SIF PREDICTIONS

Maryam Khodadad, Kaushik Dayal, Matteo Pozzi, Carnegie Mellon University, Pittsburgh, PA, USA; Sureshkumar Kalyanam, Westinghouse Electric Company, Anees Udyawar, Zefeng Yu, Remington Iddings, Westinghouse Electric Company, Cranberry Township, PA, USA

SESSION 1.4E (CS-01-02)

Monday, July 21, 4:15 pm – 6:00 pm, St-Laurent 7 (Congres Level)

STRUCTURAL INTEGRITY OF PRESSURE COMPONENTS-2

Symposium on Structural Integrity—Co-Sponsored by the Codes & Standards and Materials & Fabrication Technical Committees

Developed by: Michael Benson, US Nuclear Regulatory Commission, Rockville, MD, USA; Steven Xu, Kinectrics, Inc., Toronto, ON, Canada; Yun-Jae Kim, Korea University, Seoul, Republic of Korea; Andrew Duncan, Savannah River National Laboratory, Aiken, SC, USA

Chair: Kiminobu Hojo, Mitsubishi Heavy Industries, Ltd., Kobe, Japan

Co-Chair: Steven Xu, Kinectrics, Inc., Toronto, ON, Canada

PVP2025-154615: A COMPARATIVE STUDY ON ESTIMATING FATIGUE LIFE USING THE ASME SEC.VIII DIV.2 CODE METHODOLOGY, IN COMPARISON TO OTHER INTERNATIONAL STANDARDS SUCH AS EN-13445, AD 2000 MARKBLATT, AND PD 5500.

Sujay Pathre, Shyam Gopalakrishnan, Mohammad Abdul Qadeer, LRQA Inspection Services India LLP, Andheri East, India; Akshay Chalvade, LRQA Inspection Services India LLP, Dev Daya Nagar, Thane (West) –, India; Ameya Mathkar, Thyssenkrupp Uhde India Pvt Ltd, Thane, India

PVP2025-154711: SUITABLY ACCOUNTING FOR MEAN STRESS EFFECTS IN PSEUDO-STRESS-BASED DESIGN FATIGUE CURVES

Chris Currie, Andrew Morley, Rolls-Royce, Derby, United Kingdom; Alec Mclennan, Amentum, Warrington, United Kingdom

PVP2025-155151: API RP 582 – WELDING GUIDELINES FOR THE CHEMICAL, OIL AND GAS INDUSTRIES

Mitul Dalal, Shell Projects and Technology, Deer Park, TX, USA; Jorge Penso, Shell Projects and Technology, Houston, TX, USA

PVP2025-154006: FLAW STABILITY ANALYSIS OF SURFACE CRACKS IN DOE STANDARD CANISTERS UNDER OPERATION LOADS AND WELDING RESIDUAL STRESSES

Xian-Kui Zhu, Robert Sindelar, Andrew Duncan, Bruce Wiersma, Savannah River National Laboratory, Aiken, SC, USA

SESSION 1.4F (CS-07-02)

Monday, July 21, 4:15 pm – 6:00 pm, St-Laurent 8 (Congres Level)

THE WARREN H. BAMFORD MEMORIAL SYMPOSIUM ON RECENT DEVELOPMENTS IN ASME CODES AND STANDARDS-2

Symposium on Recent Developments in Codes & Standards—Sponsored by the Codes & Standards Technical Committee

Developed by: Ting-Leung (Sam) Sham, US Nuclear Regulatory Commission, Rockville, MD, USA; Yanli Wang, Oak Ridge National Laboratory,

Oak Ridge, TN, USA; Mark Messner, Argonne National Laboratory, Plainfield, IL, USA

Chair: Ting-Leung (Sam) Sham, US Nuclear Regulatory Commission, Rockville, MD, USA

Co-Chair: Yanli Wang, Oak Ridge National Laboratory, Oak Ridge, TN, USA

PVP2025-154119: HIGHLIGHTS OF REVISIONS TO REFERENCE CODES IN THE 2025 EDITION OF BPVC

Jay Cameron, Michael Crichton, Alex Garbolevsky, Philip Gilston, HSB (Hartford Steam Boiler), Hartford, CT, USA

PVP2025-153911: MATERIAL ANISOTROPY IN SECTION VIII

Jay Cameron, HSB (Hartford Steam Boiler), Hartford, CT, USA

PVP2025-151800: COMPARATIVE STUDY OF DIFFERENT METHODS FOR ANALYZING GASKETED BOLTED FLANGED JOINTS

Mustafa Siddiqui, Flexitallic Canada, Edmonton, AB, Canada

PVP2025-155478: A NEW SPECIFICATION FOR VALVES IN HYDROGEN GAS SERVICE (Presentation Only)

Ed Edgar, SLB, Cypress, TX, USA

SESSION 1.4G (MF-06-02)

Monday, July 21, 4:15 pm – 6:00 pm, Montreal 3 (Congres Level)

MATERIALS AND TECHNOLOGIES FOR NUCLEAR POWER PLANTS-2

Symposium on Mechanical Properties of Nuclear Materials—Co-Sponsored by the Codes & Standards and Materials & Fabrication Technical Committees

Developed by: Yiyu Wang, Xiang (Frank) Chen, Oak Ridge National Laboratory, Oak Ridge, TN, USA; Rita Kirchhofer, Secretariat, Golden, CO, USA; Murthy Kolluri, Nuclear Research and Consultancy Group, Petten, Netherlands

Chair: Rita Kirchhofer, Secretariat, Golden, CO, USA

Co-Chair: Murthy Kolluri, Nuclear Research and Consultancy Group, Petten, Netherlands

PVP2025-154662: WELDABILITY OF A MICROALLOYED CARBON-MANGANESE STEEL FOR NUCLEAR POWER PLANTS: THE HARDNESS CRITERION AND FRACTURE TOUGHNESS ON THE HAZ

Miguel Yescas, Framatome, Le Pre Saint Gervais, France; Ghassen Ben Salem, Stéphane Marie, Framatome, Courbevoie, France

PVP2025-153637: DEVELOPMENT OF MODIFIED ALLOY 52 FILLER METAL FOR NUCLEAR CLASS 1 COMPONENTS

Seiji Asada, Yusuke Sano, Kenji Kawasaki, Naoki Suda, Masayuki Yasuda, Isao Seki, Mitsubishi Heavy Industries, Ltd., Kobe, Japan; Takaharu Maeguchi, Mitsubishi Heavy Industries, Ltd., Takasago, Japan

PVP2025-154602: BAYESIAN OPTIMISATION APPLIED TO A THICK-SECTION JOINING PROCESS (Presentation Only)

Steven Lawler, Greg Nelson, Frazer-Nash Consultancy, Burton On Trent, United Kingdom; Chris Punshon, Cambridge Vacuum Engineering Ltd., Cambridge, United Kingdom

PVP2025-153628: STUDY OF THERMAL AGING EMBRITTLEMENT IN WELD METALS OF 18MND5 STEEL (TYPE ASME A508 GR 3), CONTAINING VARIOUS AMOUNTS OF NICKEL AND COPPER.

Lingtao Sun, Pierre Joly, Framatome, Courbevoie, France

SESSION 1.4H (MF-02-02)

Monday, July 21, 4:15 pm – 6:00 pm, Montreal 6 (Congres Level)

MATERIALS FOR HYDROGEN SERVICE (JOINT WITH C&S)-2

Symposium on Materials for Hydrogen Service—Co-Sponsored by the Codes & Standards, Computer Technology & Bolted Joints, Design & Analysis, Fluid-Structure Interaction, and Materials & Fabrication Technical Committees

Developed by: Joe Ronevich, Chris San Marchi, Sandia National Laboratories, Livermore, CA, USA; Laurent Briottet, French Alternative Energies & Atomic Energy Commission, Grenoble, France; Steven Xu, Kinectrics, Inc., Toronto, ON, Canada; Sylvain Pillot, Le Creusot, Bourgogne-Franche-Comté, France; M. Kevin Mandeville Jr., DNV, Katy, TX, USA; Tim Krentz, Savannah River National Laboratory, Aiken, SC, USA; Zakaria Hsain, US Department of Energy, Washington, DC, USA; Farid Afshar, Element Materials Tech, The Hague, Netherlands; Richard Colwell, Bechtel, Richmond, TX, USA; Jorge Penso, Mitul Dalal, Shell Projects and Technology, Houston, TX, USA; Deepak Mankar, Fluor Corporation, Houston, TX, USA; Jan-Willem Rensman, Fluor Corporation BV, Hoofddorp, Netherlands

Chair: Chris San Marchi, Sandia National Laboratories, Livermore, CA, USA

Co-Chair: Yazid Madi, Centre des Matériaux, Mines Paris, Corbeil-Essonnes, France

PVP2025-155387: INFLUENCE OF HYDROGEN ON THE TENSILE AND FATIGUE PROPERTIES OF THE MARTENSITIC STAINLESS STEELS 17-4 PH AND S165M

Brian Kagay, Dennis Rapp, Materials Testing Institute, University of Stuttgart (MPA), Stuttgart, Germany; Julian Quatier, TÜV SÜD Industrie Service GmbH, Essen, Germany; Patrick Fayek, Robert Bosch GmbH, Renningen, Germany

PVP2025-151456: MECHANISM-BASED LCF LIFETIME ASSESSMENT UNDER THE INFLUENCE OF HYDROGEN

Fabien Ebling, Heiner Oesterlin, Ken Wackermann, Fraunhofer Institute for Mechanics of Materials IWM, Freiburg, Germany

PVP2025-163270: THE EFFECT OF HYDROGEN EMBRITTLEMENT IN 3D WAAM PRINTED WALLS (Presentation Only)

Min-Chang Wu, University of Sydney, Newtown, Australia

PVP2025-152778: COLD SPRAY COATINGS FOR ENHANCED CORROSION RESISTANCE IN CO2-RICH ENVIRONMENTS (Presentation Only)

Joshua James, EWI, Columbus, OH, USA

SESSION 1.4I (DA-02-02)

Monday, July 21, 4:15 pm – 6:00 pm, Montreal 7 (Congres Level)

DESIGN AND ANALYSIS OF PIPING, PIPELINES, AND COMPONENTS-2

Developed by: Chakrapani Basavaraju, US Nuclear Regulatory Commission, Rockville, MD, USA; Bhaskar Shitolé, Wood, Calgary, AB, Canada; Kannan Subramanian, Structural Integrity Associates, Inc., Metairie, LA, USA; Bing Li, Kinectrics, Inc., Toronto, ON, Canada

Chair: Bhaskar Shitolé, Wood, Calgary, AB, Canada

Co-Chair: Chakrapani Basavaraju, US Nuclear Regulatory Commission, Rockville, MD, USA

PVP2025-152608: INVESTIGATION OF ELASTIC STRESS IN A PIPE SYSTEM WITH 45-DEGREE CURVED PIPES CONNECTED TO EACH OTHER AND A PIPE SYSTEM WITH 90-DEGREE CURVED PIPES CONNECTED TO EACH OTHER (Presentation Only)

Sanghyuk Park, Dongjun Kim, Jongsung Kim, Seokpyo Hong, Sejong University, Gwangjin-Gu, Republic of Korea

PVP2025-152645: STUDY ON THE STRESS INTENSIFICATION FACTORS OF TRUNNIONS

Tomohiro Ueno, Shunji Kataoka, Hiroyuki Kosasayama, Takuro Honda, JGC Corporation, Nishi-Ku, Yokohama-Shi, Japan

PVP2025-152727: METHODOLOGICAL FRAMEWORK FOR ASSESSING PLASTIC COLLAPSE LOAD IN FULL ENCIRCLEMENT SPLIT TEE FITTINGS

Qi Li, Sreelatha Kilambi, Kolton Landreth, T.D. Williamson, Tulsa, OK, USA

PVP2025-152850: FAILURE ANALYSIS OF FLOATING HEAD BOLTS OF HEAT EXCHANGER IN MEDIUM-PRESSURE HYDROGENATION UNIT

Huasheng Hu, Lei Wang, Jiayue Liu, Jin Guo, Shengzi Lu, Jie Sun, Guangdong Institute of Special Equipment Inspection and Research, Foshan, China; Zhihong Duan, Weiqi Lian, Guangdong University of Petrochemical Technology, Maoming, China

SESSION 1.4J (CT-01-02)

Monday, July 21, 4:15 pm – 6:00 pm, Montreal 8 (Congres Level)

DESIGN AND ANALYSIS OF BOLTED FLANGE JOINTS-2

Symposium on Bolted Joints—Co-Sponsored by the Computer Technology & Bolted Joints and Design & Analysis Technical Committees

Developed by: Stefano Fini, University of Bologna, Bologna, Italy; Abdelgader Abdelgalil, SABIC, Jubail, Saudi Arabia

Chair: Manfred Schaaf, AMTEC, Lauffen, Germany

Co-Chair: Hakim Bouzid, Ecole Supérieure de Technologie, Montreal, QC, Canada

PVP2025-151692: SEALING PERFORMANCE OF VARIOUS PASS BAR RIB GASKET STYLES

Robert Taylor, 3S Superior Sealing Services, Houston, TX, USA

PVP2025-152289: INVESTIGATION OF FRICTION COEFFICIENT CHANGE ON BOLTED JOINTS UNDER TRANSVERSE VIBRATION CONDITIONS

Masato Takenaka, Koji Sato, Wan Yang, Nord-Lock Japan Co., Ltd., Minoo, Japan; Fabbro Lee, Nord-Lock Korea Co., Ltd, Haeundae-Gu, Republic of Korea

PVP2025-154041: IMPROVING THE ACCURACY OF TORQUE BY LEVERAGING STUD MANUFACTURERS, TOOLING, AND ASSEMBLY METHODS

Barrett Meigs, Scott Hamilton, VSP Technologies, Houston, TX, USA; James Province, Brad Tinney, Houston Fastener, Houston, TX, USA

PVP2025-154072: CALIBRATION AND VERIFICATION OF COMMON TOOLING

Barrett Meigs, Scott Hamilton, VSP Technologies, Houston, TX, USA; USA; James Province, Brad Tinney, Houston Fastener, Houston, TX, USA

SESSION 1.4K (HT-02-02)

Monday, July 21, 4:15 pm – 6:00 pm, Outremont 1 (Congres Level)

STRUCTURES UNDER EXTREME LOADING CONDITIONS (JOINT WITH FSI)-2

Symposium on Structures Under Extreme Loading Conditions—Co-Sponsored by the Fluid-Structure Interaction and High-Pressure Technology Technical Committees

Developed by: Matt Edel, BakerRisk, Jihui Geng, San Antonio, TX, USA; Megan Tribble, Sandia National Laboratory, Albuquerque, NM, USA
Chair: Megan Tribble, Sandia National Laboratories, Albuquerque, NM, USA
Co-Chair: Jihui Geng, BakerRisk, San Antonio, TX, USA

PVP2025-154651: IMPACT OF INITIATORS ON POLYETHYLENE SYNTHESIS IN A HIGH-PRESSURE MULTIZONE AUTOCLAVE

Christoph Weigel, Markus Busch, Technical University of Darmstadt, Darmstadt, Germany

PVP2025-154652: MODELING LOW-DENSITY POLYETHYLENE POLYMERIZATION IN A MULTIZONE-AUTOCLAVE USING COUPLED COMPUTATIONAL FLUID DYNAMICS AND MONTE-CARLO SIMULATION

Emil Schwarz, Christoph Weigel, Markus Busch, Technical University of Darmstadt, Darmstadt, Germany

PVP2025-154654: INVESTIGATION AND MODELING OF THE SINGLE- AND TWO-PHASE FLOW IN HIGH-PRESSURE RELIEF SYSTEMS

Daniel Dyck, Markus Busch, Technical University of Darmstadt, Darmstadt, Germany

PVP2025-154720: DAMAGE-BASED LOCALIZED EXHAUSTION LIMITS FOR IMPULSIVELY LOADED VESSELS

Joshem Gibson, Los Alamos National Laboratory, White Rock, NM, USA; Dmitriy Kats, Kevin Fehlmann, Los Alamos National Laboratory, Los Alamos, NM, USA

SESSION 1.4L (OAC-02-01)

Monday, July 21, 4:15 pm – 6:00 pm, Outremont 4 (Congres Level)

QUALIFICATION AND TESTING

Developed by: Ciska de Haan - de Wilde, NRG, Petten, Netherlands; Georges Bezdikian, Consultant, Le Vésinet, France; Keiko Chitose, OECD NEA, Paris, France
Chair: Ciska de Haan - de Wilde, NRG, Petten, Netherlands
Co-Chair: Keiko Chitose, OECD NEA, Paris, France

PVP2025-155741: USE OF FULL-SCALE DESTRUCTIVE TESTING AS A MEANS FOR MANAGING MECHANICAL INTEGRITY

Chris Alexander, Travis Greenstreet, Acuren Inspection, Magnolia, TX, USA

PVP2025-152865: GASKET SEALING CHARACTERIZATION FOR BOLTED FLANGE JOINT IN CRYOGENIC CONDITIONS AT -180°C

Stéphane Javanaud, Hubert Lejeune, Cédric Boulben, CETIM, Nantes, France

PVP2025-155742: FATIGUE PERFORMANCE OF CUT AND ROLLED PIPE THREAD CONNECTIONS INSTALLED IN LDPE PLANT

Ohgeon Kwon, Hosea Watson, Caleb O'Byrne, Quest Integrity, Upper Hutt, New Zealand; Sang-Mo Lee, SK Energy, Ulsan, Republic of Korea

PVP2025-153865: INTELLIGENT DEFECT RECOGNITION FOR OIL AND GAS PIPELINE SAFETY BASED ON GA-TQWT AND SAM-INCEPTION

Chunyan Liao, Wei Liang, Qianjun Fu, Dandan Zhang, China University of Petroleum, Beijing, China

SESSION 1.4M (MF-20-02)

Monday, July 21, 4:15 pm – 6:00 pm, Outremont 6 (Congres Level)

MATERIAL QUALITY AND FAILURE ANALYSIS-2

Developed by: Kang Xu, Linde, Inc., Tonawanda, NY, USA; Jorge Penso, Shell Projects and Technology, Houston, TX, USA; Jay Cameron, Hartford Steam Boiler, Agawan, MA, USA; Michiel Brongers, Kiefner and Associates, Inc., Columbus, OH, USA
Chair: Michiel Brongers, Kiefner and Associates, Inc., Columbus, OH, USA
Co-Chair: Kang Xu, Linde, Inc., Tonawanda, NY, USA

PVP2025-154758: ASSESSMENT OF HYDROGEN EMBRITTLEMENT IN WELDED STEEL PIPES FOR HYDROGEN TRANSPORT APPLICATIONS (Presentation Only)

Kang-Mook Ryu, Hyun Joo Seo, Jae-Won Lee, Changwoo Lee, POMIA, Pohang-Si, Republic of Korea

PVP2025-152260: FAILURE ANALYSIS OF THE CRACKED SYNTHETIC GAS PIPE

Jun Si, Xiaolong Xue, Kun Li, Shanghai Institute of Special Equipment Inspection & Technical Research (SSEI), Shanghai, China

PVP2025-154279: FAILURE ANALYSIS OF STAINLESS STEEL SEAMLESS PIPE LAP WELDING

Xie Shijie, Zhang Fang, Zhang Fangfang, Zhao Li, Zhejiang Academy of Special Equipment Science, City, China

SESSION 1.4N (SE-02-01)

Monday, July 21, 4:15 pm – 6:00 pm, Outremont 7 (Congres Level)

SEISMIC ISOLATION

Developed by: Osamu Furuya, Satoshi Fujita, Tokyo Denki University, Tokyo, Japan; Taichi Matsuoka, Meiji University, Kawasaki, Japan
Chair: Osamu Furuya, Tokyo Denki University, Tokyo, Japan
Co-Chair: Yusuke Minakawa, Hitachi-GE Nuclear Energy, Ltd., Hitachi-shi, Japan

PVP2025-152063: THEORY OF FLOATING SEISMIC ISOLATION SYSTEM

Takashi Mori, Takahiro Shimada, IHI Corporation, Yokohama, Japan; Xing L Yan, Japan Atomic Energy Agency, Oarai, Japan

PVP2025-152829: LARGE-SCALE EXPERIMENT OF FLOATING SEISMIC ISOLATION SYSTEM

Tomohiko Yamamoto, Yoshiyuki Imai, Takato Marufuji, Naoaki Akasaka, Xing L. Yan, Japan Atomic Energy Agency, Oarai, Japan; Akihito Otani, Satoru Kai, Takashi Mori, Tomoki Uoji, Tomohiro Ueno, Haruki Motegi, IHI Corporation, Yokohama, Japan; Hirohisa Fukui, Eiji Sato, National Research Institute for Earth Science and Disaster Resilience, Miki, Japan; Izumi Nakamura, Tokyo City University, Setagaya, Japan

PVP2025-153210: PERFORMANCE EVALUATION OF FLOATING SEISMIC ISOLATION SYSTEM

Takashi Mori, Takahiro Shimada, Haruki Motegi, Satoru Kai, Akihito Otani, IHI Corporation, Yokohama, Japan; Tomohiko Yamamoto, Xing L Yan, Japan Atomic Energy Agency, Oarai, Japan

PVP2025-152624: REPLICATION ANALYSIS OF SHAKING TABLE TEST FOR FLOATING SEISMIC ISOLATION SYSTEM

Yuki Sato, Shunji Kataoka, Issei Ota, Yasutomi Morimoto, JGC Corporation, Yokohama-Shi, Japan; Akihito Otani, Satoru Kai, IHI Corporation, Yokohama-Shi, Japan; Xing L. Yan, Japan Atomic Energy Agency, Oarai-Machi, Higashiibaraki-Gun, Japan

SESSION 1.4O (FSI-02-02)

Monday, July 21, 4:15 pm – 6:00 pm, Westmount 2 (Congres Level)

TUBE ARRAYS II

Symposium on Flow Induced Vibration—Sponsored by the Fluid-Structure Interaction Technical Committee

Developed by: Marwan Hassan, University of Guelph, Guelph, ON, USA; Atef Mohany, Ontario Tech University, Oshawa, ON, Canada; Salim El Bouzidi, Canadian Nuclear Laboratories, Chalk River, ON, Canada
Chair: William Benguigui, EDF R&D and IMSIA, Chatou, France
Co-Chair: Kevin Zwijsen, Nuclear Research and Consultancy Group, Petten, Netherlands

PVP2025-152980: EFFECT OF FLOW APPROACH ANGLE ON FLOW PERIODICITY AND ACOUSTIC RESONANCE IN TRIANGULAR TUBE BUNDLES

Rasha Noufal, Timothy Down, Hossam Kishawy, Atef Mohany, Ontario Tech University, Oshawa, ON, Canada

PVP2025-154741: INVESTIGATING THE DYNAMIC BEHAVIOUR OF A LOOSELY SUPPORTED PARALLEL TRIANGULAR ARRAYS SUBJECTED TO TWO-PHASE FLOW

Amro Elhelaly, Joaquin Moran, Hossein Farani Sani, Marwan Hassan, University of Guelph, Guelph, ON, Canada; Jovica Riznic, Canadian Nuclear Safety Commission, Ottawa, ON, Canada

PVP2025-154569: NUMERICAL SIMULATION AND ANALYSIS OF FRETTING WEAR MECHANISMS INDUCED BY FOREIGN OBJECTS IN STEAM GENERATORS

Yuhua Hang, Zhen Cai, Bin Zhu, Jinna Mei, Suzhou Nuclear Power Research Institute, Suzhou, China; Heng Wang, Zhejiang Institute of Tianjin University, Ningbo, China; Yuanqing Liu, Yangjiang Nuclear Power Co., Ltd, Yangjiang, China; Guorui Zhu, Tianjin University, Tianjin, China

PVP2025-155285: VERIFICATION AND SUPPLEMENTAL INFORMATION FOR THE INFLUENCE OF TUBE FREQUENCY DIFFERENCES ON FLUID-ELASTIC INSTABILITY OF TUBE ARRAYS IN CROSSFLOW

Austin Vulcano, Naval Nuclear Laboratory (FMP), Pittsburgh, PA, USA; Gregory Banyay, Pennsylvania State University, State College, PA, USA; Robert Blevins, Consultant, San Diego, CA, USA; Pascal Brocheny, Framatome, Lynchburg, VA, USA

SESSION 1.4P (MF-15-03)

Monday, July 21, 4:15 pm – 6:00 pm, Westmount 5 (Congres Level)

FATIGUE AND FRACTURE OF WELDS AND HEAT AFFECTED ZONES-3 - STRESS RELAXATION CRACKING SYMPOSIUM-2

Symposium on Fatigue and Creep Issues—Co-Sponsored by the Codes & Standards, Design & Analysis, and Materials & Fabrication Technical Committees

Developed by: Mo Uddin, Structural Integrity Associates, Inc., San Jose, CA, USA; Do Jun Shim, EPRI, Palo Alto, CA, USA; David Rudland, US Nuclear Regulatory Commission, Frederick, MD, USA; Foroogh Hosseinzaadhe, The Open University, United Kingdom; Adam Cooper, Amentum, Warrington, United Kingdom; Richard Colwell, Bechtel, Richmond, TX, USA; Jan-Willem Rensman, Fluor BV, Hoofddorp, Netherlands; Sergio Cicero, University of Cantabria, Santander, Spain; Harry Coules, Amentum, Bristol, United Kingdom; Qin Ma, Walla Walla University, College Place, WA, USA; Noel O'Dowd, University of Limerick, Limerick, Ireland

Chair: Richard Colwell, Bechtel, Richmond, TX, USA

Co-Chair: Jan-Willem Rensman, Fluor BV, Hoofddorp, Netherlands

PVP2025-153796: THE PREDICTION AND OPERATIONAL EXPERIENCE OF RELAXATION CRACKING IN TYPE 316 H

Michael Spindler, EDF UK, Gloucester, United Kingdom

PVP2025-154359: A VALIDATED MODEL FOR DEFORMATION AND FRACTURE IN 316H STAINLESS STEEL PIPES IN NUCLEAR POWER PLANTS: INCORPORATING THE MICROSTRUCTURE, STRESS TRIAXIALITY AND DAMAGE INDICATORS

Nicolò Grilli, Farhan Ashraf, Christopher Truman, David Knowles, University of Bristol, Bristol, United Kingdom; Chen Liu, Catrin Davies, Imperial College London, London, United Kingdom; Mahmoud Mostafavi, Monash University, Clayton, Australia

PVP2025-154528: STRESS RELAXATION CRACKING AND THE CURIOUS CASE OF THE UNCRACKED WELDS - SRC MECHANISMS PART II

Jan-Willem Rensman, Fluor BV, Hoofddorp, Netherlands

PVP2025-153229: METALLURGICAL EXAMINATION OF PREMATURE HIGH-TEMPERATURE FRACTURE IN 304H PIPEWORK

Kasra Sotoudeh, Mike Gittos, Dorothy Winful, TWI Ltd., Cambridge, United Kingdom

SESSION 1.4Q (DA-09-02)

Monday, July 21, 4:15 pm – 6:00 pm, Westmount 6 (Congres Level)

PIPING AND EQUIPMENT DYNAMICS AND DYNAMIC RESPONSE ANALYSIS-2

Developed by: Pieter Van Beek, TNO, Rijswijk, Netherlands; Hao Jiang, Oak Ridge National Laboratory, Oak Ridge, TN, USA; Ashkan Eslaminejad, Structural Integrity Associates, Inc., Englewood, CO, USA; Ian Ty Cheong, QGC Pty Ltd., Brisbane, Australia

Chair: Ian Ty Cheong, QGC Pty Ltd., Brisbane, Australia

Co-Chair: Pieter Van Beek, TNO, Rijswijk, Netherlands

PVP2025-154369: APPLICATION OF MUTIL-HOLE RESTRICTION ORIFICE PLATES IN VIBRATION REDUCTION OF RECIPROCATING COMPRESSOR PIPELINES

Chengwen Wang, Jun Bao, Xudong He, Wei Ye, Dongsheng Yang, Xiaofeng Cai, Xiaobing Zhou, Tao Zhou, Wuhuan Engineering Co., Ltd., Wuhan, China

PVP2025-155430: ASYMPTOTIC SOLUTION FOR AXIAL STIFFNESS FOR SUPPORTS OF PIPES CONVEYING FLUIDS

Saher Attia, Cairo University - University of Alberta, Edmonton, AB, Canada; Magdi Mohareb, University of Ottawa, Ottawa, ON, Canada; Michael Martens, TC Energy Ltd, Calgary, AB, Canada; Samer Adeeb, University of Alberta, Edmonton, AB, Canada

PVP2025-154787: VIBRATION ANALYSIS APPROACH TO MITIGATE EXCESSIVE VIBRATIONS IN MAIN STEAM LINES OF A POWER STATION

Foad Rahimidehgolan, Usama Abdelsalam, Sadath Malik, Ahmed Alian, Next Structural Integrity Inc., Burlington, ON, Canada

PVP2025-154630: PROTON-PULSE INDUCED DYNAMIC STRAIN PREDICTION, MEASUREMENT, AND SIMULATION VALIDATION OF SNS TARGET WITH A NOVEL GAS INJECTOR

Hao Jiang, Drew Winder, Elvis Dominguez-Ontiveros, Kevin Johns, Oak Ridge National Laboratory, Oak Ridge, TN, USA

SESSION 1.4R (TW-02-02)

Monday, July 21, 4:15 pm – 6:00 pm, Montreal 1-2 (Congres Level)

A DETAILED OVERVIEW OF ASME PCC-2; REPAIR OF PRESSURE EQUIPMENT AND PIPING-PART 2

Developed by: Steven Roberts, Shell Global Solutions (US), Inc., Houston, TX, USA

Chair: Steven Roberts, Shell Global Solutions (US), Inc., Houston, TX, USA

Co-Chair: Andrew Duncan, Savannah River National Laboratory, Aiken, SC, USA

Presented by: Steven Roberts, Shell Global Solutions (US), Inc., Houston, TX, USA

SESSION 1.4S (TE-01-01)

Monday, July 21, 4:15 pm – 6:00 pm, St-Laurent 1-2 (Congres Level)

TECHNOLOGY EXHIBITS-4

Block 2.1: Tuesday, July 22, 2025 (8:00 am – 9:45 am)

SESSION 2.1A (CS-16-01)

Tuesday, July 22, 8:00 am – 9:45 am, St-Laurent 3 (Congres Level)

FATIGUE AND RATCHETING ISSUES IN PRESSURE VESSEL AND PIPING DESIGN-1

Symposium on Fatigue and Creep Issues—Co-Sponsored by the Codes & Standards, Design & Analysis, and Materials & Fabrication Technical Committees

Developed by: Wolf Reinhardt, AtkinsRéalis, Mississauga, ON, Canada; Reza Adibi-Asl, NErgx, Toronto, ON, Canada
Chair: Wolf Reinhardt, AtkinsRéalis, Mississauga, ON, Canada
Co-Chair: Reza Adibi-Asl, NErgx, Toronto, ON, Canada

PVP2025-151762: ASSESSMENT OF RATCHETING: A PROPOSED RULE AND ENGINEERING GUIDELINE TO PREVENT RATCHETING
Jean Macedo, Antoine Martin, Framatome, Lyon, France; Olivier Ancelet, Framatome, Courbevoie, France

PVP2025-152062: INFLUENCE OF TRIAXIALITY FACTOR ON LOW CYCLE FATIGUE OF PIPE FITTINGS
Kenichi Shibukuwa, IHI Corporation, Yokohama-Shi, Japan; Jie Wen, Jensen Hughes, Independence, OH, USA

PVP2025-152607: CHABOCHE KINEMATIC HARDENING MODEL FOR CYCLIC RATCHETING SIMULATION: CONTINUOUS AND DISCONTINUOUS HARDENING MATERIALS
Hyun-Seok Song, Yun-Jae Kim, Korea University, Seoul, Republic of Korea; Jin-Weon Kim, Chosun University, Gwangju, Republic of Korea; Do-Jun Shim, EPRI, Palo Alto, CA, USA

PVP2025-152796: CALCULATION METHOD OF CUMULATIVE TOTAL STRAIN BY REVERSING DYNAMIC LOAD +NON REVERSING DYNAMIC LOAD
Kenichi Shibukuwa, IHI Corporation, Yokohama-Shi, Japan; Jie Wen, Jensen Hughes, Independence, OH, USA

SESSION 2.1B (DA-12-03)

Tuesday, July 22, 8:00 am – 9:45 am, St-Laurent 4 (Congres Level)

THE NOEL O'DOWD MEMORIAL SYMPOSIUM ON FRACTURE: FRACTURE-3

Symposium on Fracture Mechanics and Analysis—Co-Sponsored by the Design & Analysis and Materials & Fabrication Technical Committees

Developed by: Shane Finneran, DNV, Columbus, OH, USA; Shunji Kataoka, JGC Corporation, Yokohama, Japan; Darren Pinto, Schenck Products, Sabetha, KS, USA; Ali Ok, Air Products-LNG Technology and Products, Allentown, PA, USA; Qin Ma, Walla Walla University, College Place, WA, USA
Chair: Shunji Kataoka, JGC Corporation, Yokohama, Japan
Co-Chair: Ali Ok, Air Products-LNG Technology and Products, Allentown, PA, USA

PVP2025-154600: DEVELOPMENT OF 4TH ORDER POLYNOMIAL INFLUENCE COEFFICIENTS FOR API 579-1 / ASME FFS-1 STRESS INTENSITY FACTOR SOLUTIONS FOR THROUGH-WALL CRACKS IN PLATES
Steven Altstadt, Becht, Liberty Corner, NJ, USA; Stewart Long, Becht, Dunsborough, Australia

PVP2025-154664: FRACTURE MECHANICS ASSESSMENT OF REACTOR PRESSURE VESSELS IN THE FRENCH REGULATORY CONTEXT
Lucas Breder Teixeira, Pauline Bouin, Vincent Robin, Christophe Dal Bianco, Nicolas Prompt, EDF, Lyon, France

PVP2025-154804: MIXED MODE STRESS INTENSITY FACTORS FOR A SLANTED CRACK INTERACTING WITH A HORIZONTAL CRACK IN A LARGE PLATE UNDER REMOTE TENSION
Qin Ma, Walla Walla University, College Place, WA, USA; Mordechai Perl, Ben Gurion University of the Negev, Beer Sheva, Israel; Cesar Levy, Florida International University, Miami, FL, USA

PVP2025-155326: APPLICATION OF THE LOCAL APPROACH BEREMIN CRITERION A CARBON-MANGANESE FERRITIC STEEL
Radhia Chaib, EDF R&D, Avon, France; Stéphane Chapuliot, Anna Dahl, EDF R&D, Ecuelles, France; Jean-Michel Bergheau, Ecole Centrale Lyon-ENISE, Saint Etienne, France

SESSION 2.1C (CT-08-01)

Tuesday, July 22, 8:00 am – 9:45 am, St-Laurent 5 (Congres Level)

NEW AND EMERGING METHODS OF ANALYSIS AND APPLICATIONS

Developed by: Young Ho Park, New Mexico State University, Las Cruces, NM, USA; Yasumasa Shoji, YS Corporation LLC, Mushashino, Japan; Bhaskar Shitolé, Wood, Calgary, AB, Canada; Don Metzger, Wolf Reinhardt, AtkinsRéalis, Mississauga, ON, Canada; Reza Adibi-Asl, NEgrx, Toronto, ON, Canada; Bing Li, Kinectrics, Inc., Toronto, ON, Canada
Chair: Yasumasa Shoji, YS Corporation LLC, Mushashino, Japan
Co-Chair: Lindsey Elliott, Nexterity, Inc., Nutley, NJ, USA

PVP2025-152776: A PROPOSED WEIGHT FUNCTION METHOD FOR 3-D ELLIPTICAL EMBEDDED CRACKS SUBJECT TO ARBITRARY STRESS DISTRIBUTION
Steven Altstadt, Becht, Fargo, ND, USA

PVP2025-154860: NUMERICAL SIMULATION OF HIGH-CYCLIC FATIGUE IN STEEL COMPONENTS
Gregory C. Sarvanis, Spyros A. Karamanos, University of Thessaly, Volos, Greece

PVP2025-152539: SIMULATION OF ELECTROMAGNETIC LITHIUM CYLINDER COMPRESSION FOR APPLICATIONS IN MAGNETIZED TARGET FUSION
Nick Sirmas, Jean-Sebastien Dick, Scott Bernard, Yu Miao, Lemuel Santos, Jake Hobbis, Claire Preston, Anthony Lee, Sean Cameron, Piotr Forysinski, General Fusion, Richmond, BC, Canada

PVP2025-154697: QUALITY ASSURANCE THROUGH PROCESS PARAMETER ADJUSTMENT IN WIRE ARC ADDITIVE MANUFACTURING OF METALS
Youngho Park, Allen Love, Saeed Behseresht, Omar Pastrana Valdez Pastrana, New Mexico State University, Las Cruces, NM, USA

SESSION 2.1D (CS-19-02)

Tuesday, July 22, 8:00 am – 9:45 am, St-Laurent 6 (Congres Level)

FRACTURE TOUGHNESS AND OTHER SMALL SPECIMEN MECHANICAL PROPERTIES (JOINT WITH M&F)-2

Symposium on Small-Scale Mechanical Testing—Co-Sponsored by the Codes & Standards and Materials & Fabrication Technical Committees

Developed by: Mark Kirk, Phoenix Engineering Associates Inc., Claremont, NH, USA; Masato Yamamoto, Central Research Institute of Electric Power Industry (CRIEPI), Yokosuka, Japan; William Server, Consultant, Black Mountain, NC, USA; Dongmei Sun, Liburdi Group of Companies, Guelph, ON, Canada; Brian Hall, Westinghouse Electric Company, Churchill, PA, USA
Chair: J. Brian Hall, Westinghouse Electric Company, Churchill, PA, USA
Co-Chair: Sebastian Lindqvist, VTT Technical Research Centre of Finland, Espoo, Finland

PVP2025-154536: ANALYSIS OF THE DIFFERENCE BETWEEN THE REFERENCE TEMPERATURE VALUES DERIVED FROM CONVENTIONAL AND MINI-CT SPECIMENS: EFFECT OF THE NUMBER OF VALID FRACTURE TESTS
Sergio Cicero, University of Cantabria, Santander, Spain; Marcos Sanchez, Tecnalia, San Sebastián, Spain

PVP2025-151653: SUMMARY OF STUDIES MADE WITH MINIATURE C(T) SPECIMENS FOR NON-IRRADIATED AND IRRADIATED MATERIALS
Laura Sirkiä, Kim Calonius, Zaiqing Que, VTT Technical Research Centre of Finland Ltd., Espoo, Finland

PVP2025-154545: METHODOLOGY AND ASSESSMENT OF PRIMARY PIPING MATERIALS FOR SAFE LONG-TERM OPERATION OF VVER TYPE REACTORS AS PART OF THE DELISA-LTO PROJECT
Marek Adamech, Jana Petzova, David Slnek, VUJE, a.s., Trnava, Slovakia

PVP2025-153634: THE ASSESSMENT OF THE PRIMARY PIPING MATERIAL STATES ON LTO SAFE OPERATION OF VVER-TYPE NPP IN THE FRAMEWORK OF SAMO-LTO PROJECT
Dávid Slnek, Jana Petzova, Marek Adamech, VUJE, a.s., Trnava, Slovakia

SESSION 2.1E (CS-24-01)

Tuesday, July 22, 8:00 am – 9:45 am, St-Laurent 7 (Congres Level)
PROBABILISTIC AND RISK-INFORMED METHODS FOR STRUCTURAL INTEGRITY ASSESSMENT (JOINT WITH M&F)
Symposium on Structural Integrity—Co-Sponsored by the Codes & Standards and Materials & Fabrication Technical Committees
Developed by: Steven Xu, Cheng Liu, Kinectrics, Inc., Toronto, ON, Canada; David Rudland, US Nuclear Regulatory Commission, Frederick, MD, USA; Yinsheng Li, Japan Atomic Energy Agency, Naka-Gun, Japan; Liqing Wei, Zhejiang University, Hangzhou, China; Do Jun Shim, EPRI, Palo Alto, CA, USA; Graeme Horne, Frazer-Nash Consultancy, Bristol, United Kingdom; Deepak Somasundaram, AtkinsRéalis, Mississauga, ON, Canada
Chair: Steven Xu, Kinectrics, Inc., Toronto, ON, Canada
Co-Chair: David Rudland, US Nuclear Regulatory Commission, Frederick, MD, USA
PVP2025-154873: DETERMINATION OF THE CONTINUED ADEQUACY OF LOCA FREQUENCIES FROM NUREG-1829
David L. Rudland, US Nuclear Regulatory Commission, Frederick, MD, USA; Robert Tregoning, Matthew Homiack, US Nuclear Regulatory Commission, Rockville, MD, USA
PVP2025-155331: EVALUATION OF THE DETERMINISTIC AND PROBABILISTIC BENCHMARK FOR THE ADVANCED PRESSURIZED THERMAL SHOCK ANALYSIS FOR LONG TERM OPERATION (APAL) PROJECT
Katharina Heisig, Ralf Tiete, Vignesh Suryaprakash, Sébastien Blasset, Framatome GmbH, Erlangen, Germany; Vladislav Pištora, ÚJV Řež, a. s., Husinec, Czech Republic; Miroslav Posta, ÚJV Řež, a. s., Husinec, Czech Republic; Petter Von Unge, Andrey Shipsha, Kiwa Technical Consulting AB, Solna, Sweden
PVP2025-155341: BENCHMARK ON CAST AUSTENITIC STAINLESS STEEL PROBABILISTIC FRACTURE MECHANICS MODELING (Presentation Only)
Troy Meurer, Markus Burkardt, Dominion Engineering, Inc., Reston, VA, USA; Do Jun Shim, EPRI, Palo Alto, CA, USA
PVP2025-154778: IMPROVEMENT OF PFM ANALYSIS CODE PASCAL-SP2 FOR EVALUATING THE FAILURE PROBABILITY OF STAINLESS STEEL PIPE WITH STRESS CORROSION CRACK IN PWRS
Yoshihito Yamaguchi, Suo Li, Jinya Katsuyama, Japan Atomic Energy Agency, Tokai-Mura, Japan

SESSION 2.1F (CS-07-03)

Tuesday, July 22, 8:00 am – 9:45 am, St-Laurent 8 (Congres Level)
THE WARREN H. BAMFORD MEMORIAL SYMPOSIUM ON RECENT DEVELOPMENTS IN ASME CODES AND STANDARDS-3
Symposium on Recent Developments in Codes & Standards—Sponsored by the Codes & Standards Technical Committee
Developed by: Ting-Leung (Sam) Sham, US Nuclear Regulatory Commission, Rockville, MD, USA; Yanli Wang, Oak Ridge National Laboratory, Oak Ridge, TN, USA; Mark Messner, Argonne National Laboratory, Plainfield, IL, USA
Chair: Ting-Leung (Sam) Sham, US Nuclear Regulatory Commission, Rockville, MD, USA
Co-Chair: Mark Messner, Argonne National Laboratory, Plainfield, IL, USA
PVP2025-155653: DRAFT FATIGUE DESIGN CURVES AND CREEP-FATIGUE INTERACTION DIAGRAM FOR THE ALLOY 709 CODE CASE
Yanli Wang, Xuesong Fan, Oak Ridge National Laboratory, Oak Ridge, TN, USA; Heramb Mahajan, Idaho National Laboratory, Idaho Falls, ID, USA; Ryann Bass, Ting-Leung Sham, US Nuclear Regulatory Commission, Rockville, MD, USA
PVP2025-152521: CLASS A DESIGN DATA FOR ALLOY 709 FOR USE WITH THE ASME BOILER AND PRESSURE VESSEL CODE SECTION III, DIVISION 5 RULES
Mark C. Messner, Bipul Barua, Argonne National Laboratory, Lemont, IL, USA
PVP2025-155182: HIGH TEMPERATURE CREEP-FATIGUE EVALUATION OF A METALLIC COMPONENT
Jason Young, Brad Minman, Ashwin Cheekala, Westinghouse Electric Company, Cranberry Township, PA, USA; Thomas Mikolajewski, Westinghouse Electric Canada Inc., Burlington, ON, Canada; Justin Webb, Westinghouse Electric Company, Windsor, CT, USA
PVP2025-152939: TEST ARTICLE DEVELOPMENT TO SUPPORT MATERIALS SURVEILLANCE TECHNOLOGY FOR HIGH-TEMPERATURE REACTORS
Heramb Mahajan, Xinchang Zhang, Michael Mcmurtrey, Idaho National Laboratory, Idaho Falls, ID, USA

SESSION 2.1G (MF-06-03)

Tuesday, July 22, 8:00 am – 9:45 am, Montreal 3 (Congres Level)
MATERIALS AND TECHNOLOGIES FOR NUCLEAR POWER PLANTS-3
Symposium on Mechanical Properties of Nuclear Materials—Co-Sponsored by the Codes & Standards and Materials & Fabrication Technical Committees
Developed by: Yiyu Wang, Xiang (Frank) Chen, Oak Ridge National Laboratory, Oak Ridge, TN, USA; Rita Kirchhofer, Secretariat, Golden, CO, USA; Murthy Kolluri, Nuclear Research and Consultancy Group, Petten, Netherlands
Chair: Murthy Kolluri, Nuclear Research and Consultancy Group, Petten, Netherlands
Co-Chair: Xiang (Frank) Chen, Oak Ridge National Laboratory, Oak Ridge, TN, USA
PVP2025-155484: A REVISED FORMULATION OF THE IRRADIATION ASSISTED STRESS CORROSION CRACK GROWTH RATES FOR NEUTRON-IRRADIATED STAINLESS STEELS FOR A BOILING WATER REACTOR
Masato Koshiishi, Nippon Nuclear Fuel Development Co., Ltd., Hitachinaka-Shi, Japan; Tomonori Abe, Toshiba Energy Systems & Solutions Corporation, Kawasaki-Shi, Japan
PVP2025-154808: PRELIMINARY DEVELOPMENT OF THE STRUCTURAL SAFETY ASSESSMENT CRITERIA FOR IN-VESSEL COMPONENTS FOR FUSION DEVICE
Andrea Tonti, INAIL, Marino, Italy; Xuebing Peng, Xinyuan Qian, Yuntao Song, Chinese Academy of Sciences, Hefei, China; Francesco Rizzo, Sapienza University of Rome, DIAEE, Rome, Italy
PVP2025-155811: QUENCH INDUCED WORK HARDENING DISTRIBUTIONS IN CYLINDRICAL COMPONENTS
Wim Vorster, EDF, Gloucester, United Kingdom; Siqi He, Matt Curtis, EDF - AtkinsRealis, Gloucester, United Kingdom; James O'Neill, Thomas Hill, EDF - Frazer-Nash Consultancy, Gloucester, United Kingdom
PVP2025-155687: ASSESSMENT OF NI AND MN EFFECT ON THE IRRADIATION HARDENING BEHAVIOR OF RPV MODEL STEELS AND REALISTIC WELDS EXPOSED TO HIGH FLUENCES IN THE HIGH FLUX REACTOR (Presentation Only)
Viviam Marques Pereira, Mathilde Laot, Murthy Kolluri, NRG, Petten, Netherlands; Bertrand Radiguet, Université de Rouen Normandie, Saint Etienne Du Rouvray, France; Elvira Oñorbe Esparraguera, Mercedes Hernandez Mayoral, CIEMAT, Madrid, Spain; Andreas Ulbricht, Helmholtz-Zentrum Dresden-Rossendorf, Dresden, Germany; Oliver Martin, European Commission - Joint Research Center, Petten, Netherlands;

SESSION 2.1H (MF-02-03)

Tuesday, July 22, 8:00 am – 9:45 am, Montreal 6 (Congres Level)
MATERIALS FOR HYDROGEN SERVICE (JOINT WITH C&S)-3
Symposium on Materials for Hydrogen Service—Co-Sponsored by the Codes & Standards, Computer Technology & Bolted Joints, Design & Analysis, Fluid-Structure Interaction, and Materials & Fabrication Technical Committees
Developed by: Joe Ronevich, Chris San Marchi, Sandia National Laboratories, Livermore, CA, USA; Laurent Briottet, French

Alternative Energies & Atomic Energy Commission, Grenoble, France; Steven Xu, Kinectrics, Inc., Toronto, ON, Canada; Sylvain Pillot, Le Creusot, Bourgogne-Franche-Comté, France; M. Kevin Mandeville Jr., DNV, Katy, TX, USA; Tim Krentz, Savannah River National Laboratory, Aiken, SC, USA; Zakaria Hsain, US Department of Energy, Washington, DC, USA; Farid Afshar, Element Materials Tech, The Hague, Netherlands

Chair: Dennis Rapp, Materials Testing Institute (MPA) University of Stuttgart, Stuttgart, Germany

Co-Chair: Fabien Ebling, Fraunhofer Institute for Mechanics of Materials IWM, Freiburg, Germany

PVP2025-155111: COMPARISON OF HYDROGEN ENVIRONMENT ASSISTED CRACKING SUSCEPTIBILITY OF ALLOY 825/625 WELDS TO DUPLEX STAINLESS STEEL 2205/2209 WELDS IN REACTOR EFFLUENT AIR COOLER VESSELS

Jesse Rhodes, Tom McGaughy, Joshua James, Jon Jennings, EWI, Columbus, OH, USA; Jorge Penso, Shell Projects and Technology, Houston, TX, USA; Devin Preston, Seun Idowu, Shell Canada Ltd., Fort Saskatchewan, AB, Canada; EWI, Columbus, OH, USA

PVP2025-152466: HYDROGEN-ASSISTED FATIGUE AND FRACTURE OF 15-5PH PRECIPITATION HARDENED MARTENSITIC STAINLESS STEEL

Joe Ronevich, Chris San Marchi, Sandia National Laboratories, Livermore, CA, USA

PVP2025-153527: ON THE COMPATIBILITY OF TYPE 304 METASTABLE AUSTENITIC STAINLESS STEEL WITH HIGH-PRESSURE HYDROGEN ENVIRONMENTS (Presentation Only)

Hisao Matsunaga, Kyushu University, Fukuoka, Japan; Junichiro Yamabe, Fukuoka University, Fukuoka, Japan; Hiroshi Kobayashi, Japan Petroleum and Carbon Neutral Fuels Energy Center, Tokyo, Japan; Fumitaka Fumitaka, Japan Petroleum and Carbon Neutral Fuels Energy Center, Tokyo, Japan; Kenichi Takai, Sophia University, Tokyo, Japan; Nobuhiro Yoshikawa, University of Tokyo, Tokyo, Japan

PVP2025-152132: EFFECT OF COMPOSITION ON TENSILE PROPERTIES OF AISI 316 VARIANTS WITH INTERNAL HYDROGEN

Janne Pakarinen, Elina Huttunen-Saarivirta, Pekka Pohjanne, Pekka Moilanen, Supriya Nandy, VTT Technical Research Centre of Finland Ltd., Espoo, Finland; Joseph A. Ronevich, Chris San Marchi, Sandia National Laboratories, Livermore, CA, USA

SESSION 2.1I (DA-02-03)

Tuesday, July 22, 8:00 am – 9:45 am, Montreal 7 (Congres Level)

DESIGN AND ANALYSIS OF PIPING, PIPELINES, AND COMPONENTS-3

Developed by: Chakrapani Basavaraju, US Nuclear Regulatory Commission, Rockville, MD, USA; Bhaskar Shitolé, Wood, Calgary, AB, Canada; Kannan Subramanian, Structural Integrity Associates, Inc., Metairie, LA, USA; Bing Li, Kinectrics, Inc., Toronto, ON, Canada

Chair: Bing Li, Kinectrics, Inc., Toronto, ON, Canada

Co-Chair: Bhaskar Shitolé, Wood, Calgary, AB, Canada

PVP2025-153465: THERMODYNAMIC OPTIMIZATION OF A NATURAL GAS THROTTLING PRESSURE DIFFERENCE POWER GENERATION SYSTEM

Shuxia Yuan, Junhao Liu, Lin Gao, Song Wu, Zihan Yang, Xiangpu Zhao, Xi'an Shiyou University, Xi'an, China

PVP2025-154233: PROPOSED REVISION TO ASME B31.1 PARA. 102.2.4 ALLOWANCE FOR VARIATION FROM NORMAL OPERATION

Marvin Cohn, Intertek AIM, Santa Clara, CA, USA; Ron Haupt, Pressure Piping Engineering Associates, Inc., Foster City, CA, USA

PVP2025-154371: NUMERICAL SIMULATIONS OF HYDROGEN ENRICHMENT IN WELD-JOINT OF L245 STEEL PIPELINES

Weihan Gao, Guangxu Cheng, Haijun Hu, Xi'an Jiaotong University, Xi'an, China; Mu Qin, Zhejiang Institute of Quality Science, Hangzhou, China; Weichen Song, Sinopec Petroleum Engineering Design Co., Ltd, Dongying, China

PVP2025-154730: WIND AND SEISMIC DESIGN CONSIDERATIONS FOR LADDERS AND PLATFORMS INSTALLED AROUND LARGE CYLINDRICAL VESSELS AND SUPPORTING STRUCTURES

Abd Elmajeed Elkhider, Agron Gjinolli, Jason Dorgan, Larry Danso, Durr Universal, Inc., Stoughton, WI, USA

SESSION 2.1J (CT-01-03)

Tuesday, July 22, 8:00 am – 9:45 am, Montreal 8 (Congres Level)

DESIGN AND ANALYSIS OF BOLTED FLANGE JOINTS-3

Symposium on Bolted Joints—Co-Sponsored by the Computer Technology & Bolted Joints and Design & Analysis Technical Committees

Developed by: Stefano Fini, University of Bologna, Bologna, Italy; Abdelgader Abdelgalil, SABIC, Jubail, Saudi Arabia; Manfred Schaaf, AMTEC, Lauffen, Germany; Hakim Bouzid, École de Technologie Supérieure, Montreal, QC, Canada; Hubert Lejeune, CETIM, Nantes, France

Chair: Hubert Lejeune, CETIM, Nantes, France

Co-Chair: Leonardo De La Roca, Teadit, Itatiba, Brazil

PVP2025-152627: AUTOMATED FEA FOR RISK BASED HOT/HALF BOLTING OF FLANGED JOINTS

Vuong Tri Nguyen, Thanh Loi Nguyen, Vinh Phat Luu, David Knezevic, Akselos S.A., Lausanne, Switzerland; Piyush Prasad, Qatar Shell GTL Limited, Doha, Qatar

PVP2025-153629: IMPROVED ESTIMATION METHOD OF COMPONENT STIFFNESS FOR BOLTED JOINT WITH DIFFERENT ELASTIC MODULI

Kazuya Sobata, Honda R&D Co., Ltd., Wako-Shi, Japan

PVP2025-154425: FURTHER INVESTIGATION ON PTFE-COATED STUDS

Barrett Meigs, Scott Hamilton, VSP Technologies, Webster, TX, USA; James Province, Brad Tinney, Houston Fastener, Houston, TX, USA

PVP2025-154489: EXPERIMENTAL AND NUMERICAL STUDY OF EXPANDED GRAPHITE PACKING RING FOR FUGITIVE EMISSIONS APPLICATIONS IN VALVES

Victorien Clement, Hervé Laurent, Université Bretagne Sud, Lorient, France; Hubert Lejeune, CETIM, Nantes, France

SESSION 2.1K (FSI-03-01)

Tuesday, July 22, 8:00 am – 9:45 am, Outremont 1 (Congres Level)

STRUCTURES UNDER EXTREME LOADING CONDITIONS-1

Symposium on Structures Under Extreme Loading Conditions—Co-Sponsored by the Fluid-Structure Interaction and High-Pressure Technology Technical Committees

Developed by: Matt Edel, BakerRisk, Jihui Geng, San Antonio, TX, USA

Chair: Jihui Geng, BakerRisk, San Antonio, TX, USA

Co-Chair: Matt Edel, BakerRisk, San Antonio, TX, USA

PVP2025-155028: FLUID-STRUCTURE INTERACTION ANALYSIS OF RUNNING DUCTILE FRACTURES IN DENSE-PHASE CO2 PIPELINES WITH TOROIDAL RING CRACK ARRESTORS

Jinglue Hu, Wenxing Zhou, Western University, London, ON, Canada; Jidong Kang, CanmetMATERIALS, Hamilton, ON, Canada

PVP2025-152731: FLUID-STRUCTURE INTERACTION MODELLING TO PREDICT RUPTURE OF DENSE-PHASE CO2 PIPELINES

Bruce W. Williams, Ifaz Haider, Su Xu, CanmetMATERIALS, Hamilton, ON, Canada; Dean Difiore, C. Hari M. Simha, University of Guelph, Guelph, ON, Canada

PVP2025-155659: A STUDY ON STRUCTURAL ANALYSIS METHODOLOGIES TO ACCOUNT FOR THE HYDRAULIC LOADS ON REACTOR VESSEL INTERNALS (Presentation Only)

Chiwoong Ra, No-Cheol Park, Hyungyu Roh, Jeonghyun Kim, Yonsei University, Seoul, Republic of Korea

PVP2025-154207: COUPLED FLUID-STRUCTURAL ANALYSIS OF EXPLOSION CONTAINMENT USING CRUSHABLE SANDWICH STRUCTURES ▼

Aditya Narkhede, Shafquat Islam, Kevin Wang, Virginia Polytechnic Institute and State University, Blacksburg, VA, USA

SESSION 2.1L (OAC-03-01)

Tuesday, July 22, 8:00 am – 9:45 am, Outremont 4 (Congres Level)

MONITORING, DIAGNOSTICS & INSPECTION-1

Developed by: Radim Kopřiva, ÚJV Řež, a. s., Husinec, Czech Republic; Jana Petzová, VUJE, a.s., Trnava, Slovakia

Chair: Radim Kopřiva, ÚJV Řež, a. s., Husinec, Czech Republic

Co-Chair: Jana Petzová, VUJE, a.s., Trnava, Slovakia

PVP2025-154539: PIPELINE LEAKAGE TYPE IDENTIFICATION METHOD BASED ON MULTI-SOURCE DATA FUSION

Shuyi Wang, Mengkai Fu, Xiaoben Liu, China University of Petroleum, Beijing, China

PVP2025-158249: MULTIPLE ATTRIBUTES HYBRID FRAMEWORK TO OPTIMIZE THE TURNAROUND INSPECTION SCOPE FOR O&G FACILITIES

Mohamed Attia, Saudi Aramco, Dhahran, Saudi Arabia

PVP2025-154028: ENHANCING PIPING AND PRESSURE VESSEL MANAGEMENT THROUGH IMMERSIVE DATA VISUALIZATION (Presentation Only)

Floyd Baker, Antea Americas, Montgomery, TX, USA

PVP2025-153391: REAL-TIME INSIGHTS AND RISK MITIGATION: THE ROLE OF IIOT AND DIGITAL TWINS IN PIPING AND VESSEL MANAGEMENT

Joel Chapman, Antea Canada Inc., Montreal, QC, Canada

SESSION 2.1M (MF-25-01)

Tuesday, July 22, 8:00 am – 9:45 am, Outremont 6 (Congres Level)

HIGH STRENGTH STEELS FOR PRESSURE VESSELS AND PIPING APPLICATIONS

Developed by: M. Kevin Mandeville Jr., DNV, Katy, TX, USA; Sylvain Pillot, Le Creusot, Bourgogne-Franche-Comté, France
Chair: M. Kevin Mandeville Jr., DNV, Katy, TX, USA
Co-Chair: Alexander Brust, DNV, Columbus, OH, USA

PVP2025-154081: THERMAL PROCESSING SIMULATIONS OF MULTI-CONSTITUENT AUSTENITE-CONTAINING STEELS FOR EXPLOSIVE CONFINEMENT VESSEL CONSTRUCTION

Caleb Minasian, Joshua Mueller, Michigan Technological University, Houghton, MI, USA; Joshem Gibson, Los Alamos National Laboratory, Los Alamos, NM, USA

PVP2025-154658: EFFECTS OF ELECTROCHEMICAL PRE-CHARGING AND POST-WELD HEAT TREATMENT ON THE MECHANICAL PROPERTIES OF 2.25CR-1MO-0.25V STEEL WELD JOINTS

Songyan Hu, Guangxu Cheng, Xi'an Jiaotong University, Xi'an, China

PVP2025-155699: FATIGUE CRACK PROPAGATION IN AS-BUILT AND AGED ADDITIVELY MANUFACTURED 18NI300 MARAGING STEEL

Jorge Gil, INEGI, Porto, Portugal; Beatriz Silva, Maria Vaz, IST, Lisboa, Portugal; Ana Reis, Abílio De Jesus, Faculty of Engineering - University of Porto, Porto, Portugal

SESSION 2.1N (SE-05-01)

Tuesday, July 22, 8:00 am – 9:45 am , Outremont 7 (Congres Level)

STRUCTURAL DYNAMICS-1

Developed by: Kiyoshi Aida, Mitsubishi Heavy Industries, Kure-Shi, Japan; Katsuhisa Fujita, Osaka City University, Sumiyoshi-ku, Japan
Chair: Satoru Kai, IHI Corporation, Yokohama, Japan
Co-Chair: Kazuo Hirota, Mitsubishi Heavy Industries, Takasago, Japan

PVP2025-152822: STUDY ON OCCURRENCE CONDITION OF EXTREMELY LARGE SLOSHING LOAD IN CYLINDRICAL TANKS

Shunichi Ikesue, Mitsubishi Heavy Industries, Ltd., Nagasaki, Japan; Akihisa Iwasaki, Mitsubishi Heavy Industries, Ltd., Takasago, Japan; Hiromi Sago, Mitsubishi Heavy Industries, Ltd., Kobe, Japan; Shinobu Yokoi, Mitsubishi FBR Systems, Inc., Kobe, Japan; Tomohiko Yamamoto, Japan Atomic Energy Agency, Higashi-Ibaraki-Gun, Japan

PVP2025-153633: APPLICATION OF LIMIT ANALYSIS TO SEISMIC EVALUATION OF STEAM GENERATOR TUBE BUNDLES -PART 1: SEISMIC TEST AND NONLINEAR ANALYSIS MODEL WITH REFINED MODELING OF TUBE AND TUBE SUPPORT PLATE CONTACT

Kazuteru Kawamura, Kazuo Hirota, Naoki Ono, Rintaro Chikami, Mitsubishi Heavy Industries, Ltd., Takasago, Japan; Masahito Matsubara, Hiroto Tanishima, Mitsubishi Heavy Industries, Ltd., Kobe, Japan; Tomohiro Kurokawa, Shono Ota, The Kansai Electric Power Co., Inc., Mikata-Gun, Japan

PVP2025-153450: APPLICATION OF LIMIT ANALYSIS TO SEISMIC EVALUATION OF STEAM GENERATOR TUBE BUNDLES – PART 2: VERIFICATION OF REPRODUCTION OF SG TUBE ELASTIC-PLASTIC BEHAVIOR AND APPLICATION OF LIMIT ANALYSIS BY NONLINEAR MODEL

Kazuki Shirahase, Rintaro Chikami, Kazuteru Kawamura, Kazuo Hirota, Naoki Ono, Mitsubishi Heavy Industries, Ltd., Takasago, Japan; Masahito Matsubara, Hiroto Tanishima, Mitsubishi Heavy Industries, Ltd., Kobe, Japan; Tomohiro Kurokawa, Shono Ota, The Kansai Electric Power Co., Inc., Mikata-Gun, Japan

PVP2025-153651: EQUIVALENT LINEAR ANALYSIS MODEL WITH REFINED MODELING OF TUBE AND TUBE SUPPORT PLATE CONTACT FOR SEISMIC RESPONSE EVALUATION OF STEAM GENERATOR TUBE BUNDLES

Kazuteru Kawamura, Kazuo Hirota, Naoki Ono, Kazuki Shirahase, Rintaro Chikami, Mitsubishi Heavy Industries, Ltd., Takasago, Japan; Masahito Matsubara, Hiroto Tanishima, Mitsubishi Heavy Industries, Ltd., Kobe, Japan; Tomohiro Kurokawa, Shono Ota, The Kansai Electric Power Co., Inc., Mikata-Gun, Japan

SESSION 2.1O (FSI-02-03)

Tuesday, July 22, 8:00 am – 9:45 am , Westmount 2 (Congres Level)

TUBE ARRAYS III

Symposium on Flow Induced Vibration—Sponsored by the Fluid-Structure Interaction Technical Committee

Developed by: Marwan Hassan, University of Guelph, Guelph, ON, USA; Atef Mohany, Ontario Tech University, Oshawa, ON, Canada; Salim El Bouzidi, Canadian Nuclear Laboratories, Chalk River, ON, Canada
Chair: Atef Mohany, Ontario Tech University, Oshawa, ON, Canada
Co-Chair: Mohammed Alziadeh, Canadian Nuclear Laboratories, Chalk River, ON, Canada

PVP2025-155845: A SEMI-EMPIRICAL APPROACH FOR MODELLING THE EFFECT OF TUBE-SUPPORT PRELOAD ON FLUIDELASTIC INSTABILITY OF TUBE ARRAYS

Teguewinde Sawadogo, Ibrahim Gad-El-Hak, Canadian Nuclear Laboratories, Chalk River, ON, Canada

PVP2025-154429: CHARACTERIZING FLOW PERTURBATIONS IN TUBE ARRAYS UNDER CROSS-FLOW

Amro Elhelaly, Hossein Farani Sani, Marwan Hassan, University of Guelph, Guelph, ON, Canada; Atef Mohany, Ontario Tech University, Oshawa, ON, Canada

PVP2025-154862: BIFURCATION BEHAVIOR OF FLOW IN A MIXED-GEOMETRY TUBE ARRAY

Pegah Mehrabian, Njuki Mureithi, Polytechnique Montréal, Montréal, QC, Canada

SESSION 2.1P (MF-15-04)

Tuesday, July 22, 8:00 am – 9:45 am , Westmount 5 (Congres Level)

FATIGUE AND FRACTURE OF WELDS AND HEAT AFFECTED ZONES - 4 --STRESS RELAXATION CRACKING SYMPOSIUM - 3

Symposium on Fatigue and Creep Issues—Co-Sponsored by the Codes & Standards, Design & Analysis, and Materials & Fabrication Technical Committees

Developed by: Mo Uddin, Structural Integrity Associates, Inc., San Jose, CA, USA; Do Jun Shim, EPRI, Palo Alto, CA, USA; David Rudland, US Nuclear Regulatory Commission, Frederick, MD, USA; Foroogh Hosseinzaadhe, The Open University, United Kingdom; Adam Cooper, Amentum, Warrington, United Kingdom; Richard Colwell, Bechtel, Richmond, TX, USA; Jan-Willem Rensman, Fluor BV, Hoofddorp, Netherlands; Ting-Leung (Sam) Sham, US Nuclear Regulatory Commission, Rockville, MD, USA; Yanli Wang, Oak Ridge National Laboratory, Oak Ridge, TN, USA; Mark Messner, Argonne National Laboratory, Plainfield, IL, USA; Preeti Doddihal, Kinectrics, Inc., Toronto, ON, Canada; Jessica Lam, Ontario Power Generation, Toronto, ON, Canada
Chair: Jan-Willem Rensman, Fluor BV, Hoofddorp, Netherlands
Co-Chair: Richard Colwell, Bechtel, Richmond, TX, USA

PVP2025-152702: GUIDANCE ON TREATMENT OF WELDING RESIDUAL STRESSES IN DESIGN EVALUATIONS USING SECTION III, DIVISION 5 RULES
Bipul Barua, Tianchen Hu, Mark C. Messner, Argonne National Laboratory, Lemont, IL, USA
PVP2025-151833: OPTIMIZATION OF POST-WELD HEAT TREATMENT PROCESS FOR LONG-TERM USED TP347 PIPE
Li Zhifeng, Technology Innovation Center of Risk Prevention and Control of Refining and Chemical Equipment for State Market Regulation, Beijing, China; Shao Shanshan, Liu Juanbo, Jia Guodong, China Special Equipment Inspection & Research Institute, Beijing, China
STRESS RELAXATION CRACKING ROUND TABLE: MECHANISM FACTORS - MATERIAL DEVELOPMENT - CODE REQUIREMENTS

SESSION 2.1S (TE-01-01)

Tuesday, July 22, 8:00 am – 9:45 am, St-Laurent 1-2 (Congres Level)
TECHNOLOGY EXHIBITS-5

Block 2.2: Tuesday, July 22, 2025 (10:15 am – 12:00 pm)

SESSION 2.2A (CS-16-02)

Tuesday, July 22, 10:15 am – 12:00 pm, St-Laurent 3 (Congres Level)
FATIGUE AND RATCHETING ISSUES IN PRESSURE VESSEL AND PIPING DESIGN-2
Symposium on Fatigue and Creep Issues—Co-Sponsored by the Codes & Standards, Design & Analysis, and Materials & Fabrication Technical Committees
Developed by: Wolf Reinhardt, AtkinsRéalis, Mississauga, ON, Canada; Reza Adibi-Asl, NErgx, Toronto, ON, Canada
Chair: Reza Adibi-Asl, NErgx, Toronto, ON, Canada
Co-Chair: Wolf Reinhardt, AtkinsRéalis, Mississauga, ON, Canada
PVP2025-152951: COMPARING ASME AND PD5500 FATIGUE ANALYSIS METHODS: A CASE STUDY
Senthil Kumar, Unconventional Gas Solutions, Houston, TX, USA
PVP2025-154511: TRIAL-PIPING DESIGN BY ASME CC N-900
Kenichi Shibukuwa, IHI Corporation, Yokohama-Shi, Japan; Jie Wen, Jensen Hughes, Independence, OH, USA
PVP2025-154734: INFLUENCE OF FABRICATION STRAIN ON LOW CYCLE FATIGUE OF PIPE FITTINGS
Kenichi Shibukuwa, IHI Corporation, Yokohama-Shi, Japan; Jie Wen, Jensen Hughes, Independence, OH, USA
PVP2025-154793: ELASTIC-PLASTIC CORRECTION FACTOR OF ELBOW PIPE FOR BENDING DISPLACEMENT
Masayuki Kamaya, Institute of Nuclear Safety System, Mihama-Cho, Japan; Satoshi Iida, Yorihisa Ishimaru, Ichiro Tamura, The Chugoku Electric Power Co., Hiroshima, Japan

SESSION 2.2B (DA-12-04)

Tuesday, July 22, 10:15 am – 12:00 pm, St-Laurent 4 (Congres Level)
THE NOEL O'DOWD MEMORIAL SYMPOSIUM ON FRACTURE: FRACTURE-4
Symposium on Fracture Mechanics and Analysis—Co-Sponsored by the Design & Analysis and Materials & Fabrication Technical Committees
Developed by: Shane Finneran, DNV, Columbus, OH, USA; Shunji Kataoka, JGC Corporation, Yokohama, Japan; Darren Pinto, Schenck Products, Sabetha, KS, USA; Ali Ok, Air Products-LNG Technology and Products, Allentown, PA, USA; Qin Ma, Walla Walla University, College Place, WA, USA
Chair: Ali Ok, Air Products-LNG Technology and Products, Allentown, PA, USA
Co-Chair: Shunji Kataoka, JGC Corporation, Yokohama, Japan
PVP2025-155369: PROBABILISTIC EVALUATION OF RUNNING DUCTILE FRACTURE LENGTH IN DENSE-PHASE CO2 PIPELINES
Jacob Wunder, University of Western Ontario, St. Marys, ON, Canada; Wenxing Zhou, University of Western Ontario, London, ON, Canada
PVP2025-155409: EFFECT OF WELDING RESIDUAL STRESSES ON DUCTILE TEARING OF AUSTENITIC STAINLESS STEEL AND FERRITIC STEEL PIPES BY LOCAL APPROACH
Walid Hamouche, Arnaud Blouin, Almahdi Remmal, Olivier Ancelet, Stéphane Marie, Framatome, Courbevoie, France
PVP2025-155547: UK REGULATORY APPROACH WITH ADOPTION OF NOVEL METHODS FOR FATIGUE AND FRACTURE ASSESSMENTS
Anindya Sen, Office for Nuclear Regulation (ONR), Cheltenham Spa, United Kingdom
PVP2025-155562: RISK-BASED ASSESSMENT OF HARD SPOT DEFECTS IN PIPELINES USING PROBABILISTIC FRACTURE MECHANICS AND IN-LINE INSPECTION DATA
Thomas Prewitt, Structural Integrity Associates, Inc., Columbus, OH, USA; Scott Riccardella, Structural Integrity Associates, Inc., Centennial, CO, USA; Sean Moran, Williams, Salt Lake City, UT, USA

SESSION 2.2C (DA-08-01)

Tuesday, July 22, 10:15 am – 12:00 pm, St-Laurent 5 (Congres Level)
FITNESS FOR SERVICE EVALUATIONS-1
Symposium on Fitness-for-Service—Co-Sponsored by the Codes & Standards, Design & Analysis, High-Pressure Technology, and Materials & Fabrication Technical Committees
Developed by: Gys van Zyl, Integrity Engineering Solutions, Dunsborough, Australia; Bhaskar Shitolé, Wood, Calgary, AB, Canada; Abdelgader Abdegalil, SABIC, Jubail, Saudi Arabia; Ali Ok, Air Products-LNG Technology and Products, Allentown, PA, USA; Antonio Seijas, Phillips 66 Company, Houston, TX, USA
Chair: Lorenzo Scano, S.S.I. s.r.l. - Studio Scano, Udine, Italy
Co-Chair: Bhaskar Shitolé, Wood, Calgary, AB, Canada
PVP2025-152749: ASSESSMENT OF VIBRATION-INDUCED STRESS IN SMALL-BORE CONNECTIONS THROUGH FINITE ELEMENT FREQUENCY RESPONSE FUNCTIONS AND EXPERIMENTAL VIBRATION DATA
Luiz Lenzi, Jonas Bernardi, Jacson G. Vargas, Olavo M. Silva, Fernando H. Nardelli, Vitor Teodoro, André G. Caetano, Thiago Cavalheiro, Edison Da Rosa, Arcanjo Lenzi, Federal University of Santa Catarina, Florianópolis, Brazil; Rodrigo A. Hoppe, Petrobras, Rio De Janeiro, Brazil
PVP2025-153445: SYNERGISTIC UTILISATION OF INFORMATICS AND DATA CENTRIC INTEGRITY ENGINEERING (SINDRI)
Hugh Dorward, Chris Truman, Matthew Peel, University of Bristol, Bristol, United Kingdom; Maria Yanova, Mike Smith, Anastasia Vasileiou, University of Manchester, Manchester, United Kingdom; Mahmoud Mostafavi, Monash University, Bristol, United Kingdom; David Knowles, Henry Royce Institute/University of Manchester, Manchester, United Kingdom
PVP2025-154487: EXTENDING API 579-1 TO THE HYDROPOWER INDUSTRY: HOW COUPLING ADVANCED ULTRASONICS AND COMPUTATIONAL FRACTURE MECHANICS CAN OVERCOME LIMITATIONS
Samuel Stephens, Stephen Petersen, Daniel Blanks, Quest Integrity, Varsity Lakes, Australia
PVP2025-154676: FITNESS FOR SERVICE ASSESSMENT OF A FORGED NOZZLE EXPOSED TO TEMPERATURE ABOVE THE CREEP THRESHOLD LIMIT
Muhammad Raheel Rafique, Petrokemya Arabian Petrochemical Co., SABIC affiliate, Jubail, Saudi Arabia

SESSION 2.2D (CS-20-01)

Tuesday, July 22, 10:15 am – 12:00 pm, St-Laurent 6 (Congres Level)
MASTER CURVE METHOD AND APPLICATIONS
Symposium on Small-Scale Mechanical Testing—Co-Sponsored by the Codes & Standards and Materials & Fabrication Technical Committees
Developed by: Mark Kirk, Phoenix Engineering Associates Inc., Claremont, NH, USA; Masato Yamamoto, Central Research Institute of Electric Power Industry (CRIEPI); William Server, Consultant, Black Mountain, NC, USA; Yoosung Ha, Japan Atomic Energy Agency, Naka-gun, Japan
Chair: Yoosung Ha, Japan Atomic Energy Agency, Naka-gun, Japan
Co-Chair: William Server, Consultant, Black Mountain, NC, USA
PVP2025-154547: RELATIONSHIPS BETWEEN CHARPY AND FRACTURE TOUGHNESS TRANSITION TEMPERATURES FOR ASME CODE USE

Mark Kirk, Phoenix Engineering Associates, Inc., Claremont, NH, USA

PVP2025-154544: AN UPDATE ON THE DEVELOPMENT OF ASME CODE CASE N-914 "ACCOUNTING FOR THE EFFECT OF EMBRITTLEMENT ON FRACTURE TOUGHNESS PROPERTIES USED IN EVALUATIONS OF PRESSURE BOUNDARY MATERIALS IN CLASS 1 FERRITIC STEEL COMPONENTS, SECTION XI, DIVISION 1" (Presentation Only)

Mark Kirk, Marjorie Erickson, Phoenix Engineering Associates, Inc., Claremont, NH, USA; Elliot Long, EPRI, Palo Alto, CA, USA

PVP2025-155415: VALIDATION OF A NEW MASTER CURVE LOWER TEMPERATURE VALIDITY LIMIT USING LARGE HISTORICAL FRACTURE TOUGHNESS DATASETS

Enrico Lucon, National Institute of Standards and Technology, Boulder, CO, USA; Masato Yamamoto, Mark Kirk, Central Research Institute of Electric Power Industry, Yokosuka-Shi, Japan

PVP2025-154822: MASTER CURVE REFERENCE TEMPERATURE DETERMINATION USING SMALL LOW CONSTRAINT SPECIMENS

Sebastian Lindqvist, Timo Veijola, Antti Forsstrom, VTT Technical Research Centre of Finland Ltd., Espoo, Finland

SESSION 2.2E (MF-10-01)

Tuesday, July 22, 10:15 am – 12:00 pm, St-Laurent 7 (Congres Level)

PIPELINE INTEGRITY-1

Symposium on Structural Integrity—Co-Sponsored by the Codes & Standards and Materials & Fabrication Technical Committees

Developed by: Xian-Kui Zhu, Savannah River National Laboratory, Aiken, SC, USA; Dong-Yeob Park, CanmetMATERIALS, Natural Resources Canada, Calgary, AB, Canada; Gang Tao, C-FER Technologies, Edmonton, AB, Canada

Chair: Xian-Kui Zhu, Savannah River National Laboratory, Aiken, SC, USA

Co-Chair: Dong-Yeob Park, CanmetMATERIALS, Natural Resources Canada, Calgary, AB, Canada

PVP2025-151963: DATA-DRIVEN APPROACH TO ASSESSING THE TENSILE STRAIN CAPACITY OF PIPELINES WITH TWO DIFFERENT GIRTH WELDS

Dong-Yeob Park, CanmetMATERIALS, Calgary, AB, Canada; Xin Wang, Carleton University, Ottawa, ON, Canada

PVP2025-153989: EVALUATION OF MAXIMUM ALLOWABLE WORKING PRESSURE AND SVENSSON BURST PRESSURE RECOMMENDED IN API 579-1-2021 EDITION

Xian-Kui Zhu, Savannah River National Laboratory, Aiken, SC, USA

PVP2025-154678: RECENT ADVANCES IN PIPELINE INTEGRITY FOR TRANSPORTING BLENDED HYDROGEN-NATURAL GAS

Joshua Herrington, Xian-Kui Zhu, Bruce Wiersma, Savannah River National Laboratory, Aiken, SC, USA

PVP2025-154699: APPLICATION OF A STATISTICAL APPROACH WHEN DATA IS LIMITED IN PIPELINE INTEGRITY MANAGEMENT

Fan Zhang, Rachel Chancellor, Phillips 66 Company, Houston, TX, USA

SESSION 2.2F (CS-07-04)

Tuesday, July 22, 10:15 am – 12:00 pm, St-Laurent 8 (Congres Level)

THE WARREN H. BAMFORD MEMORIAL SYMPOSIUM ON RECENT DEVELOPMENTS IN ASME CODES AND STANDARDS-4

Symposium on Recent Developments in Codes & Standards—Sponsored by the Codes & Standards Technical Committee

Developed by: Ting-Leung (Sam) Sham, US Nuclear Regulatory Commission, Rockville, MD, USA; Yanli Wang, Oak Ridge National Laboratory, Oak Ridge, TN, USA; Mark Messner, Argonne National Laboratory, Plainfield, IL, USA

Chair: Mark Messner, Argonne National Laboratory, Plainfield, IL, USA

Co-Chair: Yanli Wang, Oak Ridge National Laboratory, Oak Ridge, TN, USA

PVP2025-154356: HIGH-TEMPERATURE MECHANICAL BEHAVIOR OF POWDER METALLURGY – HOT ISOSTATIC PRESSED 316 STAINLESS STEELS

Tate Patterson, Idaho National Laboratory, Idaho Falls, ID, USA; Ryann Bass, US Nuclear Regulatory Commission, Rockville, MD, USA

PVP2025-155517: APPROACH FOR QUALIFYING LASER POWDER BED FUSION 316H IN SECTION III, DIVISION 5

Michael McMurtrey, Malachi Nelson, Idaho National Laboratory, Idaho Falls, ID, USA; Caleb Massey, Oak Ridge National Laboratory, Oak Ridge, TN, USA; Mark Messner, Xuan Zhang, Argonne National Laboratory, Lemont, IL, USA; Robin Montoya, Los Alamos National Laboratory, Los Alamos, NM, USA

PVP2025-155535: TECHNICAL BASIS FOR ASME SECTION III CODE CASE N-940

Rachel Romano, Suzanne McKillop, Bob Keating, MPR Associates, Inc., Alexandria, VA, USA

PVP2025-155989: HIGH TEMPERATURE FLAW EVALUATION CODE CASE N-934: EFFECT OF TRANSIENTS

Frederick (Bud) Brust, Cedric Sallaberry, Engineering Mechanics Corporation of Columbus, Columbus, OH, USA; Mark Messner, Argonne National Laboratory, Lemont, IL, USA; Mark Petkov, Kairos Power, Alameda, CA, USA

SESSION 2.2G (MF-29-01)

Tuesday, July 22, 10:15 am – 12:00 pm, Montreal 3 (Congres Level)

MECHANICAL PROPERTIES OF NUCLEAR GRAPHITE AND COMPOSITES AND THEIR IMPLEMENTATION IN CODES AND STANDARDS (JOINT WITH C&S)

Symposium on Mechanical Properties of Nuclear Materials—Co-Sponsored by the Codes & Standards and Materials & Fabrication Technical Committees

Developed by: David Rudland, US Nuclear Regulatory Commission, Frederick, MD, USA; Ting-Leung (Sam) Sham, Joseph Bass, US Nuclear Regulatory Commission, Rockville, MD, USA; Graeme Horne, Frazer-Nash Consultancy, Bristol, United Kingdom; Steven Xu, Kinectrics, Inc., Toronto, ON, Canada; Suresh Kalyanam, Westinghouse Electric Corporation, Cranberry Township, PA, USA

Chair: Ting-Leung (Sam) Sham, US Nuclear Regulatory Commission, Rockville, MD, USA

Co-Chair: Graeme Horne, Frazer-Nash Consultancy, Bristol, United Kingdom

PVP2025-154669: STRUCTURAL INTEGRITY ASSESSMENTS OF NUCLEAR GRAPHITE: OXIDATIONS CONTRIBUTION TO LOSS OF INTEGRITY (Presentation Only)

Graeme Horne, Calum McInnes, Ashley Mallinson, Nigel Pready, Frazer-Nash Consultancy, Bristol, United Kingdom; Mark Joyce, Frazer-Nash Consultancy, Manchester, United Kingdom

PVP2025-154754: APPLICATION OF A NUCLEAR GRAPHITE IRRADIATED MATERIAL PROPERTY NORMALIZATION APPROACH

Kevin Caldwell, Jason Kaplan, Adam Walker, Westinghouse Electric Company, Cranberry Township, PA, USA

PVP2025-155821: CMC TESTING AND IRRADIATION CAMPAIGN FOR HTR DESIGN (Presentation Only)

Josina Geringer, Jose D. Arregui-Mena, Logan Kearney, Anne A. Campbell, Takaaki Koyanagi, Oak Ridge National Laboratory, Oak Ridge, TN, USA; John Podhiny, Materials Research and Design (MR&D), Wayne, PA, USA; William Windes, Idaho National Laboratory, Idaho Falls,, ID, USA

SESSION 2.2H (MF-02-04)

Tuesday, July 22, 10:15 am – 12:00 pm, Montreal 6 (Congres Level)

MATERIALS FOR HYDROGEN SERVICE (JOINT WITH C&S)-4

Symposium on Materials for Hydrogen Service—Co-Sponsored by the Codes & Standards, Computer Technology & Bolted Joints, Design & Analysis, Fluid-Structure Interaction, and Materials & Fabrication Technical Committees

Developed by: Joe Ronevich, Chris San Marchi, Sandia National Laboratories, Livermore, CA, USA; Laurent Briottet, French Alternative Energies & Atomic Energy Commission, Grenoble, France; Steven Xu, Kinectrics, Inc., Toronto, ON, Canada; Sylvain Pillot, Le Creusot, Bourgogne-Franche-Comté, France; M. Kevin Mandeville Jr., DNV, Katy, TX, USA; Tim Krentz, Savannah River National Laboratory, Aiken, SC, USA; Zakaria Hsain, US Department of Energy, Washington, DC,

USA; Farid Afshar, Element Materials Tech, The Hague, Netherlands
Chair: Hisao Matsunaga, Kyushu University, Fukuoka, Japan
Co-Chair: Yoshihiro Nishihara, JFE Steel Corporation, Kawasaki, Japan

PVP2025-154665: A COMPARISON OF HYDROGEN EMBRITTLEMENT EVALUATION METHODS FOR 1100 MPA STEELS FOR FASTENER APPLICATIONS
Michelle Kent, Emmanuel De Moor, Kip Findley, Colorado School of Mines, Golden, CO, USA

PVP2025-154762: EFFECT OF THE HYDROGEN CHARGING METHOD ON THE MECHANICAL BEHAVIOR OF 304 STAINLESS STEELS (Presentation Only)
Cheng-Yuan Tsai, Ting Yang, Ming Dao, Massachusetts Institute of Technology, Cambridge, MA, USA; Wurong Jian, Wei Cai, Stanford University, Palo Alto, CA, USA; Yamini Mann, T Venkatesh, Stony Brook University, Stony Brook, NY, USA; Joeseph Ronevich, Chris San Marchi, Sandia National Laboratories, Livermore, CA, USA

PVP2025-153820: EFFECT OF HEATING RATE AND SAMPLE SIZE ON THERMAL DESORPTION SPECTROSCOPY OF HYDROGEN IN HIGH STRENGTH STEEL
Hao Yang, Xuedong Chen, Zhichao Fan, Yu Zhou, Qiang Zhang, Yue Li, Hefei General Machinery Research Institute Co., Ltd., Hefei, China

PVP2025-152165: INFLUENCE OF PRE-STRAIN AND AGING ON HYDROGEN INDUCED CRACKING IN SA516 GR. 70 STEEL (Presentation Only)
Seong Ho Hong, Seunghwan Chun, Hyundai Steel, Dangjin-Si, Republic of Korea

SESSION 2.2I (DA-02-04)

Tuesday, July 22, 10:15 am – 12:00 pm, Montreal 7 (Congres Level)

DESIGN AND ANALYSIS OF PIPING, PIPELINES, AND COMPONENTS-4

Developed by: Chakrapani Basavaraju, US Nuclear Regulatory Commission, Rockville, MD, USA; Bhaskar Shitolé, Wood, Calgary, AB, Canada; Kannan Subramanian, Structural Integrity Associates, Inc., Metairie, LA, USA; Bing Li, Kinectrics, Inc., Toronto, ON, Canada
Chair: Bing Li, Kinectrics, Inc., Toronto, ON, Canada
Co-Chair: Chakrapani Basavaraju, US Nuclear Regulatory Commission, Rockville, MD, USA

PVP2025-154458: NUMERICAL ANALYSES FOR DERIVATION OF NEW CONTROL ROD REPLACEMENT CRITERIA
Min Seek Kim, Dong-Hyeon Choi, Yoon-Suk Chang, Kyung Hee University, Yongin-Si, Republic of Korea

PVP2025-154504: STRESS PREDICTION AND PROTECTIVE MEASURES ANALYSIS OF PIPELINE UNDER TRAFFIC LOAD
Dong Zhang, Jia Shao, Xiaoben Liu, China University of Petroleum, Changping, China

PVP2025-154533: CHALLENGES IN DESIGN OF GATE VALVES INSTALLED IN UNDERGROUND PIPELINE SYSTEMS
Jayeandran Venkatesan, Vimal Kilangadu Mariappan, Flowserve India Controls Pvt. Ltd., Maraimalai Nagar, India

PVP2025-154472: INVESTIGATION ON THE HIGH STRENGTH JOINTS FOR NON-METALLIC COMPOSITE PIPELINES
Jianfeng Shi, Yangdong Xiang, Ping Xu, Riwu Yao, Zhejiang University, Hangzhou, China

SESSION 2.2J (DA-10-01)

Tuesday, July 22, 10:15 am – 12:00 pm, Montreal 8 (Congres Level)

DESIGN AND ANALYSIS OF BOLTED JOINTS

Symposium on Bolted Joints—Co-Sponsored by the Computer Technology & Bolted Joints and Design & Analysis Technical Committees

Developed by: Gys van Zyl, Warren Brown, Integrity Engineering Solutions, Dunsborough, Australia; Clay Rodery, C&S Technology LLC, League City, TX, USA; Nathan Barkley, Becht, New Albany, MS, USA; Abdelgader Abdegalil, SABIC, Jubail, Saudi Arabia; Antonio Seijas, Phillips 66 Company, Houston, TX, USA
Chair: Gys van Zyl, Integrity Engineering Solutions, Dunsborough, Australia
Co-Chair: Alex Berry, Integrity Engineering Solutions, Dunsborough, Australia

PVP2025-152609: IMPACT OF TEMPERATURE DIFFERENCE WITHIN CHANNEL ON FLANGE SEALING PERFORMANCE FOR SHELL AND TUBE HEAT EXCHANGER
Yuta Nakano, Shunji Kataoka, Kyohei Takahashi, JGC Corporation, Yokohama, Japan

PVP2025-154360: ASME VIII PRESSURE BOUNDARY BOLTED JOINT DESIGN METHOD COMPLETE REVISION (Presentation Only)
Warren Brown, Gys van Zyl, Integrity Engineering Solutions, Dunsborough, Australia

PVP2025-154675: AN EVALUATION OF THE ASME FLANGE DESIGN METHOD FOR LARGE DIAMETER BOLTED JOINTS
Chris Cary, Independent Consultant, Sweeden, KY, USA; Gys van Zyl, Integrity Engineering Solutions, Dunsborough, Australia; David Nash, University of Strathclyde, Glasgow, United Kingdom

PVP2025-155656: JOINT INTEGRITY - BOLTING TECHNOLOGY APPLICATION AND BENEFITS
Al Kaye, Altech Engineering Res., Edmonton, AB, Canada; Branden Tyler Metzner, Cumulus Digital Systems, Waltham, MA, USA

SESSION 2.2K (FSI-03-02)

Tuesday, July 22, 10:15 am – 12:00 pm, Outremont 1 (Congres Level)

STRUCTURES UNDER EXTREME LOADING CONDITIONS-2

Symposium on Structures Under Extreme Loading Conditions—Co-Sponsored by the Fluid-Structure Interaction and High-Pressure Technology Technical Committees

Developed by: Matt Edel, BakerRisk, Jihui Geng, San Antonio, TX, USA; Megan Tribble, Sandia National Laboratory, Albuquerque, NM, USA
Chair: Matt Edel, BakerRisk, San Antonio, TX, USA
Co-Chair: Megan Tribble, Sandia National Laboratory, Albuquerque, NM, USA

PVP2025-152537: BLAST ADJUSTMENT FACTORS FOR ELEVATED HORIZONTAL PVBS
Jihui Geng, Kelly Thomas, BakerRisk, San Antonio, TX, USA

PVP2025-154629: ADVANCEMENTS IN MODELING OF PRESSURIZED THERMAL SHOCK ANALYSIS IN REACTOR PRESSURE VESSELS
Francesco Paolo Ricci, Fabio Pasti, Francesco Brigante, NRG, Petten, Netherlands

PVP2025-156219: ANALYSIS OF THE INFLUENCE OF SUBMARINE PIPELINES UNDER THE ACTION OF MULTIPLE FACTORS BY ANCHOR DRAGGING
Wei Gao, Yi Shuai, Jun Jie Zhang, China University of Petroleum, Changping, China; Ye Tian, PipeChina West Pipeline Co., Ltd., Urumqi, China

PVP2025-151470: A 1D HYBRID BEAM-SHELL TUBE MODEL FOR PROGRESSIVE CRACKS IN PIPELINES (Presentation Only)
Amalio Coron, EDF R&D, Bourg La Reine, France; Frédéric Daude, Philippe Lafon,EDF R&D, IMSIA, Palaiseau, France; Claude Stolz, CNRS, Palaiseau, France; Serguei Potapov, Thomas Douillet-Grellier, EDF R&D, Palaiseau, France

SESSION 2.2L (OAC-03-02)

Tuesday, July 22, 10:15 am – 12:00 pm, Outremont 4 (Congres Level)

MONITORING, DIAGNOSTICS & INSPECTION-2

Developed by: Radim Kopřiva, ÚJV Řež, a. s., Husinec, Czech Republic; Jana Petzová, VUJE, a.s., Trnava, Slovakia
Chair: Jana Petzová, VUJE, a.s., Trnava, Slovakia
Co-Chair: Radim Kopřiva, ÚJV Řež, a. s., Husinec, Czech Republic

PVP2025-155672: A STUDY AND REVIEW OF REMOTE INSPECTION PRACTICES AND EXAMPLES
M. Kevin Mandeville Jr., DNV, Katy, TX, USA

PVP2025-152909: ANALYSIS OF DAMAGE CAUSES AND DEGRADATION MECHANISM IN WELD OF THE OUTER PIPE OF THE REGULATORY AND CONTROL ASSEMBLY ROD (Presentation Only)
Jana Petzova, David Slnek, Marek Adamech, VUJE, a.s., Trnava, Slovakia

PVP2025-154509: STUDY ON THE SYSTEM RESPONSE CHARACTERISTICS OF HIGH-SENSITIVITY HYDROGEN SENSORS
Jianfeng Shi, Quan Cao, Zhaoting Chen, Sheng Zeng, Zhejiang University, Hangzhou, China; Fang Han, Zhejiang Guwei Technology Co., Ltd., Hangzhou, China;

SESSION 2.2M (MF-33-01)

Tuesday, July 22, 10:15 am – 12:00 pm, Outremont 6 (Congres Level)
GENERAL PAPERS
Developed by: Preeti Doddihal, Kinectrics, Inc., Toronto, ON, Canada; Jessica Lam, Ontario Power Generation, Toronto, ON, Canada
Chair: Jessica Lam, Ontario Power Generation, Toronto, ON, Canada
Co-Chair: Preeti Doddihal, Kinectrics, Inc., Toronto, ON, Canada
PVP2025-154753: ASME SECTION VIII LOCAL STRAIN LIMIT MATERIAL PROPERTY REQUIREMENTS AND NOTCH TENSILE TESTING METHOD PROPOSAL
Daniel Peters, Consultant, Edinboro, PA, USA; Rahul Kapadia, ASML, El Segundo, CA, USA; Farideh Akbary, ASML, Veldhoven, Netherlands
PVP2025-154641: TELE-MANUFACTURING FOR FABRICATION OR INSPECTION IN PIPELINES
Joshua James, Connie Lamorte, Lindsey Lindamood, EWI, Columbus, OH, USA
PVP2025-154351: POLISH TO FLOURISH: THE SIGNIFICANCE OF SURFACE FINISH IN CLEANROOM FACILITIES
Arianne May Calayo, Zesan Belle Ardaniel, Fluor Daniel Inc. Philippines, Muntinlupa City, Philippines

SESSION 2.2N (SE-05-02)

Tuesday, July 22, 10:15 am – 12:00 pm, Outremont 7 (Congres Level)
STRUCTURAL DYNAMICS-2
Developed by: Kiyoshi Aida, Mitsubishi Heavy Industries, Kure-Shi, Japan; Katsuhisa Fujita, Osaka City University, Sumiyoshi-ku, Japan; Osamu Furuya, Satoshi Fujita, Tokyo Denki University, Tokyo, Japan; Taichi Matsuoka, Meiji University, Kawasaki, Japan; Satoru Kai, IHI Corporation, Yokohama, Japan; Jinsuo Nie, US Nuclear Regulatory Commission, Washington, DC, USA
Chair: Gianluca Quinci, Roma Tre University, Rome, Italy
Co-Chair: Kazuo Hirota, Mitsubishi Heavy Industries, Takasago, Japan
PVP2025-152929: FLUID-STRUCTURE-SOIL INTERACTION ANALYSIS APPLICABLE TO SEISMIC DESIGN FOR FLOATING SEISMIC ISOLATION SYSTEM
Yuki Sato, Shunji Kataoka, Issei Ota, JGC Corporation, Yokohama-Shi, Japan; Yasutomi Morimoto, JGC Corporation, Yokohama-Shi, Japan; Akihito Otani, Satoru Kai, IHI Corporation, Yokohama-Shi, Japan; Xing L. Yan, Japan Atomic Energy Agency, Oarai-Machi, Higashiibaraki-Gun, Japan
PVP2025-154496: GENERATION METHOD OF SIMULATED GROUND MOTIONS COMPATIBLE WITH MULTIPLE TARGET SPECTRA FOR SEISMICALLY ISOLATED STRUCTURES USING BAYESIAN OPTIMIZATION
Tsuyoshi Fukasawa, Tokyo Denki University, Adachi, Japan
PVP2025-154381: CYCLIC LOADING CHARACTERISTICS OF NONLINEAR-DUCTILE SYSTEMS
Ichiro Tamura, Michiya Sakai, Yohei Ono, Ryuya Shimazu, Central Research Institute of Electric Power Industry, Abiko-Shi, Japan; Tadashi Iijima, Hitachi-GE Nuclear Energy, Ltd., Hitachi-Shi, Japan
PVP2025-154160: SEISMIC INPUT MINIMUM POWER SPECTRAL DENSITY COMPLIANCE EFFECT ON IN-STRUCTURE RESPONSE SPECTRA.
Aidcer L Vidot-Vega, Luis Montejo, University of Puerto Rico at Mayaguez, Mayaguez, PR, USA

SESSION 2.2O (FSI-02-04)

Tuesday, July 22, 10:15 am – 12:00 pm, Westmount 2 (Congres Level)
TUBE ARRAYS IV (GOVIKING)
Symposium on Flow Induced Vibration—Sponsored by the Fluid-Structure Interaction Technical Committee
Developed by: Marwan Hassan, University of Guelph, Guelph, ON, USA; Atef Mohany, Ontario Tech University, Oshawa, ON, Canada; Salim El Bouzidi, Canadian Nuclear Laboratories, Chalk River, ON, Canada
Chair: Salim El Bouzidi, Canadian Nuclear Laboratories, Chalk River, ON, Canada
Co-Chair: Amro Elhelaly, University of Guelph, Guelph, ON, Canada
PVP2025-151440: LOCAL-SCALE NUMERICAL SIMULATION OF AN AIR-WATER FLOW IN A TRIANGULAR TUBE BUNDLE IN RIGID AND FLEXIBLE CONFIGURATIONS FOR DIFFERENT FLOW PATTERNS.
William Benguigui, EDF R&D, IMSIA, Chatou, France; Fanny Beltran, EDF R&D, Chatou, France
PVP2025-153890: EXPERIMENTAL STUDY OF THE TWO-PHASE FLOW AND INDUCED VIBRATIONS IN A SQUARE-PITCH TUBE BUNDLE IN AIR-WATER CROSS-FLOW
Daniele Vivaldi, ASNR, Pertuis, France; Antonio Chahine, Lucas Rotily, ASNR, Saint Paul Lez Durance, France
PVP2025-152453: URANS SIMULATIONS OF TURBULENCE-INDUCED VIBRATIONS OF A CANTILEVERED ROD WITH HEMISPHERICAL TIP IN AXIAL FLOW
Mohammed Muaaz Mohamed Dilshad Hussain, Kevin Zwijsen, NRG, Petten, Netherlands
PVP2025-154502: SENSITIVITY TESTS OF MEDIUM-RESOLUTION SIMULATIONS OF TUBE BUNDLES SUBJECTED TO TURBULENT CROSS-FLOW
Kevin Zwijsen, Mohammed Muaaz Mohamed Dilshad Hussain, NRG, Petten, Netherlands

SESSION 2.2P (MF-30-01)

Tuesday, July 22, 10:15 am – 12:00 pm, Westmount 5 (Congres Level)
CRYOGENIC PRESSURE VESSELS AND PIPING
Developed by: Kang Xu, Linde, Inc., Tonawanda, NY, USA; M. Kevin Mandeville Jr., DNV, Katy, TX, USA; Richard Colwell, Bechtel, Richmond, TX, USA
Chair: Kang Xu, Linde, Inc., Tonawanda, NY, USA
Co-Chair: Richard Colwell, Bechtel, Richmond, TX, USA
PVP2025-154376: EXPERIMENTAL STUDY ON THE VACUUM VARIATION OF COMPOSITE INSULATED VESSELS
Peiyu Hu, Jianfeng Shi, Jinyang Zheng, Zhejiang University, Hangzhou, China
PVP2025-152966: STRESS AND FITNESS-FOR-SERVICE ASSESSMENT OF LNG STEEL PIPING SUBJECTED TO RAPID TEMPERATURE DROPS
Steven Palkovic, Kareem Eltouny, Nicholas Catella, Simpson Gumpertz & Heger Inc., Waltham, MA, USA; Madhav Parikh, Onder Akinci, Simpson Gumpertz & Heger Inc., Houston, TX, USA
PVP2025-154532: INFLUENCE OF WARM FORMING ON MICROSTRUCTURES AND CRYOGENIC MECHANICAL PROPERTIES OF METASTABLE AUSTENITIC STAINLESS STEELS
Qunjie Lu, Gai Huang, Foshan Xianhu Laboratory, Foshan, China; Shan Sun, Keming Li, Zhejiang University, Hangzhou, China; Chaohua Gu, Zhejiang University, Hangzhou, China
PVP2025-154530: EXPERIMENTAL STUDY ON TENSILE MECHANICAL PROPERTIES OF S30408 AND S31603 STAINLESS STEEL AT LOW TEMPERATURE
Jiyong Kuang, Zhiwen Huang, Keming Li, Hao Chen, Xiao Guo, Tao Shen, Hao Liu, Zhejiang University, Hangzhou, China

SESSION 2.2R (TW-02-03)

Tuesday, July 22, 10:15 am – 12:00 pm, Montreal 1-2 (Congres Level)
ARTIFICIAL INTELLIGENCE IN ENGINEERING FOR PRESSURE VESSELS AND PIPING-PART 1
Developed by: Maria Ortiz De Zúñiga López-Chicheri, Fusion for Energy, Barcelona, Spain
Chair: Maria Ortiz De Zúñiga López-Chicheri, Fusion for Energy, Barcelona, Spain
Co-Chair: Maher Y.A. Younan, The American University in Cairo, Cairo, Egypt
Presented by: Maria Ortiz De Zúñiga López-Chicheri, Fusion for Energy, Barcelona, Spain; Ross Allen, Consultant, London, United

Kingdom; Nawal Prinja, Prinja and Partners, Knutsford, United Kingdom

SESSION 2.2S (TE-01-01)

Tuesday, July 22, 10:15 am – 12:00 pm, St-Laurent 1-2 (Congres Level)
TECHNOLOGY EXHIBITS-6

Block 2.3: Tuesday, July 22, 2025 (2:00 pm – 3:45 pm)

SESSION 2.3A (CS-16-03)

Tuesday, July 22, 2:00 pm – 3:45 pm, St-Laurent 3 (Congres Level)
FATIGUE AND RATCHETING ISSUES IN PRESSURE VESSEL AND PIPING DESIGN-3
Symposium on Fatigue and Creep Issues—Co-Sponsored by the Codes & Standards, Design & Analysis, and Materials & Fabrication Technical Committees

Developed by: Wolf Reinhardt, AtkinsRéalis, Mississauga, ON, Canada; Reza Adibi-Asl, NErgx, Toronto, ON, Canada; Juergen Rudolph, Framatome GmbH, Erlangen, Germany; Timothy Gilman, Structural Integrity Associates, Inc., San Jose, CA, USA; Seiji Asada, Mitsubishi Heavy Industries Ltd., Kobe, Japan; Thomas Damiani, EPRI, Palo Alto, CA, USA
Chair: Wolf Reinhardt, AtkinsRéalis, Mississauga, ON, Canada
Co-Chair: Reza Adibi-Asl, NErgx, Toronto, ON, Canada

PVP2025-155015: A NOTE ON RATCHETING IN HIGH TEMPERATURE APPLICATIONS
Reza Adibi-Asl, NErgx, Toronto, ON, Canada

PVP2025-154706: ELASTO-PLASTIC NUMERICAL AND NON-NUMERICAL DETERMINATION OF NOMINAL TO LOCAL DEFORMATION TRANSFER FUNCTIONS FOR STRAIN CONTROLLED FATIGUE TESTING IN AIR AND HIGH TEMPERATURE WATER
Jürgen Rudolph, Udo Fischer, Michael Grimm, Martin Weiser, Framatome GmbH, Erlangen, Germany; Georg Veile, Stefan Weihe, Materials Testing Institute, University of Stuttgart (MPA), Stuttgart, Germany

PVP2025-151247: ENVIRONMENTALLY ASSISTED FATIGUE EVALUATION OF CLADDED LOW ALLOY STEEL CYLINDER USING UNIT USAGE FACTOR APPROACH
Li Chang, EDF Energy, Gloucester, United Kingdom

PVP2025-154642: FATIGUE TESTS OF THE WELD METAL ER 308L IN AIR AND HIGH TEMPERATURE ENVIRONMENT
Nina Grözinger, Georg Veile, Martin Herzig, Stefan Weihe, Materials Testing Institute, University of Stuttgart (MPA), Stuttgart, Germany

SESSION 2.3B (MF-01-01)

Tuesday, July 22, 2:00 pm – 3:45 pm, St-Laurent 4 (Congres Level)
THE NOEL O'DOWD MEMORIAL SYMPOSIUM ON FRACTURE: APPLICATION OF FRACTURE MECHANICS IN FAILURE ASSESSMENT
Symposium on Fracture Mechanics and Analysis—Co-Sponsored by the Design & Analysis and Materials & Fabrication Technical Committees

Developed by: Preeti Doddihal, Doug Scarth, Kinectrics, Inc., Toronto, ON, Canada; Abdel Hamid Ismail Mourad, United Arab Emirates University, Al-Ain, United Arab Emirates; Gustavo Donato, FEI, Saõ Bernado de Campo, Brazil; Abilio Jesus, University of Porto, Porto, Portugal; Jessica Lam, Ontario Power Generation, Toronto, ON, Canada; Harry Coules, Amentum, Bristol, United Kingdom; Kiminobu Hojo, Mitsubishi Heavy Industries Ltd., Kobe, Japan; Suresh Kalyanam, Westinghouse Electric Company, Cranberry Township, PA, USA
Chair: Preeti Doddihal, Kinectrics, Inc., Toronto, ON, Canada
Co-Chair: Abílio De Jesus, University of Porto, Porto, Portugal

PVP2025-155865: PRAGMATIC TRENDS FOR ESTIMATING CONSTRAINT EFFECTS ON UPPER-SHELF FRACTURE TOUGHNESS FOR PIPE FLAW EVALUATION
Gery M. Wilkowski, Engineering Mechanics Corporation of Columbus, Upper Arlington, OH, USA

PVP2025-154838: EVALUATING THE APPLICABILITY OF A LOCAL LIMIT LOAD SOLUTION FOR ASSESSING DEFECTS IN COMPLEX STRUCTURES
Oliver Blakesley, Peter James, Amentum, Warrington, United Kingdom

PVP2025-152103: REFERENCE STRESS BASED J SOLUTION FOR PIPE WITH CIRCUMFERENTIAL SURFACE FLAW AND ITS APPLICATION TO PIPE FRACTURE TEST UNDER CYCLIC LOADING
Kiminobu Hojo, Mitsubishi Heavy Industries Ltd, Kakogawa, Japan; Satoshi Kumagai, Mitsubishi Heavy Industries, Takasago, Japan

PVP2025-155776: A HEURISTIC APPROACH TO A DEFECT-BASED FATIGUE LIFE ESTIMATION VIA OPTICAL MICROSCOPY AND FATIGUE CRACK GROWTH RATE DATA
Jorge Gil, INEGI, Porto, Portugal; Beatriz Silva, Maria Vaz, IST, Lisboa, Portugal; Ana Reis, Abílio De Jesus, Faculty of Engineering - University of Porto, Porto, Portugal

SESSION 2.3C (DA-08-02)

Tuesday, July 22, 2:00 pm – 3:45 pm, St-Laurent 5 (Congres Level)
FITNESS FOR SERVICE EVALUATIONS-2
Symposium on Fitness-for-Service—Co-Sponsored by the Codes & Standards, Design & Analysis, High-Pressure Technology, and Materials & Fabrication Technical Committees

Developed by: Gys van Zyl, Integrity Engineering Solutions, Dunsborough, Australia; Bhaskar Shitolé, Wood, Calgary, AB, Canada; Abdelgader Abdegalil, SABIC, Jubail, Saudi Arabia; Ali Ok, Air Products-LNG Technology and Products, Allentown, PA, USA; Antonio Seijas, Phillips 66 Company, Houston, TX, USA
Chair: Gys van Zyl, Integrity Engineering Solutions, Dunsborough, Australia
Co-Chair: Ali Ok, Air Products-LNG Technology and Products, Allentown, PA, USA

PVP2025-154686: UPDATING THE API 579-1 / ASME FFS-1 STRESS INTENSITY FACTOR FOR A STRAIGHT SURFACE CRACK IN A ROUND BAR
Anthony Mion, Becht, Medina, OH, USA; Steven Altstadt, Becht, Liberty Corner, NJ, USA

PVP2025-154725: IMPACT OF LOCAL METAL LOSS ON THE CREEP LIFE OF AN ELBOW PIPE
Lorenzo Scano, Francesco Piccini, Salvatore Palomba, S.S.I. s.r.l. - Studio Scano, Udine, Italy

PVP2025-154739: MARGINS AGAINST PLASTIC COLLAPSE FOR FFS ASSESSMENTS OF PIPELINES BASED ON ELASTIC-PLASTIC STRESS ANALYSIS
Fabio De Castro Marangone, Petrobras, Niteroi, Brazil; Benjamin Hantz, Valero Energy Corporation, San Antonio, TX, USA; Scott Bouse, WJE Associates, Houston, TX, USA; Brian Macejko, The Equity Engineering Group, Inc., Shaker Heights, OH, USA; Antonio Seijas, Phillips 66 Company, Houston, TX, USA; Luis Guilherme Tomba Silveira Leite, Petrobras, São Jose Dos Campos, Brazil

PVP2025-157719: COMPARISON OF THE ASME AND BAO-WIERZBICKI LOCAL FAILURE MODELS APPLIED TO ANALYSIS OF THREADS
Hamid Attaran, Eisa Rahmani, WJE Associates, Northbrook, IL, USA; Luz María Agudelo Urrego, Purdue University, West Lafayette, IN, USA; Scott Bouse, WJE Associates, Houston, TX, USA

SESSION 2.3D (DA-15-01)

Tuesday, July 22, 2:00 pm – 3:45 pm, St-Laurent 6 (Congres Level)
OPERATIONS, RELIABILITY, AND LIFE CYCLE OF COKE DRUMS - PART 1
Symposium on Coke Drum Life Cycle Management—Sponsored by the Design & Analysis Technical Committee

Developed by: Antonio Seijas, Phillips 66 Company, Houston, TX, USA; Clay Rodery, C&S Technology LLC, League City, TX, USA; Kannan Subramanian, Structural Integrity Associates, Inc., Metairie, LA, USA
Chair: Antonio Seijas, Phillips 66 Company, Houston, TX, USA
Co-Chair: Julian Bedoya, ExxonMobil Technology & Engineering Company, Houston, TX, USA

PVP2025-152045: COKE DRUM WALL THICKNESS SIZING BASED ON MEASURED OPERATING QUENCH LOADS
John Fernando, Henry Kwok, Leanne Wong, Kent Lee, Luke Chan, Zachry Integrity Engineering Ltd, Calgary, AB, Canada; Enzo Falo, Millar Iverson, Simon Yuen, Suncor Energy Inc, Calgary, AB, Canada
PVP2025-154389: A REVIEW OF THE USE OF LOAD INDICATING STUDS DURING ASSEMBLY AND OPTIMIZATION OF A COKE DRUM BUD JOINT.
Alex Berry, Warren Brown, Integrity Engineering Solutions, Dunsborough, Australia; Stefan Smith, Citgo Petroleum Corporation, Westlake, LA, USA; Kevin Roethemeyer, Phillips 66 Company, Roxana, IL, USA; Rob Cowlam, Phillips 66 Company Limited, South Killingholme, United Kingdom; Antonio Seijas, Jim Steel, Phillips 66 Company, Houston, TX, USA
PVP2025-152044: DESIGNING COKE DRUM SKIRT DETAILS TO AVOID FAILURE
John Fernando, Henry Kwok, Luke Chan, Zachry Integrity Engineering Ltd, Calgary, AB, Canada; Julian Bedoya, Michael Ackman, ExxonMobil Technology & Engineering Company, Houston, TX, USA; Nakul Nemade, ExxonMobil Company, Bengaluru, India
PVP2025-154521: OPTIMIZED DESIGN OF COKE DRUM SHELL PLATE AND WELD SEAM ARRANGEMENT TO MINIMIZE BULGING AND CRACKING: A COMPARATIVE CASE STUDY
Balaji Srinivasan, Prasenjit Barik, Yadav Dipak Vasudev, Engineers India Limited, Gurugram, India

SESSION 2.3E (MF-10-02)

Tuesday, July 22, 2:00 pm – 3:45 pm, St-Laurent 7 (Congres Level)
PIPELINE INTEGRITY-2
Symposium on Structural Integrity—Co-Sponsored by the Codes & Standards and Materials & Fabrication Technical Committees
Developed by: Xian-Kui Zhu, Savannah River National Laboratory, Aiken, SC, USA; Dong-Yeob Park, CanmetMATERIALS, Natural Resources Canada, Calgary, AB, Canada; Gang Tao, C-FER Technologies, Edmonton, AB, Canada
Chair: Dong-Yeob Park, CanmetMATERIALS, Natural Resources Canada, Calgary, AB, Canada
Co-Chair: Xian-Kui Zhu, Savannah River National Laboratory, Aiken, SC, USA
PVP2025-152029: DEVELOPMENT OF NOVEL CRACK ARREST DESIGNS FOR HIGH PRESSURE GAS PIPELINES
Richard Colwell, Bechtel, Richmond, TX, USA; Matthew Jaouhari, Bechtel, Houston, TX, USA; John Hunt, Hunt Pipeline Products, LLC, Huntsville, TX, USA; Atul Ganpatye, Acuren Inspection, Magnolia, TX, USA
PVP2025-152998: APPLICATION OF ENHANCED GURSON-LIKE DUCTILE DAMAGE MODELS TO SIMULATE CRACK GROWTH IN PIPELINE STEELS UNDER WIDE RANGE OF CONSTRAINT CONDITIONS
Arnav Rana, Ron Miller, Xin Wang, Carleton University, Ottawa, ON, Canada
PVP2025-155999: PROFILE COMPARISON VALIDATION TECHNIQUES FOR LEVEL 3 DENT MODELING IN 2 AND 3 DIMENSIONS
Alex Brust, DNV, Columbus, OH, USA; David Kemp, DNV, Dublin, OH, USA; Luyao Xu, DNV, Calgary, AB, Canada
PVP2025-155587: STRESS INTENSITY FACTOR OF DENTS WITH AXIAL CRACKS
Duncan Wang, D2 Integrity, Ottawa, ON, Canada; Rhett Dotson, Christopher De Leon, D2 Integrity, Houston, TX, USA

SESSION 2.3F (CS-07-05)

Tuesday, July 22, 2:00 pm – 3:45 pm, St-Laurent 8 (Congres Level)
THE WARREN H. BAMFORD MEMORIAL SYMPOSIUM ON RECENT DEVELOPMENTS IN ASME CODES AND STANDARDS-5
Symposium on Recent Developments in Codes & Standards—Sponsored by the Codes & Standards Technical Committee
Developed by: Ting-Leung (Sam) Sham, US Nuclear Regulatory Commission, Rockville, MD, USA; Yanli Wang, Oak Ridge National Laboratory, Oak Ridge, TN, USA; Mark Messner, Argonne National Laboratory, Plainfield, IL, USA
Chair: Yanli Wang, Oak Ridge National Laboratory, Oak Ridge, TN, USA
Co-Chair: Mark Messner, Argonne National Laboratory, Plainfield, IL, USA
PVP2025-154715: WHAT'S NEW FOR 2025 IN ASME SECTION VIII? (Presentation Only)
Steven Roberts, Shell Global Solutions (US) Inc., Pearland, TX, USA
PVP2025-151489: 2025 UPDATE TO ASME SECTION VIII, DIVISION 2, PART 5 - DESIGN BY ANALYSIS
Trevor Seipp, Becht, Okotoks, AB, Canada
PVP2025-155937: COMMENTARY AND JUSTIFICATION FOR MODIFICATIONS TO MANDATORY APPENDIX 47 IN THE 2025 EDITION OF ASME SECTION VIII, DIVISION 1
Nathan Barkley, Becht, New Albany, MS, USA
PVP2025-154771: WHAT'S NEW IN ASME SECTION VIII, DIVISION 3 2025 EDITION?
Daniel Peters, Atlas Consulting LLC, Edinboro, PA, USA; Kannan Subramanian, Structural Integrity Associates, Inc., Kenner, LA, USA; Melanie Sarzynski, Becht, Houston, TX, USA; Abena Dinizulu, ASME, New York, NY, USA

SESSION 2.3G (CS-15-01)

Tuesday, July 22, 2:00 pm – 3:45 pm, Montreal 3 (Congres Level)
MECHANICAL PROPERTIES OF NUCLEAR GRAPHITE AND THEIR IMPLEMENTATION IN CODES AND STANDARDS (JOINT WITH M&F)
Symposium on Mechanical Properties of Nuclear Materials—Co-Sponsored by the Codes & Standards and Materials & Fabrication Technical Committees
Developed by: Ting-Leung (Sam) Sham, Joseph Bass, US Nuclear Regulatory Commission, Rockville, MD, USA; David Rudland, US Nuclear Regulatory Commission, Frederick, MD, USA; Steven Xu, Kinectrics, Inc., Toronto, ON, Canada; Suresh Kalyanam, Westinghouse Electric Company, Cranberry Township, PA, USA
Chair: Graeme Horne, Frazer-Nash Consultancy, Bristol, United Kingdom
Co-Chair: Ting-Leung (Sam) Sham, US Nuclear Regulatory Commission, Rockville, MD, USA
PVP2025-154743: TOWARDS THE DEVELOPMENT OF A DAMAGE TOLERANCE ASSESSMENT METHODOLOGY FOR GRAPHITE CORE COMPONENTS DESIGNED PER ASME SECTION III DIVISION 5
Alvaro Garnica, Pierre-Alexandre Juan, Kairos Power LLC, Alameda, CA, USA
PVP2025-155073: CHARACTERIZING POROSITY IN NUCLEAR GRAPHITE USING MACHINE LEARNING (Presentation Only)
Jacob Eapen, Dina Elgewaily, North Carolina State University, Raleigh, NC, USA; Arash Rabbani, University of Leeds, Leeds, United Kingdom

SESSION 2.3H (MF-02-05)

Tuesday, July 22, 2:00 pm – 3:45 pm, Montreal 6 (Congres Level)
MATERIALS FOR HYDROGEN SERVICE (JOINT WITH C&S)-5
Symposium on Materials for Hydrogen Service—Co-Sponsored by the Codes & Standards, Computer Technology & Bolted Joints, Design & Analysis, Fluid-Structure Interaction, and Materials & Fabrication Technical Committees
Developed by: Joe Ronevich, Chris San Marchi, Sandia National Laboratories, Livermore, CA, USA; Laurent Briottet, French Alternative Energies & Atomic Energy Commission, Grenoble, France; Steven Xu, Kinectrics, Inc., Toronto, ON, Canada; Sylvain Pillot, Le Creusot, Bourgogne-Franche-Comté, France; M. Kevin Mandeville Jr., DNV, Katy, TX, USA; Tim Krentz, Savannah River National Laboratory, Aiken, SC, USA; Zakaria Hsain, US Department of Energy, Washington, DC, USA; Farid Afshar, Element Materials Tech, The Hague, Netherlands
Chair: Ramgopal Thodla, DNV, Dublin, OH, USA
Co-Chair: Santigopal Samanta, Colorado School of Mines, Golden, CO, USA

PVP2025-154096: INFLUENCE OF X65 GIRTH WELDING PARAMETERS ON FRACTURE TOUGHNESS IN HIGH PRESSURE HYDROGEN
Greg Lehnhoff, EVRAZ N.A., Pueblo, CO, USA; Amrita Bag, Muhammad Rashid, EVRAZ N.A., Regina, SK, Canada; Muhammad Arafin, EVRAZ N.A., Calgary, AB, Canada
PVP2025-154282: PHASE 1: SIMULATING X65M PIPE HEAT-AFFECTED ZONE MICROSTRUCTURES IN SINGLE EDGE NOTCH BENDING TOUGHNESS SAMPLES TO ASSESS HYDROGEN EMBRITTLEMENT
Jackson McCloskey, Chen Ni, Zhenzhen Yu, Colorado School of Mines, Golden, CO, USA; Matthew Connolly, May Martin, National Institute of Standards and Technology, Boulder, CO, USA; Andres Fischdick Acuna, Lincoln Electric, Cleveland, OH, USA; Greg Ebel, CBMM North America, Houston, TX, USA; Joe Bundy, Hobart Brothers LLC, Troy, OH, USA; Jorge Penso, Shell Projects and Technology, Houston, TX, USA; Ravi Menon, Anoop Samant, ESAB, Hanover, PA, USA
PVP2025-154718: MICROSTRUCTURE EFFECTS ON THE FRACTURE RESISTANCE OF THE BASE METAL IN LINE PIPE STEELS IN HIGH PRESSURE H2 GAS
Andrew Leboeuf, Santigopal Samanta, Lawrence Cho, Kip Findley, Colorado School of Mines, Golden, CO, USA; Joseph Ronevich, Chris San Marchi, Sandia National Laboratories, Livermore, CA, USA; Zachary Buck, Matthew Connolly, National Institute of Standards and Technology, Boulder, CO, USA
PVP2025-154924: INFLUENCE OF HYDROGEN ON LOW TEMPERATURE FRACTURE TOUGHNESS BEHAVIOR OF X70 IN NORDIC OPERATION CONDITIONS
Sebastian Lindqvist, Elina Huttunen-Saarivirta, Pekka Moilanen, Pekka Pohjanne, VTT Technical Research Centre of Finland Ltd., Espoo, Finland; Behnam Mirshekari, Sakari Pallaspuro, University of Oulu, Oulu, Finland

SESSION 2.3I (DA-02-05)

Tuesday, July 22, 2:00 pm – 3:45 pm, Montreal 7 (Congres Level)
DESIGN AND ANALYSIS OF PIPING, PIPELINES, AND COMPONENTS-5
Developed by: Chakrapani Basavaraju, US Nuclear Regulatory Commission, Rockville, MD, USA; Bhaskar Shitolé, Wood, Calgary, AB, Canada; Kannan Subramanian, Structural Integrity Associates, Inc., Metairie, LA, USA; Bing Li, Kinectrics, Inc., Toronto, ON, Canada
Chair: Chakrapani Basavaraju, US Nuclear Regulatory Commission, Rockville, MD, USA
Co-Chair: Bing Li, Kinectrics, Inc., Toronto, ON, Canada
PVP2025-154703: AN INVESTIGATION OF STRESS INTENSIFICATION FACTORS OF LATERALS COMPARED TO TEES – PART 2
Mohan Rathinasabapathy, Cristobal Rivas, David Glasscock, Kenneth Kirkpatrick Jr., Fluor Enterprises, Inc., Houston, TX, USA; Lukas Domm, Fluor Canada Ltd., Calgary, AB, Canada
PVP2025-154456: STRESS ANALYSIS AND CRACK FORMATION MECHANISM OF CRYOGENIC LNG PIPELINES
Yanbing Wang, Hongyu Zhou, Xiaoben Liu, China University of Petroleum, Beijing, China
PVP2025-154844: FROM PRESENT ISSUES TO FUTURE STANDARDS: ENHANCING ASME B16.9 COMPLIANCE
Tatsuya Tokunaga, Masayuki Ono, JGC Corporation, Yokohama, Japan
PVP2025-155648: ANALYTICAL AND NUMERICAL ANALYSIS OF COLLAPSE OF PIPELINES WITH INTERACTING CORROSION AREAS UNDER EXTERNAL PRESSURE
Sunting Yan, Ping Tang, Yonggui Chen, Wei Zhang, Zhejiang Academy of Special Equipment Science, Hangzhou, China; Jin-Yuan Qian, Kan Sheng, Zhejiang University, Hangzhou, China

SESSION 2.3J (CT-04-01)

Tuesday, July 22, 2:00 pm – 3:45 pm, Montreal 8 (Congres Level)
ASSEMBLY OF BOLTED JOINTS-1
Symposium on Bolted Joints—Co-Sponsored by the Computer Technology & Bolted Joints and Design & Analysis Technical Committees
Developed by: Anita Bausman, VSP Technologies, Kingsport, TN, USA; Jerry Waterland, Consultant, Prince George, VA, USA; Linbo Zhu, Xi'an Jiaotong University, Xi'an, China; Jeff Wilson, VSP Technologies, Prince George, VA, USA; Mark Johnson, Integra Technologies, Overland Park, KS, USA
Chair: Anita Bausman, VSP Technologies, Kingsport, TN, USA
Co-Chair: Stefano Fini, University of Bologna, Bologna, Italy
PVP2025-151857: SELF-LOOSENING BEHAVIOR OF THE NUT DUE TO INCLINATION CHANGES OF BEARING SURFACE
Yasumasa Shoji, YS Corporation LLC, Musashino, Japan
PVP2025-154415: ELASTIC INTERACTION OF BOLTED FLANGE JOINTS DURING UNTIGHTENING
Ali Tofighi, Abdel-Hakim Bouzid, École de Technologie Supérieure, Montreal, QC, Linbo Zhu, Xi'an Jiaotong University, Xi'an, China;
PVP2025-154626: FLANGE ASSEMBLY PROTOCOLS: ANALYZING PREHEATING STRATEGIES FOR HIGH-TEMPERATURE APPLICATIONS
Carlos D. Girão, Igor Meira, Teadit, Itatiba, Brazil; Marcos Barros Souza Da Silva, Braskem, Lauro De Freiras, Brazil
PVP2025-154688: MISALIGNED FLANGE STRESS REVIEW WITH STRESS PAPER AND ANALYSIS SOFTWARE
Charles Hugo, Tommie Bao, Martin Onyejelem, Lamons Gasket Co., Houston, TX, USA

SESSION 2.3K (DA-01-01)

Tuesday, July 22, 2:00 pm – 3:45 pm, Outremont 1 (Congres Level)
DESIGN AND ANALYSIS OF PRESSURE VESSELS, HEAT EXCHANGERS AND COMPONENTS-1
Developed by: Nathan Barkley, Becht, New Albany, MS, USA; Clay Rodery, C&S Technology, LLC, League City, TX, USA; Roy Darby, Chevron, Houston, TX, USA; Hao Jiang, Oak Ridge National Laboratory, Oak Ridge, TN, USA; M. Kevin Mandeville Jr., DNV, Katy, TX, USA; Qi Li, TD Williamson, Houston, TX, USA
Chair: Hao Jiang, Oak Ridge National Laboratory, Oak Ridge, TN, USA
Co-Chair: M. Kevin Mandeville Jr., DNV, Katy, TX, USA
PVP2025-152445: WIND INDUCED VORTEX SHEDDING OF PROCESS COLUMNS: RECOMMENDATIONS ON SCREENING CRITERIA
Jacob Hundl, Kenneth Kirkpatrick, Bryan Mosher, James Lu, Fluor Enterprises, Inc., Houston, TX, USA; Kaveh Ebrahimi, Fluor Ltd., Farnborough, United Kingdom
PVP2025-152530: EXTERNAL PRESSURE EVALUATION FOR HOT TAPS
Christopher Oliver, Chevron, Grand Bay, AL, USA; Jaan Taagepera, Chevron, Benicia, CA, USA
PVP2025-154167: REVISITING SPHERICAL SHELL KNOCKDOWN FACTORS USED FOR DESIGN PROTECTION AGAINST COLLAPSE FROM BUCKLING
Koray Kuscu, Chicago Bridge & Iron Company, Plainfield, IL, USA; Mandeep Singh, Nulypro LLC, Woodridge, IL, USA
PVP2025-154390: A CASE STUDY FOR JUSTIFYING AN ATTACHMENT WELD AND PAD FOR A SEAL MEMBRANE ON PRESSURE VESSELS
Olawale Anifowose, Oliver Greenwood, Scott Cairns, Rolls-Royce, Derby, United Kingdom

SESSION 2.3L (OAC-04-01)

Tuesday, July 22, 2:00 pm – 3:45 pm, Outremont 4 (Congres Level)
STORAGE AND TRANSPORTATION OF RADIOACTIVE AND OTHER HAZARDOUS MATERIALS
Developed by: Mike Weber, Steffan Komann, Bundesanstalt für Materialforschung und -prüfung (BAM), Berlin, Germany; Zenghu Han, Argonne National Laboratory, Lemont, IL, USA; Nicholas Klymyshyn, Pacific Northwest National Laboratory, Richland, WA, USA; Oscar Martinez, Oak Ridge National Laboratory, Oak Ridge, TN, USA; Steve Hensel, David Tamburello, Savannah River National Laboratory, Aiken, SC, USA; Mustafa Hadj-Nacer, University of Nevada-Reno, Reno, NV, USA
Chair: Mike Weber, Bundesanstalt für Materialforschung und -prüfung (BAM), Berlin, Germany
Co-Chair: Georges Bezdikian, Consultant, Le Vésinet, France
PVP2025-154728: COLLABORATIVE ROBOTS FOR HANDLING RADIOACTIVE MATERIALS

Alton Reich, Jacob Culver, Streamline Automation, LLC, Huntsville, AL, USA
PVP2025-154619: A FIRE TEST STAND FOR THERMAL TESTING OF EXTRA-LARGE PACKAGES
Thomas Quercetti, Martin Feldkamp, Tobias Gleim, Andre Musolff, Jan Werner, Frank Wille, Bundesanstalt für Materialforschung und -prüfung (BAM), Berlin, Germany
PVP2025-154564: EVALUATION OF CONVECTIVE HEAT TRANSFER COEFFICIENTS WITH CFD FOR HEAT FLUX CALCULATION IN COMBUSTION CHAMBER
Martin Feldkamp, Tobias Gleim, Thomas Quercetti, Frank Wille, Bundesanstalt für Materialforschung und -prüfung (BAM), Berlin, Germany
PVP2025-151867: EXPERIMENTAL AND NUMERICAL ANALYSES OF HYDROGEN FLAMES FOR THE THERMAL TESTING OF TRANSPORT PACKAGES FOR RADIOACTIVE MATERIAL
Maximilian Naster, Tobias Gleim, Frank Wille, Bundesanstalt für Materialforschung und -prüfung (BAM), Berlin, Germany

SESSION 2.3M (DA-07-01)

Tuesday, July 22, 2:00 pm – 3:45 pm, Outremont 6 (Congres Level)
THERMAL STRESSES AND ELEVATED TEMPERATURE DESIGN
Developed by: Qin Ma, Walla Walla University, College Place, WA, USA; Forrest Gu, Becht, Calgary, AB, Canada; Al Segall, Pennsylvania State University, State College, PA, USA
Chair: Qin Ma, Walla Walla University, College Place, WA, USA
Co-Chair: Al Segall, Pennsylvania State University, State College, PA, USA
PVP2025-151432: CREEP AND FATIGUE ANALYSIS OF ALLOY 625 TUBE IN MOLTEN SALT SOLAR RECEIVER
Qianyu Shi, Hui Tang, Zhijian Wang, Peng Liu, Qi Li, Harbin Boiler Co., Ltd., Harbin, China
PVP2025-154043: THERMOELASTIC STRESSES IN SLABS AND THICK-CYLINDERS WITH A GROWING OR RECEDING BOUNDARY UNDER COMPLEX THERMAL LOADING
Pavan Kumar, Albert Segall, Corina Drapaca, Pennsylvania State University, University Park, PA, USA
PVP2025-154832: DESIGN AND ANALYSIS CONSIDERATION FOR ACOUSTICAL BAFFLES AND SUPPORT SEATS UNDER SEISMIC LOADS AND EXPOSED TO HIGH TEMPERATURE OPERATING CONDITIONS.
Larry Danso, Agron Gjinolli, Abd Elmajeed Elkhider, Durr Universal, Inc., Stoughton, WI, USA

SESSION 2.3N (SE-07-01)

Tuesday, July 22, 2:00 pm – 3:45 pm, Outremont 7 (Congres Level)
SEISMIC EVALUATION OF SYSTEMS, STRUCTURES AND COMPONENTS-1
Developed by: Satoru Kai, IHI Corporation, Yokohama, Japan; Jinsuo Nie, US Nuclear Regulatory Commission, Washington, DC, USA
Chair: Satoru Kai, IHI Corporation, Yokohama, Japan
Co-Chair: Jinsuo Nie, US Nuclear Regulatory Commission, Washington, DC, USA
PVP2025-151587: ON THE DEVELOPMENT OF POWER SPECTRAL DENSITY FUNCTIONS COMPATIBLE WITH RESPONSE SPECTRA
Luis A. Montejo, Aidcer L Vidot-Vega, University of Puerto Rico at Mayaguez, Mayaguez, PR, USA
PVP2025-152061: PROPOSAL OF SEISMIC EVALUATION METHOD USING INELASTIC RESPONSE ANALYSIS
Yusuke Minakawa, Naotomo Maruyama, Hitachi-GE Nuclear Energy, Ltd., Hitachi-Shi, Japan; Yoshiaki Nagata, Satoshi Iida, The Chugoku Electric Power Co., Hiroshima-Shi, Japan; Shinji Kosugi, Masaki Tsuruki, Hitachi, Ltd., Hitachi-Shi, Japan
PVP2025-154477: SEISMIC RESPONSE ANALYSIS OF LARGE MOLTEN SALT STORAGE TANKS
Zhihui Ouyang, Li Ma, Zhejiang University of Technology, Hangzhou, China
PVP2025-154842: ASSESSING SEISMIC SLIDING BEHAVIOR IN STORAGE TANKS EMPLOYING TIME-HISTORY ANALYSIS
Vivek Manjrekar, Bechtel Energy, Richmond, TX, USA; Neville Stokes, Muaz Al Dimashki, Bechtel Energy, Houston, TX, USA

SESSION 2.3O (FSI-02-05)

Tuesday, July 22, 2:00 pm – 3:45 pm, Westmount 2 (Congres Level)
ACOUSTICS I
Symposium on Flow Induced Vibration—Sponsored by the Fluid-Structure Interaction Technical Committee
Developed by: Marwan Hassan, University of Guelph, Guelph, ON, USA; Atef Mohany, Ontario Tech University, Oshawa, ON, Canada; Salim El Bouzidi, Canadian Nuclear Laboratories, Chalk River, ON, Canada
Chair: Joaquin Moran, Sheridan College, Oakville, ON, Canada
Co-Chair: Amro Elhelaly, University of Guelph, Guelph, ON, Canada
PVP2025-154755: BRACING FOR ACOUSTIC INDUCED VIBRATION APPLICATIONS
Adin Mann, Wood PLC, Cleveland Heights, OH, USA; Chris Harper, Mehdi Sanati, Wood PLC, Calgary, AB, Canada
PVP2025-154763: BENCHMARKING EI AVIFF AND API 579 PART 15
Adin Mann, Wood PLC, Cleveland Heights, OH, USA; Scot McNeill, Noel Hart, ExxonMobil Technology & Engineering Company, Spring, TX, USA; Ajit Bhuddi, ExxonMobil Bangalore Technology Center, Bangalore, India
PVP2025-154444: VALIDATION OF DYNAMIC SIMULATIONS OF FLUID AND STRUCTURE NOISE AND VIBRATION
Adin Mann, Wood PLC, Cleveland Heights, OH, USA; Itsuro Hayashi, Chiyoda Corporation, Yokohama, Japan; Rob Swindell, Wood PLC, Southampton, United Kingdom; Daniel Eilers, Gregory D. Westwater, Emerson, Marshalltown, IA, USA

SESSION 2.3R (TW-02-04)

Tuesday, July 22, 2:00 pm – 3:45 pm, Montreal 1-2 (Congres Level)
ARTIFICIAL INTELLIGENCE IN ENGINEERING FOR PRESSURE VESSELS AND PIPING-PART 2
Developed by: Maria Ortiz De Zúñiga López-Chicheri, Fusion for Energy, Barcelona, Spain
Chair: Maria Ortiz De Zúñiga López-Chicheri, Fusion for Energy, Barcelona, Spain
Co-Chair: Maher Y.A. Younan, The American University in Cairo, Cairo, Egypt
Presented by: Maria Ortiz De Zúñiga López-Chicheri, Fusion for Energy, Barcelona, Spain; Ross Allen, Consultant, London, United Kingdom; Nawal Prinja, Prinja and Partners, Knutsford, United Kingdom

SESSION 2.3S (TE-01-01)

Tuesday, July 22, 2:00 pm – 3:45 pm, St-Laurent 1-2 (Congres Level)
TECHNOLOGY EXHIBITS-7

Block 2.4: Tuesday, July 22, 2025 (4:15 pm – 6:00 pm)

SESSION 2.4A (CS-17-01)

Tuesday, July 22, 4:15 pm – 6:00 pm, St-Laurent 3 (Congres Level)
ENVIRONMENTAL FATIGUE ISSUES (JOINT WITH M&F)-1: INCEFA SCALE
Symposium on Fatigue and Creep Issues—Co-Sponsored by the Codes & Standards, Design & Analysis, and Materials & Fabrication Technical Committees
Developed by: Seiji Asada, Mitsubishi Heavy Industries Ltd., Kobe, Japan; Thomas Damiani, EPRI, Palo Alto, CA, USA
Chair: Seiji Asada, Mitsubishi Heavy Industries Ltd., Kobe, Japan
Co-Chair: Thomas Damiani, EPRI, Palo Alto, CA, USA
PVP2025-155583: INCEFA-SCALE (INCREASING SAFETY IN NPPS BY COVERING GAPS IN ENVIRONMENTAL FATIGUE ASSESSMENT - FOCUSING ON GAPS BETWEEN LABORATORY DATA AND COMPONENT-SCALE)
Alec Mclennan, Jack Beswick, Amentum, Warrington, United Kingdom; Román Cicero, Innomerics, Santander, Spain; Stéphan Courtin, EDF, Paris, France; Zaiqing Que, VTT Technical Research Centre of Finland Ltd., Espoo, Finland; Sergio Cicero González, University of Cantabria, Santander, Spain
PVP2025-155276: INTERNATIONAL FATIGUE DATABASE IN SUPPORT OF NUCLEAR ENERGY SAFETY

Alec Mclennan, Kevin Mottershead, Amentum, Warrington, United Kingdom; Robert Tregoning, US Nuclear Regulatory Commission, Rockville, MD, USA

PVP2025-151549: BIAXIAL FATIGUE TESTS IN PWR ENVIRONMENT

Clementine Jacquemoud, Cedric Gourdin, Gregory Perez, French Alternative Energies and Atomic Energy Commission (CEA), Gif Sur Yvette, France; Luc Doremus, Framatome, Le Creusot, France

PVP2025-153678: MECHANISTIC UNDERSTANDING BASED ON MICROSTRUCTURE CHARACTERIZATION OF 316L STAINLESS STEEL FATIGUE SPECIMENS TESTED IN EU INCEFA-SCALE PROJECT

Zaiqing Que, Aleks Vainionpää, Kai Arstila, Tommi Seppänen, VTT Technical Research Centre of Finland Ltd., Espoo, Finland; Adam Anders, Brian Connolly, University of Manchester, Manchester, United Kingdom; William Beavan, Julio Spadotto, Henry Royce Institute/University of Manchester, Manchester, United Kingdom; Zbynek Veselka, ÚJV Řež, a. s., Husinec, Czech Republic; Sergio Arrieta, University of Cantabria, Santander, Spain; Joseph Huret, IRSN, Paris, France; Jean-Christophe Le Roux, EDF, Orvanne, France; Jack Beswick, Amentum, Warrington, United Kingdom

SESSION 2.4B (MF-09-01)

Tuesday, July 22, 4:15 pm – 6:00 pm, St-Laurent 4 (Congres Level)

MECHANISTIC MODELLING OF DEFORMATION AND FRACTURE

Symposium on Fracture Mechanics and Analysis—Co-Sponsored by the Design & Analysis and Materials & Fabrication Technical Committees

Developed by: Peter James, Amentum, Warrington, United Kingdom; Sergio Cicero, University of Cantabria, Santander, Spain; Harry Coules, Amentum, Bristol, United Kingdom; Qin Ma, Walla Walla University, College Place, WA, USA; Noel O'Dowd, University of Limerick, Limerick, Ireland; Preeti Doddihal, Doug Scarth, Kinectrics, Inc., Toronto, ON, Canada; Abdel Hamid Ismail Mourad, United Arab Emirates University, Al-Ain, United Arab Emirates; Gustavo Donato, FEI, Saõ Bernado de Campo, Brazil; Abilio Jesus, University of Porto, Porto, Portugal; Jessica Lam, Ontario Power Generation, Toronto, ON, Canada; Kiminobu Hojo, Mitsubishi Heavy Industries Ltd., Kobe, Japan; Suresh Kalyanam, Westinghouse Electric Company, Cranberry Township, PA, USA

Chair: Peter James, Amentum, Warrington, United Kingdom

Co-Chair: Sergio Cicero, University of Cantabria, Santander, Spain

PVP2025-153519: NUMERICAL SIMULATION OF SPLIT HOPKINSON TENSILE BAR TEST USING JOHNSON-COOK DEFORMATION AND FRACTURE MODEL

Jae-Yoon Kim, Ki-Wan Seo, Yun-Jae Kim, Korea University, Seongbuk-Gu, Republic of Korea; Tomohisa Kumagai, Central Research Institute of Electric Power Industry, Yokosuka, Japan

PVP2025-155870: A PROCEDURE TO ESTIMATE THE EFFECT OF CONSTRAINT ON TEMPERATURE SHIFTS TO THE REFERENCE TOUGHNESS CURVE FOR LOW TOUGHNESS LINE PIPE SEAM WELDS

Gery M. Wilkowski, Engineering Mechanics Corporation of Columbus, Upper Arlington, OH, USA

PVP2025-152353: EFFECT OF β-PHASE ON DEFORMATION AND STRESS PARTITIONING IN ZR-2.5NB PRESSURE TUBES

Masoud Taherijam, Hamidreza Abdolvand, University of Western Ontario, London, ON, Canada; David Ilgert, University of Western Ontario, Strathroy, ON, Canada

PVP2025-154357: THE FRACTURE MECHANICS OF ZIRCONIUM HYDRIDES: TWINNING AT MICROCRACK TIPS (Presentation Only)

Saiedeh Marashi, Brandon Kuo, Hamidreza Abdolvand, Western University, London, ON, Canada

SESSION 2.4C (CS-22-01)

Tuesday, July 22, 4:15 pm – 6:00 pm, St-Laurent 5 (Congres Level)

REPAIR, REPLACEMENT AND MITIGATION FOR FITNESS-FOR-SERVICE RULES

Symposium on Fitness-for-Service—Co-Sponsored by the Codes & Standards, Design & Analysis, High-Pressure Technology, and Materials & Fabrication Technical Committees

Developed by: Steven McCracken, EPRI, Harrisburg, NC, USA; Jonathan Tatman, EPRI, Charlotte, NC, USA; Gys van Zyl, Integrity Engineering Solutions, Dunsborough, Australia; Bhaskar Shitolé, Wood, Calgary, AB, Canada; Abdelgader Abdegalil, SABIC, Jubail, Saudi Arabia; Ali Ok, Air Products-LNG Technology and Products, Allentown, PA, USA; Antonio Seijas, Phillips 66 Company, Houston, TX, USA

Chair: Steven McCracken, EPRI, Harrisburg, NC, USA

Co-Chair: J.P. Lacy, EPRI, Charlotte, NC, USA

PVP2025-153986: PROGRESS AND ADVANCEMENT OF AMBIENT TEMPERATURE TEMPER BEAD WELDING IN THE NUCLEAR POWER INDUSTRY: PART 1 (Presentation Only)

Steven L. McCracken, EPRI, Harrisburg, NC, USA; Shane Findlan, Stone & Webster LLC, Rock Hill, SC, USA

PVP2025-154815: PROGRESS AND ADVANCEMENT OF AMBIENT TEMPERATURE TEMPER BEAD WELDING IN THE NUCLEAR POWER INDUSTRY: PART 2 (Presentation Only)

Steven L. McCracken, EPRI, Harrisburg, NC, USA; Joseph Weicks, Consultant, Madison, MS, USA

PVP2025-155407: THE DEVELOPMENT OF COLD SPRAY SURFACE PREPARATION AND COATINGS FOR CRACK SEALING OF POSTULATED CHLORIDE-INDUCED STRESS CORROSION CRACKING (CISCC) OF DRY CASK STORAGE SYSTEM (DCSS) CANISTERS

J. P. Lacy, Jon Tatman, EPRI, Charlotte, NC, USA; Shannon Chu, Electric Power Research Institute, Palo Alto, CA, USA; Kole Vollmer, Kyle Johnson, VRC Metal Systems, Box Elder, SD, USA

PVP2025-158759: FITNESS FOR SERVICE ASSESSMENT OF A CORRODED HEAT EXCHANGER (Presentation Only)

Alex Humenik, Erik Voirin, Fermi National Accelerator Laboratory, Batavia, IL, USA

SESSION 2.4D (DA-15-02)

Tuesday, July 22, 4:15 pm – 6:00 pm, St-Laurent 6 (Congres Level)

COKE DRUM MATERIALS CONSIDERATIONS

Symposium on Coke Drum Life Cycle Management—Sponsored by the Design & Analysis Technical Committee

Developed by: Antonio Seijas, Phillips 66 Company, Houston, TX, USA; Clay Rodery, C&S Technology, LLC, League City, TX, USA; Kannan Subramanian, Structural Integrity Associates, Inc., Metairie, LA, USA; Mo Uddin, Structural Integrity Associates, Inc., San Jose, CA, USA; Do Jun Shim, EPRI, Palo Alto, CA, USA; David Rudland, US Nuclear Regulatory Commission, Frederick, MD, USA; Foroogh Hosseinzaadhe, The Open University, United Kingdom; Adam Cooper, Amentum, Warrington, United Kingdom; Richard Colwell, Bechtel, Richmond, TX, USA; Jan-Willem Rensman, Fluor BV, Hoofddorp, Netherlands

Chair: Antonio Seijas, Phillips 66 Company, Houston, TX, USA

Co-Chair: Julian Bedoya, ExxonMobil Technology & Engineering Company, Houston, TX, USA

PVP2025-152632: EVALUATION OF LOW CYCLE FATIGUE (LCF) IN PRE-WELDED NICKEL ALLOY 625 TO CARBON-MOLYBDENUM ALLOY STEEL EXPLOSION CLAD PLATES DETACLAD FOR COKE DRUM APPLICATIONS

Olivier Sarrat, Chris E. Wilson, Tim Delahanty, NobelClad, Broomfield, CO, USA

PVP2025-152046: C-½MO VS 1CR-½MO: A COMPARATIVE STUDY OF COKE DRUM SHELL MATERIALS

John Fernando, Henry Kwok, Haixia Guo, Leanne Wong, Luke Chan, Zachry Integrity Engineering Ltd, Calgary, AB, Canada; Enzo Falo, Millar Iverson, Simon Yuen, Suncor Energy Inc, Calgary, AB, Canada

PVP2025-153394: COKE DRUM BOTTOM HEAD FLANGE DISTORTION, ROOT CAUSE & SOLUTIONS

Mike Horstmeyer, Ann Corcoran, Phillips 66 Company, Roxana, IL, USA; Antonio Seijas, Phillips 66 Company, Houston, TX, USA; Alex Berry, Warren Brown, Integrity Engineering Solutions, Dunsborough, Australia

PVP2025-157900: FATIGUE PROPERTY CONSIDERATIONS FOR COKE DRUM GIRTH SEAMS

Dave Dewees, Becht, Medina, OH, USA; Brian Olson, Chithranjan Nadarajah, Becht, Liberty Corner, NJ, USA

SESSION 2.4F (CS-08-01)

Tuesday, July 22, 4:15 pm – 6:00 pm, St-Laurent 8 (Congres Level)

THE WARREN H. BAMFORD MEMORIAL SYMPOSIUM ON RECENT DEVELOPMENTS IN ASME CODES AND STANDARDS: ASME CODE SECTION XI ACTIVITIES-1

Symposium on Recent Developments in Codes & Standards—Sponsored by the Codes & Standards Technical Committee

Developed by: Russell Cipolla, Intertek AIM, Santa Clara, CA, USA; Daniel Miro-Quesada, ASME, New York, NY, USA; Doug Scarth, Kinectrics, Inc., Toronto, ON, Canada

Chair: Steven Xu, Kinectrics, Inc., Toronto, ON, Canada

Co-Chair: Daniel Miro-Quesada, ASME, New York, NY, USA

PVP2025-153435: APPLICABILITY OF ASME CODE, SECTION XI TO FLAW EVALUATION OF PIPE-TO-ELBOW WELDS

Gi-Bum Lee, Ju-Won Choi, Nam-Su Huh, Seoul National University of Science and Technology, Seoul, Republic of Korea; Do Jun Shim, EPRI, Palo Alto, CA, USA

PVP2025-155922: CLARIFICATION ON DEFINITION OF MEMBRANE-TO-GRADIENT STRESS RATIO USED IN THE DEVELOPMENT OF ASME CODE SECTION XI APPENDIX L FLAW TOLERANCE PROCEDURES

Nathan Glunt, EPRI, Charlotte, NC, USA; Gary Stevens, Consultant to Electric Power Research Institute, Mooresville, NC, USA; Steven Xu, Kinectrics, Inc., Toronto, ON, Canada

PVP2025-154765: CHARACTERISTICS OF FATIGUE CRACK GROWTH RATES FOR FERRITIC STEELS IN WATER ENVIRONMENT PROVIDED BY THE ASME CODE SECTION XI

Yoshihito Yamaguchi, Kunio Hasegawa, Japan Atomic Energy Agency, Tokai-Mura, Japan; Martin Negyesi, VŠB-Technical University of Ostrava, Listopadu, Czech Republic

PVP2025-155819: RECENT ADVANCES IN ASME CODE SECTION XI APPENDIX K FOR LOW UPPER SHELF TOUGHNESS EVALUATION

William Server, Consultant, Black Mountain, NC, USA; Douglas Scarth, Kinectrics, Inc., Toronto, ON, Canada; Russell Cipolla, Intertek AIM, Santa Clara, CA, USA; Michael Benson, US Nuclear Regulatory Commission, Rockville, MD, USA; Gery Wilkowski, Engineering Mechanics Corporation of Columbus, Upper Arlington, OH, USA

SESSION 2.4G (MF-35-01)

Tuesday, July 22, 4:15 pm – 6:00 pm, Montreal 3 (Congres Level)

MATERIAL SURVEILLANCE FOR HIGH TEMPERATURE REACTORS (JOINT WITH C&S)

Symposium on Mechanical Properties of Nuclear Materials—Co-Sponsored by the Codes & Standards and Materials & Fabrication Technical Committees

Developed by: Mark Messner, Argonne National Laboratory, Plainfield, IL, USA; Ting-Leung (Sam) Sham, US Nuclear Regulatory Commission, Rockville, MD, USA

Chair: Mark Messner, Argonne National Laboratory, Plainfield, IL, USA

Co-Chair: Ting-Leung (Sam) Sham, US Nuclear Regulatory Commission, Rockville, MD, USA

PVP2025-152514: MATERIAL SURVEILLANCE CONCEPTS AND ACCEPTANCE CRITERIA FOR FUTURE HIGH TEMPERATURE REACTORS

Mark C. Messner, Guosheng Ye, Bipul Barua, Argonne National Laboratory, Lemont, IL, USA

PVP2025-154635: MANAGEMENT OF RISKS ASSOCIATED WITH APPLICATION OF NOVEL MATERIALS IN NOVEL OPERATING ENVIRONMENTS IN NOVEL REACTOR DESIGNS (Presentation Only)

Robert Youngblood, Todd Anselmi, Scott Ferrara, Idaho National Laboratory, Idaho Falls, ID, USA

PVP2025-152580: SIMPLIFIED METHOD FOR DAMAGE INFERENCE BASED ON OUT-REACTOR TEST RESULTS

Guosheng Ye, Argonne National Laboratory, Unionville, CT, USA; Mark Messner, Bipul Barua, Argonne National Laboratory, Lemont, IL, USA

PVP2025-153438: DEVELOPMENT OF A NEW MATERIALS SURVEILLANCE TECHNOLOGY FOR FAST REACTORS

Satoshi Okajima, Masanori Ando, Kodai Toyota, Tai Asayama, Takashi Wakai, Japan Atomic Energy Agency, Higashi-Ibaraki-Gun, Japan; Katsuo Ishigami, Terumitsu Onuma, Ascend Co., Ltd., Higashi-Ibaraki-Gun, Japan; Ryoya Takahashi, Ascend Co., Ltd., Higashi-Ibaraki-Gun, Japan

SESSION 2.4H (MF-02-06)

Tuesday, July 22, 4:15 pm – 6:00 pm, Montreal 6 (Congres Level)

MATERIALS FOR HYDROGEN SERVICE (JOINT WITH C&S)-6

Symposium on Materials for Hydrogen Service—Co-Sponsored by the Codes & Standards, Computer Technology & Bolted Joints, Design & Analysis, Fluid-Structure Interaction, and Materials & Fabrication Technical Committees

Developed by: Joe Ronevich, Chris San Marchi, Sandia National Laboratories, Livermore, CA, USA; Laurent Briottet, French Alternative Energies & Atomic Energy Commission, Grenoble, France; Steven Xu, Kinectrics, Inc., Toronto, ON, Canada; Sylvain Pillot, Le Creusot, Bourgogne-Franche-Comté, France; M. Kevin Mandeville Jr., DNV, Katy, TX, USA; Tim Krentz, Savannah River National Laboratory, Aiken, SC, USA; Zakaria Hsain, US Department of Energy, Washington, DC, USA; Farid Afshar, Element Materials Tech, The Hague, Netherlands

Chair: Michael Gagliano, EPRI, Charlotte, NC, USA

Co-Chair: Ming Dao, Massachusetts Institute of Technology, Cambridge, MA, USA

PVP2025-153104: EFFECT OF DIFFERENT TESTING PARAMETER ON J-R CURVES IN GASEOUS HYDROGEN

Mihaela Eliza Cristea, Tenaris Dalmine, Dalmine, Italy; Sebastian Cravero, Tenaris, Campana, Argentina; Chris San Marchi, Joseph Allen Ronevich, Sandia National Laboratories, Livermore, CA, USA

PVP2025-154046: EVALUATION OF SPECIMEN GEOMETRY AND TESTING PARAMETERS FOR HYDROGEN-ASSISTED FRACTURE MEASUREMENTS

Chris San Marchi, Joseph Ronevich, Sandia National Laboratories, Livermore, CA, USA; Kevin Nibur, HyPerformance Materials Testing, LLC, Bend, OR, USA

PVP2025-154490: FRACTURE RESISTANCE OF HIGH STRENGTH STEEL WELDS IN GASEOUS HYDROGEN DETERMINED USING POTENTIAL DIFFERENCE AND UNLOADING COMPLIANCE

Paolo Bortot, Matteo Ortolani, Maurizio Bellingardi, Tenaris, Dalmine, Italy; Matthew Connolly, Zachary N. Buck, National Institute of Standards and Technology (NIST), Boulder, CO, USA; Chris San Marchi, Joseph A. Ronevich, Sandia National Laboratories, Livermore, CA, USA

PVP2025-154581: DETERMINATION OF FRACTURE INITIATION IN H2 ENVIRONMENTS FROM RISING DISPLACEMENT TESTS

Ramgopal Thodla, Huggins Angiere, DNV, Dublin, OH, USA; Joseph Ronevich, Chris San Marchi, Sandia National Laboratories, Livermore, CA, USA; Bostjan Bezensek, Shell Global Solutions UK, Aberdeen, United Kingdom

SESSION 2.4I (DA-02-06)

Tuesday, July 22, 4:15 pm – 6:00 pm, Montreal 7 (Congres Level)

DESIGN AND ANALYSIS OF PIPING, PIPELINES, AND COMPONENTS-6

Developed by: Chakrapani Basavaraju, US Nuclear Regulatory Commission, Rockville, MD, USA; Bhaskar Shitolé, Wood, Calgary, AB, Canada; Kannan Subramanian, Structural Integrity Associates, Inc., Metairie, LA, USA; Bing Li, Kinectrics, Inc., Toronto, ON, Canada

Chair: Bhaskar Shitolé, Wood, Calgary, AB, Canada

Co-Chair: Chakrapani Basavaraju, US Nuclear Regulatory Commission, Rockville, MD, USA

PVP2025-152591: A CONDENSER SYSTEM PERFORMANCE IMPROVEMENT ENGINEERING STUDY FOR A CANDU UTILITY

Preston Tang, Akash Bhatia, Leon Cramer, Bruce Power, Tiverton, ON, Canada; Bing Li, Kinectrics, Inc, Markham, ON, Canada

PVP2025-155729: DESIGN STRATEGY AND QUALIFICATION OF METAL FLEXIBLE HOSES FOR >10,000 PSI APPLICATION PER ASME B31.3

Rahul Kapadia, ASML, El Segundo, CA, USA; Eric Wintrebert, CoreDux France S.A.S., Epaux-Bézu, France; Roland Blanch Ojea, ASML, Veldhoven, Netherlands

PVP2025-157680: DESIGN ISSUES AND QUALIFICATION OF HYDROFORMED DOUBLE WALLED EXPANSION JOINTS IN VACUUM SERVICE

Forrest Clark, Jim Barnhart, Charles Smith, Oak Ridge National Laboratory, Oak Ridge, TN, USA

PVP2025-158415: FOURIER PIPES: TURBULENT PIPE FLOW MANIPULATION USING TARGETED WALL-SHAPES

Yaren Dincoglu, Arman Hemmati, University of Alberta, Edmonton, AB, Canada

SESSION 2.4J (CT-04-02)

Tuesday, July 22, 4:15 pm – 6:00 pm, Montreal 8 (Congres Level)

ASSEMBLY OF BOLTED JOINTS-2

Symposium on Bolted Joints—Co-Sponsored by the Computer Technology & Bolted Joints and Design & Analysis Technical Committees

Developed by: Anita Bausman, VSP Technologies, Kingsport, TN, USA; Jerry Waterland, Consultant, Prince George, VA, USA; Linbo Zhu, Xi'an Jiaotong University, Xi'an, China; Jeff Wilson, VSP Technologies, Prince George, VA, USA; Mark Johnson, Integra Technologies, Overland Park, KS, USA

Chair: Massimiliano De Agostinis, University of Bologna, Bologna, Italy

Co-Chair: Mark Johnson, Integra Technologies, Overland Park, KS, USA

PVP2025-152526: SIMULATION OF BOLT INTERACTIONS IN LARGE DIAMETER FLANGES FOR GASKET ASSEMBLY TRAINING (Presentation Only)

Leonardo De La Roca, Carlos D. Girão, Igor Meira, Teadit, Itatiba, Brazil

PVP2025-154950: EFFECTS OF SIDE LOAD ON BOLT LOAD EFFICIENCY WITH POWERED TORQUE TOOLS (Presentation Only)

Emmanuel Derillac, Michael Dolan, Hytorc, Mahwah, NJ, USA; Brandon Bounds, Bechtel Energy, Houston, TX, USA; Chris P. Lilley, Chevron Products Company, Pascagoula, MS, USA

PVP2025-155062: NUMERICAL AND EXPERIMENTAL ANALYSIS OF THE TIGHTENING PROCESS OF SELF-LOCKING NUTS

Linbo Zhu, Hanwen Zhang, Junqi Zhou, Junqi Xu, Jixun Shi, Jun Hong, Xi'an Jiaotong University, Xi'an, China

SESSION 2.4K (DA-01-02)

Tuesday, July 22, 4:15 pm – 6:00 pm, Outremont 1 (Congres Level)

DESIGN AND ANALYSIS OF PRESSURE VESSELS, HEAT EXCHANGERS AND COMPONENTS-2

Developed by: Nathan Barkley, Becht, New Albany, MS, USA; Clay Rodery, C&S Technology, LLC, League City, TX, USA; Roy Darby, Chevron, Houston, TX, USA; Hao Jiang, Oak Ridge National Laboratory, Oak Ridge, TN, USA; M. Kevin Mandeville Jr., DNV, Katy, TX, USA; Qi Li, TD Williamson, Houston, TX, USA; Jaan Taagepera, Chevron, Richmond, CA, USA; Trevor Seipp, Becht, Okotoks, AB, Canada

Chair: Nathan Barkley, Becht, New Albany, MS, USA

Co-Chair: Hao Jiang, Oak Ridge National Laboratory, Oak Ridge, TN, USA

PVP2025-155552: INSPECTION AND ANALYSIS OF PRESSURE VESSEL WITH COMBINED CUI AND WET H2S DAMAGE

Jackson Pennell, Jason Morris, BP Cherry Point Refinery, Blaine, WA, USA; Kevin M. Haley, The Equity Engineering Group, Inc., Shaker Heights, OH, USA

PVP2025-155906: PROACTIVE DESIGN CRITERION TO MAXIMIZE THE INTEGRITY, RELIABILITY AND PROFITABILITY OF OIL & GAS ASSETS (Presentation Only)

Meshary Albahli, Mohammed Attia, Saudi Aramco, Dhahran, Saudi Arabia

PVP2025-152594: A RESEARCH REPORT ON THE SAFETY OF COMPOSITE TUBE BUNDLE CONTAINERS

Ke Bo, China Special Equipment Inspection & Research Institute, Beijing, China; Hui Luo, China Special Equipment Inspection & Research Institute, Beijing, China; Laiming Zhang, China Special Equipment Inspection & Research Institute, Beijing, China; Sen Chai, China Special Equipment Inspection & Research Institute, Beijing, China; Guanghai Li, China Special Equipment Inspection & Research Institute, Beijing, China; Chao Yang, China Special Equipment Inspection & Research Institute, Shanghai, China

PVP2025-155397: ACCELERATED DESIGN AND CERTIFICATION OF A SMALL PLUTONIUM AIR TRANSPORT PACKAGE

John L. Bignell, Lindsay N. Gilkey, Victor G. Figueroa, Gregg J. Flores, Doug J. Ammerman, Mike J. Starr, Sandia National Laboratories, Albuquerque, NM, USA

SESSION 2.4L (OAC-06-01)

Tuesday, July 22, 4:15 pm – 6:00 pm, Outremont 4 (Congres Level)

OPERATION AND MAINTENANCE OF PRESSURE VESSELS, HEAT EXCHANGERS, PIPING AND SUPPORTS-1

Developed by: Kaida Takuyo, Junya Takahashi, Sumitomo Chemical, Niihama City, Japan; Ayman Cheta, Shell Global Solutions US, Inc., Houston, TX, USA; Yasumasa Shoji, YS Consulting LLC, Mushashino, Japan; Ahmed Alian, Next Structural Integrity Inc., Burlington, ON, Canada

Chair: Ayman Cheta, Shell Global Solutions US, Inc., Houston, TX, USA

Co-Chair: Junya Takahashi, Sumitomo Chemical, Niihama City, Japan

PVP2025-155078: NOT JUST FOR SUPPORTING PIPE - THE USE OF SPRING HANGERS FOR SIMULATING REDUCED GRAVITY

Alton Reich, Travis Crumpton, Streamline Automation, LLC, Huntsville, AL, USA; Andrew Scott, Alabama A&M University, Normal, AL, USA

PVP2025-151514: BOLTED FLANGE JOINT RELIABILITY IMPROVEMENT USING PROFILED WIRE GASKET

Fatehjit Singh, Flexitallic Canada, Edmonton, AB, Canada; Heinie Brunner, Pieridae Energy, Clearwater County, AB, Canada

PVP2025-153818: STUDY ON THE DETERMINATION METHOD OF MINIMUM PRESSURIZATION TEMPERATURE CURVES FOR HYDROPROCESSING REACTORS BASED ON HYDROGEN CONCENTRATION DISTRIBUTION IN THE REACTOR WALL

Meng Li, Jie Dong, Xuedong Chen, Zhichao Fan, Wei Chen, Yu Zhou, Hefei General Machinery Research Institute Co., Ltd., Hefei, China

PVP2025-154273: MECHANISMS OF HOT SPOT AND EROSION OCCURRING IN FCC REACTOR AND REGENERATION UNITS

Shinichiro Kanamaru, Shaoxiang Qian, JGC Corporation, Yokohama, Japan

SESSION 2.4M (DA-19-01)

Tuesday, July 22, 4:15 pm – 6:00 pm, Outremont 6 (Congres Level)

SPECIAL CONSIDERATIONS IN THE DESIGN AND ANALYSIS OF SUPPORTS, RESTRAINTS, AND WELDED ATTACHMENTS

Developed by: Phillip Wiseman, AtkinsRéalis, Oak Ridge, TN, USA; Kshitij Gawande, Cummins Inc., Columbus, IN, USA

Chair: Andrew Owens, TerraPower, Round Rock, TX, USA

Co-Chair: Kumarswamy Karpanan, Kairos Power, Houston, TX, USA

PVP2025-154631: SPECIFIC DESIGN AND ANALYSIS CONSIDERATION TO PREVENT BRITTLE FRACTURES FOR THE STRUCTURAL STEEL SUPPORT AND CONNECTIONS EXPOSED TO LOW TEMPERATURE ENVIRONMENT (Presentation Only)

Agron Gjinolli, Larry Appiah Danso, Durr Universal, Inc., Stoughton, WI, USA

PVP2025-154723: LIFT LUG DESIGN AND APPLICATION

Jason Dorgan, Abd Elmajeed Elkhider, Durr Universal, Inc., Stoughton, WI, USA

SESSION 2.4N (SE-09-01)

Tuesday, July 22, 4:15 pm – 6:00 pm, Outremont 7 (Congres Level)

ADVANCED SEISMIC EVALUATION AND CODE (JOINT SESSION WITH C&S)

Developed by: Akira Maekawa, Osaka Sangyo University, Osaka, Japan; Izumi Nakamura, Tokyo City University, Setagata, Japan; Akihito Otani, IHI Corporation, Yokohama, Japan

Chair: Akira Maekawa, Osaka Sangyo University, Osaka, Japan

Co-Chair: Akihito Otani, IHI Corporation, Yokohama, Japan

PVP2025-152307: NUMERICAL SIMULATION OF IMPACT VIBRATION CAUSED BY SPATIAL GAPS BETWEEN PIPING AND PIPING SUPPORT IN HIGH-TEMPERATURE PIPING SYSTEMS
Akira Maekawa, Osaka Sangyo University, Takatsuki, Japan; Michiaki Suzuki, Machine Craft Co., Ltd., Hiratsuka, Japan
PVP2025-152806: SIMPLIFIED ELASTIC-PLASTIC MODELING FOR FATIGUE ANALYSIS OF PIPING SYSTEMS IN SEISMIC PRA
Yohei Ono, Masato Nakajima, Michiya Sakai, Ryuya Shimazu, Central Research Institute of Electric Power Industry, Abiko-Shi, Japan
PVP2025-152813: ELASTIC-PLASTIC SEISMIC RESPONSE ANALYSIS OF PIPING SYSTEM CONSIDERING DAMAGE TO PIPING SUPPORT
Ryuya Shimazu, Michiya Sakai, Yohei Ono, Central Research Institute of Electric Power Industry, Abiko-Shi, Japan
PVP2025-153490: VERY LOW CYCLE FATIGUE EVALUATION OF PIPE ELBOW UNDER QUASI-STATIC LOADING AND EXPERIMENTAL VALIDATION
Joo-Young Park, Ki-Wan Seo, Hyun-Seok Song, Yun-Jae Kim, Korea University, Seong Buk Gu, Republic of Korea; Jin-Weon Kim, Chosun University, Gwangju, Republic of Korea; Do-Jun Shim, EPRI, Palo Alto, CA, USA
PVP2025-154457: SEISMIC RESPONSE OF L-SHAPED PIPING SYSTEM SUPPORTED BY ELASTO-PLASTIC DAMPERS SUBJECTED TO ARTIFICIAL SEISMIC WAVES USING SPECTRAL MATCHING
Taiki Sekoguchi, Atsuhiko Shintani, Chihiro Nakagawa, Osaka Metropolitan University, Sakai, Osaka, Japan; Tomohiro Ito, Independent Author, Kobe, Japan

SESSION 2.4O (FSI-02-06)

Tuesday, July 22, 4:15 pm – 6:00 pm, Westmount 2 (Congres Level)
ACOUSTICS II
Symposium on Flow Induced Vibration—Sponsored by the Fluid-Structure Interaction Technical Committee
Developed by: Marwan Hassan, University of Guelph, Guelph, ON, USA; Atef Mohany, Ontario Tech University, Oshawa, ON, Canada; Salim El Bouzidi, Canadian Nuclear Laboratories, Chalk River, ON, Canada
Chair: Teguewinde Sawadogo, Canadian Nuclear Laboratories, Chalk River, ON, Canada
Co-Chair: Mohammed Alziadeh, Canadian Nuclear Laboratories, Chalk River, ON, Canada
PVP2025-151538: ACOUSTICALLY INDUCED VIBRATION GENERATED BY MULTI-HOLE RESTRICTION ORIFICES IN A FUEL GAS PIPING SYSTEM
Itsuro Hayashi, Kazuya Yamaguchi, Shun Maeda, Hisao Izuchi, Chiyoda Corporation, Yokohama, Japan; Wisnu Adilaksana, Abang Wiguna, BP, London, United Kingdom
PVP2025-154334: FLOW INDUCED VIBRATION GENERATED AT A TEE JUNCTION OF A LARGE DIAMETER PIPE
Itsuro Hayashi, Masato Nishiguchi, Takahiro Ishigami, Hisao Izuchi, Chiyoda Corporation, Yokohama, Japan; Noel Hart, ExxonMobil Technology & Engineering Company, Spring, TX, USA
PVP2025-153000: PRACTICAL APPLICATION AND PROBLEMS OF ACOUSTIC INDUCED VIBRATION ASSESSMENTS
Noel Hart, ExxonMobil Technology & Engineering Company, Spring, TX, USA; Brad Moulton, Becht, Liberty Corner, NJ, USA
PVP2025-154702: ANALYZING A TRUNNION-FAILURE WITH RECENTLY DEVELOPED ACOUSTICALLY INDUCED VIBRATION PREDICTION METHODOLOGY (Presentation Only)
Arindam Ghosh, KBR, Cypress, TX, USA

SESSION 2.4R (EI-01-01)

Tuesday, July 22, 4:15 pm – 6:00 pm, Montreal 1-2 (Congres Level)
PRESENTATION AND DISCUSSION OF AI GROWTH IN PVP (FORUM SESSION)
Developed by: James F. Cory, Jr., Siemens PLM Software (Retired), Cincinnati, OH, USA; Hakim Bouzid, École de Technologie Supérieure, Montreal, QC, Canada; Doug Scarth, Kinectrics, Inc., Toronto, ON, Canada
Chair: James F. Cory, Jr., Siemens PLM Software (Retired), Cincinnati, OH, USA
Co-Chair: Hakim Bouzid, Ecole Supérieure de Technologie, Montreal, QC, Canada
Moderators: James F. Cory, Jr., Siemens PLM Software (Retired), Cincinnati, OH, USA; Hakim Bouzid, École de Technologie Supérieure, Montreal, QC, Canada; Doug Scarth, Kinectrics, Inc., Toronto, ON, Canada

SESSION 2.4S (TE-01-01)

Tuesday, July 22, 4:00 pm – 6:00 pm, St-Laurent 1-2 (Congres Level)
TECHNOLOGY EXHIBITS-8

WEDNESDAY, JULY 23

Block 3.1: Wednesday, July 23, 2025 (8:00 am – 9:45 am)

SESSION 3.1A (CS-17-02)

Wednesday, July 23, 8:00 am – 9:45 am , St-Laurent 3 (Congres Level)

ENVIRONMENTAL FATIGUE ISSUES (JOINT WITH M&F)-2: INCEFA-SCALE

Symposium on Fatigue and Creep Issues—Co-Sponsored by the Codes & Standards, Design & Analysis, and Materials & Fabrication Technical Committees

Developed by: Seiji Asada, Mitsubishi Heavy Industries Ltd., Kobe, Japan; Thomas Damiani, EPRI, Palo Alto, CA, USA
Chair: Thomas Damiani, EPRI, Palo Alto, CA, USA
Co-Chair: Seiji Asada, Mitsubishi Heavy Industries Ltd., Kobe, Japan

PVP2025-155730: ESTIMATION OF THE FATIGUE LIFE IN LCF REGIME OF 316L NOTCHED SPECIMENS USING THE THEORY OF CRITICAL DISTANCES

Sergio Arrieta, Sergio Cicero, University of Cantabria, Santander, Spain; Luc Doremus, Olivier Ancelet, Framatome, Paris, France; Stéphan Courtin, EDF R&D, Palaiseau, France

PVP2025-154525: EVALUATION OF THE DIFFERENCES ON FATIGUE LIFE BETWEEN HOLLOW AND SOLID SPECIMENS ON A 316L STAINLESS STEEL IN THE FRAME OF INCEFA-SCALE PROJECT

Luc Doremus, Framatome, Le Creusot, France; Olivier Ancelet, Framatome, Louise Casulli, Laurent De Baglion, Framatome, Paris La Défense, France; Jean-Christophe Le Roux, EDF, Ecuelles, France; Philippe Spätig, PSI, Villigen, Switzerland; Joseph Huret, IRSN, Saint-Paul-Lez-Durance, France; Zaiqing Que, VTT Technical Research Centre of Finland Ltd., Espoo, Finland; Jack Beswick, Amentum, Greater Manchester, United Kingdom

PVP2025-155088: INFLUENCE OF AXISYMMETRIC NOTCHES ON THE LOW CYCLE FATIGUE LIFE OF A 316L STAINLESS STEEL IN THE FRAME OF INCEFA-SCALE PROJECT

Luc Doremus, Framatome, Le Creusot, France; Olivier Ancelet, Louise Casulli, Laurent De Baglion, Rayan Kallout, Framatome, Paris La Défense, France; Michael Grimm, Framatome GmbH, Erlangen, Germany; Stéphan Courtin, Jean-Christophe Le Roux, EDF, Moret Sur Loing, France; Clémentine Jacquemoud, French Alternative Energies and Atomic Energy Commission (CEA), Saclay, France; Sergio Arrieta, University of Cantabria, Santander, Spain; Antonio Fernandez Vina, CIEMAT, Madrid, Spain; Tommi Seppanen, Zaiqing Que, VTT Technical Research Centre of Finland Ltd., Espoo, Finland; Gintautas Dundulis, Kaunas University of Technology, Kaunas, Lithuania; Radek Novotny, European Commission - Joint Research Center, Petten, Netherlands; Jack Beswick, Amentum, Manchester, United Kingdom

PVP2025-154594: INCEFA-SCALE TEST DATA COMPARED TO ENVIRONMENTAL FATIGUE DESIGN CURVE METHODOLOGIES

Jack Beswick, Alec Mclennan, Amentum, Warrington, United Kingdom; Chris Currie, Rolls-Royce, Derby, United Kingdom; Stéphan Courtin, EDF, Palaiseau, France

SESSION 3.1B (MF-03-01)

Wednesday, July 23, 8:00 am – 9:45 am , St-Laurent 4 (Congres Level)

WELDING RESIDUAL STRESS AND DISTORTION SIMULATION AND MEASUREMENT-1

Developed by: Frederick (Bud) Brust, Engineering Mechanics Corporation of Columbus, Columbus, OH, USA; David Rudland, US Nuclear Regulatory Commission, Frederick, MD, USA; Vincent Robin, EDF R&D, Département PRISME, Lyon, France; Harry Coules, Amentum, Bristol, United Kingdom; Graeme Horne, Frazer-Nash Consultancy, Bristol, United Kingdom; Ben Pellereau, Rolls-Royce, Derby, United Kingdom
Chair: Frederick W (Bud) Brust, Engineering Mechanics Corporation of Columbus, Columbus, OH, USA
Co-Chair: Vincent Robin, EDF, Lyon, France

PVP2025-153266: AN EXPERIMENTAL AND NUMERICAL MODELLING FOR A SAW MOCK-UP

Sebastien Gallee, Pierre-Olivier Barrioz, Florence Gommez, Alexandre Brosse, Framatome, Lyon, France

PVP2025-155479: CHARACTERIZING RESIDUAL STRESS RELAXATION OF 347AP WELDMENTS USING NEUTRON DIFFRACTION AND THERMOMECHANICAL TESTING

C Andrew Kocak, Yanfei Gao, University of Tennessee, Knoxville, TN, USA; Zhili Feng, Jeffrey R. Bunn, E Andrew Payzant, Oak Ridge National Laboratory, Oak Ridge, TN, USA; Jorge Penso, Shell Projects and Technology, Houston, TX, USA

PVP2025-155529: NET-TG6 NICKEL-BASED ALLOY SIMULATION: CALIBRATION AND EXPERIMENTAL VALIDATION (Presentation Only)

Pablo Pereira Alvarez, EDF, Rueil Malmaison, France; Josselin Delmas, Sofiane Hendili, EDF, Chatou, France

PVP2025-155748: FULL SCALE THREE-DIMENSIONAL MOVING ARC WELD ANALYSES OF STEAM GENERATOR VESSEL WITH EFFECT OF POST WELD HEAT TREATMENT

Lance Hill, Frederick (Bud) Brust, Engineering Mechanics Corporation of Columbus, Columbus, OH, USA; Jason Burr, Westinghouse Electric Company, Cranberry Township, PA, USA; Javier Grande Marlasca, Westinghouse Electric Company, Madrid, Spain

SESSION 3.1C (MF-05-01)

Wednesday, July 23, 8:00 am – 9:45 am , St-Laurent 5 (Congres Level)

FITNESS-FOR-SERVICE AND FAILURE ASSESSMENT-1

Symposium on Fitness-for-Service—Co-Sponsored by the Codes & Standards, Design & Analysis, High-Pressure Technology, and Materials & Fabrication Technical Committees

Developed by: Marvin Cohn, Intertek, Santa Clara, CA, USA; Carl Jaske, HSI Group, Inc., Columbus, OH, USA; Bruce Wiersma, Savannah River National Laboratory, Aiken, SC, USA; Harry Coules, Amentum, Bristol, United Kingdom; Graeme Horne, Frazer-Nash Consultancy, Bristol, United Kingdom; Arindam Chakraborty, Virtual Integrated Analytics Solutions (VIAS), San Jose, CA, USA; Qin Ma, Walla Walla University, College Place, WA, USA; Edward Horton, University of Bristol, Bristol, United Kingdom
Chair: Marvin Cohn, Intertek, Santa Clara, CA, USA
Co-Chair: Qin Ma, Walla Walla University, College Place, WA, USA

PVP2025-155858: WROUGHT TEE INTERSECTIONS OPERATING IN THE CREEP RANGE, PART I: SERVICE EXPERIENCE AND ROOT CAUSES

John A. Siefert, Tom Sambor, EPRI, Charlotte, NC, USA; Ian J. Perrin, Triaxis Power Consulting, LLC, Iron Station, NC, USA

PVP2025-155829: WROUGHT TEE INTERSECTIONS OPERATING IN THE CREEP RANGE, PART II: ACTIONS TO PROCURE SERVICEABLE TEES

Ian J. Perrin, Triaxis Power Consulting, LLC, Iron Station, NC, USA; John A. Siefert, Thomas Sambor, Patricia Becker, EPRI, Charlotte, NC, USA

PVP2025-152706: PREDICTING CRITICAL LOADS IN U-NOTCHED 3D-PRINTED ASA AND CARBON FIBER REINFORCED ASA SPECIMENS USING FAILURE ASSESSMENT DIAGRAMS

Sergio Cicero, Sergio Arrieta, Borja Arroyo, University of Cantabria, Santander, Spain; Fabrizia Devito, Polytechnic University of Bari, Bari, Italy

PVP2025-152787: STRUCTURAL INTEGRITY ASSESSMENT OF A PRESSURE VESSEL CONSTRUCTED WITH ASME SA-212 GR. B

Kang Xu, Edward Richey, Linde Inc., Tonawanda, NY, USA; Mahendra Rana, Consultant, Niantic, CT, USA

SESSION 3.1D (DA-15-03)

Wednesday, July 23, 8:00 am – 9:45 am , St-Laurent 6 (Congres Level)

OPERATIONS, RELIABILITY, AND LIFE CYCLE OF COKE DRUMS - PART 2

Symposium on Coke Drum Life Cycle Management—Sponsored by the Design & Analysis Technical Committee

Developed by: Antonio Seijas, Phillips 66 Company, Houston, TX, USA; Clay Rodery, C&S Technology, LLC, League City, TX, USA; Kannan Subramanian, Structural Integrity Associates, Inc., Metairie, LA, USA; Ciska de Haan - de Wilde, NRG, Petten, Netherlands; Georges Bezdikian, Consultant, Le Vésinet, France; Keiko Chitose, OECD NEA, Paris, France

Chair: Antonio Seijas, Phillips 66 Company, Houston, TX, USA
Co-Chair: Julian Bedoya, ExxonMobil Technology & Engineering Company, Houston, TX, USA

PVP2025-155034: STUDY OF HIGH TEMPERATURE STRAIN GAGES AS THEY APPLY TO ASSET LIFE MANAGEMENT PROGRAMS - PART 2 (Presentation Only)
Kannan Subramanian, Structural Integrity Associates, Inc., Kenner, LA, USA; Andrew Crompton, Structural Integrity Associates, Inc., Centennial, CO, USA; Roland Horvath, Horvath Research LLC, Centennial, CO, USA

PVP2025-152245: COKE DRUM SKIRT INSULATION THICKNESS - AN INVESTIGATION ON CYCLE LIFE
Trevor Seipp, Becht, Okotoks, AB, Canada

PVP2025-153320: TESTING OF SHOT PEENING FOR COKE DRUM APPLICATION
Haixia Guo, Simon Yuen, Enzo Falo, Sunil Nayar, Mark Odegard Suncor Energy Inc, Calgary, AB, Canada; Frank Vacha, Applied Integrity & Reliability Inc, Calgary, AB, Canada

PVP2025-155665: AN ANALYTICAL MODEL TO ASSESS DEFORMATIONS (Presentation Only)
Kannan Subramanian, Structural Integrity Associates, Inc., Kenner, LA, USA; Harishchandra Cherukuri, University of North Carolina at Charlotte, Charlotte, NC, USA

SESSION 3.1E (CT-19-01)

Wednesday, July 23, 8:00 am – 9:45 am , St-Laurent 7 (Congres Level)

AI, DATA ENGINEERING AND DATA ANALYSIS-1

Symposium on Engineering Intelligence: AI, Machine Learning, Data, Modeling and Computation—Co-Sponsored by the Codes & Standards, Computer Technology & Bolted Joints, and Seismic Engineering Technical Committees, with participation by the Nondestructive Examination, Prognosis, and Diagnosis Division

Developed by: Lindsey Elliott, Nexterity, Inc., Nutley, NJ, USA; Maria Ortiz De Zúñiga López-Chicheri, Fusion for Energy, Barcelona, Spain; Cyril Babál, OMV, Vienna, Austria
Chair: Carlos Girão, Teadit, Itatiba, Brazil
Co-Chair: Young Ho Park, New Mexico State University, Las Cruces, NM, USA

PVP2025-151613: DATA-DRIVEN MULTISCALE MODELLING OF HISTORY-DEPENDENT PLASTICITY USING RECURRENT NEURAL OPERATORS
Sina Safari, Paul Wilcox, University of Bristol, Bristol, United Kingdom; Mahmoud Mostafavi, Monash University, Melbourne, Australia; David Knowles, Henry Royce Institute/University of Manchester, Manchester, United Kingdom

PVP2025-151723: MACHINE LEARNING TO PREDICT MECHANICAL PROPERTIES OF A MATERIAL, THE CUCRZR CASE STUDY (Presentation Only)
Maria Ortiz De Zuniga López-Chicheri, Samuli Heikkinen, Jose Miguel Pacheco, Margherita Sardo, Fusion for Energy, Barcelona, Spain; Ana María Camacho, Álvaro Rodríguez-Prieto, National University of Distance Education (UNED), Madrid, Spain

PVP2025-154467: A CASE FOR APPLICATIONS OF MACHINE-VISION-AIDED INDUSTRIAL ROBOTICS IN PIPELINE BOLTING
Lindsey Elliott, Nexterity, Inc., Nutley, NJ, USA

PVP2025-154514: A NOVEL METHOD FOR IDENTIFICATION OF PIPELINE STRESS CONCENTRATION SEGMENT BASED ON ACSM AND IMU IN-LINE INSPECTION DATA
Mengkai Fu, Jiaying Yu, Lei Guo, Kuan Fu, Pengchao Chen, Xiaoben Liu, China University of Petroleum, Changping District, China

SESSION 3.1F (CS-08-02)

Wednesday, July 23, 8:00 am – 9:45 am , St-Laurent 8 (Congres Level)

THE WARREN H. BAMFORD MEMORIAL SYMPOSIUM ON RECENT DEVELOPMENTS IN ASME CODES AND STANDARDS: ASME CODE SECTION XI ACTIVITIES-2

Symposium on Recent Developments in Codes & Standards—Sponsored by the Codes & Standards Technical Committee

Developed by: Russell Cipolla, Intertek AIM, Santa Clara, CA, USA; Daniel Miro-Quesada, ASME, New York, NY, USA; Doug Scarth, Kinectrics, Inc., Toronto, ON, Canada; Seiji Asada, Mitsubishi Heavy Industries, Ltd., Kobe, Japan; Naoki Miura, Central Research Institute of Electricity Power Industry (CRIEPI), Yokosuka, Japan
Chair: Daniel Miro-Quesada, ASME, New York, NY, USA
Co-Chair: Doug Scarth, Kinectrics, Inc., Toronto, ON, Canada

PVP2025-153753: FUNDAMENTAL CONSIDERATION OF ALLOWABLE FLAW LENGTHS GIVEN BY THE ASME CODE SECTION XI USING FLAT PLATES UNDER TENSILE LOADING
Martin Negyesi, VŠB-Technical University of Ostrava, Ostrava, Czech Republic; Kunio Hasegawa, Japan Atomic Energy Agency, Tokai-Mura, Japan

PVP2025-152337: TECHNICAL BASIS FOR JSME CODE CASE ON STRESS CORROSION CRACK GROWTH RATES OF STAINLESS STEELS IN PWR ENVIRONMENTS
Toshihiko Sato, Yoshihiro Kikuchi, Taisuke Hirochi, Yusuke Ozaki, Mitsubishi Heavy Industries, Ltd., Kobe, Japan; Toru Oumaya, The Kansai Electric Power Co., Inc., Mihama-Cho, Mikata-Gun, Japan; Takumi Terachi, Institute of Nuclear Safety System, Mihama-Cho, Mikata-Gun, Japan; Koji Fujimoto, Yuichiro Nomura, Mitsubishi Heavy Industries, Ltd., Takasago-City, Japan;

PVP2025-155330: CRACK GROWTH EVALUATION OF NOZZLE CORNER CRACKS USING THE JSME CODE CASE AND EXISTING SOLUTIONS
Fuminori Iwamatsu, Hitachi, Ltd., Hitachi, Japan; Teppei Kubota, Hitachi-GE Nuclear Energy, Ltd., Hitachi, Japan

SESSION 3.1G (MF-17-01)

Wednesday, July 23, 8:00 am – 9:45 am , Montreal 3 (Congres Level)

CHALLENGES IN STANDARDIZNG ADDITIVE MANUFACTURING FOR NUCLEAR SERVICE (JOINT WITH D&A)-1

Developed by: Paul Korinko, Andrew Duncan, Savannah River National Laboratory, Aiken, SC, USA; Adam Cooper, Amentum, Warrington, United Kingdom; Sylvain Pillot, Le Creusot, Bourgogne-Franche-Comté, France; Catrin Mair Davies, Imperial College London, London, United Kingdom; Arindam Chakraborty, Virtual Integrated Analytics Solutions (VIAS), San Jose, CA, USA; M. Kevin Mandeville, Jr., DNV, Katy, TX, USA; Michael McMurtrey, Idaho National Laboratory, Idaho Falls, ID, USA; Steven Lawler, Frazer-Nash Consultancy, Burton-on-Trent, United Kingdom; Qin Ma, Walla Walla University, College Place, WA, USA
Chair: Michael McMurtrey, Idaho National Laboratory, Idaho Falls, ID, USA
Co-Chair: Paul Korinko, Savannah River National Laboratory, Aiken, SC, USA

PVP2025-153158: CHALLENGES IN STANDARDIZING ADDITIVE MANUFACTURING FOR NUCLEAR COMPONENTS AND ASSOCIATED MATERIAL TESTING I) OVERVIEW OF THE PROJECT AND ITS FUTURE OUTLOOK
Makoto Nakajima, Toshihiro Kojima, Mitsubishi Heavy Industries, Ltd., Kobe, Japan; Tomonori Abe, Toshiba Energy Systems & Solutions Corporation, Yokohama, Japan; Hisashi Matsuoka, IHI Corporation, Yokohama, Japan; Shinobu Okido, Hitachi-GE Nuclear Energy, Ltd., Hitachi, Japan

PVP2025-153454: CHALLENGES IN STANDARDIZING ADDITIVE MANUFACTURING FOR NUCLEAR COMPONENTS AND ASSOCIATED MATERIAL TESTING II) A STATISTICAL APPROACH TO MATERIAL SPECIFICATION VALUES AND PROCEDURES QUALIFICATION METHODS FOR ADDITIVE MANUFACTURED 316 L STAINLESS STEEL
Tomonori Abe, Toshiba Energy Systems & Solutions Corporation, Kawasaki-Shi, Japan; Atsushi Mori, Yoshinori Katayama, Toshiba Energy Systems & Solutions Corporation, Yokohama, Japan; Makoto Nakajima, Mitsubishi Heavy Industries, Ltd., Kobe, Japan; Shinobu Okido, Hitachi-GE Nuclear Energy, Ltd., Hitachi-Shi, Japan; Hisashi Matsuoka, IHI Corporation, Yokohama, Japan

PVP2025-151591: CHALLENGES IN STANDARDIZING ADDITIVE MANUFACTURING FOR NUCLEAR COMPONENTS AND ASSOCIATED MATERIAL TESTING III) FATIGUE TEST OF TYPE316L STAINLESS STEEL FOR STANDARDIZATION OF AM MATERIALS IN THE NUCLEAR FIELD – 1ST PROGRESS –
Hisashi Matsuoka, Masashi Mori, Hirofumi Yamadori, IHI Corporation, Yokohama, Japan; Makoto Nakajima, Mitsubishi Heavy Industries, Ltd., Kobe,

Japan; Tomonori Abe, Toshiba Energy Systems & Solutions Corporation, Yokohama, Japan; Shinobu Okido, Hitachi-GE Nuclear Energy, Ltd., Hitachi, Japan

PVP2025-153509: CHALLENGES IN STANDARDIZING ADDITIVE MANUFACTURING FOR NUCLEAR COMPONENTS AND ASSOCIATED MATERIAL TESTING IV) EVALUATION OF MATERIAL PROPERTIES FOR ADDITIVELY MANUFACTURED TYPE 316L STAINLESS STEEL

Hirotsugu Kawanaka, Masanori Miyagi, Shinichi Ishioka, Shinobu Okido, Tomonori Kimura, Hitachi-GE Nuclear Energy, Ltd., Hitachi-Shi, Japan; Makoto Nakajima, Mitsubishi Heavy Industries, Ltd., Kobe-Shi, Japan; Tomonori Abe, Toshiba Energy Systems & Solutions Corporation, Yokohama-Shi, Japan; Hisashi Matsuoka, IHI Corporation, Yokohama-Shi, Japan

SESSION 3.1H (MF-02-07)

Wednesday, July 23, 8:00 am – 9:45 am , Montreal 6 (Congres Level)

MATERIALS FOR HYDROGEN SERVICE (JOINT WITH C&S)-7

Symposium on Materials for Hydrogen Service—Co-Sponsored by the Codes & Standards, Computer Technology & Bolted Joints, Design & Analysis, Fluid-Structure Interaction, and Materials & Fabrication Technical Committees

Developed by: Joe Ronevich, Chris San Marchi, Sandia National Laboratories, Livermore, CA, USA; Laurent Briottet, French Alternative Energies & Atomic Energy Commission, Grenoble, France; Steven Xu, Kinectrics, Inc., Toronto, ON, Canada; Sylvain Pillot, Le Creusot, Bourgogne-Franche-Comté, France; M. Kevin Mandeville Jr., DNV, Katy, TX, USA; Tim Krentz, Savannah River National Laboratory, Aiken, SC, USA; Zakaria Hsain, US Department of Energy, Washington, DC, USA; Farid Afshar, Element Materials Tech, The Hague, Netherlands

Chair: Paolo Bortot, Tenaris, Dalmine, Italy

Co-Chair: Jae-Young Park, Korea Research Institute of Standards and Science, Daejeon, Republic of Korea

PVP2025-155107: INHIBITORY EFFECT OF OXYGEN AND CARBON MONOXIDE IMPURITIES ON HYDROGEN ASSISTED FATIGUE CRACK GROWTH IN API X65 LINEPIPE STEELS

Hyun Jo Jun, Neeraj Thirumalai, ExxonMobil Technology & Engineering Company, Annandale, NJ, USA; Ramgopal Thodla, DNV, Dublin, OH, USA

PVP2025-152871: INFLUENCE OF GASEOUS HYDROGEN ON THE FATIGUE LIFE IN OFFSHORE PIPELINES: SMALL SCALE FATIGUE TESTING IN SAIPEM GIRTH WELDS

Daniele Scarsciafratte, Enrico Torselletti, Elvira Aloigi, Angelo Santicchia, Giorgio Arcangeletti, Saipem SpA, Fano, Italy; Xu Liu, Xing Sun, TWI Ltd., Cambridge, United Kingdom

PVP2025-154696: UPDATE ON DOT/PHMSA-SPONSORED PROJECT DETERMINING STEEL WELD QUALIFICATION AND PERFORMANCE FOR HYDROGEN PIPELINES (Presentation Only)

Matthew Connolly, Zachary Buck, Newell Moser, Nicholas Derimow, Damian Lauria, Enrico Lucon, May Martin, Peter Bradley, Andrew Slifka, National Institute of Standards and Technology, Boulder, CO, USA

PVP2025-155405: COMPARATIVE MULTI-LAB FRACTURE TOUGHNESS TESTING OF THIN-WALLED STEEL GAS DISTRIBUTION PIPE MATERIALS IN LOW PRESSURE HYDROGEN CONDITIONS (Presentation Only)

Tahrim Alam, Enbridge Gas Inc., Ottawa, ON, Canada; Mark Cuglietta, Lu Sun, C-FER Technologies, Edmonton, AB, Canada; Aminul Islam, Kay Ton, National Research Council of Canada, Vancouver, BC, Canada

SESSION 3.1I (MF-34-01)

Wednesday, July 23, 8:00 am – 9:45 am , Montreal 7 (Congres Level)

POLYMERS FOR HYDROGEN SERVICE-1

Symposium on Materials for Hydrogen Service—Co-Sponsored by the Codes & Standards, Computer Technology & Bolted Joints, Design & Analysis, Fluid-Structure Interaction, and Materials & Fabrication Technical Committees

Developed by: Nalini Menon, Chris San Marchi, Sandia National Laboratories, Livermore, CA, USA; Wenbin Kuang, Kevin Simmons, Pacific Northwest National Laboratory, Richland, WA, USA; Zakaria Hsain, US Department of Energy, Washington, DC, USA

Chair: Nalini Menon, Sandia National Laboratories, Livermore, CA, USA

Co-Chair: Kevin Simmons, Pacific Northwest National Laboratory, Richland, WA, USA

PVP2025-154409: INFLUENCE OF METAL SUPPORTS ON THE MEASUREMENT OF HYDROGEN PERMEATION PROPERTIES OF HDPE

Guanhua Wang, Jianfeng Shi, Jinyang Zheng, Zhejiang University, Hangzhou, China

PVP2025-154670: EFFECT OF HYDROGEN ON THE RELIABILITY OF POLYETHYLENE PIPE MATERIALS

Yelin Ni, Arun Veeramany, Seunghyun Ko, Yao Qiao, Ethan Nickerson, Soodabeh (Sophie) Sharafi, Kevin Simmons, Pacific Northwest National Laboratory , Richland, WA, USA

PVP2025-152633: INFLUENCE OF THE HIGH-PRESSURE HYDROGEN EXPOSURE ON PLASTIC MATERIALS FOR HYDROGEN TRANSPORT PIPING (Presentation Only)

Nak-Kwan Chung, Dojung Kim, Sangkoo Jeon, Korea Research Institute of Standards and Science, Daejeon, Republic of Korea; Byoung-Ho Choi, Korea University, Seoul, Republic of Korea

PVP2025-154818: METHODS FOR MEASURING H2 UPTAKE AND DIFFUSIVITY IN POLYMERS ENRICHED BY HYDROGEN UNDER HIGH PRESSURE (Presentation Only)

Jae Kap Jung, Ji Hun Lee, Korea Research Institute of Standards and Science, Daejeon, Republic of Korea

SESSION 3.1J (CT-04-03)

Wednesday, July 23, 8:00 am – 9:45 am , Montreal 8 (Congres Level)

ASSEMBLY OF BOLTED JOINTS-3

Symposium on Bolted Joints—Co-Sponsored by the Computer Technology & Bolted Joints and Design & Analysis Technical Committees

Developed by: Anita Bausman, VSP Technologies, Kingsport, TN, USA; Jerry Waterland, Consultant, Prince George, VA, USA; Linbo Zhu, Xi'an Jiaotong University, Xi'an, China; Jeff Wilson, VSP Technologies, Prince George, VA, USA; Mark Johnson, Integra Technologies, Overland Park, KS, USA; Young Ho Park, New Mexico State University, Las Cruces, NM, USA; Yasumasa Shoji, YS Corporation LLC, Mushashino, Japan; Bhaskar Shitolé, Wood, Calgary, AB, Canada; Don Metzger, AtkinsRéalis, Mississauga, ON, Canada

Chair: Manfred Schaaf, AMTEC, Lauffen, Germany

Co-Chair: Leonardo De La Roca, Teadit, Itatiba, Brazil

PVP2025-154428: ENHANCED OPTIMIZATION OF BOLTED RING JOINT ASSEMBLY USING FEA TO PROVIDE REAL-TIME MOBILE APPLICATION INTEGRATION

Jordan Richardson, Titeinsite, Walpole, NH, USA

PVP2025-155463: DISASSEMBLY OF FLANGES AND ELASTIC INTERACTION (Presentation Only)

Mark Johnson, Integra Technologies, Overland Park, KS, USA

PVP2025-155853: DETERMINATION OF COMPRESSIVE STRESS TO ENSURE PLASTIC DEFORMATION OF OCTAGONAL RINGS OF DIFFERENT METALLURGY

David Clover, LGG Industrial, Valleyford, WA, USA; Narvis Correa, Xuan Nguyen, Leader Gasket, La Porte, TX, USA

PVP2025-152025: CASE STUDY ON ASSESSMENT OF FITTINGS AS PER ASME B31.3

Rahul Kapadia, Daniel Kaarls, Naveen Kumar Krishnan, ASML, Veldhoven, Netherlands

SESSION 3.1K (OAC-07-01)

Wednesday, July 23, 8:00 am – 9:45 am , Outremont 1 (Congres Level)

PLANT LIFE EXTENSION: AGING & LIFE MANAGEMENT-1

Developed by: Ciska de Haan - de Wilde, NRG, Petten, Netherlands; Georges Bezdikian, Consultant, Le Vésinet, France; Keiko Chitose, OECD NEA, Paris, France

Chair: Ciska de Haan - de Wilde, NRG, Petten, Netherlands

Co-Chair: Keiko Chitose, OECD NEA, Paris, France

PVP2025-153231: UPDATE METHOD FOR MODELLING CONCRETE CRACKING DUE TO REINFORCEMENT BAR CORROSION

Wesley Jarvis, Kelvin Browning, Ciska De Haan - De Wilde, NRG, Petten, Netherlands

PVP2025-151662: REVIEW OF OPERATING EXPERIENCE INVOLVING MATERIAL DEGRADATION IN PERIODS OF EXTENDED AND LONG-TERM OPERATION

Keiko Chitose, OECD NEA, Paris, France; Bengt Lydell, Sigma-Phase Inc.., Vero Beach, FL, USA; Eric Focht, US Nuclear Regulatory Commission, Washington Dc, USA

PVP2025-151777: MODELLING OF LOCAL HYDROGEN ISOTOPE CONCENTRATION AT ROLLED JOINTS OF CANDU REACTOR FUEL CHANNELS AND EVALUATION OF POTENTIAL INTERACTION WITH AN ADJACENT FLAW

Sreehari Ramachandra Prabhu, Douglas Scarth, Kinectrics, Inc., Toronto, ON, Canada; Dennis Kawa, Kedward Kawa and Associates, Winnipeg, ON, Canada; Monique Ip, Bruce Power, Toronto, ON, Canada; Shawn Lowe, Ontario Power Generation, Pickering, ON, Canada

PVP2025-153692: A METHODOLOGY FOR THE MANAGEMENT OF STRESS CORROSION CRACKING IN AGEING PRESSURISED WATER REACTOR PLANTS

Matthew Hoyle, James Wilson, Timothy Watkins, Rolls-Royce, Derby, United Kingdom

SESSION 3.1L (OAC-06-02)

Wednesday, July 23, 8:00 am – 9:45 am , Outremont 4 (Congres Level)

OPERATION AND MAINTENANCE OF PRESSURE VESSELS, HEAT EXCHANGERS, PIPING AND SUPPORTS-2

Developed by: Kaida Takuyo, Junya Takahashi, Sumitomo Chemical, Niihama City, Japan; Ayman Cheta, Shell Global Solutions US, Inc., Houston, TX, USA; Yasumasa Shoji, YS Consulting LLC, Mushashino, Japan; Ahmed Alian, Next Structural Integrity Inc., Burlington, ON, Canada; Mike Weber, Steffan Komann, Bundesanstalt für Materialforschung und -prüfung (BAM), Berlin, Germany; Zenghu Han, Argonne National Laboratory, Lemont, IL, USA; Nicholas Klymyshyn, Pacific Northwest National Laboratory, Richland, WA, USA; Oscar Martinez, Oak Ridge National Laboratory, Oak Ridge, TN, USA; Steve Hensel, David Tamburello, Savannah River National Laboratory, Aiken, SC, USA; Mustafa Hadj-Nacer, University of Nevada-Reno, Reno, NV, USA

Chair: Junya Takahashi, Sumitomo Chemical, Niihama City, Japan

Co-Chair: Ayman Cheta, Shell Global Solutions US, Inc., Houston, TX, USA

PVP2025-154870: DESCRIPTION AND CASE STUDY OF A DATA DRIVEN, RISK BASED APPROACH TO MANAGE SMALL BORE CONNECTION VIBRATION FATIGUE FAILURES ON PROCESS PLANT

Paul Crowther, Wood PLC, Calgary, AB, Canada; Don Mrla, Chevron, El Segundo, CA, USA

PVP2025-155666: STATE-OF-THE-ART ASSESSMENT OF COMPOSITE REPAIR TECHNOLOGIES

Chris Alexander, Acuren Inspection, Magnolia, TX, USA

PVP2025-157913: RETURN-TO-SERVICE EVALUATIONS FOR A SCOTCH MARINE BOILER FURNACE WITH NON-COMPLIANT CORRUGATION GEOMETRY

David Gross, Dominion Engineering, Inc., Reston, VA, USA

PVP2025-154375: APPLICATION STUDY OF TIME-TEMPERATURE CORRELATION METHODS ON TEST DATA OF METAL SEALS

Sven Nagelschmidt, Bundesanstalt für Materialforschung und -prüfung (BAM), Berlin, Germany

SESSION 3.1M (CT-11-01)

Wednesday, July 23, 8:00 am – 9:45 am , Outremont 6 (Congres Level)

COMPUTATIONAL FEA FOR LIMIT LOAD AND ELASTIC-PLASTIC ANALYSIS AND CREEP

Developed by: Wolf Reinhardt, AtkinsRéalis, Mississauga, ON, Canada; Reza Adibi-Asl, NErgx, Toronto, ON, Canada

Chair: Yihai Shi, AtkinsRéalis, Mississauga, ON, Canada

Co-Chair: Anita Bausman, VSP Technologies, Kingsport, TN, USA

PVP2025-151435: INNOVATIVE 3D FE MODELING OF MECHANICAL ROLLING IN TUBE-TO-TUBESHEET JOINTS: A COMPARATIVE ANALYSIS WITH HYDRAULIC EXPANSION

Mohammad Pourreza, Hakim Bouzid, École de Technologie Supérieure, Montreal, QC, Canada; Khaled Benfriha, Arts et Metiers Institute of Technology, HESAM University, Paris, France

PVP2025-153731: NUMERICAL AND EXPERIMENTAL CONSIDERATIONS OF THE CREEP OF THERMOPLASTIC FLANGE SYSTEMS FOR THE DEVELOPMENT OF AN ANALYTICAL CALCULATION METHOD

Finn Bartmann, Alexander Riedl, University of Applied Sciences Münster, Steinfurt, Germany; Elmar Moritzer, University Paderborn, Paderborn, Germany

PVP2025-154042: PIECEWISE POLYNOMIAL STRESS DISTRIBUTION FOR DHC CRACK INITIATION EVALUATION IN CANDU PRESSURE TUBES

Wanhua (Carol) Liang, Wolf Reinhardt, AtkinsRéalis, Mississauga, ON, Canada

PVP2025-154051: ASSESSMENT OF VESSEL MINIMUM WALL THICKNESS REQUIREMENTS FOR ELLIPSOIDAL AND TORISPHERICAL HEADS IN SECTION III NB AND NCD USING LIMIT ANALYSIS

Wolf Reinhardt, SNC Lavalin Nuclear/Candu Energy Inc., Mississauga, ON, Canada

SESSION 3.1N (SE-06-01)

Wednesday, July 23, 8:00 am – 9:45 am , Outremont 7 (Congres Level)

SEISMIC ANALYSIS AND DESIGN OF PIPING SYSTEMS-1

Developed by: Izumi Nakamura, Tokyo City University, Setagata, Japan; Kisaburo Azuma, Nuclear Regulation Authority, Minato-ku, Japan

Chair: Izumi Nakamura, Tokyo City University, Setagata, Japan

Co-Chair: Kisaburo Azuma, Nuclear Regulation Authority, Minato-ku, Japan

PVP2025-151224: VIBRATION TESTS FOR FAILURE MODE ANALYSIS OF PIPING SYSTEMS TOWARD NATECH RISK ASSESSMENT

Kiyotaka Takito, Yukihiko Okuda, Japan Atomic Energy Agency, Tokai-Mura Vil., Japan; Osamu Furuya, Tokyo Denki University, Hiki-Gun County, Japan; Izumi Nakamura, Tokyo City University, Setagaya, Tokyo, Japan

PVP2025-151306: FATIGUE TEST RESULT OF THE PIPE SUPPORT WELDS ASSOCIATED WITH ELASTIC-PLASTIC ANALYSIS OF PIPING SYSTEMS FOR THE DEVELOPMENT OF FATIGUE EVALUATION METHODS

Shohei Matsumoto, Kenji Funasaki, Masao Itatani, Toshiba Energy Systems & Solutions Corporation, Yokohama, Japan; Satoshi Iida, The Chugoku Electric Power Co., Hiroshima, Japan

PVP2025-151455: ROCHE METHOD: A POST-TREATMENT OF A CONVENTIONAL ANALYSIS TO REPRESENT ELASTOPLASTIC BEHAVIOUR OF PIPING SYSTEMS UNDER HIGH SEISMIC LOAD

Sylvie Audebert, Adrien Guilloux, Truong Son Pham, EDF, Palaiseau, France; Adrien Willot, Jeanne Tondut, EDF, Lyon, France

PVP2025-152176: STUDY ON ELASTIC-PLASTIC DESIGN METHOD FOR PIPING SUPPORTS WITH OUTER DIAGONAL BRACE CONSIDERING VARIATION OF MATERIAL PROPERTIES

Daisaku Hirayama, Nobuyoshi Iriki, Mitsubishi Heavy Industries, Ltd., Kobe, Japan; Satoshi Iida, The Chugoku Electric Power Co., Hiroshima, Japan; Masaki Tsuruki, Hitachi, Ltd., Hitachi, Japan; Yutaka Yokomine, Toshiba Energy Systems & Solutions Corporation, Yokohama, Japan

SESSION 3.1O (FSI-02-07)

Wednesday, July 23, 8:00 am – 9:45 am , Westmount 2 (Congres Level)

FSI APPLICATIONS I

Symposium on Flow Induced Vibration—Sponsored by the Fluid-Structure Interaction Technical Committee

Developed by: Marwan Hassan, University of Guelph, Guelph, ON, USA; Atef Mohany, Ontario Tech University, Oshawa, ON, Canada; Salim El Bouzidi, Canadian Nuclear Laboratories, Chalk River, ON, Canada

Chair: Kevin Zwijsen, Nuclear Research and Consultancy Group, Petten, Netherlands

Co-Chair: Itsuro Hayashi, Chiyoda Corporation, Yokohama, Japan

PVP2025-154994: PARSIMONIOUS UNCERTAINTY QUANTIFICATION FOR MODELING AND SIMULATION OF FLOW-INDUCED VIBRATIONS
Gregory Banyay, Pennsylvania State University, Spring Mills, PA, USA; Ashkan Eslaminejad, Structural Integrity Associates, Inc., Englewood, CO, USA
PVP2025-154800: DYNAMICS AND STABILITY OF A PIPE CONVEYING FLUID IMMERSED IN A QUIESCENT VISCOUS FLUID
Mojtaba Kheiri, Mahdi Riazat, Concordia University, Montreal, QC, Canada
PVP2025-153836: METHODS FOR SEPARATING CLOSE NATURAL FREQUENCIES
Hugh Goyder, Cranfield University, Shrivenham, United Kingdom
PVP2025-154867: IMPACT OF SIMULATED TUBE LENGTH IN FSI PREDICTIONS OF THE GOKSTAD EXPERIMENT
Trevor C. Franklin, Lane B. Carasik, Virginia Commonwealth University, Richmond, VA, USA

SESSION 3.1P (DA-22-01)

Wednesday, July 23, 8:00 am – 9:45 am , Westmount 5 (Congres Level)
DESIGN AND ANALYSIS OF ABOVE GROUND LIQUID STORAGE TANKS
Developed by: Mingxin Zhao, Enterprise Products, Houston, TX, USA
Chair: Mingxin Zhao, Enterprise Products, Houston, TX, USA
Co-Chair: Gys van Zyl, Integrity Engineering Solutions, Dunsborough, Australia
PVP2025-151681: ELASTIC ANALYSIS ON ABOVE GROUND LIQUID STORAGE TANK WITH VARIABLE LIQUID FILL LEVELS
Mingxin Zhao, Enterprise Products, Houston, TX, USA
PVP2025-154383: CHALLENGES INVOLVED IN DESIGN, CONSTRUCTION AND INSPECTION OF FULL CONTAINMENT REFRIGERATED LPG STORAGE TANKS
Amin Al Fayez, Saudi Aramco, Dammam, Saudi Arabia; Samuel N. Morris, Hani A. Alsubaikhy, Abbas H. Al-Mutawa, Saudi Aramco, Dhahran, Saudi Arabia
PVP2025-154603: LOAD FACTORS FOR USE IN WIND BUCKLING ANALYSIS OF API650 TANKS
Gys van Zyl, Integrity Engineering Solutions, Dunsborough, Australia
PVP2025-154672: STRESS ANALYSIS AND FITNESS-FOR-SERVICE ASSESSMENT OF A FULL CONTAINMENT STEEL-STEEL LNG TANK FOR MAJOR LEAK SCENARIOS AND LABORATORY TESTING OF 9% NI STEEL PLATES
Madhav Parikh, Onder Akinci, Guzhao Li, Paul Summers, Simpson Gumpertz & Heger Inc., Houston, TX, USA; Steven D. Palkovic, Kareem Eltouny, Alan Humphreys, Nicholas Catella, Simpson Gumpertz & Heger Inc., Waltham, MA, USA

SESSION 3.1R (TW-02-06)

Wednesday, July 23, 8:00 am – 9:45 am , Montreal 1-2 (Congres Level)
PROBABILISTIC FRACTURE MECHANICS – THEN, NOW AND TOMORROW-PART 1
Developed by: David Rudland, US Nuclear Regulatory Commission, Frederick, MD, USA; Nathan Glunt, EPRI, Charlotte, NC, USA; Do Jun Shim, EPRI, Palo Alto, CA, USA
Chair: David Rudland, US Nuclear Regulatory Commission, Frederick, MD, USA
Co-Chair: Andrew Duncan, Savannah River National Laboratory, Aiken, SC, USA
Presented by: David Rudland, US Nuclear Regulatory Commission, Frederick, MD, USA; Nathan Glunt, EPRI, Charlotte, NC, USA; Do Jun Shim, EPRI, Palo Alto, CA, USA

Block 3.2: Wednesday, July 23, 2025 (10:15 am – 12:00 pm)

SESSION 3.2A (CS-17-03)

Wednesday, July 23, 10:15 am – 12:00 pm, St-Laurent 3 (Congres Level)
ENVIRONMENTAL FATIGUE ISSUES (JOINT WITH M&F)-3: INCEFA SCALE & INTERNATIONAL STUDIES
Symposium on Fatigue and Creep Issues—Co-Sponsored by the Codes & Standards, Design & Analysis, and Materials & Fabrication Technical Committees
Developed by: Seiji Asada, Mitsubishi Heavy Industries Ltd., Kobe, Japan; Thomas Damiani, EPRI, Palo Alto, CA, USA; Shunji Kataoka, JGC Corporation, Yokohama, Japan; M. Kevin Mandeville Jr., DNV, Katy, TX, USA; Andrew Owens, TerraPower, Round Rock, TX, USA; Premkumar Chinnaraj, Wood PLC, Houston, TX, USA; Mingxin Zhao, Enterprise Products, Houston, TX, USA
Chair: Seiji Asada, Mitsubishi Heavy Industries Ltd., Kobe, Japan
Co-Chair: Thomas Damiani, EPRI, Palo Alto, CA, USA
PVP2025-155700: INCEFA-SCALE PROJECT AND INTERNATIONAL FATIGUE DATABASE: RELIABLE AND ROBUST FATIGUE LIFE PREDICTIVE MODELS
Petra Gee, Roman Cicero, Innomerics, Pozuelo De Alarcon, Spain; Alec Mclennan, Jack Beswick, Amentum, Warrington, United Kingdom
PVP2025-154809: ENVIRONMENTALLY ASSISTED FATIGUE COMPONENT TEST TRANSIENT BENCHMARKING AND INSPECTION QUALIFICATION
Thomas Damiani, EPRI, Palo Alto, CA, USA; Andrew Morley, Rolls-Royce Submarines Limited, Derby, United Kingdom; Sam Cuvilliez, EDF, Lyon, France
PVP2025-154606: CHALLENGES AND SOLUTIONS FOR EXPERIMENTAL EAF (Presentation Only)
Tommi Seppanen, Esko Arilahti, Jouni Alhainen, Juho Juvalainen, Pekka Moilanen, Jussi Solin, VTT Technical Research Centre of Finland Ltd., Espoo, Finland
PVP2025-154611: TRANSFERABILITY OF EAF DATA AND MODELS TO PLANT APPLICATIONS
Tommi Seppanen, Jussi Solin, VTT Technical Research Centre of Finland Ltd., Espoo, Finland

SESSION 3.2B (MF-03-02)

Wednesday, July 23, 10:15 am – 12:00 pm, St-Laurent 4 (Congres Level)
WELDING RESIDUAL STRESS AND DISTORTION SIMULATION AND MEASUREMENT-2
Developed by: Frederick (Bud) Brust, Engineering Mechanics Corporation of Columbus, Columbus, OH, USA; David Rudland, US Nuclear Regulatory Commission, Frederick, MD, USA; Vincent Robin, EDF R&D, Département PRISME, Lyon, France; Harry Coules, Amentum, Bristol, United Kingdom; Graeme Horne, Frazer-Nash Consultancy, Bristol, United Kingdom; Ben Pellereau, Rolls-Royce, Derby, United Kingdom
Chair: Graeme Horne, Frazer-Nash Consultancy, Bristol, United Kingdom
Co-Chair: Lance Hill, Engineering Mechanics Corporation of Columbus, Columbus, OH, USA
PVP2025-155772: RESIDUAL STRESSES PREDICTION OF REPAIRED AUSTENITIC STAINLESS STEEL WELDED JOINTS (Presentation Only)
Sofiane Hendili, Sami Hilal, Josselin Delmas, Theo Boutin, Pablo Pereira Alvarez, EDF, Chatou, France; Vincent Robin, EDF, Lyon, France
PVP2025-155770: THERMO-MECHANICAL MODELLING OF THE WIRE ARC ADDITIVE MANUFACTURING PROCESS (Presentation Only)
Sami Hilal, Sofiane Hendili, Josselin Delmas, EDF, Chatou, France; Djamel Pierre Kerfriden, Centre des Matériaux - Mines Paris PSL, Evry, France
PVP2025-155200: THERMAL IMAGING TO 3D STRESS PREDICTION USING DEEP LEARNING ON FINITE ELEMENT MODELS (Presentation Only)
Pablo Pereira Alvarez, EDF R&D, Chatou, France; Pierre Kerfriden, Mines Paris PSL University, Evry, France; David Ryckelynck, Mines Paris PSL University, Sophia Antipolis, France

SESSION 3.2C (MF-05-02)

Wednesday, July 23, 10:15 am – 12:00 pm, St-Laurent 5 (Congres Level)
FITNESS-FOR-SERVICE AND FAILURE ASSESSMENT-2
Symposium on Fitness-for-Service—Co-Sponsored by the Codes & Standards, Design & Analysis, High-Pressure Technology, and Materials & Fabrication Technical Committees
Developed by: Marvin Cohn, Intertek, Santa Clara, CA, USA; Carl Jaske, HSI Group, Inc., Columbus, OH, USA; Bruce Wiersma, Savannah River National Laboratory, Aiken, SC, USA; Harry Coules, Amentum, Bristol, United Kingdom; Graeme Horne, Frazer-

Nash Consultancy, Bristol, United Kingdom; Arindam Chakraborty, Virtual Integrated Analytics Solutions (VIAS), San Jose, CA, USA; Qin Ma, Walla Walla University, College Place, WA, USA; Edward Horton, University of Bristol, Bristol, United Kingdom

Chair: Marvin Cohn, Intertek, Santa Clara, CA, USA

Co-Chair: Qin Ma, Walla Walla University, College Place, WA, USA

PVP2025-154690: ASSESSMENT OF ADEQUACY OF UPPER-SHELF FRACTURE TOUGHNESS MODEL FOR ZR-2.5NB PRESSURE TUBES FOR FITNESS-FOR-SERVICE EVALUATIONS

Cheng Liu, Leonid Gutkin, Kinectrics, Inc., Toronto, ON, Canada

PVP2025-151832: EVALUATION OF A NOZZLE CRACK-LIKE FLAW USING COMPUTATIONAL FRACTURE MECHANICS WITH THE API 579-1/ASME FFS-1 ANNEX 9H PROCEDURE

Daniel Blanks, Quest Integrity, Gold Coast, Australia

PVP2025-154656: FINITE ELEMENT MODELLING OF FRACTURE UNDER COMBINED PRIMARY AND SECONDARY LOADS SUPPORTING PROPOSED UPDATES TO R6

Colin Madew, John Sharples, Peter James, Amentum, Warrington, United Kingdom

PVP2025-154573: FRACTURE MECHANICS AT THE CORE OF HYDROGEN PIPELINES DESIGN: A FRACTURE MECHANICS APPROACH IN DESIGN LIFE PREDICTION BASED ON MATERIAL PERFORMANCE MEASURED IN H2 ENVIRONMENT

Daniele Scarsciafratte, Enrico Torselletti, Elvira Aloigi, Angelo Santicchia, Giorgio Arcangeletti, Saipem SpA, Fano, Italy

SESSION 3.2D (DA-15-04)

Wednesday, July 23, 10:15 am – 12:00 pm, St-Laurent 6 (Congres Level)

9TH INTERNATIONAL SYMPOSIUM ON COKE DRUM LIFE CYCLE MANAGEMENT-WHAT'S NEXT FOR THE INDUSTRY? (FORUM SESSION)

Symposium on Coke Drum Life Cycle Management—Sponsored by the Design & Analysis Technical Committee

Developed by: Antonio Seijas, Phillips 66 Company, Houston, TX, USA; Clay Rodery, C&S Technology, LLC, League City, TX, USA; Kannan Subramanian, Structural Integrity Associates, Inc., Metairie, LA, USA

Chair: Antonio Seijas, Phillips 66 Company, Houston, TX, USA

Co-Chair: Julian Bedoya, ExxonMobil Technology & Engineering Company, Houston, TX, USA

SESSION 3.2E (CT-19-02)

Wednesday, July 23, 10:15 am – 12:00 pm, St-Laurent 7 (Congres Level)

AI, DATA ENGINEERING AND DATA ANALYSIS-2

Symposium on Engineering Intelligence: AI, Data, Modeling and Computation—Co-Sponsored by the Codes & Standards, Computer Technology & Bolted Joints, and Seismic Engineering Technical Committees, with participation by the Nondestructive Examination, Prognosis, and Diagnosis Division

Developed by: Lindsey Elliott, Nexterity, Inc., Nutley, NJ, USA; Maria Ortiz De Zúñiga López-Chicheri, Fusion for Energy, Barcelona, Spain; Cyril Babál, OMV, Vienna, Austria; Jürgen Rudolph, Framatome GmbH, Erlangen, Germany; Pierre Dulieu, Valéry Lacroix, Tractebel Engie, Brussels, Belgium

Chair: Lindsey Elliott, Nexterity, Inc., Nutley, NJ, USA

Co-Chair: Maria Ortiz De Zuniga López-Chicheri, Fusion for Energy, Barcelona, Spain

PVP2025-154655: ADVANCED PROCESS ANALYTICS AND OPTIMIZATION OF RESISTANCE SPOT WELDS THROUGH MACHINE LEARNING

Jeremy Rogers, Larry Deschaine, Savannah River National Laboratory, Aiken, SC, USA; Jayesh Soni, Himanshu Upadhyay, Florida International University, Miami, FL, USA

PVP2025-155746: REVIEW OF STATE-OF-THE-ART IN MACHINE LEARNING RESEARCH FOR STRUCTURAL INTEGRITY ASSESSMENT OF WELDED JOINTS

Samuel Eka, Norman W. Paton, Andrew H. Sherry, Ed J. Pickering, University of Manchester, Manchester, United Kingdom; Michael Martin, Rolls-Royce, Derby, United Kingdom

PVP2025-158163: IDENTIFICATION OF CORROSION TYPES IN BOLTED FLANGED JOINTS USING DEEP LEARNING TECHNIQUES AND ELECTROCHEMICAL NOISE MEASUREMENTS (Presentation Only)

Soroosh Hakimian, Abdel-Hakim Bouzid, Lucas A. Hof, École de Technologie Supérieure, Montreal, QC, Canada

PVP2025-154596: DEVELOPMENT OF MACHINE LEARNING MODELS FOR PREDICTION OF FLAW INTERACTION

Pierre Dulieu, Valéry Lacroix, Tractebel Engie, Brussels, Belgium

SESSION 3.2F (CS-11-01)

Wednesday, July 23, 10:15 am – 12:00 pm, St-Laurent 8 (Congres Level)

RECENT DEVELOPMENTS IN EUROPEAN CODES AND STANDARDS

Symposium on Recent Developments in Codes & Standards—Sponsored by the Codes & Standards Technical Committee

Developed by: Peter James, John Sharples, Amentum, Warrington, United Kingdom; Valéry Lacroix, Tractebel Engie, Brussels, Belgium; Claude Faidy, CF Integrity Engineering, Tassin-la-Demi-Lune, France

Chair: Peter James, Amentum, Warrington, United Kingdom

Co-Chair: Adam Cooper, Amentum, Warrington, United Kingdom

PVP2025-152312: DESIGN OF JACKETED PRESSURE VESSELS : INTRODUCTION TO AN INNOVATIVE METHODOLOGY BASED ON FORMULAE FOR CYLINDRICAL JACKETS

Philippe Rohart, CETIM, Senlis, France

PVP2025-153220: RCC-M CODE: 2024 EDITION AND ONGOING DEVELOPMENTS

Manuela Triay, Benoit Lefever, Nathalie Safa, Julien Quéré, Framatome, Courbevoie, France; Nicolas De Mathan, Sylvain Puybouffat, Vincent Giommi, EDF, Saint-Denis, France; Pauline Bouin, EDF, Lyon, France

PVP2025-155823: EUROPEAN VESSEL DESIGN MANAGEMENT

Eric Hanson, Flowserve, Inc., Durham, NC, USA; Kevin Glime, Flowserve, Inc., Raleigh, NC, USA

SESSION 3.2H (MF-02-08)

Wednesday, July 23, 10:15 am – 12:00 pm, Montreal 6 (Congres Level)

MATERIALS FOR HYDROGEN SERVICE (JOINT WITH C&S)-8

Symposium on Materials for Hydrogen Service—Co-Sponsored by the Codes & Standards, Computer Technology & Bolted Joints, Design & Analysis, Fluid-Structure Interaction, and Materials & Fabrication Technical Committees

Developed by: Joe Ronevich, Chris San Marchi, Sandia National Laboratories, Livermore, CA, USA; Laurent Briottet, French Alternative Energies & Atomic Energy Commission, Grenoble, France; Steven Xu, Kinectrics, Inc., Toronto, ON, Canada; Sylvain Pillot, Le Creusot, Bourgogne-Franche-Comté, France; M. Kevin Mandeville Jr., DNV, Katy, TX, USA; Tim Krentz, Savannah River National Laboratory, Aiken, SC, USA; Zakaria Hsain, US Department of Energy, Washington, DC, USA; Farid Afshar, Element Materials Tech, The Hague, Netherlands

Chair: Lu Sun, C-FER Technologies, Edmonton, AB, Canada

Co-Chair: Hyun Jo Jun, Exxon Mobil Technology and Engineering Company, Annadale, NJ, USA

PVP2025-151926: STRAIN-CONTROLLED LOW-CYCLE FATIGUE TESTING AND SEISMIC ASSESSMENT OF X65 PIPELINE STEEL UNDER CATHODIC HYDROGEN CHARGING FOR HYDROGEN TRANSPORT

Tomoka Homma, Masaki Mitsuya, Tokyo Gas Co., Ltd., Yokohama-City, Japan; Kenichi Takai, Sophia University, Chiyoda-Ku, Japan

PVP2025-153447: EFFECT OF METHANE-HYDROGEN MIXED GAS ON FATIGUE CRACK GROWTH CHARACTERISTICS OF API X65 LINEPIPE STEELS

Yoshihiro Nishihara, Naho Inoue, Hiroshi Okano, JFE Steel Corporation, Kawasaki, Japan; Masato Mori, JFE Steel Corporation, Handa, Japan;

PVP2025-154397: EVALUATION OF FRACTURE TOUGHNESS AND FATIGUE CRACK GROWTH RATE PROPERTIES AND FRACTURE

BEHAVIOR ANALYSIS OF CR–MO STEEL UNDER HIGH PRESSURE HYDROGEN ENVIRONMENT (Presentation Only)
Jaeyeong Park, Kyung-Oh Bae, Un Bong Baek, Korea Research Institute of Standards and Science, Daejeon, Republic of Korea; Hyung-Seop Shin, Andong National University, Andong-Si, Republic of Korea
PVP2025-152863: EFFECTS OF HYDROGEN ENVIRONMENT ON THE MECHANICAL PROPERTY AND STRUCTURAL INTEGRITY OF X80 PIPELINE GIRTH WELD
Jiaying Yu, Hongni Ai, Xiaoben Liu, China University of Petroleum, Beijing, China

SESSION 3.2I (MF-34-02)

Wednesday, July 23, 10:15 am – 12:00 pm, Montreal 7 (Congres Level)
POLYMERS FOR HYDROGEN SERVICE-2
Symposium on Materials for Hydrogen Service—Co-Sponsored by the Codes & Standards, Computer Technology & Bolted Joints, Design & Analysis, Fluid-Structure Interaction, and Materials & Fabrication Technical Committees
Developed by: Nalini Menon, Chris San Marchi, Sandia National Laboratories, Livermore, CA, USA; Wenbin Kuang, Kevin Simmons, Pacific Northwest National Laboratory, Richland, WA, USA; Zakaria Hsain, US Department of Energy, Washington, DC, USA
Chair: Nalini Menon, Sandia National Laboratories, Livermore, CA, USA
Co-Chair: Kevin Simmons, Pacific Northwest National Laboratory, Richland, WA, USA
PVP2025-154440: EFFECT OF H2 CONCENTRATION GRADIENT ON BLISTERING IN GLASSY POLYMERS (Presentation Only)
Hiroaki Ono, Takashi Kuriyama, Shin Nishimura, Hydrogenius/Kyushu University, Fukuoka, Japan
PVP2025-154465: ANALYSIS OF CRITICAL CONDITIONS FOR HYDROGEN BLISTERING IN HIGH-DENSITY POLYETHYLENE WITH INITIAL SPHERICAL DEFECTS
Yuxi Wang, Qi Chen, Zhongzhen Wang, Ping Xu, Jianfeng Shi, Zhejiang University, Hangzhou, China
PVP2025-154827: BLISTER FRACTURE PHENOMENA IN STYRENE/EPOXY BLENDS EXPOSED TO HIGH-PRESSURE HYDROGEN MECHANICAL MODEL ANALYSIS (Presentation Only)
Tatsuru Nishikawa, Kyushu University, Fukuoka-Shi, Japan
PVP2025-154643: FAILURE MECHANISMS OF HYDROGEN DISPENSING HOSE (Presentation Only)
Takashi Kuriyama, Hiroaki Ono, Shin Nishimura, Hydrogenius/Kyushu University, Fukuoka-Shi, Japan

SESSION 3.2J (CT-05-01)

Wednesday, July 23, 10:15 am – 12:00 pm, Montreal 8 (Congres Level)
THREADED FASTENERS
Symposium on Bolted Joints—Co-Sponsored by the Computer Technology & Bolted Joints and Design & Analysis Technical Committees
Developed by: Massimiliano De Agostinis, Stefano Fini, University of Bologna, Bologna, Italy; Sayed Nassar, Oakland University, Rochester, MI, USA; Toshiyuki Sawa, Hiroshima University, Koto-City, Japan; Bhaskar Shitolé, Wood, Calgary, AB, Canada
Chair: Wolf Reinhardt, AtkinsRéalis, Mississauga, ON, Canada
Co-Chair: Young Ho Park, New Mexico State University, Las Cruces, NM, USA
PVP2025-152224: K-FACTOR RELIABILITY ON REUSE OF STUDS WITH VARIOUS COATINGS
Tommie Bao, Von Hugo, Abdullah Qureshi, Lamons Gasket Co., Houston, TX, USA
PVP2025-153341: TEMPERATURE DEPENDENCE OF LUBRICATED THREADED FASTENER RELEASE PERFORMANCE (Presentation Only)
Christopher J Dyson, Jamie Nuttall, ROCOL, A Division of ITW Limited, Leeds, United Kingdom; Martin Priest, Malcolm F Fox, University of Bradford, Bradford, United Kingdom
PVP2025-154608: ANALYSIS OF THE EFFECT OF TEMPERATURE ON THE PERFORMANCE OF WASTE COOKING OILS USED AS LUBRICANTS ON THREADED JOINTS.
Stefano Fini, Dario Croccolo, Massimiliano De Agostinis, Mattia Mele, Giorgio Olmi, Chiara Scapecchi, Alberto Zezza, University of Bologna, Bologna, Italy
PVP2025-154625: FAILURE OF THREADED JOINTS: RESULTS FROM A SURVEY ON ITALIAN COMPANIES
Massimiliano De Agostinis, Stefano Fini, Mattia Mele, Dario Croccolo, Giorgio Olmi, Chiara Scapecchi, University of Bologna, Bologna, Italy

SESSION 3.2L (NDE-01-01)

Wednesday, July 23, 10:15 am – 12:00 pm, Outremont 4 (Congres Level)
EMERGING NON-DESTRUCTIVE EVALUATION AND PROGNOSTIC TECHNIQUES AND APPLICATIONS
Developed by: Vivek Agarwal, Idaho National Laboratory, Idaho Falls, ID, USA; Min Zhang, Praxair, a Linde Company, Tonawanda, NY, USA
Chair: Steven Xu, Kinectrics, Inc., Toronto, ON, Canada
Co-Chair: Preeti Doddihal, Kinectrics, Inc., Toronto, ON, Canada
PVP2025-154373: ULTRASONIC PHASED ARRAY FAST IMAGING TECHNIQUE FOR DETECTING DELAMINATION DEFECTS IN MULTIDIRECTIONAL CFRP LAMINATES
Jingwei Cheng, Zhichao Fan, Xuedong Chen, Xiangting Xu, Jiapeng Liu, Hefei General Machinery Research Institute Co., Ltd., Hefei, China
PVP2025-154441: ADAPTIVE ULTRASONIC PHASED ARRAY IMAGING FOR INSPECTION OF UNEVEN POLYETHYLENE ELECTROFUSION JOINTS
Guoyang Teng, Yangji Tao, Weican Guo, Ping Tang, Cunjian Miao, Yan Shi, Zhejiang Academy of Special Equipment Science, Hangzhou, China
PVP2025-156316: EVALUATION OF AGING GRADES OF HEAT-RESISTANT STEEL BASED ON PORTABLE LIBS
Shengzi Lu, Jin Guo, Huasheng Hu, Weijian Luo, Xufeng Li, Guangdong Institute of Special Equipment Inspection and Research, Foshan City, China

SESSION 3.2M (CS-10-01)

Wednesday, July 23, 10:15 am – 12:00 pm, Outremont 6 (Congres Level)
RECENT DEVELOPMENTS IN CHINESE CODES AND STANDARDS-1
Symposium on Recent Developments in Codes & Standards—Sponsored by the Codes & Standards Technical Committee
Developed by: Jianfeng Shi, Jinyang Zheng, Zhejiang University, Hangzhou, China; Guodong Jia, Guide Deng, China Special Equipment Inspection & Research Institute, Beijing, China; Xuedong Chen, Zhichao Fan, Hefei General Machinery Research Institute, Hefei, China; Yinghua Liu, Tsinghua University, Beijing, China
Chair: Xuedong Chen, Hefei General Machinery Research Institute, Hefei, China
Co-Chair: Zhichao Fan, Hefei General Machinery Research Institute, Hefei, China
PVP2025-153251: RESEARCH ON DATA MINING MODEL OF CORROSION INFLUENCING FACTORS BASED ON DUAL ALGORITHM-DRIVEN
Zhou Fang, Wei Li, Liangchao Chen, Beijing University of Chemical Technology, Beijing, China; Jinkui Feng, Jin Deng, China Special Equipment Inspection & Research Institute, Beijing, China
PVP2025-153437: COAL CHEMICAL PIPELINE RISK CLASSIFICATION MANAGEMENT METHOD AND CASE APPLICATION
Zhou Fang, Ke-Xin Ouyang, Wei Li, Beijing University of Chemical Technology, Beijing, China; Jinkui Feng, Jin Deng, China Special Equipment Inspection & Research Institute, Beijing, China
PVP2025-154168: COMPARATIVE STUDY OF LAYUP AND SOLID MODELING OF COMPOSITE REINFORCED PRESSURE VESSEL FOR HYDROGEN REFUELING STATION
Zhiwei Chen, Xiaoliang Jia, Fang Ji, China Special Equipment Inspection & Research Institute, Beijing, China; Haoyu Wu, Guangfu Bin, Hunan University of Science and Technology, Xiangtan, China
PVP2025-154322: RESEARCH ON THE MECHANICAL BEHAVIOR OF COMMONLY USED STEELS FOR PRESSURE VESSELS AND PIPELINES IN CHINA UNDER AMBIENT TEMPERATURE AND HIGH-PRESSURE HYDROGEN ENVIRONMENT
Xuedong Chen, Zhichao Fan, Yu Zhou, Hao Yang, Qiang Zhang, Hefei General Machinery Research Institute Co., Ltd., Hefei, China

SESSION 3.2N (SE-06-02)

Wednesday, July 23, 10:15 am – 12:00 pm, Outremont 7 (Congres Level)

SEISMIC ANALYSIS AND DESIGN OF PIPING SYSTEMS-2

Developed by: Izumi Nakamura, Tokyo City University, Setagata, Japan; Kisaburo Azuma, Nuclear Regulation Authority, Minato-ku, Japan

Chair: Kisaburo Azuma, Nuclear Regulation Authority, Minato-ku, Japan

Co-Chair: Izumi Nakamura, Tokyo City University, Setagata, Japan

PVP2025-154379: CLASSIFICATION OF FAILURE MODES IN TEE PIPE JOINTS UNDER SEISMIC LOADS BY LITERATURE SURVEY

Izumi Nakamura, Tokyo City University, Setagata, Japan

PVP2025-154518: STATIC DEFORMATION AND RESPONSE SPECTRUM ANALYSIS OF COMPLEX PIPING SYSTEM USING MODAL PARTICIPATION SPATIAL VECTORS

Shinji Tamura, Shimane University, Matsue-Shi, Japan

PVP2025-154587: EXPERIMENTAL STUDY ON LOW CYCLE FATIGUE LIFE OF CARBON STEEL PIPE FITTINGS BY A UNIAXIAL SHAKING TABLE

Kisaburo Azuma, Keita Fujiwara, Nuclear Regulation Authority Japan, Minato-Ku, Japan; Satoru Kai, Akihito Otani, IHI Corporation, Yokohama-Shi, Japan; Osamu Furuya, Tokyo Denki University, Hiki-Gun, Japan

PVP2025-154689: IMPLEMENTATION OF PIPING ELEMENTS AND PIPE NETWORK ANALYSIS IN OPENSEES

Michael Scott, Minjie Zhu, Oregon State University, Corvallis, OR, USA

SESSION 3.2O (FSI-02-08)

Wednesday, July 23, 10:15 am – 12:00 pm, Westmount 2 (Congres Level)

FSI APPLICATIONS II

Symposium on Flow Induced Vibration—Sponsored by the Fluid-Structure Interaction Technical Committee

Developed by: Marwan Hassan, University of Guelph, Guelph, ON, USA; Atef Mohany, Ontario Tech University, Oshawa, ON, Canada; Salim El Bouzidi, Canadian Nuclear Laboratories, Chalk River, ON, Canada

Chair: Daniele Vivaldi, ASNR, Pertuis, France

Co-Chair: Mojtaba Kheiri, Concordia University, Montreal, QC, Canada

PVP2025-154553: FRETTING CORROSION BEHAVIOR OF CRALN COATINGS AT DIFFERENT TEMPERATURES IN LEAD-BISMUTH ENVIRONMENT

Guangzhao Wang, Hui Chen, Guiyu Mei, Guorui Zhu, Tianjin University, Tianjin, China

PVP2025-154413: BENCHMARK STUDY OF CFD PREDICTION ACCURACY OF TWO-PHASE FLOW INDUCED VIBRATION LOADING FOR ENGINEERING APPLICATIONS

Shaoxiang Qian, Shunji Kataoka, JGC Corporation, Yokohama, Japan

PVP2025-151595: CRITICAL PROJECTION CYCLE COUNTING EXPLORATION METHOD FOR FATIGUE LIFE PREDICTION OF SMALL-BORE CONNECTION DUE TO MULTIAXIAL PIPING VIBRATION

Tsunemichi Takahama, Nuclear Engineering, Ltd., Kobe, Japan

PVP2025-151683: EXPERIMENTAL INVESTIGATION OF FLUID-STRUCTURE INTERACTION IN HELICAL COIL STEAM GENERATORS FOR SMALL MODULAR REACTORS (Presentation Only)

Noah Sutton, Hansol Kim, Joseph Seo, Yassin Hassan, Texas A&M University, College Station, TX, USA

SESSION 3.2R (TW-02-07)

Wednesday, July 23, 10:15 am – 12:00 pm, Montreal 1-2 (Congres Level)

PROBABILISTIC FRACTURE MECHANICS – THEN, NOW AND TOMORROW-PART 2

Developed by: David Rudland, US Nuclear Regulatory Commission, Frederick, MD, USA; Nathan Glunt, EPRI, Charlotte, NC, USA; Do Jun Shim, EPRI, Palo Alto, CA, USA

Chair: David Rudland, US Nuclear Regulatory Commission, Frederick, MD, USA

Co-Chair: Andrew Duncan, Savannah River National Laboratory, Aiken, SC, USA

Presented by: David Rudland, US Nuclear Regulatory Commission, Frederick, MD, USA; Nathan Glunt, EPRI, Charlotte, NC, USA; Do Jun Shim, EPRI, Palo Alto, CA, USA

Block 3.3: Wednesday, July 23, 2025 (2:00 pm – 3:45 pm)

SESSION 3.3A (MF-16-01)

Wednesday, July 23, 2:00 pm – 3:45 pm, St-Laurent 3 (Congres Level)

CREEP AND CREEP-FATIGUE INTERACTION

Symposium on Fatigue and Creep Issues—Co-Sponsored by the Codes & Standards, Design & Analysis, and Materials & Fabrication Technical Committees

Developed by: Catrin Mair Davies, Imperial College London, London, United Kingdom; Haiyang Qian, GE Gas Power, Avon, CT, USA; Yun-Jae Kim, Korea University, Seoul, Republic of Korea; Rita Kirchhofer, Secretariat, Golden, CO, USA; Frederick (Bud) Brust, Engineering Mechanics Corporation of Columbus, Columbus, OH, USA; Mark Messner, Argonne National Laboratory, Plainfield, IL, USA; Michael McMurtrey, Idaho National Laboratory, Idaho Falls, ID, USA

Chair: Catrin Mair Davies, Imperial College London, London, United Kingdom

Co-Chair: Mark Messner, Argonne National Laboratory, Plainfield, IL, USA

PVP2025-153870: THE PREDICTION OF CREEP-FATIGUE USING AN IMPROVED DUCTILITY EXHAUSTION METHOD

Michael Spindler, EDF UK, Gloucester, United Kingdom

PVP2025-155080: PREDICTION OF CREEP CRACK GROWTH IN 316H STAINLESS STEEL

Clarynnsia Lai, Catrin Mair Davies, Imperial College London, London, United Kingdom

PVP2025-154029: AN ANALYTICAL CREEP RUPTURE LIFE MODEL FOR WROUGHT, CAST, AND GAS METAL ARC DIRECTED ENERGY DEPOSITION HAYNES 282

Sophia Hill, Jonah Klemm-Toole, Colorado School of Mines, Golden, CO, USA

PVP2025-154215: INFLUENCE OF GRAIN SIZE AND COMPOSITION ON CREEP PERFORMANCE OF ADDITIVELY MANUFACTURED AND WROUGHT TYPE 316 STAINLESS STEELS

Olivia Denonno, Jonah Klemm-Toole, Colorado School of Mines, Golden, CO, USA; Robert Hamlin, Naval Nuclear Laboratory (FMP), Niskayuna, NY, USA; Stephen Tate, EPRI, Charlotte, NC, USA

SESSION 3.3C (MF-05-03)

Wednesday, July 23, 2:00 pm – 3:45 pm, St-Laurent 5 (Congres Level)

FITNESS-FOR-SERVICE AND FAILURE ASSESSMENT-3

Symposium on Fitness-for-Service—Co-Sponsored by the Codes & Standards, Design & Analysis, High-Pressure Technology, and Materials & Fabrication Technical Committees

Developed by: Marvin Cohn, Intertek, Santa Clara, CA, USA; Carl Jaske, HSI Group, Inc., Columbus, OH, USA; Bruce Wiersma, Savannah River National Laboratory, Aiken, SC, USA; Harry Coules, Amentum, Bristol, United Kingdom; Graeme Horne, Frazer-Nash Consultancy, Bristol, United Kingdom; Arindam Chakraborty, Virtual Integrated Analytics Solutions (VIAS), San Jose, CA, USA; Qin Ma, Walla Walla University, College Place, WA, USA; Edward Horton, University of Bristol, Bristol, United Kingdom

Chair: Graeme Horne, Frazer-Nash Consultancy, Bristol, United Kingdom

Co-Chair: Marvin Cohn, Intertek, Santa Clara, CA, USA

PVP2025-152982: LOW TEMPERATURE OPERATING ENVIRONMENT MATERIAL SELECTION

Jason Dorgan, Agron Gjinolli, Durr Universal, Inc., Stoughton, WI, USA

PVP2025-154785: COUPLING INSPECTION AND TESTING TO ACCURATELY ASSESS THE REMAINING LIFE OF HIC DAMAGED PRESSURE VESSELS

Brandon Rollins, DNV, Dublin, OH, USA; Jorge Penso, Shell Projects and Technology, Houston, TX, USA; Desmond Bourgeois, Georgia Wiswesser, Ohio State University, Columbus, OH, USA

PVP2025-156163: FINITE ELEMENT ANALYSIS OF CRUSH TEST FOR HELICAL SPRING COILS USED IN CANDU FUEL CHANNEL SPACERS

Yu Chen, Steven Xu, Tom Gallacher, Tanya Hunt, Kinectrics, Inc., Toronto, ON, Canada

SESSION 3.3D (CS-21-01)

Wednesday, July 23, 2:00 pm – 3:45 pm, St-Laurent 6 (Congres Level)

CONSTRAINT EFFECTS ON C&S

Developed by: Kiminobu Hojo, Mitsubishi Heavy Industries Ltd., Kobe, Japan; Steven Xu, Kinectrics, Inc., Toronto, ON, Canada; Stéphane Marie, Framatome, Paris Le Défense, France

Chair: Kiminobu Hojo, Mitsubishi Heavy Industries, Ltd., Kobe, Japan

Co-Chair: Thibault Demol, Framatome, Paris La Défense, France

PVP2025-151993: APPLICABILITY OF FRACTURE EVALUATION METHOD BASED ON LOCAL APPROACH TO AN IRRADIATED LOW-ALLOY STEEL

Masaki Shimodaira, Yoosung Ha, Yoshihito Yamaguchi, Kuniki Hata, Jinya Katsuyama, Japan Atomic Energy Agency, Naka-Gun, Japan

PVP2025-152875: PLASTIC CONSTRAINT CORRECTION FACTOR ON BRITTLE FRACTURE IN DUCTILE-BRITTLE TRANSITION TEMPERATURE REGION (REPORT 2)

Yasuto Nagoshi, Takatoshi Hirota, Kiminobu Hojo, Mitsubishi Heavy Industries, Ltd., Kobe, Japan; Takuya Fukahori, Mitsubishi Heavy Industries, Ltd., Nagasaki, Japan; Kimihisa Sakima, Mitsubishi Heavy Industries, Ltd., Takasago, Japan; Mitsuru Ohata, Fumiyoshi Minami, Osaka University, Suita, Japan

PVP2025-163775: FRAMATOME CONTRIBUTION TO IBECC BENCHMARK FOR WEIBULL STRESS CALCULATION

Thibault Demol, Olivier Ancelet, Marie Stéphane, Jules Louerat, Framatome, Paris La Défense, France

SESSION 3.3E (SE-04-01/NDE-03-01)

Wednesday, July 23, 2:00 pm – 3:45 pm, St-Laurent 7 (Congres Level)

APPLICATIONS OF ENGINEERING INTELLIGENCE IN SEISMIC ANALYSIS OF INDUSTRIAL FACILITIES AND NDE RELIABILITY

Symposium on Engineering Intelligence: AI, Data, Modeling and Computation—Co-Sponsored by the Codes & Standards, Computer Technology & Bolted Joints, and Seismic Engineering Technical Committees, with participation by the Nondestructive Examination, Prognosis, and Diagnosis Division

Developed by: Gianluca Quinci, Fabrizio Paolacci, Roma Tre University, Rome, Italy; Oreste Bursi, University of Trento, Trento, Italy; Vivek Agarwal, Idaho National Laboratory, Idaho Falls, ID, USA; Min Zhang, Praxair, a Linde Company, Tonawanda, NY, USA

Chair: Gianluca Quinci, Roma Tre University, Rome, Italy

Co-Chair: Steven Xu, Kinectrics, Inc., Toronto, ON, Canada

PVP2025-154549: UNSUPERVISED STRUCTURAL HEALTH MONITORING OF LARGE-SCALE STRUCTURES USING FREQUENCY SPECTRUM INCLUDING TIME INFORMATION AND DEEP LEARNING

Takaki Aeba, Tsuyoshi Fukasawa, Tokyo Denki University, Adachi-Ku, Tokyo, Japan

PVP2025-154934: MACHINE LEARNING BASED POST-EARTHQUAKE PERFORMANCE RAPID ASSESSMENT OF POWER TRANSFORMER IN SUBSTATION

Wang Zhu, Qiang Xie, Tongji University, Shanghai, China; Gianluca Quinci, Fabrizio Paolacci, Roma Tre University, Rome, Italy; Mariano Ciucci, INAIL, Rome, Italy

PVP2025-156003: VALIDATION OF NDE TECHNIQUES FOR CHARACTERIZING DEALLOYED REGIONS IN ALUMINUM BRONZE CASTING COMPONENTS IN ESSENTIAL COOLING WATER SYSTEMS

Steven Xu, Connor Cooper, Doug Scarth, Kinectrics, Inc., Toronto, ON, Canada; James Williams, Rafael Gonzales, South Texas Project Electric Generating Station, Wadsworth, TX, USA

PVP2025-159021: ARTIFICIAL INTELLIGENCE ENHANCED ANALYSIS OF EDDY CURRENT TESTING AND REMOTE-FIELD TESTING SCANS FOR HEAT EXCHANGER ASSESSMENT

Etienne Provencal, Réjean Drolet, Marco Michele Sisto, Marc Grenier, Eddyfi Technologies, Quebec, QC, Canada

SESSION 3.3F (DA-04-01)

Wednesday, July 23, 2:00 pm – 3:45 pm, St-Laurent 8 (Congres Level)

INELASTIC, NONLINEAR, AND LIMIT LOAD ANALYSIS

Developed by: Gys van Zyl, Integrity Engineering Solutions, Dunsborough, Australia; Andrew Owens, TerraPower, Round Rock, TX, USA; Roy Darby, Chevron, Houston, TX, USA; Forrest Gu, Becht, Calgary, AB, Canada

Chair: Mingxin Zhao, Enterprise Products, Houston, TX, USA

Co-Chair: M. Kevin Mandeville Jr., DNV, Katy, TX, USA

PVP2025-154406: IMPROVED KNOCKDOWN FACTORS FOR THE DESIGN OF HEMISPHERICAL, TORISPHERICAL AND ELLIPSOIDAL HEADS UNDER EXTERNAL PRESSURE

Jiajun Sun, Keming Li, Tao Shen, Zhejiang University, Hangzhou, China

PVP2025-154751: CRUSHING ANALYSIS OF CIRCULAR TUBE WITH LOCAL THICKNESS REDUCTION BETWEEN WEDGE INDENTER AND RIGID PLANE

Sunting Yan, Yonggui Chen, Ping Tang, Chenfeng Guan, Wei Zhang, Zhejiang Academy of Special Equipment Science, Hangzhou, China; Jin-Yuan Qian, Kan Sheng, Zhejiang University, Hangzhou, China

PVP2025-155686: EVALUATING THE IMPACT OF WOOD PROPORTIONS OF THE PERFORMANCE OF DRY STORAGE CONTAINERS IMPACT LIMITERS (Presentation Only)

Hyungyu Roh, No-Cheol Park, Chiwoong Ra, Yonsei University, Seoul, Republic of Korea

SESSION 3.3H (MF-02-09)

Wednesday, July 23, 2:00 pm – 3:45 pm, Montreal 6 (Congres Level)

MATERIALS FOR HYDROGEN SERVICE (JOINT WITH C&S)-9

Symposium on Materials for Hydrogen Service—Co-Sponsored by the Codes & Standards, Computer Technology & Bolted Joints, Design & Analysis, Fluid-Structure Interaction, and Materials & Fabrication Technical Committees

Developed by: Joe Ronevich, Chris San Marchi, Sandia National Laboratories, Livermore, CA, USA; Laurent Briottet, French Alternative Energies & Atomic Energy Commission, Grenoble, France; Steven Xu, Kinectrics, Inc., Toronto, ON, Canada; Sylvain Pillot, Le Creusot, Bourgogne-Franche-Comté, France; M. Kevin Mandeville Jr., DNV, Katy, TX, USA; Tim Krentz, Savannah River National Laboratory, Aiken, SC, USA; Zakaria Hsain, US Department of Energy, Washington, DC, USA; Farid Afshar, Element Materials Tech, The Hague, Netherlands

Chair: Joe Ronevich, Sandia National Laboratories, Livermore, CA, USA

Co-Chair: Michelle Kent, Colorado School of Mines, Golden, CO, USA

PVP2025-153076: FRACTURE TOUGHNESS AND FATIGUE CRACK GROWTH CHARACTERISTICS OF API 5L X65 LINEPIPE AND THE GIRTH WELDS UNDER HIGH-PRESSURED HYDROGEN GASEOUS ENVIRONMENT

Yuki Kiyokawa, Yuji Kisaka, Fumiaki Kimura, Yasuhiro Kawai, Nippon Steel Engineering Co., Ltd., Kitakyushu-Shi Tobata-Ku, Japan; Keigo Manabe, Shusuke Fujita, Nippon Steel Pipeline & Engineering Co., Ltd., Shinagawa-Ku, Japan; Hiroto Shoji, Mitsuru Ohata, Osaka University, Suita-Shi, Japan

PVP2025-155145: FRACTURE RESISTANCE OF WELD AND HEAT-AFFECTED ZONES IN LINE PIPE STEELS IN HIGH PRESSURE H2 GAS: MICROSTRUCTURE-PROPERTY CORRELATION

Santi Gopal Samanta, Chen Ni, Andrew Leboeuf, Zhenzhen Yu, Lawrence Cho, Kip Findley, Colorado School of Mines, Golden, CO, USA; Joseph Ronevich, Chris San Marchi, Sandia National Laboratories, Livermore, CO, USA

PVP2025-154683: TESTING AND SIMULATION OF GASEOUS HYDROGEN EMBRITTLEMENT IN PIPELINE STEELS USING SUB-SIZED FRACTURE TOUGHNESS SPECIMENS (Presentation Only)

Yazid Madi, Luciano M.-Santana, Daniela L.-Pinto, Jacques Besson, Centre des Matériaux - Mines Paris PSL, Corbeil-Essonnes, France; Jader Furtado, Air Liquide, Innovation Campus Paris, Les Loges-En-Josas, France; Pierre-Jean Marchais, Mannesmann Precision Tubes France SAS, Vitry-Le-Francois, France; Nicolae Osipov, Transvalor S.A., Le Plessis-Robinson, France

PVP2025-154853: FULLY-COUPLED COHESIVE ELEMENT MODEL FOR SIMULATING HYDROGEN EMBRITTLEMENT IN PIPELINE STEELS (Presentation Only)

Aris Stamou, Spyros Karamanos, University of Thessaly, Volos, Greece

SESSION 3.3I (MF-34-03)

Wednesday, July 23, 2:00 pm – 3:45 pm, Montreal 7 (Congres Level)

POLYMERS FOR HYDROGEN SERVICE-3

Symposium on Materials for Hydrogen Service—Co-Sponsored by the Codes & Standards, Computer Technology & Bolted Joints, Design & Analysis, Fluid-Structure Interaction, and Materials & Fabrication Technical Committees

Developed by: Nalini Menon, Chris San Marchi, Sandia National Laboratories, Livermore, CA, USA; Wenbin Kuang, Kevin Simmons, Pacific Northwest National Laboratory, Richland, WA, USA; Zakaria Hsain, US Department of Energy, Washington, DC, USA

Chair: Kevin Simmons, Pacific Northwest National Laboratory, Richland, WA, USA

Co-Chair: Nalini Menon, Sandia National Laboratories, Livermore, CA, USA

PVP2025-152106: EFFECT OF CYCLIC HYDROGEN EXPOSURE ON CRACK INITIATION AND GROWTH BEHAVIORS OF HIGH-DENSITY POLYETHYLENE USING CRACKED ROUND BAR SPEICMEN (Presentation Only)

Sang Min Lee, Byeong-Lyul Choi, Ilhyun Kim, Byoung-Ho Choi, Korea University, Seongbuk-Gu, Republic of Korea; Un Bong Baek, Korea Research Institute of Standards and Science, Daejeon, Republic of Korea;

PVP2025-152242: INFLUENCE OF STRAIN RATE AND TEMPERATURE ON TENSILE PERFORMANCE OF MEDIUM-DENSITY POLYETHYLENE PIPES EXPOSED TO HYDROGEN AND HYDROGEN/METHANE GAS BLENDS (Presentation Only)

Michael Leveille, Sandia National Laboratories, San Jose, CA, USA; Kimberley Macdonald, April Nissen, Nalini Menon, Kevin Simmons, Pacific Northwest National Laboratory, Richland, WA, USA

PVP2025-154657: THE INFLUENCE OF SENB SAMPLE SIZE, CRACK SHARPNESS AND TEMPERATURE ON FRACTURE TOUGHNESS OF HIGH-DENSITY POLYETHYLENE (HDPE) HYDROGEN PIPES.

Soodabeh(Sophie) Sharafi, Ethan Nickerson, Jorge Ortiz, Robert J Seffens, Daniel R Merkel, Yao Qiao, Wenbin Kuang, Kevin L Simmons, Pacific Northwest National Laboratory , Richland, WA, USA

PVP2025-155481: QUANTIFICATION OF VOID-LIKE DEFECTS USING X-RAY TOMOGRAPHY IN ELASTOMERS EXPOSED TO DIFFERENT HYDROGEN ENVIRONMENTS

Bernice Mills, Nalini C. Menon, Sandia National Laboratories, Livermore, CA, USA; Johann Kastner, Julia Maurer, University of Applied Sciences Upper Austria, Wels, Austria

SESSION 3.3J (CT-03-01)

Wednesday, July 23, 2:00 pm – 3:45 pm, Montreal 8 (Congres Level)

LEAK TIGHTNESS AND FUGITIVE EMISSIONS

Symposium on Bolted Joints—Co-Sponsored by the Computer Technology & Bolted Joints and Design & Analysis Technical Committees

Developed by: Carlos Girão, Teadit, Itatiba, Brazil; Satoshi Nagata, Toyo Engineering Corporation, Narashino, Japan; Jeff Wilson, VSP Technologies, Prince George, VA, USA; Manfred Schaaf, AMTEC, Lauffen, Germany; Anita Bausman, VSP Technologies, Kingsport, TN, USA

Chair: Jeff Wilson, VSP Technologies, Prince George, VA, USA

Co-Chair: Carlos Girão, Teadit, Itatiba, Brazil

PVP2025-151452: A STUDY ON THE THIGHNESS PARAMETER USED IN THE EVALUATION OF THE PVRC GASKET CONSTANTS

Hakim Bouzid, École de Technologie Supérieure, Montreal, QC, Canada

PVP2025-152780: CORRELATION STUDY FOR DIFFERENT TEST MEDIAS USED IN FUGITIVE EMISSION PACKINGS

Carlos D. Girão, João H. Pontes, Teadit, Itatiba, Brazil

PVP2025-155295: STUDY ON GLASS FIBER REINFORCED PLASTIC FLANGE CONNECTIONS

Manfred Schaaf, AMTEC GmbH, Lauffen, Germany; Thomas Gruss, Merck KGaA, Darmstadt, Germany; Andreas Lebitschnig, Evonik Industries AG, Hanau, Germany; Markus Frank, Wacker Chemie AG, Burghausen, Germany; Michael Klar, Kurotec-KTS Kunststofftechnik Stade GmbH, Stade, Germany

PVP2025-155678: TIGHTNESS AND STRESS ANALYSIS OF GRP FLANGE CONNECTIONS OF AN EXTRACTION COLUMN

Alexander Riedl, FH Münster, Steinfurt, Germany; Manfred Schaaf, AMTEC GmbH, Lauffen, Germany; Gottfried Nonhoff, FH Aachen, Aachen, Germany; Thomas Huber, Bernd Schwethelm, Bayer AG, Leverkusen, Germany

SESSION 3.3L (NDE-02-01)

Wednesday, July 23, 2:00 pm – 3:45 pm, Outremont 4 (Congres Level)

NDE TECHNIQUES AND APPLICATIONS FOR PETROCHEMICAL AND POWER PLANT COMPONENTS

Developed by: Vivek Agarwal, Idaho National Laboratory, Idaho Falls, ID, USA; Min Zhang, Praxair, a Linde Company, Tonawanda, NY, USA

Chair: Michael McMurtrey, Idaho National Laboratory, Idaho Falls, ID, USA

Co-Chair: Ayman Cheta, Shell Global Solutions US, Inc., Houston, TX, USA

PVP2025-154466: WATER INGRESS DETECTION METHOD OF SUBMARINE PIPELINE INSULATION LAYER BASED ON PERCUSSION SIGNAL

Hao Liu, Yifan Wang, Xu Zhang, Qingqing Xu, Shaohua Dong, Laibin Zhang, China University of Petroleum, Beijing, China

PVP2025-154475: STUDY ON EXAMINATION VOLUME IMPROVEMENT OF ULTRASONIC TESTING(UT) THROUGH 3D VISUALIZATION SIMULATION OF STAINLESS STEEL PIPE WELDS (Presentation Only)

Hyunjun Kim, Dongchan Kang, Ik Keun Park, Seoul National University of Science and Technology, Seoul, Republic of Korea

PVP2025-154677: CRACK THREAT MANAGEMENT TRANSITION FROM HYDROSTATIC TEST TO IN-LINE INSPECTION FOR AN AGING PIPELINE

Lyndon Lamborn, Lamborn Eng. Inc., contracting for Enbridge, Sherwood Park, AB, Canada; Bradley Krug, Gurwinder Nagra, Enbridge LP, Edmonton, AB, Canada; Debbie Wong, NDT Global Inc., Calgary, AB, Canada; Vitaly Vorontsov, Enbridge, Edmonton, AB, Canada

SESSION 3.3M (CS-10-02)

Wednesday, July 23, 2:00 pm – 3:45 pm, Outremont 6 (Congres Level)

RECENT DEVELOPMENTS IN CHINESE CODES AND STANDARDS-2

Symposium on Recent Developments in Codes & Standards—Sponsored by the Codes & Standards Technical Committee

Developed by: Jianfeng Shi, Jinyang Zheng, Zhejiang University, Hangzhou, China; Guodong Jia, Guide Deng, China Special Equipment Inspection & Research Institute, Beijing, China; Xuedong Chen, Zhichao Fan, Hefei General Machinery Research Institute, Hefei, China; Yinghua Liu, Tsinghua University, Beijing, China

Chair: Jinyang Zheng, Zhejiang University, Hangzhou, China

Co-Chair: Jianfeng Shi, Zhejiang University, Hangzhou, China

PVP2025-154343: FROM SOURCE TO END-POINT: ESTABLISHING A COMPREHENSIVE SAFETY MANAGEMENT AND CONTROL SYSTEM FOR PRESSURE VESSELS AND PIPELINES IN THE HYDROGEN ENERGY INDUSTRY CHAIN

Xiaopeng Wang, Jianwei Zhang, Yuyang Xie, Qiyong Peng, CNPC Research Institute of Safety and Environmental Protection Technology, Beijing, China; Fengdong Bi, KunLun Energy Company Limited, Beijing, China

PVP2025-154492: DISCUSSION ON ALLOWABLE HYDROGEN LEAKAGE RATES OF HIGH-PRESSURE HYDROGEN STORAGE CYLINDERS IN GB AND ISO STANDARDS

Zhaoting Chen, Zhuoyu Chen, Quan Cao, Jianfeng Shi, Zhejiang University, Hangzhou, China; Fang Han, Zhejiang Guwei Technology Co., Ltd, Hangzhou, China

PVP2025-154506: DISCUSSION ON HYDROGEN LEAKAGE ANALYSIS IN TYPICAL HYDROGEN ENERGY APPLICATION SCENARIOS

Jianfeng Shi, Yuxin Liu, Zhaoting Chen, Jianjian Wei, Ping Xu, Zhejiang University, Hangzhou, China

PVP2025-154567: TECHNICAL PROGRESS IN CHINESE STANDARD OF CLASSIFICATION ON HAZARD OF MEDIUM IN PRESSURE EQUIPMENT

Shanshan Shao, Haoyuan Kang, Guodong Jia, Guide Deng, Kai Wang, Xinyuan Lu, China Special Equipment Inspection & Research Institute, Beijing, China

SESSION 3.3N (FSI-04-01)

Wednesday, July 23, 2:00 pm – 3:45 pm, Outremont 7 (Congres Level)

FSI DESIGN AND AI FOR INDUSTRY

Developed by: Kazuaki Inaba, Ming Ji, Tokyo Institute of Technology, Meguro, Japan; Stefan Belfroid, TNO, The Hague, Netherlands; Arindam Ghosh, KBR, Cypress, TX, USA; Arris Tijsseling, Eindhoven University of Technology, Eindhoven, Netherlands; Thorsten Neuhaus, TUEV Nord, Hamburg, Germany; Scott Lang, Applied Flow Technology, Colorado Springs, CO, USA

Chair: Kazuaki Inaba, Tokyo Institute of Technology, Meguro, Japan

Co-Chair: Arris Tijsseling, Eindhoven University of Technology, Eindhoven, Netherlands

PVP2025-155572: EVALUATION OF THE IMPACT LOAD ACTING ON A SOLID SURFACE DUE TO THE COLLAPSE OF A LASER-GENERATED BUBBLE

Muhammad Farkhan Abdillah, Institute of Science Tokyo, Ota-Ku, Japan; Kazuaki Inaba, Tokyo Institute of Technology, Meguro, Japan; Hiroaki Nakamoto, Ebara Corporation, Fujisawa, Kanagawa, Japan

PVP2025-154412: A NEW CONTINUOUS DECAY/STRIBECK FRICTION MODEL

Abdallah Hadji, Njuki Mureithi, Polytechnique Montréal, Montreal, QC, Canada

PVP2025-151967: STATE-OF-THE-ART REVIEW OF USING COMPOSITE PIPES FOR HYDROGEN TRANSMISSION

Jeff Ellis, Miranda Marcus, Joshua James, EWI, Columbus, OH, USA

PVP2025-154529: EFFECTS OF CAVITATION ON VIBRATION OF SLEEVE CONTROL VALVE

Kan Sheng, Xuan-Jie Gu, Chuang Liu, Shen-Zhe Zhang, Wei-Liang Pan, Jin-Yuan Qian, Zhejiang University, Hangzhou, China; Long-Xiang Wang, Neway Valve, Hangzhou, China

SESSION 3.3O (FSI-02-09)

Wednesday, July 23, 2:00 pm – 3:45 pm, Westmount 2 (Congres Level)

FSI APPLICATIONS III

Symposium on Flow Induced Vibration—Sponsored by the Fluid-Structure Interaction Technical Committee

Developed by: Marwan Hassan, University of Guelph, Guelph, ON, USA; Atef Mohany, Ontario Tech University, Oshawa, ON, Canada; Salim El Bouzidi, Canadian Nuclear Laboratories, Chalk River, ON, Canada

Chair: Njuki Mureithi, Polytechnique Montreal, Montreal, QC, Canada

Co-Chair: Teguewinde Sawadogo, Canadian Nuclear Laboratories, Chalk River, ON, Canada

PVP2025-152227: WIND-INDUCED VIBRATION OF TALL, SLENDER PROCESS COLUMNS

Derek Slovenec, The Equity Engineering Group, Inc., Pittsford, NY, USA; Gaurav Mittal, The Equity Engineering Group, Inc., Hyderabad, India

PVP2025-154876: VORTEX-INDUCED VIBRATION OF A RECTANGULAR CROSS SECTION WITH COMBINED TORSIONAL AND PLUNGING MODES

Mahmoud Shaaban, Nile University, Elsheikh Zayed, Egypt; Mostafa R. Rashed, Modern University for Technology and Information, Cairo, Egypt; Atef Mohany, Ontario Tech University, Oshawa, ON, Canada

PVP2025-154563: IMPACT-SLIDING FRETTING WEAR OF ZIRCONIUM ALLOY CLADDING TUBE IN SIMULATED PRIMARY WATER OF PRESSURIZED WATER REACTOR

Guiyu Mei, Hui Chen, Guangzhao Wang, Xin Liu, Guorui Zhu, Tianjin University, Tianjin, China

SESSION 3.3R (TW-02-08)

Wednesday, July 23, 2:00 pm – 3:45 pm, Montreal 1-2 (Congres Level)

PROBABILISTIC FRACTURE MECHANICS – THEN, NOW AND TOMORROW-PART 3

Developed by: David Rudland, US Nuclear Regulatory Commission, Frederick, MD, USA; Nathan Glunt, EPRI, Charlotte, NC, USA; Do Jun Shim, EPRI, Palo Alto, CA, USA

Chair: David Rudland, US Nuclear Regulatory Commission, Frederick, MD, USA

Co-Chair: Andrew Duncan, Savannah River National Laboratory, Aiken, SC, USA

Presented by: David Rudland, US Nuclear Regulatory Commission, Frederick, MD, USA; Nathan Glunt, EPRI, Charlotte, NC, USA; Do Jun Shim, EPRI, Palo Alto, CA, USA

THURSDAY, JULY 24

Block 4.1: Thursday, July 24, 2025 (8:00 am – 9:45 am)

SESSION 4.1A (DA-03-01)

Thursday, July 24, 8:00 am – 9:45 am , St-Laurent 3 (Congres Level)

FATIGUE-1

Symposium on Fatigue and Creep Issues—Co-Sponsored by the Codes & Standards, Design & Analysis, and Materials & Fabrication Technical Committees

Developed by: Shunji Kataoka, JGC Corporation, Yokohama, Japan; M. Kevin Mandeville Jr., DNV, Katy, TX, USA; Andrew Owens, TerraPower, Round Rock, TX, USA; Premkumar Chinnaraj, Wood PLC, Houston, TX, USA; Mingxin Zhao, Enterprise Products, Houston, TX, USA; Pieter Van Beek, TNO, Rijswijk, Netherlands; Hao Jiang, Oak Ridge National Laboratory, Oak Ridge, TN, USA; Ashkan Eslaminejad, Structural Integrity Associates, Inc., Englewood, CO, USA; Ian Ty Cheong, QGC Pty Ltd., Brisbane, Australia

Chair: Andrew Owens, TerraPower, Bellevue, WA, USA

Co-Chair: Shunji Kataoka, JGC Corporation, Yokohama, Japan

PVP2025-154578: BEST-FIT FATIGUE CURVES FOR CARBON AND LOW ALLOY STEELS, AND AUSTENITIC STAINLESS STEELS BASED ON MATERIAL PROPERTIES AND LOADING MODES

Masahiro Takanashi, IHI Corporation, Yokohama, Japan; Seiji Asada, Mitsubishi Heavy Industries, Ltd., Kobe, Japan; Hideo Kobayashi, Tokyo Institute of Technology, Tokyo, Japan

PVP2025-152381: NUMERICAL DETERMINATION OF THE STRAIN CONTROL CORRECTION FACTOR FOR FATIGUE TESTING IN VVER ENVIRONMENT

Jiri Cerny, ÚJV Řež, a. s., Řež, Czech Republic; Petr Gál, ÚJV Řež, a. s., Řež, Czech Republic

PVP2025-154510: A FIELD VALIDATED APPROACH TO SMALL BORE TUBING VIBRATION INDUCED FATIGUE MODELLING

Ian Ty Cheong, QGC Pty Ltd, Brisbane, Australia; Raj Singh, Wood Australia, Brisbane, Australia

SESSION 4.1B (MF-22-01)

Thursday, July 24, 8:00 am – 9:45 am , St-Laurent 4 (Congres Level)

THE NOEL O'DOWD MEMORIAL SYMPOSIUM ON FRACTURE: 3D CRACK GROWTH SIMULATION USING FEA

Symposium on Fracture Mechanics and Analysis—Co-Sponsored by the Design & Analysis and Materials & Fabrication Technical Committees

Developed by: Do Jun Shim, EPRI, Palo Alto, CA, USA; Yinsheng Li, Japan Atomic Energy Agency, Higashiibaraki, Japan; Yifan Huang, Framatome, Charlotte, NC, USA; Suresh Kalyanam, Westinghouse Electric Company, Cranberry Township, PA, USA; Gary Dominguez, Structural Integrity Associates, Inc., San Jose, CA, USA

Chair: Do Jun Shim, EPRI, Palo Alto, CA, USA

Co-Chair: Sureshkumar Kalyanam, Westinghouse Electric Company, Cranberry Township, PA, USA

PVP2025-153974: PREDICTION OF TENSILE STRAIN CAPACITY OF SPIRAL-WELDED PIPES WITH VARYING INITIAL CRACK SIZES USING EXTENDED FINITE ELEMENT METHOD

Amirhossein Iranmehr, Haoyang Li, Samer Adeeb, Arman Hemmati, James Hogan, University of Alberta, Edmonton, AB, Canada; Benjamin Hanna, DNV, Dublin, OH, USA; Lyndon Lamborn, Enbridge Pipelines Inc., Edmonton, AB, Canada;

PVP2025-154749: NATURAL CRACK GROWTH OF NOZZLE CORNER CRACK UNDER CYCLIC PRESSURE AND THERMAL TRANSIENTS USING XFEM

Gary Dominguez, Mohammed Uddin, Structural Integrity Associates, Inc., San Jose, CA, USA; Do Jun Shim, EPRI, Palo Alto, CA, USA

PVP2025-154494: VERY LOW CYCLE FATIGUE CRACK GROWTH SIMULATION OF SA403 WP316 PIPE ELBOW (Presentation Only)

Hyun-Seok Song, Yun-Jae Kim, Korea University, Seoul, Republic of Korea; Jin-Weon Kim, Chosun University, Gwangju, Republic of Korea; Do-Jun Shim, EPRI, Palo Alto, CA, USA

SESSION 4.1C (CS-23-01)

Thursday, July 24, 8:00 am – 9:45 am , St-Laurent 5 (Congres Level)

IMPROVEMENT OF FLAW CHARACTERIZATION RULES FOR FFS

Symposium on Fitness-for-Service—Co-Sponsored by the Codes & Standards, Design & Analysis, High-Pressure Technology, and Materials & Fabrication Technical Committees

Developed by: Pierre Dulieu, Valéry Lacroix, Kaveh Samadian, Tractebel Engie, Brussels, Belgium; Kunio Hasegawa, Consultant, Tokai-mura, Japan; Martin Negyesi, Technical University of Ostrava, Ostrava, Czech Republic

Chair: Valéry Lacroix, Tractebel Engie, Brussels, Belgium

Co-Chair: Pierre Dulieu, Tractebel Engie, Brussels, Belgium

PVP2025-152377: ALLOWABLE AXIAL FLAW SIZES BASED ON CODE GIVEN AND ACTUAL MEASURED FLOW STRESSES FOR HIGH TOUGHNESS DUCTILE PIPES SUBJECTED TO INTERNAL PRESSURE

Martin Negyesi, VŠB-Technical University of Ostrava, Ostrava, Czech Republic; Yoosung Ha, Kunio Hasegawa, Japan Atomic Energy Agency, Tokai-Mura, Japan; Valery Lacroix, Tractebel Engineering, Brussels, Belgium

PVP2025-154562: ASSESSMENT OF ALLOWABLE FLAW SIZES BASED ON TENSILE PROPERTIES EVALUATED BY INSTRUMENTED INDENTATION TESTING

Yoosung Ha, Kunio Hasegawa, Japan Atomic Energy Agency, Naka-Gun, Japan; Martin Negyesi, VŠB-Technical University of Ostrava, Ostrava, Czech Republic; Valery Lacroix, Tractebel Engineering, Brussels, Belgium

PVP2025-154613: ASSESSMENT AND IMPROVEMENT OF FLAW-TO-SURFACE PROXIMITY RULES ACCOUNTING FOR FLAW ASPECT RATIO AND COMPONENT THICKNESS

Valery Lacroix, Pierre Dulieu, Tractebel Engie, Brussels, Belgium; Kunio Hasegawa, Yoosung Ha, Japan Atomic Energy Agency, Tokai-Mura, Japan; Martin Negyesi, VŠB-Technical University of Ostrava, Ostrava-Poruba, Czech Republic

PVP2025-154708: ASSESSMENT OF INSPECTION RESOLUTION ACCEPTANCE CRITERIA FOR LOCAL AND GENERAL METAL LOSS IN API579-ASME/1 CODE BY MEANS OF FINITE ELEMNT METHOD

Luke Liu, Foad Rahimidehgolan, Sadath Malik, Ahmed Alian, Next Structural Integrity Inc., Burlington, ON, Canada

SESSION 4.1D (CS-21-02)

Thursday, July 24, 8:00 am – 9:45 am , St-Laurent 6 (Congres Level)

INTERNATIONAL BENCHMARK FOR CODIFICATION OF CONSTRAINT EFFECTS ON FRACTURE TOUGHNESS IN THE DUCTILE-BRITTLE TRANSITION REGION FOR NUCLEAR STRUCTURAL COMPONENTS-1

Developed by: Kiminobu Hojo, Mitsubishi Heavy Industries Ltd., Kobe, Japan; Steven Xu, Kinectrics, Inc., Toronto, ON, Canada; Stéphane Marie, Framatome, Paris Le Défense, France

Chair: Thibault Demol, Framatome, Paris La Défense, France

Co-Chair: Kiminobu Hojo, Mitsubishi Heavy Industries, Ltd., Kobe, Japan

Panelists:

Olivier Ancelet, Framatome, Paris Le Défense, France
Anna Dahl, EDF, Ecuelles, France
Thibault Demol, Framatome, Paris Le Défense, France
Pierre Dulieu, Engie, Brussels, Belgium
Maxime Gantier, EDF, Palaiseau, France
Kiminobu Hojo, Mitsubishi Heavy Industries Ltd., Kobe, Japan
Yun-Jae Kim, Korea University, Seoul, Republic of Korea
Valéry Lacroix, Tractebel Engie, Brussels, Belgium
Jules Louerat, Framatome, Paris Le Défense, France
Yasuto Nagoshi, Mitsubishi Heavy Industries Ltd., Kobe, Japan
Kazuma Shimizu, Osaka University, Suita, Japan
Steven Xu, Kinectrics, Inc., Toronto, ON, Canada

SESSION 4.1E (NDE-03-02)

Thursday, July 24, 8:00 am – 9:45 am , St-Laurent 7 (Congres Level)

NDE RELIABILITY USING ARTIFICIAL INTELLIGENCE, MODELING & SIMULATION, AND EXPERIMENTAL ANALYSIS

Symposium on Engineering Intelligence: AI, Data, Modeling and Computation—Co-Sponsored by the Codes & Standards, Computer Technology & Bolted Joints, and Seismic Engineering Technical Committees, with participation by the Nondestructive Examination, Prognosis, and Diagnosis Division

Developed by: Vivek Agarwal, Idaho National Laboratory, Idaho Falls, ID, USA; Min Zhang, Praxair, a Linde Company, Tonawanda, NY, USA

Chair: Michael McMurtrey, Idaho National Laboratory, Idaho Falls, ID, USA

Co-Chair: Alton Reich, Streamline Automation LLC, Huntsville, AL, USA

PVP2025-154537: A NOVEL IDENTIFICATION METHOD OF THAW SETTLEMENT INDUCED BENDING REGION OF BURIED PIPELINE BASED ON MULTI-ROUND IMU INSPECTION DATA AND ARTIFICIAL NEURAL NETWORK

Kun Li, Ting Xie, Anqi Li, Xiaoben Liu, China University of Petroleum, Beijing, China; Rui Li, Pengchao Chen, PipeChina Institute of Science and Technology, Tianjin, China;

PVP2025-154799: RELIABILITY ASSESSMENT OF RECEIVER TUBES IN CONCENTRATED SOLAR POWER (CSP) SYSTEMS

Xiufeng Li, Zhiyuan Han, Yongquan Li, China Special Equipment Inspection & Research Institute, Beijing, China; Bing Yu, Haijun Hu, Xi'an Jiaotong University, Xi'an, China

PVP2025-152625: RESEARCH ON CORROSION PREDICTION METHOD BASED ON MECHANISM AND DATA FUSION

Liangchao Chen, Shuai Wang, Haopeng Li, Beijing University of Chemical Technology, Beijing, China; Xinyuan Lu, China Special Equipment Inspection & Research Institute, Beijing, China;

PVP2025-154542: A STUDY ON PIPELINE DEFECT MAGNETIC FLUX LEAKAGE FIELD SIMULATION AND RECOGNITION BASED ON AN ENHANCED YOLOV8 MODEL

Fu Kuan, Tong Shi, Xiaoben Liu, Kun Li, Mengkai Fu, Lili Zuo, China University of Petroleum, Changping-Qu, China; Rui Li, Pengchao Chen, PipeChina Institute of Science and Technology, Tianjin, China;

SESSION 4.1F (CS-12-01)

Thursday, July 24, 8:00 am – 9:45 am , St-Laurent 8 (Congres Level)

HIGH TEMPERATURE CODES AND STANDARDS-1

Symposium on Recent Developments in Codes & Standards—Sponsored by the Codes & Standards Technical Committee

Developed by: Anees Udyawar, Suresh Kalyanam, Westinghouse Electric Company, Cranberry Township, PA, USA; Valéry Lacroix, Tractebel Engie, Brussels, Belgium

Chair: Reza Adibi-Asl, NErgx, Toronto, ON, Canada

Co-Chair: Suresh Kalyanam, Westinghouse Electric Company, Cranberry Township, PA, USA

PVP2025-152801: EXAMPLE CLASS B PRESSURE VESSEL DESIGN ANALYSIS USING PROPOSED CODE CASE ELASTIC-PERFECTLY PLASTIC RULES

Derrick Pease, Becht, Chino Valley, AZ, USA; Heramb Mahajan, Idaho National Laboratory, Idaho Falls, ID, USA

PVP2025-154772: DEVELOPMENT OF THE BUCKLING EVALUATION METHOD FOR THICK CYLINDRICAL VESSELS WITH A CONICAL SECTION IN FAST REACTORS MADE OF AUSTENITIC STAINLESS STEEL

Takashi Okafuji, Kazuhiro Miura, Mitsubishi Heavy Industries, Ltd., Nagasaki, Japan; Hiromi Sago, Mitsubishi Heavy Industries, Ltd., Kobe, Japan; Hisatomo Murakami, Mitsubishi FBR Systems, Inc., Minato-Ku, Japan; Tomoyoshi Watakabe, Masanori Ando, Masashi Miyazaki, Japan Atomic Energy Agency, Higashi-Ibaraki-Gun, Japan

PVP2025-154911: HIGH TEMPERATURE FLAW EVALUATION (HTFE) IN SEVERAL GEOMETRIES WITH APPLIED LOAD HISTORIES

Luke Weber, Sureshkumar Kalyanam, Jason Young, Anees Udyawar, Ryan Keitzer, Teresa Bissett, Westinghouse Electric Company, Cranberry Township, PA, USA

PVP2025-155644: ON THE API 579 MPC PROJECT OMEGA MULTIAXIAL CREEP DUCTILITY RATIO

Benjamin Francis, Max Holt, Worley, Melbourne, Australia; David Mair, Worley, Sydney, Australia

SESSION 4.1G (MF-17-02)

Thursday, July 24, 8:00 am – 9:45 am , Montreal 3 (Congres Level)

ADVANCED AND ADDITIVE MANUFACTURING AND MATERIAL TECHNOLOGIES (JOINT WITH D&A)-2

Developed by: Paul Korinko, Andrew Duncan, Savannah River National Laboratory, Aiken, SC, USA; Adam Cooper, Amentum, Warrington, United Kingdom; Sylvain Pillot, Le Creusot, Bourgogne-Franche-Comté, France; Catrin Mair Davies, Imperial College London, London, United Kingdom; Arindam Chakraborty, Virtual Integrated Analytics Solutions (VIAS), San Jose, CA, USA; M. Kevin Mandeville Jr., DNV, Katy, TX, USA; Michael McMurtrey, Idaho National Laboratory, Idaho Falls, ID, USA; Steven Lawler, Frazer-Nash Consultancy, Burton-on-Trent, United Kingdom; Qin Ma, Walla Walla University, College Place, WA, USA

Chair: Catrin Mair Davies, Imperial College London, London, United Kingdom

Co-Chair: M. Kevin Mandeville Jr., DNV, Katy, TX, USA

PVP2025-154585: THERMAL FATIGUE OF ADDITIVE MANUFACTURE LASER POWDER BED FUSION AND WROUGHT 316LN STAINLESS STEEL PROTOTYPIC SMALL-BORE GLOBE VALVES – A COMPARATIVE STUDY

Joe Airey, Andrew Morley, Michael Matthews, Bill Press, Matthew Dear, David Poole, Rolls-Royce, Derby, United Kingdom

PVP2025-153329: BAYESIAN OPTIMISATION OF A BLOWN-POWDER ADDITIVE LASER PROCESS FOR PRESSURE VESSEL CLADDING (Presentation Only)

Greg Nelson, Steve Lawler, Frazer-Nash Consultancy, Burton On Trent, United Kingdom

PVP2025-153808: DETERMINATION OF THE SOLID-STATE RESISTANCE-WELDABILITY OF ADDITIVELY MANUFACTURED 304L STAINLESS STEEL

Jeremy Rogers, Colleen Hilla, Paul Korinko, Savannah River Nuclear Solutions, Aiken, SC, USA

SESSION 4.1H (CS-02-01)

Thursday, July 24, 8:00 am – 9:45 am , Montreal 6 (Congres Level)

HYDROGEN EFFECTS ON MATERIAL BEHAVIOR FOR STRUCTURAL INTEGRITY ASSESSMENT (JOINT WITH M&F)-1

Symposium on Materials for Hydrogen Service—Co-Sponsored by the Codes & Standards, Computer Technology & Bolted Joints, Design & Analysis, Fluid-Structure Interaction, and Materials & Fabrication Technical Committees

Developed by: Steven Xu, Kinectrics, Inc., Toronto, ON, Canada; Joe Ronevich, Chris San Marchi, Sandia National Laboratories, Livermore, CA, USA; Michael Martin, Rolls-Royce, Portsmouth, United Kingdom; David Cho, Bruce Power, Toronto, ON, Canada; Jinyang Zheng, Zhejiang University, Hangzhou, China; Laurent Briottet, French Alternative Energies & Atomic Energy Commission, Grenoble, France; Sylvain Pillot, Le Creusot, Bourgogne-Franche-Comté, France; M. Kevin Mandeville Jr., DNV, Katy, TX, USA; Tim Krentz, Savannah River National Laboratory, Aiken, SC, USA; Zakaria Hsain, US Department of Energy, Washington, DC, USA; Farid Afshar, Element Materials Tech, The Hague, Netherlands

Chair: Yanli Wang, Oak Ridge National Laboratory, Oak Ridge, TN, USA

Co-Chair: Jesse Rhodes, EWI, Columbus, OH, USA

PVP2025-152018: A STUDY OF HIGH TEMPERATURE HYDROGEN ATTACK IN SA516 GRADE 70 CARBON STEEL AND WELDMENT

Yiyu Wang, Yanli Wang, Zhili Feng, Oak Ridge National Laboratory, Oak Ridge, TN, USA

PVP2025-155913: CYCLE-WISE PROCESS-ZONE MODEL FOR EVALUATION OF DHC INITIATION UNDER FLAW-TIP HYDRIDE RATCHETING CONDITIONS WITH CREEP

Steven Xu, Preeti Doddihal, Jun Cui, Doug Scarth, Kinectrics, Inc., Toronto, ON, Canada

PVP2025-155005: CREEP BEHAVIOR OF SA516 GRADE 70 CARBON STEEL AND ITS WELDMENT UNDER HIGH-TEMPERATURE HYDROGEN ENVIRONMENT (Presentation Only)
Yanli Wang, Yiyu Wang, Brad Hall, Zhili Feng, Oak Ridge National Laboratory, Oak Ridge, TN, USA
PVP2025-154411: SCREENING HYDROGEN EMBRITTLEMENT SUSCEPTIBILITY OF AUSTENITIC STAINLESS STEELS AT ELEVATED TEMPERATURES USING SMALL PUNCH TESTS AND HOLLOW SPECIMEN SSRTS IN EXTERNAL HYDROGEN ENVIRONMENTS (Presentation Only)
Richard Pascua, GyeongKuk National University, Andong, Republic of Korea; Hyung Seop Shin, Andong National University, Andong, Republic of Korea; Kyung Oh Bae, Jaeyoung Park, Un-Bong Baek, Korea Research Institute of Standards and Science, Daejeon, Republic of Korea

SESSION 4.1I (MF-34-04)

Thursday, July 24, 8:00 am – 9:45 am , Montreal 7 (Congres Level)
POLYMERS FOR HYDROGEN SERVICE-4
Symposium on Materials for Hydrogen Service—Co-Sponsored by the Codes & Standards, Computer Technology & Bolted Joints, Design & Analysis, Fluid-Structure Interaction, and Materials & Fabrication Technical Committees
Developed by: Nalini Menon, Chris San Marchi, Sandia National Laboratories, Livermore, CA, USA; Wenbin Kuang, Kevin Simmons, Pacific Northwest National Laboratory, Richland, WA, USA; Zakaria Hsain, US Department of Energy, Washington, DC, USA
Chair: Kevin Simmons, Pacific Northwest National Laboratory, Richland, WA, USA
Co-Chair: Nalini Menon, Sandia National Laboratories, Livermore, CA, USA
PVP2025-152616: EVALUATION OF O-RING SEALING PERFORMANCE IN HIGH-PRESSURE HYDROGEN REFUELING ENVIRONMENTS (Presentation Only)
Byeong-Lyul Choi, Sang Min Lee, Byoung-Ho Choi, Korea University, Seoul, Republic of Korea; Jonghee Kim, Byung Ryeol Lee, Hyundai Motor Group, Yongin, Republic of Korea
PVP2025-154833: LIFETIME EVALUATION OF O-RING FOR HIGH-PRESSURE HYDROGEN (Presentation Only)
Sang Koo Jeon, Nak Kwan Chung, Nae Hyung Tak, Un Bong Baek, Korea Research Institute of Standards and Science, Daejeon, Republic of Korea; Byungryul Choi, Korea University, Seoul, Republic of Korea
PVP2025-154863: COMPARISON OF AGEING BEHAVIOUR OF O-RING SEALS UNDER HYDROGEN AND AIR
Matthias Jaunich, Anja Kömmling, Martin Böhning, Dorothee Silbernagl, Federal Institute of Materials Research and Testing, Berlin, Germany
PVP2025-154903: EFFECT OF DEPRESSURIZATION RATES ON COMPRESSED O-RINGS IN AMBIENT HYDROGEN ENVIRONMENTS (Presentation Only)
Nalini Menon, April Nissen, Bernice Mills, Michael Leveille, Sandia National Laboratories, Livermore, CA, USA; Wenbin Kuang, Kevin Simmons, Pacific Northwest National Laboratory, Richland, WA, USA

SESSION 4.1J (DA-10-03)

Thursday, July 24, 8:00 am – 9:45 am , Montreal 8 (Congres Level)
BOLTED JOINT INTERNATIONAL LIAISON SESSION-1
Symposium on Bolted Joints—Co-Sponsored by the Computer Technology & Bolted Joints and Design & Analysis Technical Committees
Developed by: Gys van Zyl, Warren Brown, Integrity Engineering Solutions, Dunsborough, Australia; Clay Rodery, C&S Technology LLC, League City, TX, USA; Nathan Barkley, Becht, New Albany, MS, USA; Abdelgader Abdegalil, SABIC, Jubail, Saudi Arabia; Antonio Seijas, Phillips 66 Company, Houston, TX, USA
Chair: Warren Brown, Integrity Engineering Solutions, Dunsborough, Australia
Co-Chair: Alex Berry, Integrity Engineering Solutions, Dunsborough, Australia

SESSION 4.1K (OAC-07-02)

Thursday, July 24, 8:00 am – 9:45 am , Outremont 1 (Congres Level)
PLANT LIFE EXTENSION: AGING & LIFE MANAGEMENT-2
Developed by: Ciska de Haan - de Wilde, NRG, Petten, Netherlands; Georges Bezdikian, Consultant, Le Vésinet, France; Keiko Chitose, OECD NEA, Paris, France
Chair: Keiko Chitose, OECD NEA, Paris, France
Co-Chair: Georges Bezdikian, Consultant, Le Vésinet, France
PVP2025-155696: RESEARCH ON MATERIALS AGEING AND STRUCTURAL INTEGRITY OF RESEARCH REACTORS (MAGIC-RR) (Presentation Only)
Murthy Kolluri, NRG, Petten, Netherlands; Benoît Tanguy, French Alternative Energies and Atomic Energy Commission (CEA), Paris, France; Ildiko Szenthe, HUN-REN Centre for Energy Research, Budapest, Hungary; Hans Van Dommelen, Eindhoven University of Technology, Eindhoven, Netherlands; Yaiza Gonzalez-Garcia, Delft University of Technology, Delft, Netherlands; Bertrand Radiguet, Université de Rouen Normandie, Mont Saint Aignan Cedex, France; Paul Bagot, University of Oxford, Oxford, United Kingdom; Andy London, UK Atomic Energy Authority, Abingdon, United Kingdom; Michael Bach, Canadian Nuclear Laboratories, Chalk River, ON, Canada; Jacob Mostert, South African Nuclear Energy Corporation, Pretoria, South Africa
PVP2025-154524: NUMERICAL EVALUATIONS COUPLED WITH MICRO-MACRO CHARACTERISTICS OF STAINLESS STEEL AGAINST HYDROGEN ENVIRONMENTS
Tae-Yong Kim, Yoon-Suk Chang, Kyung Hee University, Yongin-Si, Republic of Korea; Seung-Gun Lee, Korea Institute of Materials Science, Changwon-Si, Republic of Korea
PVP2025-159441: LIFE EXTENSION OF HIGH-PRESSURE CARBAMATE CONDENSER THROUGH ASSET INTEGRITY MANAGEMENT AND OPERATIONAL CONTROLS (Presentation Only) ▼
Muhammad Abdullah Naseer, Muhammad Zeshan Wasi, Mehmood Ul Hassan, Ahsan Saeed, Fatima Fertilizer Limited Multan, Multan, Pakistan

SESSION 4.1L (CS-13-01)

Thursday, July 24, 8:00 am – 9:45 am , Outremont 4 (Congres Level)
DEVELOPMENTS IN HDPE, BURIED AND NON-METALLIC PIPE CODES AND STANDARDS
Symposium on Composite Materials—Co-Sponsored by the Codes & Standards and Materials & Fabrication Technical Committees
Developed by: Jianfeng Shi, Zhejiang University, Hangzhou, China; Suresh Kalyanam, Westinghouse Electric Company, Cranberry Township, PA, USA
Chair: Maher Y.A. Younan, The American University in Cairo, Cairo, Egypt
Co-Chair: Jianfeng Shi, Zhejiang University, Hangzhou, China
PVP2025-153529: LOW CRYSTALLINITY MOLTEN ZONE INDUCING TENSILE DUCTILITY REDUCTION IN POLYETHYLENE PIPE BUTT FUSION JOINTS
Yan Shi, Yangji Tao, Yi Xu, Zitao Shen, Cunjian Miao, Ping Tang, Weican Guo, Zhejiang Academy of Special Equipment Science, Hangzhou, China
PVP2025-154501: ALLOWABLE HYDROGEN PERMEATION RATES IN NON-METALLIC PIPELINES FOR TYPICAL APPLICATION SCENARIOS
Jianfeng Shi, Haojie Yang, Zhongzhen Wang, Yang Li, Sheng Zeng, Zhejiang University, Hangzhou, China
PVP2025-154538: A REVIEW: RISK ASSESSMENT METHODOLOGY FOR ONBOARD HYDROGEN STORAGE CYLINDERS UNDER FIRE CONDITIONS
Gai Huang, Qunjie Lu, Hua Huang, Foshan Xianhu Laboratory, Foshan, China; Chaohua Gu, Foshan Nanhai South China Hydrogen Safety Promotion Center, Foshan, China; Wenzhu Peng, Hydrogen Energy Institute, Zhejiang University, Hangzhou, China;

SESSION 4.1M (CS-10-03)

Thursday, July 24, 8:00 am – 9:45 am , Outremont 6 (Congres Level)
RECENT DEVELOPMENTS IN CHINESE CODES AND STANDARDS-3
Symposium on Recent Developments in Codes & Standards—Sponsored by the Codes & Standards Technical Committee
Developed by: Jianfeng Shi, Jinyang Zheng, Zhejiang University, Hangzhou, China; Guodong Jia, Guide Deng, China Special Equipment Inspection & Research Institute, Beijing, China; Xuedong Chen,

Zhichao Fan, Hefei General Machinery Research Institute, Hefei, China; Yinghua Liu, Tsinghua University, Beijing, China
Chair: Guodong Jia, China Special Equipment Inspection & Research Institute, Beijing, China
Co-Chair: Guide Deng, China Special Equipment Inspection & Research Institute, Beijing, China

PVP2025-154517: RECENT PROGRESS OF SAFETY TECHNOLOGIES AND STANDARDS FOR AMMONIA-HYDROGEN NEW ENERGY IN CHINA
Qunjie Lu, Gai Huang, Hua Huang, Foshan Xianhu Laboratory, Foshan, China; Wenzhu Peng, Hydrogen Energy Institute, Zhejiang University, Hangzhou, China; Chaohua Gu, Foshan Nanhai South China Hydrogen Safety Promotion Center, Foshan, China

PVP2025-154534: DISCUSSION ON THE DEVELOPMENT OF DIGITAL TWIN STANDARD IN CHINA
Heyi Feng, Yunmeng Zhou, Guide Deng, Guodong Jia, China Special Equipment Inspection & Research Institute, Beijing, China

PVP2025-154557: STUDY ON ULTRASONIC PHASED ARRAY DETECTION AND CIVA SIMULATION OF PLACED FILLET WELD
Daoxiang Wei, Kun Li, Shanghai Institute of Special Equipment Inspection & Technical Research (SSEI), Shanghai, China

SESSION 4.1O (FSI-02-10)

Thursday, July 24, 8:00 am – 9:45 am , Westmount 2 (Congres Level)

THE MICHEL J. PETTIGREW MEMORIAL SESSION ON FLOW INDUCED VIBRATION

Symposium on Flow Induced Vibration—Sponsored by the Fluid-Structure Interaction Technical Committee

Developed by: Marwan Hassan, University of Guelph, Guelph, ON, USA; Atef Mohany, Ontario Tech University, Oshawa, ON, Canada; Salim El Bouzidi, Canadian Nuclear Laboratories, Chalk River, ON, Canada
Chair: Marwan Hassan, University of Guelph, Guelph, ON, Canada
Co-Chair: Hugh Goyder, Cranfield University, Shrivenham, United Kingdom

PVP2025-155071: CONTRIBUTIONS BY MICHEL PETTIGREW TO TWO-PHASE FIV RESEARCH AND DEVELOPMENT OF FIV DESIGN GUIDELINES (Presentation Only)
Njuki Mureithi, Polytechnique Montréal, Montreal, QC, Canada

PVP2025-153243: HYDRODYNAMIC COUPLING FORCES IN THE ZED-2 RESEARCH REACTOR
Ibrahim Gadelhak, Canadian Nuclear Laboratories, Petawawa, ON, Canada; Paul Feenstra, Mohammed Alziadeh, Brendan St. Pierre, Michael Burlock, Salim El Bouzidi, Canadian Nuclear Laboratories, Chalk River, ON, Canada

PVP2025-153801: IN-REACTOR EXPERIMENTS TO ENHANCE NEUTRON NOISE ANALYSIS TECHNIQUES FOR VIBRATION MONITORING
Salim El Bouzidi, Bhaskar Sur, Paul Feenstra, Brendan St. Pierre, Mohammed Alziadeh, Ibrahim Gadelhak, Michael Burlock, Julian Atfield, Luke Yaraskavitch, Canadian Nuclear Laboratories, Chalk River, ON, Canada

PVP2025-153867: NUMERICAL STUDY OF SELF-EXCITED OSCILLATIONS AND AEROACOUSTIC SOURCES OF JET FLOWS IN HIGH TEMPERATURE GAS REACTOR CORES
Mohammed Alziadeh, Salim El Bouzidi, Canadian Nuclear Laboratories, Chalk River, ON, Canada

SESSION 4.1Q (MF-24-01)

Thursday, July 24, 8:00 am – 9:45 am , Westmount 6 (Congres Level)

MATERIALS AND FABRICATION FOR REFINING-1

Developed by: Richard Colwell, Bechtel, Richmond, TX, USA; Jorge Penso, Mitul Dalal, Shell Projects and Technology, Houston, TX, USA; Deepak Mankar, Fluor Corporation, Houston, TX, USA
Chair: Richard Colwell, Bechtel, Richmond, TX, USA
Co-Chair: Deepak Mankar, Fluor Corporation, Houston, TX, USA

PVP2025-152592: EVALUATION OF WELDS PRODUCED BY NO BACKING GAS - GAS TUNGSTEN ARC WELDING WITH HIGH SILICON CONTAINED TYPE 347 STAINLESS STEELS SOLID FILLER ROD
Atsushi Takahashi, Bin Zhou, JGC Corporation, Yokohama, Japan

PVP2025-153149: WELDABILITY AND CORROSION RESISTANCE EVALUATION OF BRANCH JOINT WITH BRANCH OUTLET FITTINGS ON PROCESS PIPING WITH HEAVY WALL MADE OF CRA CLAD MATERIAL
Atsushi Takahashi, Masahiro Kawai, JGC Corporation, Yokohama, Japan

PVP2025-153872: LIFE MANAGEMENT ASSESSMENT OF SERVICE-EXPOSED HP-MODIFIED REFORMER TUBES AND INFLUENCE OF MATERIAL HEAT VARIABILITY
Eeva Griscom, Michael Gagliano, Alex Bridges, John Siefert, EPRI, Charlotte, NC, USA; Jorge Penso, Shell Global Solutions (US) Inc., Houston, TX, USA; Jordan Barrass, Shell Canada Ltd., Fort Saskatchewan, AB, Canada

PVP2025-154748: AUTOMATIC SUBMERGED ARC WELDING SYSTEM IN HEAVY-WALL PRESSURE VESSEL FABRICATION
Masakatsu Nakano, Kenji Kamikawa, Yuichi Kobayashi, Takahiro Fujimoto, Masamitsu Abe, Kanadevia Corporation, Osaka-Shi, Japan; Mitsuyoshi Nakatani, Kanadevia Corporation, Osaka-Shi, Japan

SESSION 4.1R (TW-02-09)

Thursday, July 24, 8:00 am – 9:45 am , Montreal 1-2 (Congres Level)

AN OVERVIEW OF ASME SECTION VIII, DIVISION 3 DESIGN METHODS-PART 1

Developed by: Daniel T. Peters, Atlas Consulting LLC, Edinboro, PA, USA
Chair: Daniel T. Peters, Atlas Consulting LLC, Edinboro, PA, USA
Co-Chair: David Gross, Dominion Engineering, Inc., Reston, VA, USA
Presented by: Daniel T. Peters, Atlas Consulting LLC, Edinboro, PA, USA

Block 4.2: Thursday, July 24, 2025 (10:15 am – 12:00 pm)

SESSION 4.2A (DA-03-02)

Thursday, July 24, 10:15 am – 12:00 pm, St-Laurent 3 (Congres Level)

FATIGUE-2

Symposium on Fatigue and Creep Issues—Co-Sponsored by the Codes & Standards, Design & Analysis, and Materials & Fabrication Technical Committees

Developed by: Shunji Kataoka, JGC Corporation, Yokohama, Japan; M. Kevin Mandeville Jr., DNV, Katy, TX, USA; Andrew Owens, TerraPower, Round Rock, TX, USA; Premkumar Chinnaraj, Wood PLC, Houston, TX, USA; Mingxin Zhao, Enterprise Products, Houston, TX, USA
Chair: M. Kevin Mandeville Jr., DNV, Katy, TX, USA
Co-Chair: Shunji Kataoka, JGC Corporation, Yokohama, Japan

PVP2025-154541: INVESTIGATIONS ON CRACK PROPAGATION AND RATCHETTING UNDER CYCLICAL THERMO-MECHANICAL LOADINGS FOR A TYPE 304-L STAINLESS STEEL. DEVELOPMENT OF STRUCTURAL INTEGRITY TESTING FACILITIES
Cedric Gourdin, Gregory Perez, French Alternative Energies and Atomic Energy Commission (CEA), Gif-Sur-Yvette, France

PVP2025-154500: A STUDY INTO THE PLASTICITY RESPONSE OF COMPRESSION TUBE FITTINGS DURING SWAGING AND INFLUENCING FACTORS
Ian Ty Cheong, QGC Pty Ltd, Brisbane, Australia; Raj Singh, Wood Australia, Brisbane, Australia

PVP2025-153381: FATIGUE TESTING AND LIFETIME ASSESSMENT OF COMPONENTS UNDER VARIABLE AMPLITUDE LOADING IN OPERATION CONDITIONS
Georg Veile, Nina Grözinger, Stefan Weihe, Materials Testing Institute, University of Stuttgart (MPA), Stuttgart, Germany; Jürgen Rudolph, Udo Fischer, Framatome GmbH, Erlangen, Germany

SESSION 4.2B (MF-12-01)

Thursday, July 24, 10:15 am – 12:00 pm, St-Laurent 4 (Congres Level)

THE NOEL O'DOWD MEMORIAL SYMPOSIUM ON FRACTURE: LEAK BEFORE BREAK

Symposium on Fracture Mechanics and Analysis—Co-Sponsored by the Design & Analysis and Materials & Fabrication Technical Committees

Developed by: Mo Uddin, Structural Integrity Associates, Inc., San Jose, CA, USA; John Sharples, Peter James, Amentum, Warrington, United Kingdom; David Rudland, US Nuclear Regulatory

Commission, Frederick, MD, USA; Deepak Somasundaram, AtkinsRéalis, Mississauga, ON, Canada
Chair: Mo Uddin, Structural Integrity Associates, Inc., San Jose, CA, USA
Co-Chair: David Rudland, US Nuclear Regulatory Commission, Frederick, MD, USA

PVP2025-153478: EFFECT OF WELD RESIDUAL STRESS DISTRIBUTION FOR LEAK BEFORE BREAK OR BREAK BEFORE LEAK CONDITIONS IN SMALL DIAMETER PIPING (Presentation Only)
Mo Uddin, Structural Integrity Associates, Inc., Dublin, OH, USA; Kate Gresh, Structural Integrity Associates, Inc., Centennial, CO, USA; Younes Marih, Dilip Dedhia, Natheniel Cofie, Structural Integrity Associates, Inc., San Jose, CA, USA

PVP2025-153545: ELASTIC-PLASTIC COD ESTIMATION FOR NON-IDEALIZED CIRCUMFERENTIAL THROUGH-WALL CRACKS IN PIPES WITH HIGH STRAIN HARDENING EXPONENTS UNDER GLOBAL BENDING MOMENT
Jun-Geun Park, Nam-Su Huh, Seoul National University of Science and Technology, Seoul, Republic of Korea; Chang-Sik Oh, Korea Institute of Nuclear Safety, Daejeon, Republic of Korea

PVP2025-154448: EXTENSION OF REFERENCE STRESS BASED ON ELASTIC-PLASTIC J AND COD ESTIMATION EQUATIONS TO LONG THROUGH-WALL CRACKED PIPES UNDER BENDING
Hyewon Jeong, Jaeyoon Kim, Yun-Jae Kim, Korea University, Seoul, Republic of Korea

SESSION 4.2C (CS-06-01)

Thursday, July 24, 10:15 am – 12:00 pm, St-Laurent 5 (Congres Level)

API 579/ASME CODE FITNESS-FOR-SERVICE ACTIVITIES
Symposium on Fitness-for-Service—Co-Sponsored by the Codes & Standards, Design & Analysis, High-Pressure Technology, and Materials & Fabrication Technical Committees
Developed by: Phillip Prueter, Moreland Hills, OH, USA; Sam Lee, Technip FMC, Houston, TX, USA; Kannan Subramanian, Structural Integrity Associates, Inc., Metairie, LA, USA; Rahul Kapadia, ASML, Eindhoven, Netherlands
Chair: Antonio Seijas, Phillips 66 Company, Houston, TX, USA
Co-Chair: Doug Scarth, Kinectrics, Inc., Toronto, ON, Canada

PVP2025-151841: HYDROTEST OF RETIRED VESSEL WITH LOCAL THIN AREA AND EFFECT OF STRUCTURAL DISCONTINUITY
Yoichi Ishizaki, Hiroyasu Ameya, Idemitsu Kosan Co., Ltd., Chiba, Japan

PVP2025-151965: MISSING CYLINDER CIRCUMFERENTIAL SURFACE CRACK SOLUTIONS FOR API 579 ANNEX 9B
Greg Thorwald, Quest Integrity USA, LLC, Westminster, CO, USA

PVP2025-154251: LEVERAGING RECENT ADVANCEMENTS IN FITNESS-FOR-SERVICE TECHNOLOGY TO OPTIMIZE EQUIPMENT MINIMUM ALLOWABLE TEMPERATURE / MINIMUM PRESSURIZATION TEMPERATURE LIMITS
Brian Macejko, Joan Wood, The Equity Engineering Group, Inc., Shaker Heights, OH, USA; Antonio Seijas, Edgar Rodriguez, Phillips 66 Company, Houston, TX, USA; Luis A. Ganhao B., Ningyu Wang, Bob Steinberg, Motiva Enterprises, Houston, TX, USA

PVP2025-151308: EXPERIMENTAL RESEARCH ON LEAKAGE AND DIFFUSION CHARACTERISTICS OF HYDROGEN-BLENDED NATURAL GAS PIPELINE
Zicong Han, Shaohua Dong, Meng Sun, Boxing Han, Lin Chen, China University of Petroleum, Beijing, China

SESSION 4.2D (CS-21-03)

Thursday, July 24, 10:15 am – 12:00 pm, St-Laurent 6 (Congres Level)

INTERNATIONAL BENCHMARK FOR CODIFICATION OF CONSTRAINT EFFECTS ON FRACTURE TOUGHNESS IN THE DUCTILE-BRITTLE TRANSITION REGION FOR NUCLEAR STRUCTURAL COMPONENTS-2
Developed by: Kiminobu Hojo, Mitsubishi Heavy Industries Ltd., Kobe, Japan; Steven Xu, Kinectrics, Inc., Toronto, ON, Canada; Stéphane Marie, Framatome, Paris Le Défense, France
Chair: Steven Xu, Kinectrics, Inc., Toronto, ON, Canada
Co-Chair: Valéry Lacroix, Tractebel Engie, Brussels, Belgium
Panelists:
Olivier Ancelet, Framatome, Paris Le Défense, France
Anna Dahl, EDF, Ecuelles, France
Thibault Demol, Framatome, Paris Le Défense, France
Pierre Dulieu, Engie, Brussels, Belgium
Maxime Gantier, EDF, Palaiseau, France
Kiminobu Hojo, Mitsubishi Heavy Industries Ltd., Kobe, Japan
Yun-Jae Kim, Korea University, Seoul, Republic of Korea
Valéry Lacroix, Tractebel Engie, Brussels, Belgium
Jules Louerat, Framatome, Paris Le Défense, France
Yasuto Nagoshi, Mitsubishi Heavy Industries Ltd., Kobe, Japan
Kazuma Shimizu, Osaka University, Suita, Japan
Steven Xu, Kinectrics, Inc., Toronto, ON, Canada

SESSION 4.2F (CS-12-02)

Thursday, July 24, 10:15 am – 12:00 pm, St-Laurent 8 (Congres Level)

HIGH TEMPERATURE CODES AND STANDARDS-2
Symposium on Recent Developments in Codes & Standards—Sponsored by the Codes & Standards Technical Committee
Developed by: Anees Udyawar, Suresh Kalyanam, Westinghouse Electric Company, Cranberry Township, PA, USA; Valéry Lacroix, Tractebel Engie, Brussels, Belgium
Chair: Suresh Kalyanam, Westinghouse Electric Company, Cranberry Township, PA, USA
Co-Chair: Reza Adibi-Asl, NErgx, Toronto, ON, Canada

PVP2025-155838: CREEP DAMAGE ASSESSMENT OF ELEVATED TEMPERATURE PIPING
Reza Adibi-Asl, NErgx, Toronto, ON, Canada; Heramb Mahajan, Idaho National Laboratory, Idaho Falls, IL, USA; Derrick Pease, Becht, Chino Valley, AZ, USA; George Antaki, Becht, Aiken, SC, USA; Bob Jetter, Consultant, Pleasanton, CA, USA

PVP2025-155842: AN ALTERNATIVE FABRICATION APPROACH FOR ALLOY 800H HELICAL STEAM GENERATOR TUBES: AUTOGENOUS WELDING
Kyle E. Heintz, Jaime A. Cano, Timothy R. Lucas, X-energy, LLC, Rockville, MD, USA

SESSION 4.2H (CS-02-02)

Thursday, July 24, 10:15 am – 12:00 pm, Montreal 6 (Congres Level)

HYDROGEN EFFECTS ON MATERIAL BEHAVIOR FOR STRUCTURAL INTEGRITY ASSESSMENT (JOINT WITH M&F)-2
Symposium on Materials for Hydrogen Service—Co-Sponsored by the Codes & Standards, Computer Technology & Bolted Joints, Design & Analysis, Fluid-Structure Interaction, and Materials & Fabrication Technical Committees
Developed by: Steven Xu, Kinectrics, Inc., Toronto, ON, Canada; Joe Ronevich, Chris San Marchi, Sandia National Laboratories, Livermore, CA, USA; Michael Martin, Rolls-Royce, Portsmouth, United Kingdom; David Cho, Bruce Power, Toronto, ON, Canada; Jinyang Zheng, Zhejiang University, Hangzhou, China; Laurent Briottet, French Alternative Energies & Atomic Energy Commission, Grenoble, France; Sylvain Pillot, Le Creusot, Bourgogne-Franche-Comté, France; M. Kevin Mandeville Jr., DNV, Katy, TX, USA; Tim Krentz, Savannah River National Laboratory, Aiken, SC, USA; Zakaria Hsain, US Department of Energy, Washington, DC, USA; Farid Afshar, Element Materials Tech, The Hague, Netherlands
Chair: Mihaela Cristea, Tenaris, Dalmine, Italy
Co-Chair: Joe Ronevich, Sandia National Laboratories, Livermore, CA, USA

PVP2025-153830: INFLUENCE OF HARDNESS AND MICROSTRUCTURE ON THE FRACTURE BEHAVIOR OF VINTAGE X46 PIPELINE STEEL IN HYDROGEN GAS
Michael Gagliano, Eeva Griscom, Jonathan Parker, EPRI, Charlotte, NC, USA

PVP2025-153684: EVALUATION OF THE HYDROGEN INFLUENCE ON THE STRAIN CAPACITY OF GIRTH WELDED CONNECTIONS CONTAINING A WORKMANSHIP FLAW THROUGH CURVED WIDE PLATE TESTS (Presentation Only)

Laura De Pue, Lisa Claeys, Kim Verbeken, Tom Depover, Wim De Waele, Ghent University, Zwijnaarde, Belgium

PVP2025-152431: CONSIDERATIONS OF THE FATIGUE DESIGN IN HYDROGEN SERVICE (Presentation Only)

Kang Xu, Linde Inc., Tonawanda, NY, USA; Mahendra Rana, Consultant, Niantic, CT, USA

SESSION 4.2I (DA-21-01)

Thursday, July 24, 10:15 am – 12:00 pm, Montreal 7 (Congres Level)

DESIGN AND ANALYSIS OF HYDROGEN PRESSURE EQUIPMENT

Symposium on Materials for Hydrogen Service—Co-Sponsored by the Codes & Standards, Computer Technology & Bolted Joints, Design & Analysis, Fluid-Structure Interaction, and Materials & Fabrication Technical Committees

Developed by: Warren Brown, Integrity Engineering Solutions, Dunsborough, Australia; Kannan Subramanian, Structural Integrity Associates, Inc., Metairie, LA, USA; Bing Li, Kinectrics, Inc., Toronto, ON, Canada; Bhaskar Shitolé, Wood, Calgary, AB, Canada; Forrest Gu, Becht, Calgary, AB, Canada; TJ Prewitt, Structural Integrity Associates, Inc., Columbus, OH, USA

Chair: Warren Brown, Integrity Engineering Solutions, Dunsborough, Australia

Co-Chair: Bing Li, Kinectrics, Inc., Toronto, ON, Canada

PVP2025-151757: SAFETY AND DESIGN ASPECTS FOR HIGH-PRESSURE HYDROGEN STORAGE TANKS: IMPORTANCE OF DESIGN BY ANALYSIS

Vincenzo Marini, Bora Aydin, Walter Tosto, Chieti Scalo, Italy; Michele Anatone, Edoardo Mancini, University of L'Aquila, L'Aquila, Italy

PVP2025-152630: STUDY ON THE INFLUENCE OF THICKNESS OF PLASTIC INNER LINER MATERIAL ON PERMEABILITY AND THE CALCULATION METHOD OF PERMEABILITY PARAMETERS OF TYPE IV HYDROGEN STORAGE BOTTLE

Chao Yang, Hui Luo, Laiming Zhang, Ke Bo, Sen Chai, Qi He, Heyi Feng, China Special Equipment Inspection & Research Institute, Beijing, China; Yifan Jiang, Zhongjing Zhou, Jiaxing Yangtze River Delta Hydrogen Safety Research Center, Jiaxing, China;

PVP2025-154285: FAILURE ANALYSIS OF THE DOME-CYLINDER TRANSITION REGION OF A PRESSURIZED LARGE-CAPACITY TYPE IV HYDROGEN STORAGE VESSEL

Yunxiao Zhang, Zhichao Fan, Peng Xu, Xuedong Chen, Hefei General Machinery Research Institute Co., Ltd., Hefei, China

PVP2025-154370: THE DYNAMIC RESPONSE STUDY OF LIQUID HYDROGEN STORAGE TANK ON OFFSHORE FLOATING PLATFORMS UNDER SLOSHING LOADS

Pengxu Lu, Xiangpeng Luo, Pengcheng Xu, Beijing University of Chemical Technology, Beijing, China

SESSION 4.2J (DA-10-04)

Thursday, July 24, 10:15 am – 12:00 pm, Montreal 8 (Congres Level)

BOLTED JOINT INTERNATIONAL LIAISON SESSION-2

Symposium on Bolted Joints—Co-Sponsored by the Computer Technology & Bolted Joints and Design & Analysis Technical Committees

Developed by: Gys van Zyl, Warren Brown, Integrity Engineering Solutions, Dunsborough, Australia; Clay Rodery, C&S Technology LLC, League City, TX, USA; Nathan Barkley, Becht, New Albany, MS, USA; Abdelgader Abdegalil, SABIC, Jubail, Saudi Arabia; Antonio Seijas, Phillips 66 Company, Houston, TX, USA

Chair: Carlos Girão, Teadit, Itatiba, Brazil

Co-Chair: Gys van Zyl, Integrity Engineering Solutions, Dunsborough, Australia

SESSION 4.2L (MF-13-01)

Thursday, July 24, 10:15 am – 12:00 pm, Outremont 4 (Congres Level)

COMPOSITE AND NON-METALLIC SYSTEMS FOR PRESSURE VESSELS AND PIPING (JOINT WITH D&A)

Symposium on Composite Materials—Co-Sponsored by the Codes & Standards and Materials & Fabrication Technical Committees

Developed by: Mo Uddin, Structural Integrity Associates, Inc., San Jose, CA, USA; Suresh Kalyanam, Westinghouse Electric Company, Cranberry Township, PA, USA; Jianfeng Shi, Zhejiang University, Hangzhou, China; Noel O'Dowd, University of Limerick, Limerick, Ireland; Pierre Mertiny, University of Alberta, Edmonton, AB, Canada; Qin Ma, Walla Walla University, College Place, WA, USA; Ashkan Eslaminejad, Structural Integrity Associates, Inc., Englewood, CO, USA

Chair: Qin Ma, Walla Walla University, College Place, WA, USA

Co-Chair: Jianfeng Shi, Zhejiang University, Hangzhou, China

PVP2025-154637: INDUSTRIAL PREPARATION OF HIGH-TEMPERATURE RESISTANT RUBBER PIPES FOR TRENCHLESS REHABILITATION TECHNOLOGY

Haijie Zhi, Sohail Yasin, Liang Zhang, Jianfeng Shi, Zhejiang University, Hangzhou, China; Yao Li, Ce Zheng, Beijing Heating Municipal, Engineering Construction Co., Ltd., Beijing, China; Guangzhong Li, Jiangsu Shuangteng Pipe Industry Co., Ltd., Zhangjiagang, China; Jing Zhao, Xiaoping Zou, Bestyield Technology (Huizhou) Co., Ltd, Huizhou, China

PVP2025-155560: FRICTION STIR WELDING OF HIGH-DENSITY POLYETHYLENE

Filmon Gebrehiwet Surafiel, Fadi Al-Badour, Rami Suleiman, King Fahd University of Petroleum and Minerals, Dhahran, Saudi Arabia

PVP2025-155800: RECYCLABLE COMPOSITE HYDROGEN STORAGE TANKS

Alison Kennedy, Carineh Ghafafian, Steve Nutt, University of Southern California, Los Angeles, CA, USA

SESSION 4.2M (CS-10-04)

Thursday, July 24, 10:15 am – 12:00 pm, Outremont 6 (Congres Level)

RECENT DEVELOPMENTS IN CHINESE CODES AND STANDARDS-4

Symposium on Recent Developments in Codes & Standards—Sponsored by the Codes & Standards Technical Committee

Developed by: Jianfeng Shi, Jinyang Zheng, Zhejiang University, Hangzhou, China; Guodong Jia, Guide Deng, China Special Equipment Inspection & Research Institute, Beijing, China; Xuedong Chen, Zhichao Fan, Hefei General Machinery Research Institute, Hefei, China; Yinghua Liu, Tsinghua University, Beijing, China

Chair: Yinghua Liu, Tsinghua University, Beijing, China

Co-Chair: Guangxu Cheng, Xi'an Jiaotong University, Xi'an, China

PVP2025-154645: CONFORMITY ANALYSIS OF AUSTENITIC STAINLESS STEEL PRESSURE VESSELS CONSTRUCTED ACCORDING TO EN 13445 WITH BASIC SAFETY REQUIREMENTS OF THE RELATIVE CHINESE REGULATION

Guide Deng, Guodong Jia, China Special Equipment Inspection & Research Institute, Beijing, China; Zhongqiang Liu, Zhejiang Academy of Special Equipment Science, Hangzhou, China

PVP2025-154764: ANALYSIS OF FACTORS AFFECTING FATIGUE CRACK GROWTH LIFE IN HYDROGEN STORAGE VESSELS

Xiaoliang Jia, Fang Ji, Yunmeng Zhou, Zhiwei Chen, Xiang Li, Jinhui Wang, Kai Wang, Honglian Ma, China Special Equipment Inspection & Research Institute, Beijing, China

PVP2025-154792: COMPARISON OF HIGH PRESSURE HYDROGEN STORAGE CYLINDERS FOR HYDROGEN FUEL CELL VEHICLES

Shuhong Liu, Yiwen Yuan, Ju Ding, Aisong Cao, Shanghai Institute of Special Equipment Inspection & Technical Research (SSEI), Shanghai, China

PVP2025-154782: DIGITAL RADIOGRAPHIC DETECTION PIPE WALL THICKNESS MEASUREMENT TECHNOLOGY BASES ON BOUNDARY METHOD (Presentation Only)

Xiaoke Li, Li Zhaoyang, Liu Shuhong, Wang Jielu, Ding Ju, Shanghai Institute of Special Equipment Inspection & Technical Research (SSEI), Shanghai, China

SESSION 4.2O (FSI-01-01)

Thursday, July 24, 10:15 am – 12:00 pm, Westmount 2 (Congres Level)

THERMAL HYDRAULIC PHENOMENA WITH VESSELS, PIPING AND COMPONENTS

Developed by: Arris Tijsseling, Eindhoven University of Technology, Eindhoven, Netherlands; Thorsten Neuhaus, TUEV Nord, Hamburg, Germany; Scott Lang, Applied Flow Technology, Colorado Springs, CO, USA

Chair: Scott Lang, Applied Flow Technology, Colorado Springs, CO, USA
Co-Chair: Arris Tijsseling, Eindhoven University of Technology, Eindhoven, Netherlands

PVP2025-152926: SHOOTING A WATER SLUG INTO A GAS COLUMN WITH VENT
Zafer Bozkus, Middle East Technical University, Ankara, Türkiye; Ali Ersin Dincer, Abdullah Gul University, Kayseri, Türkiye; Arris S. Tijsseling, Fons Van De Ven, Eindhoven University of Technology, Eindhoven, Netherlands

PVP2025-154590: FLUID-STRUCTURE INTERACTION ON DEFORMATION OF STEAM ISOLATION VALVES DURING CLOSING PROCESS
Fang-Na Xiang, An-Qi Guan, Xuan-Jie Gu, Cheng-Rong Liu, Zhi-Jiang Jin, Jin-Yuan Qian, Zhejiang University, Hangzhou, China; Zhi-Min Wang, Shi-Jian Chen, SUFA Technology Industry Co., Ltd., Suzhou, China

PVP2025-154595: AERODYNAMIC NOISE ANALYSIS OF CUT-OFF VALVE DURING OPENING PROCESS UNDER HIGH-PRESSURE CONDITIONS
Zhao-Tong Wang, Zhao-Nian Zhou, Ting-Feng Hua, Jing-Xian Kong, Wen-Qing Li, Zhi-Jiang Jin, Jin-Yuan Qian, Zhejiang University, Hangzhou, China

PVP2025-154601: EFFECTS OF SLEEVE PARAMETERS ON AERODYNAMIC NOISE IN HIGH PRESSURE REDUCING VALVE
Cheng-Rong Liu, Xuan-Jie Gu, An-Qi Guan, Fang-Na Xiang, Zhi-Jiang Jin, Jin-Yuan Qian, Zhejiang University, Hangzhou, China

SESSION 4.2Q (MF-24-02)

Thursday, July 24, 10:15 am – 12:00 pm, Westmount 6 (Congres Level)
MATERIALS AND FABRICATION FOR REFINING-2
Developed by: Richard Colwell, Bechtel, Richmond, TX, USA; Jorge Penso, Mitul Dalal, Shell Projects and Technology, Houston, TX, USA; Deepak Mankar, Fluor Corporation, Houston, TX, USA
Chair: Richard Colwell, Bechtel, Richmond, TX, USA
Co-Chair: Deepak Mankar, Fluor Corporation, Houston, TX, USA

PVP2025-154945: CORROSION BEHAVIOR OF THE ROOT FACE OF NO-BACKING-GAS AUSTENITIC STAINLESS STEEL WELDS
Claire Cary, Carolin Fink, Narasi Sridhar, Ohio State University, Columbus, OH, USA; Jorge Penso, Shell Projects and Technology, Houston, TX, USA

PVP2025-155037: CARBURIZATION ASSESSMENTS OF ALUMINA FORMING ALLOYS IN ETHYLENE PYROLYSIS FURNACE SERVICES:
Mitul Dalal, Jorge Penso, Shell Projects and Technology, Houston, TX, USA; Natalia Chacon, Kevin Williams, Frank Song, Shell USA, Inc. - Deer Park Chemical, Deer Park, TX, USA

PVP2025-155039: HOT TAP WELDING WITH FOCUS ON DOWNSTREAM AND CHEMICALS APPLICATION
Mitul Dalal, Jorge Penso, Shell Projects and Technology, Houston, TX, USA; Matt Boring, DNV, Katy, TX, USA

SESSION 4.2R (TW-02-10)

Thursday, July 24, 10:15 am – 12:00 pm, Montreal 1-2 (Congres Level)
AN OVERVIEW OF ASME SECTION VIII, DIVISION 3 DESIGN METHODS-PART 2
Developed by: Daniel T. Peters, Atlas Consulting LLC, Edinboro, PA, USA
Chair: Daniel T. Peters, Atlas Consulting LLC, Edinboro, PA, USA
Co-Chair: Maher Y.A. Younan, The American University in Cairo, Cairo, Egypt
Presented by: Daniel T. Peters, Atlas Consulting LLC, Edinboro, PA, USA

Block 4.3: Thursday, July 24, 2025 (2:00 pm – 3:45 pm)

SESSION 4.3H (HT-07-01)

Thursday, July 24, 2:00 pm – 3:45 pm, Montreal 6 (Congres Level)
DESIGN AND ANALYSIS OF HIGH PRESSURE HYDROGEN EQUIPMENT
Symposium on Materials for Hydrogen Service—Co-Sponsored by the Codes & Standards, Computer Technology & Bolted Joints, Design & Analysis, Fluid-Structure Interaction, and Materials & Fabrication Technical Committees
Developed by: Sean Berg, LB Industrial Systems, LLC, San Antonio, TX, USA; Sreelatha Kilambi, TD Williamson, Tulsa, OK, USA; Mo Nourani, Elite Professional Engineering, Burnaby, BC, Canada; Taylor Nyquist, A&A Machine & Fabrication, LLC, LaMarque, TX, USA; Giuseppe Macoretta, University of Pisa, Pisa, Italy; David Fuenmayor, UHDE High Pressure Technologies, Hagen, Germany; Kumarswamy Karpanan, Kairos Power, Houston, TX, USA; Melanie Sarzynski, Becht, Houston, TX, USA; Erick Ritter, Structural Integrity Associates, Inc., Littleton, CO, USA; Nathan Barkley, Becht, New Albany, MS, USA; Rahul Kapadia, ASML, Eindhoven, Netherlands; Kannan Subramanian, Structural Integrity Associates, Inc., Metairie, LA, USA
Chair: Mo Nourani, Elite Professional Engineering, Burnaby, BC, Canada
Co-Chair: Sam Lee, TechnipFMC, Houston, TX, USA

PVP2025-154522: IMPACT DAMAGE EVOLUTION AND RESIDUAL STRENGTH ASSESSMENT OF COMPOSITE HYDROGEN STORAGE CYLINDER
Yu Zhang, Haojun Lin, Chilou Zhou, South China University of Technology, Guangzhou, China; Haixiang Wang, Shanghai Institute of Space Propulsion, Shanghai, China; Huasheng Hu, Junyang Chen, Bo Deng, Cong Deng, Guangdong Institute of Special Equipment Inspection and Research, Foshan, China; Mao Deng, Sinopec Guangzhou Engineering Co., Ltd, Guangzhou, China; Gai Huang, Qunjie Lu, National Energy Key Laboratory for New Hydrogen-Ammonia Energy Technologies, Foshan Xianhu Laboratory, Foshan, China; Cheng Qin, Hainan Academy of Inspection and Testing, Haikou, China

PVP2025-155885: CRACK GROWTH OF ASYMMETRIC GEOMETRIES AND NON-UNIFORM WALL THICKNESS IN PRESSURE-CONTAINING BODIES UNDER CYCLIC LOADINGS
Brian Skeels, Sam (Kwok Lun) Lee, TechnipFMC, Houston, TX, USA; Grzegorz Widlak, TechnipFMC, Krakow, Poland

PVP2025-154710: FATIGUE ANALYSIS OF A HYDROGEN PRESSURE VESSEL USING ASME BPVC VIII-3 KD-10 AND COMPARING WITH THE RESULTS OF VIII-3 KD-322 USING DEGRADED S-N CURVES
Mohamadreza Nourani, Elite Professional Engineering, Burnaby, BC, Canada

PVP2025-154714: EFFECT OF GASEOUS HYDROGEN ON STRAIN GAGE BASED INSTRUMENTATION
Yunior Hioe, DNV, Columbus, OH, USA; Takahiro Hara, Independent Consultant, Novi, MI, USA

Block 4.4: Thursday, July 24, 2025 (4:15 pm – 6:00 pm)

SESSION 4.4H (CT-20-01)

Thursday, July 24, 4:15 pm – 6:00 pm, Montreal 6 (Congres Level)
ANALYTICAL METHODS FOR HYDROGEN APPLICATIONS
Symposium on Materials for Hydrogen Service—Co-Sponsored by the Codes & Standards, Computer Technology & Bolted Joints, Design & Analysis, Fluid-Structure Interaction, and Materials & Fabrication Technical Committees
Developed by: Don Metzger, AtkinsRéalis, Mississauga, ON, Canada; Hubert Lejeune, CETIM, Nantes, France
Chair: Jeff Wilson, VSP Technologies, Prince George, VA, USA
Co-Chair: Hubert Lejeune, CETIM, Nantes, France

PVP2025-154417: EXPERIMENTAL STUDY ON LEAKAGE AND DIFFUSION OF BURIED HYDROGEN BLENDED NATURAL GAS PIPELINES
Wenxin Guo, Shaohua Dong, Guanyi Liu, China University of Petroleum, Beijing, China

PVP2025-154854: MODELLING CONSIDERATIONS FOR THE EFFECT OF TEMPERATURE GRADIENTS ON REDISTRIBUTION OF HYDROGEN IN ZIRCONIUM
Don Metzger, AtkinsRéalis/Candu Energy Inc., Mississauga, ON, Canada; Yihai Shi, AtkinsRéalis, Mississauga, ON, Canada

PVP2025-154869: STUDY OF HYDROGEN EVOLUTION FOR THE OUTLET ROLLED JOINT OF CANDU REACTOR PRESSURE TUBE UNDER OPERATION THERMAL CYCLE
Yihai Shi, Austin Diiulio, Don Metzger, AtkinsRéalis, Mississauga, ON, Canada; Monique Ip, Larry Micuda, Bruce Power, Toronto, ON, Canada; Matthew Poloni, Shawn Lowe, Ontario Power Generation, Pickering, ON, Canada

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Topic Organizers perform an essential function in developing technical sessions; including the encouragement and screening of abstract submittals, facilitating the paper review process, and ultimately the organization and conduct of sessions at the conference. On occasion, with the merging of individual papers into sessions some topics may not appear in the final conference program. Nonetheless, those organizers have provided an important service for the conference. A complete listing of topic organizers is provided below, along with their respective topics. The Conference Organizers would like to thank them for their contributions.

CODES AND STANDARDS [CS]

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CS-01 Structural Integrity of Pressure Components
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CS-02 Hydrogen Effects on Material Behavior for Structural Integrity Assessment (Joint with M&F)
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CS-04 Integrity of Reactor Pressure Vessels and Internals for Codes
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CS-06 API 579/ASME Code Fitness-for-Service Activities
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CS-07 Recent Developments in ASME Codes and Standards
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CS-09 Recent Developments in Japanese Codes and Standards
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CS-10 Recent Developments in Chinese Codes and Standards
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CS-11 Recent Developments in European Codes and Standards
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CS-12 High Temperature Codes and Standards
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CS-13 Developments in HDPE/Buried and Non-metallic Pipe Codes and Standards
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CS-15 Mechanical Properties of Nuclear Graphite and their Implementation in Codes and Standards (Joint with M&F)
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CS-16 Fatigue and Ratcheting Issues in Pressure Vessel and Piping Design
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CS-17 Environmental Fatigue Issues (Joint with M&F)
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CS-18 Fatigue Monitoring and Related Assessment Method
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CS-19 Fracture Toughness and Other Small Specimen Mechanical Properties (Joint with M&F)
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CS-20 Master Curve Method and Applications
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CS-21 Constraint Effects on C&S
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CS-22 Repair; Replacement and Mitigation for Fitness-for-Service Rules
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CS-23 Improvement of Flaw Characterization Rules for FFS
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CS-24 Probabilistic and Risk-Informed Methods for Structural Integrity Assessment (Joint with M&F)
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CS-25 Fatigue and Fracture Assessment & Management – A Probabilistic Perspective
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CS-27 Materials surveillance for High Temperature reactors
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CS-28 Applications of AI in Codes and Standards
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COMPUTER TECHNOLOGY AND BOLTED JOINTS [CT]

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CT-01 Design and Analysis of Bolted Flange Joints
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CT-02 Packing and Valves
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CT-03 Leak Tightness and Fugitive Emissions
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CT-04 Assembly of Bolted Joints
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CT-05 Threaded Fasteners
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CT-07 Computational Applications in Fatigue/Fracture/ and Damage Mechanics
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CT-08 New and Emerging Methods of Analysis and Applications
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Yasumasa Shoji, YS Corporation LLC, Mushashino, Japan
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CT-11 Computational FEA for Limit Load Elastic-Plastic Analysis and Creep
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CT-14 New and Emerging Flange and Non-metallic Design Codes
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CT-16 Threaded Connections for Innovative and Light Weight Materials
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CT-19 AI/ Data Engineering and Data Analysis
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CT-20 Analytical Methods for Hydrogen Applications
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DESIGN AND ANALYSIS [DA]

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DA-07 Thermal Stresses and Elevated Temperature Design
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DA-08 Fitness for Service Evaluations
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DA-09 Piping and Equipment Dynamics and Dynamic Response Analysis
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DA-15 International Symposium on Coke Drum Life Cycle Management
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DA-16 Vessel Design Philosophy
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DA-19 Special Considerations in the Design and Analysis of Supports/ Restraints/ and Welded Attachments
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DA-21 Design and Analysis of Hydrogen Pressure Equipment
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DA-22 Design and Analysis of Above Ground Liquid Storage Tanks
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FLUID STRUCTURE INTERACTION [FSI]

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FSI-03 Structures Under Extreme Loading Conditions
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FSI-04 FSI Design and AI for Industry
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FSI-05 Hydrogen Transport
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HIGH PRESSURE TECHNOLOGY [HT]

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HT-01 Design/ Analysis and Life Prediction of High-Pressure Vessels and Equipment
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HT-02 Structures under Extreme Loading Conditions (Joint Topic with FSI)
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HT-03 Fitness for Service and NDE of High-Pressure Vessels and Piping
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HT-04 Design and Analysis of High-Pressure Equipment for Industry
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HT-06 Design and Analysis of High-Pressure Equipment for Oil and Gas Exploration and Production
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HT-07 Design and Analysis of High Pressure Hydrogen Equipment
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MF-01 Application of Fracture Mechanics in Failure Assessment
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MF-02 Materials for Hydrogen Service (Joint with C&S)
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MF-03 Welding Residual Stress and Distortion Simulation and Measurement
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MF-05 Fitness-For-Service and Failure Assessment
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MF-09 Mechanistic Modelling of Deformation and Fracture
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MF-11 Small-Scale and Miniature Mechanical Testing (Joint with C&S)
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MF-12 Leak Before Break
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MF-13 Composite and Non-Metallic Systems for Pressure Vessels and Piping (Joint with D&A)
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MF-14 Probabilistic Assessment of Failure (Joint with C&S)
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MF-15 Fatigue and Fracture of Welds and Heat Affected Zones
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MF-16 Creep and Creep-Fatigue Interaction
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MF-17 Advanced and Additive Manufacturing and Material Technologies (joint with D&A)
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MF-20 Material Quality and Failure Analysis
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MF-22 3D Crack Growth Simulation Using FEA
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MF-23 Structural Integrity for Spent Fuel Canisters
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MF-24 Materials and Fabrication for Refining
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MF-25 High Strength Steels for Pressure Vessels and Piping Applications
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MF-29 Mechanical Properties of Nuclear Graphite and Composites and their Implementation in Codes and Standards (Joint with CS)
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MF-30 Cryogenic Pressure Vessels and Piping
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MF-32 Materials and Design for Carbon Capture
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MF-33 General Papers
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MF-34 Polymers for Hydrogen Service
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MF-35 Material Surveillance for High Temperature Reactors (Joint with C&S)
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NDE-02 NDE Techniques and Applications for Petrochemical and Power Plant Components
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NDE-03 NDE Reliability Using Artificial Intelligence/ Modeling & Simulation/ and Experimental Analysis
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Min Zhang, Praxair a Linde Company, Tonawanda, NY, USA
NDE-05 Risk Assessment of Aging Structures
Vivek Agarwal, Idaho National Laboratory, Idaho Falls, ID, USA
Min Zhang, Praxair a Linde Company, Tonawanda, NY, USA

OPERATIONS, APPLICATIONS, AND COMPONENTS [OAC]

Technical Program Representatives:
Ciska de Haan - de Wilde, NRG, Petten, Netherlands
Sarah Suffield, PNNL, Richland, WA, USA

OAC-01 Safety/ Reliability/ and Risk Management
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Sarah Suffield, PNNL, Richland, WA, USA

OAC-02 Qualification and Testing
Ciska de Haan - de Wilde, NRG, Petten, Netherlands
Georges Bezdikian, Consultant, Le Vésinet, France
Keiko Chitose, OECD NEA, Paris, France

OAC-03 Monitoring/ Diagnostics & Inspection
Radim Kopřiva, ÚJV Řež a. s., Husinec, Czech Republic
Jana Petzová, VUJE a.s., Trnava, Slovakia

OAC-04 Storage and Transportation of Radioactive and other Hazardous Materials
Mike Weber, Bundesanstalt für Materialforschung und -prüfung (BAM), Berlin, Germany
Zenghu Han, Argonne National Laboratory, Lemont, IL, USA
Nicholas Klymyshyn, PNNL, Richland, WA, USA
Oscar Martinez, Oak Ridge National Laboratory, Oak Ridge, TN, USA
Steve Hensel, Savannah River National Laboratory, Aiken, SC, USA
David Tamburello, Savannah River National Laboratory, Aiken, SC, USA
Mustafa Hadj-Nacer, University of Nevada-Reno, Reno, NV, USA
Steffan Komann, Bundesanstalt für Materialforschung und -prüfung (BAM), Berlin, Germany

OAC-06 Operation and Maintenance of Pressure Vessels/ Heat Exchangers/ Piping and Supports
Kaida Takuyo, Sumitomo Chemical, Niihama City, Japan
Ayman Cheta, Shell Global Solutions US Inc., Houston, TX, USA
Yasumasa Shoji, YS Consulting LLC, Mushashino, Japan
Junya Takahashi, Sumitomo Chemical, Niihama City, Japan
Ahmed Alian, Next Structural Integrity Inc., Burlington, ON, Canada

OAC-07 Plant Life Extension: Aging & Life Management
Ciska de Haan - de Wilde, NRG, Petten, Netherlands
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SEISMIC ENGINEERING [SE]

Technical Program Representatives:
Satoru Kai, IHI Corporation, Yokohama, Japan
Gianluca Quinci, Roma Tre University, Rome, Italy

SE-01 Earthquake Resistance and Seismic Margin
Tomoyo Taniguchi, Tottori University, Tottori, Japan
Akira Maekawa, Osaka Sangyo University, Osaka, Japan
Izumi Nakamura, Tokyo City University, Setagata, Japan

SE-02 Seismic Isolation
Osamu Furuya, Tokyo Denki University, Tokyo, Japan
Taichi Matsuoka, Meiji University, Kawasaki, Japan
Satoshi Fujita, Tokyo Denki University, Tokyo, Japan

SE-03 Damping and Vibration Control
Keisuke Minagawa, Saitama Institute of Technology, Saitama, Japan
Fabrizio Paolacci, Roma Tre University, Rome, Italy

SE-04 Machine Learning and Advanced Computation for Seismic Analysis of Industrial Facilities
Gianluca Quinci, Roma Tre University, Rome, Italy
Fabrizio Paolacci, Roma Tre University, Rome, Italy
Oreste Bursi, University of Trento, Trento, Italy

SE-05 Structural Dynamics
Kiyoshi Aida, Mitsubishi Heavy Industries, Kure-Shi, Japan
Katsuhisa Fujita, Osaka City University, Sumiyoshi-ku, Japan

SE-06 Seismic Analysis and Design of Piping System
Izumi Nakamura, Tokyo City University, Setagata, Japan
Kisaburo Azuma, Nuclear Regulation Authority, Minato-ku, Japan

SE-07 Seismic Evaluation of Systems/ Structures and Components
Satoru Kai, IHI Corporation, Yokohama, Japan
Jinsuo Nie, US Nuclear Regulatory Commission, Washington, DC, USA

SE-09 Advanced Seismic Evaluation and Code (Joint session with C&S)
Akira Maekawa, Osaka Sangyo University, Osaka, Japan
Izumi Nakamura, Tokyo City University, Setagata, Japan
Akihito Otani, IHI Corporation, Yokohama, Japan

SESSION CHAIRS/CO-CHAIRS

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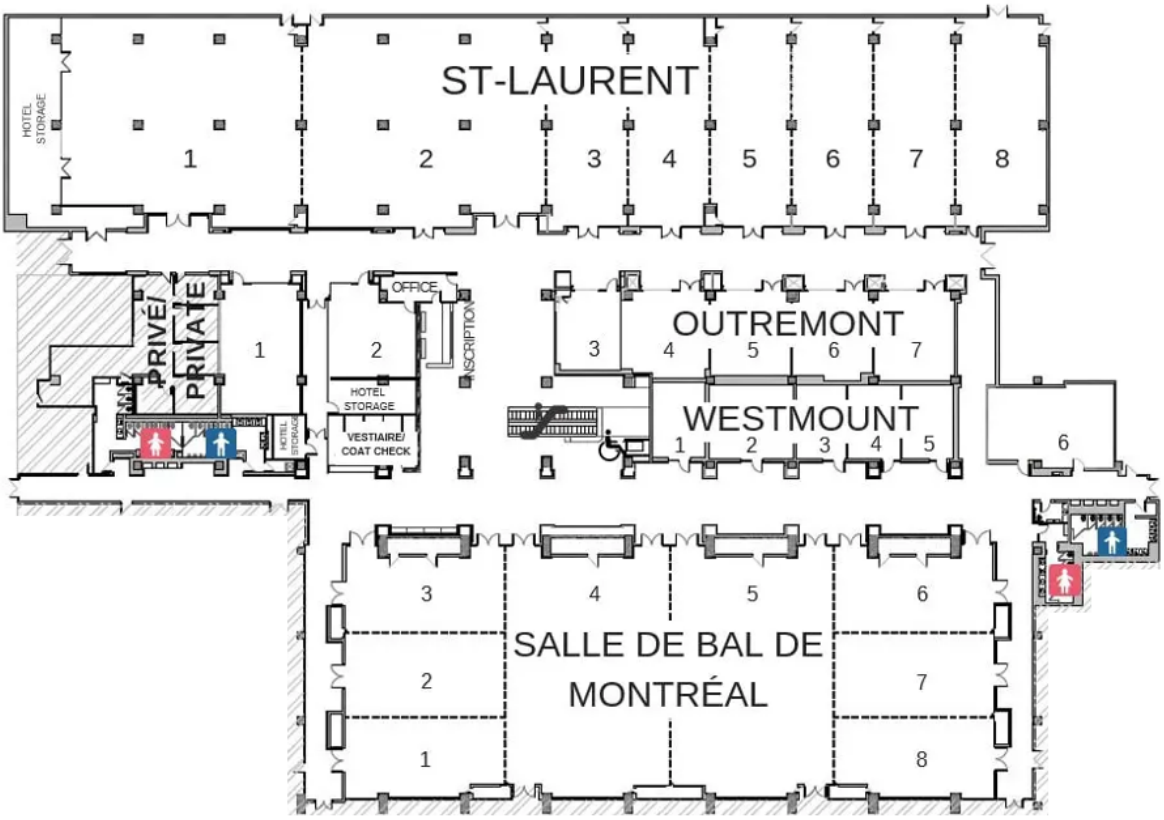

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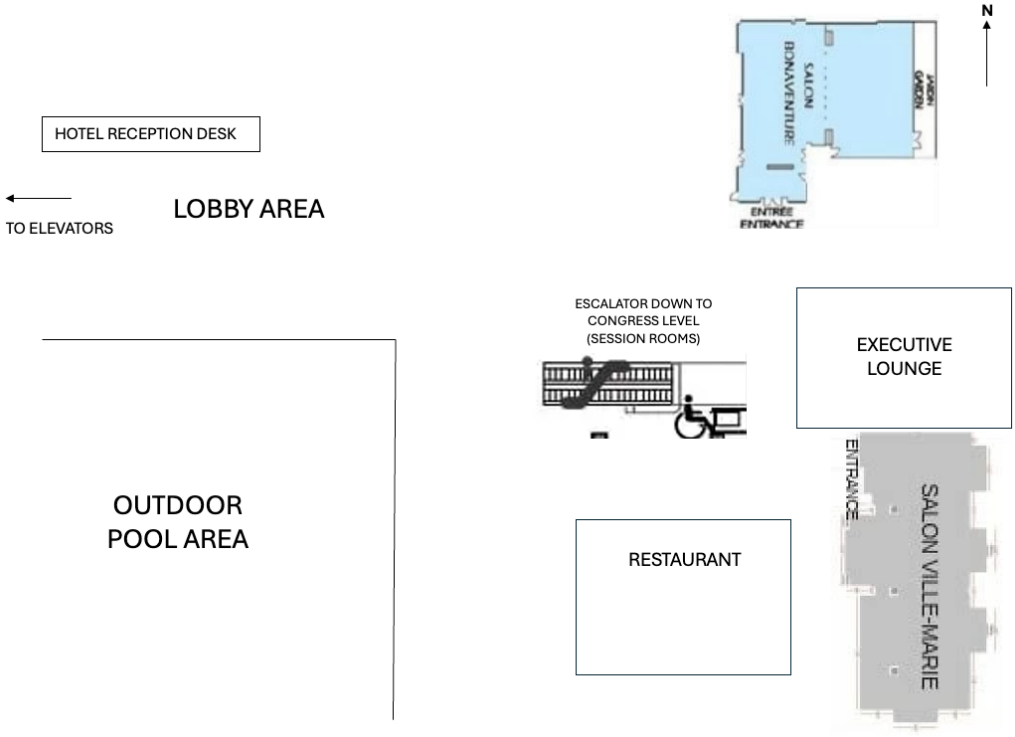

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