ASME® 2021 PVP®
Pressure Vessels & Piping®

Program

CONFERENCE
Week of July 12, 2021

Virtual, Online

https://event.asme.org/PVP

The American Society of Mechanical Engineers®
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SETTING THE STANDARD

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WELCOME FROM THE CHAIR

Welcome to the 2021 ASME Pressure Vessels & Piping Conference. While the Covid-19 pandemic has turned the entire world upside down, PVP has chosen to forge ahead like so many other events over the past 1.5 years – on a virtual platform. We really appreciate that you have decided to join us under these unusual circumstances, and we look forward to meeting in-person again in the near future.

The PVP Conference is known as the outstanding international technical forum for participants to further their knowledge base by being exposed to diverse topics, and exchange opinions and ideas with leading experts from industry and academia. The conference is built on a pioneering spirit that disseminates the cutting-edge knowledge on Pressure Vessels and Piping Technologies for and to our global community of practice. Our international experts come from at least 40 different countries in Europe, Africa, the Middle East, Asia, the Americas, and the Oceania islands and present their latest research findings in the area of pressure vessels and piping. Although we may not have a physical in-person conference this year, these proceedings demonstrate that this conference still produces the premiere technical content in the Pressure Vessels and Piping field.

The ASME Pressure Vessels and Piping Division is the primary sponsor of this Conference, with additional participation by the ASME Nondestructive Evaluation, Diagnosis and Prognosis Division (NDPD). This year, under the theme “Engineering in a post-Covid world” the conference has attracted 315 technical papers and 36 presentations. The papers and presentations are being organized into technical and panel sessions that will be offered through the ShowCare virtual meeting platform. We have been able to secure one technical tutorial for our virtual conference and two special tutorials. We will also host a virtual EPRI Expert Workshop on *Material Challenges in Assessment of Fitness for Service*. The ShowCare platform will also host virtual exhibits and sponsorships this year.

Technical papers and presentations presented at this Conference are separated into Tracks, according to their technical areas. Technical papers are available online to registered attendees via the Conference App. Hard copy volumes of post-Conference Proceedings will be published by ASME after the Conference. Authors are also encouraged to submit their papers to the Editor of the Journal of Pressure Vessel Technology (JPVT), Dr. Young W. Kwon, (ywkwon@nps.edu) for further review and publication in the JPVT.

On behalf of the PVP Senate Operating Committee, the PVP Division Management Committee, Andrew Duncan, the PVP-2021 Technical Program Chair, and myself, the PVP-2021 Conference Chair, we would like to extend our sincere gratitude to all Contributing Authors, Reviewers, Panelists, Tutorial Leaders, Session Organizers, Session Chairs and Co-Chairs, and Technical Track Organizers, our ASME Meetings Manager, Kim Miceli, and Supervising Event Manager, Jamie Hart, our ASME Publications Coordinators Mary Rose MacDonald and Mary Grace Stefanchik, and our ASME Electronic Conference Coordinator, Stacey Cooper. Without their contributions and assistance, we would not have been able to achieve the success of the PVP-2021 Conference. Finally, we would also like to recognize our financial sponsors for their generosity. Their contributions are greatly appreciated.

Matt Feldman

PVP-2021 Conference Chair

PVP 2021 PROGRAM LAYOUT

NA EDT	July 1, 2021	---->	July 13, 2021	July 14, 2021	July 15, 2021	July 16, 2021	---->	October 30, 2021
1:00 AM	Technical Video Review Period					Technical Video Review Period		
2:00 AM								
3:00 AM								
4:00 AM								
5:00 AM								
6:00 AM								
7:00 AM								
8:00 AM			OAC TECH COM			EPRI Workshop 8:30AM - 1PM EDT		
9:00 AM			Session 1: 9AM-10:05AM EDT					
10:00 AM			Technical Roundtable Networking					
11:00 AM								
12:00 PM								
1:00 PM								
2:00 PM								
3:00 PM		HPT TECH COM						
4:00 PM								
5:00 PM			Session 2: 5PM - 6:05PM EDT					
6:00 PM			Technical Roundtable Networking					
7:00 PM								
8:00 PM			Session 3: 8PM - 9:05PM EDT					
9:00 PM			Technical Roundtable Networking					
10:00 PM								
11:00 AM								
12:00 PM								

Technical video presentations

Technical video presentations will be available for viewing from July 1, 2021 to October 30, 2021. From July 1, 2021 to July 13, 2021 is specifically for the purpose of reviewing the presentations in preparation for the live Q&A sessions on July 13-15, 2021. Please come to the live sessions ready to discuss papers.

RoundTable Networking Sessions

There will be topical networking sessions after each live session. These are small group meetings to discuss specific technical topics. Some large topics will have more than one roundtable session from which to choose.

Sessions

These are meetings where you will hear a short summary of a paper from a presenter/author and have an opportunity to discuss the paper after the summary. Each session will have up to 6 papers for review and discussion.

Technical Committee Meetings

The various PVP Technical Committee meetings will take place throughout the time the virtual platform is open. The TC Chairs will be responsible for setting and communicating these meeting.

ASME PRESSURE VESSELS & PIPING DIVISION

The 2021 Pressure Vessels & Piping Conference marks the 55th 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 several 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. D. Hardenberg and S. Zamrik published their results in WRC bulletins of 1963 and 1964. Contributions to this work were also made by C. Taylor at Illinois University using photoelasticity stress analysis, and E.O. Waters at Yale University using computational analysis. In view of the growing interest in pressure vessel technology and research results, F. 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 F. Williams and D. Young to create the Pressure Vessels and Piping Division. The recommendation passed unanimously, and D. 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 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 and Core Values:

- The Mission is to provide a forum to the engineering and scientific communities to promote, share and disseminate state-of-the-art pressure technologies, relating to the power, petrochemical, and process industries, and sustainable and alternative energies.
- The Core Values are to embrace integrity and ethical conduct and 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.

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.

PVP 2021 CONFERENCE COMMITTEE

Matt Feldman
Conference Chair

Sam Y. Zamrik
Conference Advisor

Andrew Duncan
Technical Program Chair

PVP Technical Program Representatives

Codes & Standards	Anees Udyawar & Valery Lacroix
Computer Technology & Bolted Joints	Hubert LeJeune & Satoshi Nagata
Design & Analysis	Nathan Barkley & Phillip Wiseman, P.E.
Fluid-Structure Interaction	Pierre Moussou & Trey Walters, P.E.
High-Pressure Technology	Melanie Sarzynski & Matt Edel
Materials & Fabrication	Paul Korinko & Peter Gill
Operations, Applications & Components	Mustafa Hadj-Nacer, Ph.D & Nicholas Klymyshyn
Seismic Engineering	Keisuke Minagawa & Taichi Matsuoka
ASME NPDP Division	Min Zhang & Vivek Agarwal
EPRI Expert Workshop	Jonathan Parker

PVP Division Management Committee (2020-2021)

Trevor Seipp	Chair
Matthew R. Feldman	Vice Chair
Andrew Duncan	Communications Chair
Clay Rodery	Honors & Awards Chair
Yasumasa Shoji	Incoming Communications Chair
Ravi Baliga	In Training

PVP Senate of Past Division Chairs

Pierre Mertiny	2019-2020
Hakim A. Bouzid	2018-2019
Maher Y.A. Younan	2017-2018
Douglas A. Scarth	2016-2017
Marina B. Ruggles-Wrenn	2015-2016
Daniel T. Peters	2014-2015
Michael E. Nitzel	2012-2014
Ronald S. Hafner*	2011-2012
Young W. Kwon	2010-2011
Luc H. Geraets*	2009-2010
Artin A. Dermenjian	2008-2009
James F. Cory, Jr.	2007-2008
Judith A. Todd	2006-2007
M.K. Au-Yang*	2005-2006
Ismail T. Kisisel	2004-2005
William J. Bees	2003-2004
Howard H. Chung	2002-2003
Joseph Sinnappan	2001-2002
A.G. (Jack) Ware	2000-2001
Robert F. Sammataro*	1999-2000
Thou-Han Liu	1998-1999
William E. Short, II	1997-1998
Richard C. Gwaltney*	1996-1997
Shoei-Sheng Chen*	1995-1996
Greg L. Hollinger	1994-1995
Carl E. Jaske	1993-1994
Rudy J. Scavuzzo*	1992-1993
Sam Y. Zamrik	1991-1992
G.E. Otto Widera	1990-1991
Robert H. Mallett	1989-1990
Robert W. Swinderman	1988-1989
Alexander H.C. Marr	1987-1988
Jeffrey T. Fong	1986-1987
Don B. Van Fossen	1985-1986
James R. Farr*	1984-1985
Charles F. Nash	1983-1984
Donald S. Griffin	1982-1983
Richard H. Gallagher*	1981-1982
L. Eugene Hulbert	1980-1981
Robert E. Nickell*	1979-1980
Roger F. Reedy	1978-1979
David H.C. Pai*	1977-1978
Pedro V. Marcal	1976-1977
Harold H. Waite*	1975-1976
Robert L. Cloud	1974-1975
Charles V. Moore	1973-1974
Irwin Berman*	1972-1973
Danos Kallas*	1971-1972
Robert J. Cepluch*	1970-1971
Charles F. Larson	1969-1970
Gunther P. Eschenbrenner	1968-1969
Vito Salerno*	1967-1968
Dana Young*	1966-1967

** Deceased*

PVP Division Technical Committee Chairs

Codes & Standards	Ryan Crane
Computer Technology & Bolted Joints	Jerry Waterland
Design & Analysis	Jaan Taagepera
Fluid-Structure Interaction	Tomoyo Taniguchi
High-Pressure Technology	David Gross
Materials & Fabrication	Do Jun Shim
Operations, Applications & Components	Georges Bezdikian
Seismic Engineering	Fabrizio Paolacci

PVP Division Administrative Committee Chairs

Membership Chair	Bing Li
Website & PVPD Newsletter Editor	Andrew Duncan
International Coordination	Xian-Kui Zhu

ASME Journal of Pressure Vessel Technology

Editor	Young W. Kwon

ASME President

Mahantesh Hiremath	2020-2021

ASME Staff

Sr. Manager, TEC Operations	Jamie Hart
Manager, Conferences and Events	Kim Miceli

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 Tutorials and Presentations: These are one-hour or two-hour conference sessions. The session leaders will make available the necessary presentation materials.

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

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

An outline of the tutorial sessions for the 2021 PVP Conference is presented in the following pages.

SPECIAL TUTORIAL

Navigating Engineering Professional Development in the ERA of Coronavirus

Ike Ezekoye, Ph.D., PE
Tuesday, July 13, 2021 | 9:00 AM-10:05 AM (EST)

All along, most of us engineers have gone to work every day away from our homes unless when we travel on business. The worldwide advent of Coronavirus changed everything. Instead of going to work as usual, many companies required their staff to work from home. While people are working from home, some people love to work from home while others cannot wait to go back to work. In this tutorial we present the pros and cons associated with working at home and working in the office. I plan also to explore how these two choices impact professional advancement of engineers and how to navigate them if your employer provides options.

TECHNICAL TUTORIAL

PROCESS AND BENEFITS OF ASME PRESSURE TECHNOLOGY CODES & STANDARDS DEVELOPMENT

Daniel Peters, Structural Integrity Associates
Part I - Tuesday, July 13, 2021 | 5:00 PM-6:05 PM (EST)
Part II - Wednesday, July 14, 2021 | 5:00 PM-6:05 PM (EST)

Have you ever wondered how all of the Codes & Standards stuff that ASME produces happens? In addition to the advantages and benefits that ASME members gain from membership in the PVP Division and attendance and participation in the ASME Pressure Vessel & Piping Conference, ASME can also offer additional benefits to folks with these interests in Codes & Standards development. In this special tutorial, we will:

- Explain the overall process used in development of ASME Codes & Standards, and specifically those in the area of Pressure Technology Codes & Standards;
- Describe the consensus process used in the Codes & Standards development process and the ANSI approval process;
- Explore the benefits to participants in ASME Codes & Standards development activities;
- Discuss the various types of participation in the Codes & Standards Committees, qualifications, and the expectations of the participants;
- Explore the relationship between ASME Pressure Vessels & Piping Division and ASME Codes & Standards;
- Explain the overall Committee Structure under the Board on Pressure Technology Codes & Standards and their areas of responsibilities; and

- Discuss some of the emerging areas in Pressure Technology and the ones currently seeking participants.

One of ASME's most valuable assets is our relationships with the volunteer members who serve on our Codes & Standards committees. It is ASME's policy to afford all persons with direct and material interest, without regard to country of citizenship or residency, the opportunity to participate in the ASME Codes & Standards development process. Membership on a committee normally represents you as an individual, rather than as a representative of your employer or another organization.

The last part of the Special Tutorial will be an open question and answer session to discuss any questions you may have. So come and ask the experts about another way to get involved with ASME.

Auto-Refrigeration and Brittle Fracture Prevention

Kannan Subramanian, Stress Engineering Services, Inc.
Part I - Thursday, July 15, 2021 | 9:00 AM-10:05 AM (EST)
Part II - Thursday, July 15, 2021 | 5:00 PM-6:05 PM (EST)

Brittle fracture can result in catastrophic damages as witnessed in multiple events recorded by the petrochemical industry. Fracture toughness is the material property that is commonly referred as the measure of any material's resistance to such fractures. Carbon steel materials that are commonly used in the industry have been known to exhibit significantly lower toughness at lower temperatures including but not limited to low ambient temperature and lower metal temperatures resulting from process excursions which were not originally considered during the design phase. One of such process excursions is termed as "auto-refrigeration," wherein a process fluid changes phase from liquid to gas resulting in significantly lower temperature of the fluid and in turn the metal that contains the fluid. In this tutorial, the presenter will discuss the basics of brittle fracture, its effect on the petrochemical industry, the evolution of toughness rules in BPVC that are commonly used to prevent such fractures, auto-refrigeration, other common excursion events, and the assessment methods to protect the assets from an excursion event.

EPRI WORKSHOP

Material Challenges in Assessment of Fitness for Service
Friday July 16, 2021, 8:30am – 1:00pm Eastern USA time.

EPRI has been providing technical support to key Global stakeholders in the Electricity Supply Industry for over 40 years. In the Generation Sector, a key research imperative is knowledge creation and technology transfer linked to reliable, safe, and economically flexible operation of power plants. EPRI collaboration has included contributions to development of databases containing key properties for high temperature alloys, contributions to methods of Design and Fabrication as well as compiling Case Studies of in-service issues and facilitating Root Cause assessment.

Technology transfer has been an important aspect of this work so that lessons learned can be used to establish best practice; these activities have included annual workshops, publication of summary documents and additional research. Excellence in science and engineering is necessary to underpin technology which will help to meet challenges associated with safe and reliable operation of plants.

The Workshop in 2021 will consider “Material Challenges in Assessment of Fitness for Service”. There will be 5 formal presentations from invited expert speakers followed by a discussion session. Achieving the usual levels of engagement and interaction in a virtual meeting will be a challenge. However, we will be working to make sure that all delegates can ask relevant questions. Thus, there will be the opportunity to submit questions prior to the Workshop. In addition, during the Workshop there will be a ‘chat box’ and there will also be the opportunity to raise a flag and then initiate discussion on presentation specific topics or more broadly linked to assessment of FFS.

It is recognized that prevention of catastrophic structural failure requires the application of an integrated approach which includes knowledge of relevant materials properties as well as informed engineering analysis, quality assurance, plant monitoring and in-service inspection. Many approaches for assessing the performance of structures use a Failure Assessment Diagram to evaluate both the potential for plastic instability and for fast fracture. Both assessments require knowledge of component properties. The uncertainty associated with selecting relevant values even when using published rules for making structural integrity assessments still necessitates the use of expert technical judgement. The current Workshop will provide an inclusive forum for consideration of how these challenges have been addressed in selected applications.

VIRTUAL CONFERENCE INFORMATION

Virtual Conference Access

Once you are registered for the conference you can access the virtual site here: https://pvp21.asme.showcare.io/ Note, within an hour of registration you will receive an email with instructions to access the site. You will not have access to the site prior to receipt of this email.

New Conference Format

In response to the interest from PVP attendees for live content, networking opportunities, and an improved experience with the PVP virtual platform, a new and robust conference format was formed by the PVP Organizing Committee.

This conference format will provide all authors of final papers the opportunity to create a 15-minute video on-demand presentation of their paper. The video presentation will be available on-demand, on the virtual event platform, two weeks prior the official start day of the virtual conference, during the conference, and 70 days post-conference. The early video viewing availability will allow attendees to come to the conference prepared with questions for the authors which will facilitate the "live networking" intended to improve the conference experience. Additionally, details of the new virtual format are given below.

Technical Paper Sessions

- All PVP2021 paper sessions will be 1 hour and 5 minutes long (65 minutes) to accommodate 6 papers and a short session introduction by the moderator.
- For each paper in the session there will be a short summary presentation and live Q&A period between the audience and author.
- Networking Round Table discussions can be organized anytime (around the clock) to meet any time-zone and enhance interactions.

Other Important Virtual Conference Improvements

- Video on Demand (VOD) will be available two weeks prior to the official start date of the conference.
- The papers will be available on the virtual event platform. You will not have to connect to a different site to access the papers.
- There will be a pdf version of the technical session schedule.
- Attendees will be able to see who is in each session.

- Improved network discussions via the networking Round Tables in the 24-hour virtual platform. Information on how you can create these will be available soon.
- List of all authors will be included in the virtual platform.
- Inclusion of tutorials.
- EPRI Workshop with live Q&A between the audience and authors.

Virtual Event Information

- Virtual event dates are Tuesday, July 13 – Thursday, July 15, 2021.
- EPRI Workshop to take place on Friday, July 16, 2021 from 8:30 am – 1:00 pm Eastern US time. There is an additional charge for the workshop.
- Conference keynotes will be available on-demand only.
- Conference technical sessions with live Q&A will run each day as shown below, first North American (NA) Eastern time then corresponding worldwide time zones. Similarly, to a physical PVP conference, there will be parallel sessions and breaks.
- There will be 7 concurrent technical sessions and 2 tutorials during each session time.
- Every effort has been made by the organizing committee to accommodate varying time zones.

Session	NA Eastern	NA Pacific	European	Asian
Session 1	9:00 AM - 10:05 AM	6:00:AM - 7:05 AM	3:00 PM - 4:05 PM	9:00 PM - 10:05 PM
Session 2	5:00 PM - 6:05 PM	2:00 PM - 3:05 PM	11:00 PM - 12:05 AM	5:00 AM +1 - 6:05 AM +1
Session 3	8:00 PM - 9:05 PM	5:00 PM - 6:05 PM	2:00 AM +1 - 3:05 AM +1	8:00 AM +1 - 9:05 AM +1

- There must be one (1) full paid registration for each Technical Paper.
- Access to online video on-demand presentations, papers and conference proceedings will be provided to registered attendees.

TECHNICAL COMMITTEE MEETINGS

These meeting have been scheduled by the individual technical committee chairs. Please contact them for further information.

REGISTRATION

A conference registration is required to access the PVP 2021 program, papers, technical presentation videos, technical papers, and virtual platform. Note that the EPRI Workshop is available as an add on to your Conference Workshop registration or as a standalone option. The EPRI workshop will take place from 8:30am - 1:00pm Eastern time on Friday, July 16.

The author registration deadline is June 28, 2021. The presenting author should register for the conference to be able to participate. Registration transfer is not permitted.

Registration Options	Cost
ASME Member/Author*	$349
ASME Non-Member	$399
ASME Student Member/Author*	$269
Student Non-Member	$299
Life Member	$269
Workshop Options	Cost
EPRI Workshop Only (presenters and attendees)	$20
EPRI Workshop Add on for Full Conf. Attendees	$20

Technical Conference Registration Includes:

Full Registration Fee includes: Access to On Demand presentations and the live conference, July 13 - 15, 2021. On Demand access will be available for 90 days. Access to the Conference Papers.

Student Fee includes: Access to On Demand presentations and the live conference, July 13 - 15, 2021. On Demand access will be available for 90 days. Access to the Conference Papers.

Non-Members Fee includes: Anyone paying the non-member fee is eligible to receive one year's membership to ASME as part of their registration fee.

* You must register with the same email linked to your ASME account/Toolbox Login in order to obtain this special price. Failure to do so will result in a price difference that does not meet your Member Status Level.

Cooperating Societies

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

CONFERENCE PUBLICATION

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 13, 2021 you will be able to download the Conference proceedings online at the link that will be sent to you by email. There are copies of the Technical Papers on the virtual platform for immediate viewing.

Papers presented at the Conference will be available post-conference in printed bound volumes of the Official Conference Proceedings. Printed proceedings can be ordered through ASME Customer Service approximately three to four months after the Conference. A complete set of the volumes may be purchased as a package at a 10% discount. The Official Conference Proceedings will also be published post-conference as part of the ASME Digital Collection at http://asmedigitalcollection.asme.org. All ASME Conference Proceedings are submitted to be indexed in Scopus, Compendex, ISI Conference Proceedings Citations Index, and in multiple other indexing publishers.

Publishing Conference Papers in the ASME Journal of Pressure Vessel Technology

Technical papers presented at the ASME PVP 2019 Conference 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. Young W. Kwon whose contacts are hereafter, 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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We are back! After 2 years of meeting virtually and overcoming the immense challenges that Covid-19 has placed in our path, it is time to return to each others presence in the time honored tradition of an in-person meeting. The PVP Division is pleased to announce our plans to meet together during summer of 2022 at the JW Marriott Resort in sunny Las Vegas, NV. This Pressure Vessel & Piping Conference will provide us with the opportunity to examine the industrial challenges, discuss potential approaches to derive solutions using academic and government institutions throughout the global PVP community in a model of cooperation and collaboration.

As a recognized international forum with participants from more than 40 countries in Europe, Africa, the Middle East, Asia, the Americas and the Oceania islands, this year's PVP Conference will be the ideal setting for staying abreast of the latest in PVP engineering innovation and emerging technologies, while communicating and collaborating with fellow experts, practitioners and peers. More than 180 paper and panel sessions are planned, as well as on-line tutorials and workshops, including a Technology Demonstration Forum and exhibition. The ASME Pressure Vessels & Piping Division sponsors each year's conference with participation by the ASME NDPD Division.

GENERAL TOPICS

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

Technical areas will also include developments in design methodologies including elastic-plastic analysis, non-destructive examination, fitness-for-service, operation & maintenance, creep, fatigue, stress corrosion cracking, residual stresses, fracture

SCHEDULE FOR SUBMISSION*

November 8, 2021	Abstracts are due
December 1, 2021	Notified of abstract acceptanc
January 24, 2022	Draft papers are due
February 28, 2022	Peer review comments returned
April 4, 2022	Copyright Agreement Form must b submitted for each paper
April 8, 2022	Final manuscripts* due for publica tion

**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

The conference website URL is: https://event.asme.org/pvp. Technical paper abstracts must be submitted electronically through the website. Please visit the website for additional information.

PVP Conference Chair

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SESSIONS BY DAY & TIME

Acronyms used for the Technical Committees and sponsoring organizations are shown below:

CS Codes & Standards
CT Computer Technology & Bolted Joints
DA Design & Analysis
FSI Fluid-Structure Interaction
HPT High-Pressure Technology
MF Materials & Fabrication
NDPD ASME Nondestructive Evaluation, Diagnosis & Prognosis Division
OAC Operations, Applications & Components
SE Seismic Engineering
EPRI Electric Power Research Institute
TUT SPECIAL & Technical Tutorials

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

TUESDAY, JULY 13, 2021

Session 1

9:00 AM - 10:05 AM (NA Eastern) I 6:00:AM - 7:05 AM (NA Pacific) I 3:00 PM - 4:05 PM (Euro) I 9:00 PM - 10:05 PM (Asia)

CS-01-01 Structural Integrity of Pressure Components
CS-01-02/03-01 Structural Integrity of Pressure Components & Environmental Fatigue Issues (Joint M&F, D&A)
DA-02-01: Design & Analysis of Piping and Components I
FSI-01-01 Thermal Hydraulic Phenomena with Vessels, Piping and Components
MF-02-01 Materials for hydrogen service I (Joint with C&S)
MF-04-01 Fitness-For-Service and Failure Assessment
NDE-01-01 Emerging NDE and Prognostic Techniques and Applications
SE-01-01 Earthquake Resistance and Seismic Margin
TUT-01-01 Navigating Engineering Professional Development In the ERA of Coronavirus

TUESDAY, JULY 13, 2021

Session 2

5:00 PM - 6:05 PM (NA Eastern) I 2:00 PM - 3:05 PM (NA Pacific) I 11:00 PM - 12:05 AM (Euro) I 5:00 AM – 6:05 AM (Asia)

CS-10-01 Recent Developments in Japanese Codes and Standards
DA-02-02: Design & Analysis of Piping and Components II
FSI-02-01 Flow-induced Vibration I

MF-02-02 Materials for hydrogen service II (Joint with C&S)
MF-06-01/11-01 Materials and Technologies for Nuclear Power Plants I and Small-scale and miniature mechanical testing (Joint with C&S)
MF-16-01 Creep and Creep-Fatigue Interaction
NDE-02-01 NDE Techniques and Applications for Petrochemical and Power Plant Components
SE-03-01 Damping and Vibration Control
TUT-03-01 Process and Benefits of ASME Pressure Technology Codes and Standards Development - Part I

TUESDAY, JULY 13, 2021

Session 3
8:00 PM - 9:05 PM (NA Eastern) I 5:00 PM - 6:05 PM (NA Pacific) I 2:00 AM - 3:05 AM +1 (Euro) I 8:00 AM - 9:05 AM +1 (Asia)

CS-03-02 Environmental Fatigue Issues (Joint M&F)
DA-04-01 Inelastic, Nonlinear, and Limit Load Analysis
FSI-05-01 International Symposium on Emerging Technologies
MF-02-03 Materials for hydrogen service III (Joint with C&S)
MF-06-02 Materials and Technologies for Nuclear Power Plants II
OAC-01-01 Safety, Reliability, and Risk Management
SE-09-01 Advanced Seismic Evaluation and Code

WEDNESDAY, JULY 14, 2021

Session 1
9:00 AM - 10:05 AM (NA Eastern) I 6:00:AM - 7:05 AM (NA Pacific) I 3:00 PM - 4:05 PM (Euro) I 9:00 PM - 10:05 PM (Asia)

CS-08-01 Hydrogen Effects on Material Behavior for Structural Integrity Assessment (Joint MF-2)
CS-11-02 Integrity Management
DA-01-01 Design & Analysis of Pressure Vessels & Components I
FSI-02-02 Flow-induced Vibration II
HT-06-01 Design and Analysis of High-Pressure Equipment for Oil and Gas Exploration and Production
MF-01-01 Application of Fracture Mechanics in Failure Assessment I
MF-08-01/10-01 Development of Stress Intensity Factor Solutions (Joint with C&S) and Pipeline Integrity
OAC-06-01 Operation and Maintenance of Pressure Vessels, Heat Exchangers, Piping and Supports
SE-07-01 Seismic Evaluation of Systems, Structures and Components

WEDNESDAY, JULY 14, 2021

Session 2

5:00 PM - 6:05 PM (NA Eastern) I 2:00 PM - 3:05 PM (NA Pacific) I 11:00 PM - 12:05 AM (Euro) I 5:00 AM – 6:05 AM (Asia)

CS-07-01 Recent Developments in ASME Codes and Standards I
CS-11-03 Engineering Failure Analysis
DA-01-02 Design & Analysis of Heat Exchangers & Components II
MF-12-01 Materials and Fabrication: General Topics I
MF-22-01 Materials and Fabrication: General Topics II
OAC-04-03 Transportation of Radioactive and other Hazardous Materials III
SE-08-01 Multi-Hazards and Margins
TUT-03-02 Process and Benefits of ASME Pressure Technology Codes and Standards Development - Part II

WEDNESDAY, JULY 14, 2021

Session 3

8:00 PM - 9:05 PM (NA Eastern) I 5:00 PM - 6:05 PM (NA Pacific) I 2:00 AM - 3:05 AM +1 (Euro) I 8:00 AM - 9:05 AM +1 (Asia)

CS-07-02 Recent Developments in ASME Codes and Standards II
CS-15-01 Probabilistic and Risk-Informed Methods for Structural Integrity Assessment
DA-01-03 Design & Analysis of Heat Exchangers & Components
DA-10-01/11-01 Design of Bolted Joints (joint with CT) and CFD in Design and Analysis
FSI-02-03 Flow-induced Vibration III
HT-01-01 Joe Kapp Memorial Session: Design and Analysis of High-Pressure Equipment
MF-05-01 Fitness-For-Service and Failure Assessment
OAC-03-01/04-01 Monitoring, Diagnostics & Inspection and Storage and Transportation of Radioactive and other Hazardous Materials I

THURSDAY, JULY 15, 2021

Session 1

9:00 AM - 10:05 AM (NA Eastern) I 6:00:AM - 7:05 AM (NA Pacific) I 3:00 PM - 4:05 PM (Euro) I 9:00 PM - 10:05 PM (Asia)

CS-36-01 Combined Session: Master Curve Method and Applications, and Improvement of Flaw Characterization Rules for Fitness for Service
CT-01-01 Design and Analysis of Bolted Flange Joints
DA-03-01 Fatigue (joint with M&F and C&S)
DA-07-01 Thermal Stresses and Elevated Temperature Design
HT-02-01 Structures under Extreme Loading Conditions (Joint Topic)
MF-01-02 Application of Fracture Mechanics in Failure Assessment II
MF-17-01 Advanced and Additive Manufacturing and Material Technologies (joint with D&A)
OAC-04-02 Transportation of Radioactive and other Hazardous Materials II

TUT-02-01 Auto-Refrigeration and Brittle Fracture Prevention - Part I

THURSDAY, JULY 15, 2021

Session 2

5:00 PM - 6:05 PM (NA Eastern) I 2:00 PM - 3:05 PM (NA Pacific) I 11:00 PM - 12:05 AM (Euro) I 5:00 AM – 6:05 AM (Asia)

CS-11-01 Extreme Pressure Equipment
CT-08-01 New and Emerging Methods of Analysis and Applications
DA-12-01 Fracture I (joint with M&F)
DA-15-01 Combined Session in D&A
DA-19-01 Special Considerations in the Design and Analysis of Supports, Restraints, and Welded Attachments
MF-24-01 Materials and Fabrication for Refining
OAC-03-02/07-01 Monitoring, Diagnostics & Inspection and Plant Life Extension: Aging & Life Management
TUT-02-02 Auto-Refrigeration and Brittle Fracture Prevention - Part II

THURSDAY, JULY 15, 2021

Session 3

8:00 PM - 9:05 PM (NA Eastern) I 5:00 PM - 6:05 PM (NA Pacific) I 2:00 AM - 3:05 AM +1 (Euro) I 8:00 AM - 9:05 AM +1 (Asia)

CS-09-01 ASME Code Section XI Activities
DA-08-01/09-01 Fitness for Service Evaluations and Piping and Equipment Dynamics and Dynamic Response Analysis
DA-12-02 Fracture II (joint with M&F)
DA-14-01 Evaluation and Counter Measure for Beyond Design Basis Event
OAC-01-02 Operations, Applications and Components: General Topics

TUESDAY, JULY 13, 2021

CS-01-01 Structural Integrity of Pressure Components
7/13/2021
9:00 AM to 10:05 AM - Room F

Chair: ***Michael Benson - U.S. NRC***
Chair: ***Anees Udyawar - Westinghouse Electric Company***
Chair: ***Valery Lacroix - Tractebel Engineering***
Chair: ***Steven Xu - Kinectrics***
Chair: ***Ryan Crane - ASME***
Presentations:

Study on Influence of Branch Connection That Affects to Design Length of Pressure Design Under External Pressure, {PVP2021-61212}
Technical Paper Publication
Kyoung Hun Lee - GS Engineering & Construction

Design Considerations for Half-Pipe Jackets Operating Under Vacuum Conditions, {PVP2021-61801}
Technical Paper Publication
Ameya Mathkar - Lloyd's Register Marine and Inspection services India LLP
Shyam Gopalakrishnan - Lloyd's Register Marine and Inspection services India LLP
Sujay Pathre - Lloyd's Register Marine and Inspection services India LLP

Investigation of Nozzle on Knuckle Region of Dished Head, {PVP2021-61894}
Technical Paper Publication
Sujay Pathre - LLOYD'S REGISTER ASIA
Ameya Mathkar - LLOYD'S REGISTER ASIA
Shyam Gopalakrishnan - LLOYD'S REGISTER ASIA

Twice-Yield Method Abaqus Implementation With Application to a Thermally Shocked Stepped Pipe, {PVP2021-61367}
Technical Paper Publication
Steven Smith - Fluor Marine Propulsion, LLC
David Hutula - Fluor Marine Propulsion, LLC

Analysis and Calculation of Strength and Stiffness for Flexible Shell Element of Corner-Corner Type in Fixed Tubesheet Heat Exchangers, {PVP2021-61881}
Technical Paper Publication
Guodong Zhu - China Special Equipment Inspection and Research Institute
Feng Xu - Department of Engineering Mechanics,Tsinghua University
Guoshan Xie - China Special Equipment Inspection And Research Institute
Jie Shen - SINOPEC Engineering Incorporation

Negative R Fatigue Short Crack Growth Rate Testing on Austenitic Stainless Steels, {PVP2021-62909}

Technical Paper Publication
Adam Griffiths - Jacobs Clean Energy Ltd
Peter Gill - Jacobs Clean Energy Ltd
Ben Coult - Jacobs Clean Energy Ltd
Jack Beswick - Jacobs
Norman Platts - Jacobs Clean Energy Ltd
Jonathan Mann - Rolls-Royce
Chris Currie - Rolls-Royce
Joe Airey - Rolls-Royce

CS-01-02/03-01 Structural Integrity of Pressure Components & Environmental Fatigue Issues (Joint M&F, D&A)
7/13/2021
9:00 AM to 10:05 AM - Room D

Chair: ***Michael Benson - U.S. NRC***
Chair: ***Anees Udyawar - Westinghouse Electric Company***
Chair: ***Valery Lacroix - Tractebel Engineering***
Chair: ***Steven Xu - Kinectrics***
Chair: ***Ryan Crane - ASME***
Presentations:

Steam Generator Grade P91 Steel Components Creep-Assessment By Test After Extended Service, {PVP2021-60160}
Technical Paper Publication
Ottaviano Grisolia - INAIL, Central Research Directorate, Department of Technology
Lorenzo Scano - Studio Scano Associato, Safety & Integrity
Francesco Piccini - Studio Scano Associato, Safety & Integrity
Antonietta Lo Conte - Politecnico di Milano, Dipartimento di Meccanica
Massimiliano De Agostinis - Università di Bologna, DIN
Stefano Fini - Università di Bologna, DIN

Investigations on the Environmentally Assisted Fatigue Behavior of Steel Specimens for a Better Understanding of Component Fatigue in Nuclear Applications, {PVP2021-61961}
Technical Paper Publication
Christian Swacek - MPA University of Stuttgart
Ludwig Stumpfrock - MPA University of Stuttgart
Stefan Weihe - MPA University of Stuttgart

Material and Temperature Effects in Low and High Cycle EAF of Austenitic Stainless Steels, {PVP2021-61507}
Technical Paper Publication
Tommi Seppanen - VTT Technical Research Centre of Finland Ltd.
Jouni Alhainen - VTT Technical Research Centre of Finland Ltd.
Esko Arilahti - VTT Technical Research Centre of Finland Ltd.
Jussi Solin - VTT Technical Research Centre of Finland Ltd.

AFCEN Fatigue Calculations Benchmark: Implementation of the RCC-M Rules in Probationary Phase for Environmentally Assisted Fatigue (EAF) Assessment on a Simple Test Case, {PVP2021-61522}
Technical Paper Publication
Sam Cuvilliez - EDF (EDF - DIPNN - Direction Technique)
Jia Li - Framatome

Zichen Kong - EDF (EDF R&D China)
Jürgen Rudolph - Framatome GmbH
François Billon - Onet Technologies
Hai Xie - Nuclear Power Institute of China

A Method for Investigating Multi-Axial Fatigue in a PWR Environment, {PVP2021-62429}
Technical Paper Publication
Peter Gill - Jacobs
Ben Coult - Jacobs
Tom Schofield - Jacobs
Russell Smith - Jacobs
Mike Hilton - Jacobs
Chris Currie - Rolls Royce
Paul Onwuarolu - Jacobs
Alec Mclennan - Jacobs
Mark Kirkham - Jacobs
Karen Cooper - Jacobs
Colin Madew - Jacobs
Matt Sutcliffe - Jacobs

Review of Determining Transformed Temperature Over 325°C Based on Monte Carlo Simulation for Environmental Fatigue Evaluation, {PVP2021-60433}
Technical Paper Publication
Bonghee Lee - KEPCO Engineering & Construction Company
Ilkwun Nam - KEPCO Engineering & Construction Company

DA-02-01: Design & Analysis of Piping and Components I
7/13/2021
9:00 AM to 10:05 AM - Room I

Chair: ***Chakrapani Basavaraju - NRC***
Chair: ***Phillip Wiseman - Lisega, Inc.***
Chair: ***Kannan Subramanian - Stress Engineering Services***
Chair: ***Bhaskar Shitole - Wood Plc***
Chair: ***Nathan Barkley - Becht Engineering***
Chair: ***Jaan Taagepera - Chevron ETC***
Chair: ***Michael Huang - Kinectrics***
Chair: ***Bing Li - Kinetrics***
Presentations:

Assessment of Dynamic High Momentum Slug Loads on Piping Following STHE Tube Rupture, {PVP2021-61797}
Technical Paper Publication
Robert Weyer - Amesk

Perspectives on Fatigue Design of Bellows, {PVP2021-61072}
Technical Paper Publication
Charles Becht IV - Becht

In-Plane Flexibility Factor of 90 Degree Long Radius Elbows With Large Diameter, {PVP2021-61533}
Technical Paper Publication (Iran)
Milad Haji Mohammad Karim - EIED

Evaluation of Load Reduction Effect Due to Through-Wall Crack in Surge Line Under Thermal Stratification Conditions, {PVP2021-62118}
Technical Paper Publication
Seung Hyun Kim - KEPCO E&C
Hongsun Park - KEPCO E&C
Sun-Yeh Kang - KEPCO E&C
Jong Min Kim - KEPCO E&C

Gasket Design for Alkylation Units & Other Possible Dangerous Liquid Media, {PVP2021-62087}
Technical Paper Publication
Dale Norman - Lamons
Gustavo Navarrete - Lamons

FSI-01-01 Thermal Hydraulic Phenomena with Vessels, Piping and Components
7/13/2021
9:00 AM to 10:05 AM - Room H

Chair: ***Arris Tijsseling - TU Eindhoven***
Chair: ***Pierre Moussou - Electricitã© De France***
Chair: ***Trey Walters - Applied Flow Technology***
Chair: ***Tomoyo Taniguchi - Tottori University***
Presentations:

Thermodynamic Characteristics of Gas Cylinder During the Process of Hydrogen Filling and Discharging of High Pressure Cycle, {PVP2021-61230}
Technical Paper Publication
Xiaolu Guo - Hefei General Machinery Research Institute Co., Ltd
Zhichao Fan - Hefei General Machinery Research Institute Co., Ltd
Xiaoliang Liu - Hefei General Machinery Research Institute Co., Ltd
Shuangqing Xu - Hefei General Machinery Research Institute Co., Ltd

Investigation on Leak Rates in Thin-Walled Structures, {PVP2021-61955}
Technical Paper Publication
Fabian E. Silber - Materials Testing Institute University of Stuttgart
Ludwig Stumpfrock - MPA University of Stuttgart
Stefan Weihe - MPA University of Stuttgart

Influence of Finite-Length Plate Proximity on Vortex-Induced Vibrations of Elastic Cable, {PVP2021-62812}
Technical Paper Publication
Oleg Ivanov - Institute of mechanics, Lomonosov Moscow State University
Vasily Vedeneev - Institute of mechanics, Lomonosov Moscow State University

Flexural Vibrations of a Multi-Material Microhydraulic Hose Subjected to External Excitation. Experimental Research and Theoretical Description, {PVP2021-65813}

Technical Paper Publication
Marek Lubecki - Wrocław University of Science and Technology
Michał Stosiak - Wrocław University of Science and Technology
Mirosław Bocian - Wrocław University of Science and Technology
Kamil Urbanowicz - West Pomeranian University of Technology in Szczecin

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MF-02-01 Materials for hydrogen service I (Joint with C&S)
7/13/2021
9:00 AM to 10:05 AM - Room E

Chair: ***Chris San Marchi - Sandia National Laboratories***
Chair: ***Do Jun Shim - Structural Integrity Associates, Inc.***
Chair: ***Sylvain Pillot - Industeel Arcelormittal Group - CRMC***
Chair: ***Paul Korinko - Savannah River National Laboratory***
Chair: ***Peter Gill - Jacobs***
Chair: ***Joe Ronevich - Sandia National Laboratories***
Chair: ***Laurent Briottet - French Alternative Energies and Atomic Energy Commission (CEA)***
Chair: ***Steven Xu - Kinetrics***
Presentations:

Comparison of Tensile Test Results in High Pressure Gaseous Hydrogen Using Conventional and Tubular Specimens, {PVP2021-61138}
Technical Paper Publication
Thorsten Michler - Fraunhofer IWM
Ken Wackermann - Fraunhofer IWM
Fabien Ebling - Fraunhofer IWM
Heiner Oesterlin - Fraunhofer IWM

Crack Growth Resistance of Actual Pipe Weldments Exposed to a High Pressure Mixture of Hydrogen and Natural Gas, {PVP2021-61945}
Technical Paper Publication
Guillaume Benoit - Institut Pprime UPR 3346 CNRS-ENSMA-Université de Poitiers
Denis Bertheau - Institut Pprime UPR 3346 CNRS-ENSMA-Université de Poitiers
Gilbert HENAFF - ISAE-ENSMA
Laurent Alvarez - Teréga

In Situ Investigation of Crack Initiation in Hydrogen Embrittled Inconel 725, {PVP2021-61880}
Technical Presentation Only
Mengying Liu - Texas A&M University
Lai Jiang - Texas A&M University
Emmeline Sheu - Texas A&M University
Michael Demkowicz - Texas A&M University

Effect of Hydrogen on Tensile Properties of 304L Stainless Steel at Cryogenic Temperatures, {PVP2021-62436}
Technical Paper Publication
Daniel Merkel - Pacific Northwest National Laboratory
Ethan Nickerson - Pacific Northwest National Laboratory
Robert Seffens - Pacific Northwest National Laboratory
Kevin Simmons - Pacific Northwest National Laboratory
Chris San Marchi - Sandia National Laboratories

Brian Kagay - Sandia National Laboratories
Joseph Ronevich - Sandia National Laboratories

MF-04-01 Fitness-For-Service and Failure Assessment
7/13/2021
9:00 AM to 10:05 AM - Room G

Chair: ***Peter James - Jacobs***
Chair: ***Do Jun Shim - Structural Integrity Associates, Inc.***
Chair: ***Paul Korinko - Savannah River National Laboratory***
Chair: ***Peter Gill - Jacobs***
Chair: ***Stephane Marie - AREVA NP***
Chair: ***Tomas Nicak - AREVA***
Presentations:

Comparative Assessments of Different Leakage-Rate Models for ATLAS+, {PVP2021-62046}
Technical Paper Publication
Paul Williams - Oakridge Consulting International, Inc.
Richard Bass - Oakridge Consulting International, Inc.
Peter Dillström - Kiwa Inspecta Technology AB
Peter Gill - Jacobs Engineering
Brian Daniels - Jacobs Engineering
Robert Lammert - Materials Testing Institute (MPA), University of Stuttgart
Georg Wackenhut - Material Testing Institute, University of Stuttgart (MPa)

Progress of EASICS Validation Experiments and Code Comparison of R5, RCC-MRX and Asme Iii Division V, {PVP2021-62845}
Technical Paper Publication
Peter James - Jacobs
David Coon - Jacobs
Colin Austin - Jacobs
Nick Underwood - National Nuclear Laboratory
Caroline Meek - National Nuclear Laboratory
Marc Chevalier - EDF Energy
David Dean - EDF Energy

Post-Test Analysis of a Large Scale Mock-Up Test Performed in the European Project ATLAS+, {PVP2021-60495}
Technical Paper Publication
Alexey Rempel - Framatome GmbH
Tomas Nicak - Framatome GmbH

European Project ATLAS+: Large Scale Fracture Mechanics Tests on Ferritic Pipes, {PVP2021-61834}
Technical Paper Publication
Willy Vincent - EDF
Anna Dahl - EDF

SE-01-01 Earthquake Resistance and Seismic Margin
7/13/2021
9:00 AM to 10:05 AM - Room B

Chair: ***Kiyoshi Aida - Mitsubishi Hitachi Power Systems, Ltd.***
Chair: ***Taichi Matsuoka - Meiji University***
Chair: ***Akira Maekawa - The Kansai Electric Power Co., Inc.***
Chair: ***Keisuke Minagawa - Saitama Institute of Technology***
Chair: ***Izumi Nakamura - National Res Inst***
Chair: ***Tomoyo Taniguchi - Tottori Univ***
Chair: ***Fabrizio Paolacci - University Roma Tre***
Presentations:

Verification of Accuracy of the Beam Model and Resistant Moment Generated by Base Uplifting of Flat-Bottom Cylindrical Shell Tanks, {PVP2021-61319}
Technical Paper Publication
Yuichi Yoshida - National Research Institute of Fire and Disaster
Tomoyo Taniguchi - Tottori University
Teruhiro Nakashima - Nihon Suiko Sekkei Co., Ltd.

Using an Innovative Seismic Resilient Anchorage System for Industrial Tanks and Vessels, {PVP2021-65103}
Technical Paper Publication
Kaveh Sahami - Auckland University of Technology
Pouyan Zarnani - Auckland University of Technology
Pierre Quenneville - University of Auckland

Study on the Predictive Evaluation Method for Loads Acting on Roof and Sidewall of Cylindrical Tank in Nonlinear Sloshing Based on Simplified Equations, {PVP2021-61343}
Technical Paper Publication
Shunichi Ikesue - Mitsubishi Heavy Industries, Ltd.
Hideyuki Morita - Mitsubishi Heavy Industries, Ltd.
Hidekazu Ishii - Mitsubishi Heavy Industries, Ltd.
Hiromi Sago - Mitsubishi Heavy Industries, Ltd.
Shinobu Yokoi - Mitsubishi FBR Systems, Inc.
Tomohiko Yamamoto - Japan Atomic Energy Agency

Seismic Test and Seismic Response Analysis of U-Shaped Tubes With Square Array in Steam Generator, {PVP2021-61963}
Technical Paper Publication
Kazuo Hirota - Mitsubishi Heavy Industries, Ltd.
Masatsugu Monde - Mitsubishi Heavy Industries, Ltd.
Naoki Ohno - Mitsubishi Heavy Industries, Ltd.
Tomonori Mineno - Mitsubishi Heavy Industries, Ltd.

Application of the Williams-Wittrick Algorithm for Thin Shell Vibrations Problems, {PVP2021-62063}
Technical Paper Publication
Yaroslav Dubyk - IPP-CENTRE
Oleksii Ishchenko - IPP-CENTRE

NDE-01-01 Emerging NDE and Prognostic Techniques and Applications
7/13/2021
9:00 AM to 10:05 AM - Room C

Chair: ***Ju Ding - Shanghai Institute of Special Equipment Inspection and Technology Research***
Chair: ***Min Zhang - Praxair, Inc.***
Chair: ***Vivek Agarwal - Idaho National Laboratory***
Chair: ***Daniel Algernon - SVTI***
Presentations:

Use of Synthetic Flaws to Assess Pipeline Seam Weld Inspection Performance, {PVP2021-61294}
Technical Paper Publication
Joseph Krynicki - ExxonMobil Research and Engineering
Lujian Peng - ExxonMobil Research and Engineering
Gustavo Gonzalez - Esso Petroleum Company Limited
Neeraj Thirumalai - ExxonMobil Research and Engineering

Numerical Study of Detection of Crack on Corroded Rough Surface Using EMAT-Generated Surface Wave, {PVP2021-61687}
Technical Paper Publication
Zhe Wang - Hefei General Machinery Research Institute Co., Ltd
Xuedong Chen - Hefei General Machinery Research Institute Co., Ltd
Zhichao Fan - Hefei General Machinery Research Institute Co., Ltd
Wei Chen - Hefei General Machinery Research Institute Co., Ltd
Jingwei Cheng - Hefei General Machinery Research Institute Co., Ltd
Yuanlian Su - Hefei General Machinery Research Institute Co., Ltd

Study on the Acoustic Attenuation Law of Polyethylene, {PVP2021-62137}
Technical Presentation Only
Jianfeng Shi - Zhejiang University
Haiqing Fang - Zhejiang University
Ying Feng - Zhejiang University
Jinyang Zheng - Zhejiang University
Weican Guo - Zhejiang Provincial Special Equipment Inspection and Research Institute

Reliability of Ultrasonic Testing at Crack Fields in Large Forgings, {PVP2021-62795}
Technical Paper Publication
Anne Juengert - Materials Testing Institute (MPA) University of Stuttgart
Oliver Jacobs - Materials Testing Institute (MPA) University of Stuttgart
Patrick Gauder - Institute for Materials Testing, Materials Science and Strength of Materials (IMWF) University of Stuttgart
Stefan Weihe - Materials Testing Institute (MPA) University of Stuttgart

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CS-10-01 Recent Developments in Japanese Codes and Standards
7/13/2021
5:00 PM to 6:05 PM - Room F

Chair: ***Naoki Miura - Central Research Institute of Electric Power Indus***

Chair: ***Anees Udyawar - Westinghouse Electric Company***
Chair: ***Valery Lacroix - Tractebel Engineering***
Chair: ***Seiji Asada - Mitsubishi Heavy Industries, Ltd***
Chair: ***Yinsheng Li - Japan Atomic Energy Agency***
Chair: ***Ryan Crane - ASME***
Chair: ***Kai Lu - Japan Atomic Energy Agency***
Presentations:

Constraint Effect on Fracture in Ductile-Brittle Transition Temperature Region, {PVP2021-61318}
Technical Paper Publication
Kiminobu Hojo - Mitsubishi Heavy Industries Ltd
Takatoshi Hirota - Mitsubishi Heavy Industries
Yasuto Nagoshi - Mitsubishi Heavy Industries
Takuya Fukahori - Mitsubishi Heavy Industries
Kimihisa Sakima - Mitsubishi Heavy Industries
Mitsuru Ohata - Osaka University
Fumiyoshi Minami - Osaka University

Benchmark Analysis by Beremin Model and GTN Model in CAF Subcommittee, {PVP2021-61668}
Technical Paper Publication
Takatoshi Hirota - Mitsubishi Heavy Industries, LTD.
Yasuto Nagoshi - Mitsubishi Heavy Industries, LTD.
Kiminobu Hojo - Mitsubishi Heavy Industries, LTD.
Hiroshi Okada - Tokyo University of Science
Akiyuki Takahashi - Tokyo University of Science
Jinya Katsuyama - Japan Atomic Energy Agency
Takashi Ueda - IHI Corporation
Takuya Ogawa - Toshiba Energy System & Solutions Corporation
Kenji Yashirodai - Hitachi, LTD.
Minoru Ohata - Osaka University
Fumiyoshi Minami - Osaka University

Effect of Plastic Constraint and Cladding on Semi-Elliptical Shaped Crack in Fracture Toughness Evaluation for a Reactor Pressure Vessel Steel, {PVP2021-61725}
Technical Paper Publication
Masaki Shimodaira - Japan Atomic Energy Agency
Tohru Tobita - Japan Atomic Energy Agency
Yasuto Nagoshi - Mitsubishi Heavy Industries Ltd.
Kai Lu - Japan Atomic Energy Agency
Jinya Katsuyama - Japan Atomic Energy Agency

Fracture Toughness in Postulated Crack Area of PTS Evaluation in Highly-Neutron Irradiated RPV Steel, {PVP2021-61892}
Technical Paper Publication
Yoosung Ha - Japan Atomic Energy Agency
Masaki Shimodaira - Japan Atomic Energy Agency
Hisashi Takamizawa - Japan Atomic Energy Agency
Tohru Tobita - Japan Atomic Energy Agency (JAEA)
Jinya Katsuyama - Japan Atomic Energy Agency
Yutaka Nishiyama - Japan Atomic Energy Agency

Evaluation of Brittle Crack Arrest Toughness for Highly-Irradiated Reactor Pressure Vessel Steels, {PVP2021-61893}

Technical Paper Publication
Keiko Iwata - Japan Atomic Energy Agency
Kuniki Hata - Japan Atomic Energy Agency
Tohru Tobita - Japan Atomic Energy Agency
Takatoshi Hirota - Mitsubishi Heavy Intustries, Ltd.
Hisashi Takamizawa - Japan Atomic Energy Agency
Yasuhiro Chimi - Japan Atomic Energy Agency
Yutaka Nishiyama - Japan Atomic Energy Agency

Development of Leak Before Break Assessment Guidelines for Sodium Cooled Fast Reactors in Japan, {PVP2021-61942}
Technical Paper Publication
Hiroki Yada - Japan Atomic Energy Agency
Takashi Wakai - Japan Atomic Energy Agency
Takayuki Miyagawa - Japan Atomic Power Company
Hideo Machida - TEPCO SYSTEMS CORPORATION

DA-02-02: Design & Analysis of Piping and Components II
7/13/2021
5:00 PM to 6:05 PM - Room I

Chair: ***Bhaskar Shitole - Wood Plc***
Chair: ***Phillip Wiseman - Lisega, Inc.***
Chair: ***Kannan Subramanian - Stress Engineering Services***
Chair: ***Nathan Barkley - Becht Engineering***
Chair: ***Jaan Taagepera - Chevron ETC***
Chair: ***Chakrapani Basavaraju - NRC***
Chair: ***Michael Huang - Kinectrics***
Chair: ***Bing Li - Kinetrics***
Presentations:

Optimal Control of Electrofusion Welding Process of Polyethylene Pipes, {PVP2021-61993}
Technical Presentation Only
Yixin Ren - Zhejiang University
Sheng Zeng - Zhejiang University
Guangte Xiang - Zhejiang University
Jianfeng Shi - Zhejiang University
Jinyang Zheng - Zhejiang University

Demonstration of Intelligent Welding Machine for Polyethylene Pipe, {PVP2021-62014}
Technical Paper Publication
Guangte Xiang - Zhejiang University
Yurui Hu - Zhejiang University
Sheng Zeng - Zhejiang University
Jianfeng Shi - Zhejiang University
Jinyang Zheng - Zhejiang University

Influence of Resistor Wire on the Maximum Stress In Electrofusion Joint, {PVP2021-62123}
Technical Paper Publication
Yurui Hu - Zhejiang University

Guangte Xiang - Zhejiang University
Jianfeng Shi - Zhejiang University
Jinyang Zheng - Zhejiang University

A Comprehensive Review on Failure Analysis of Electrofusion Joint For Plastic Pipes, {PVP2021-62132}
Technical Paper Publication
Zhoutian Ge - Zhejiang University
Riwu Yao - Zhejiang University
Jianfeng Shi - Zhejiang University
Jinyang Zheng - Zhejiang University

FSI-02-01 Flow-induced Vibration I
7/13/2021
5:00 PM to 6:05 PM - Room H

Chair: ***Pierre Moussou - Electricitã© De France***
Chair: ***Njuki Mureithi - Polytechnique Montreal***
Chair: ***Trey Walters - Applied Flow Technology***
Chair: ***Tomoyo Taniguchi - Tottori University***
Chair: ***Marwan Hassan - University Of Guelph***
Presentations:

The Aeroacoustic Response of a Single Square Cylinder in Confined Cross Flow, {PVP2021-62696}
Technical Paper Publication
Mahmoud Shaaban - University of Ontario Institute of Technology
Atef Mohany - University of Ontario Institute of Technology

Equivalent Diameter for Predicting Vortex Shedding of Finned Cylinders in Cross-Flow, {PVP2021-63015}
Technical Paper Publication
Mohammed Alziadeh - Ontario Tech University
Atef Mohany - Ontario Tech University

Flow-Induced Vibration in a Single Row of Cylinders With p/D = 1.26, {PVP2021-62989}
Technical Paper Publication
Roberta Fátima Neumeister - Universidade Federal do Rio Grande do Sul
Adriane Prisco Petry - Universidade Federal do Rio Grande do Sul
Sergio Viçosa Möller - Universidade Federal do Rio Grande do Sul

Investigation of the Irradiation Effect on the Dynamics of Nuclear Fuel Bundles, {PVP2021-62412}
Technical Paper Publication
Osama Elbanhawy - University of Guelph
Marwan Hassan - University of Guelph
Atef Mohany - Ontario Tech University
Hossam Kishawy - Ontario Tech University

Flutter of Rectangular Plate at Non-Zero Flow Yaw Angle, {PVP2021-62932}
Technical Paper Publication
Farrukh Abdukhakimov - Lomonosov Moscow State University

Vasily Vedeneev - Lomonosov Moscow State University

MF-02-02 Materials for hydrogen service II (Joint with C&S)
7/13/2021
5:00 PM to 6:05 PM - Room E

Chair: ***Joe Ronevich - Sandia National Laboratories***
Chair: ***Do Jun Shim - Structural Integrity Associates, Inc.***
Chair: ***Sylvain Pillot - Industeel Arcelormittal Group - CRMC***
Chair: ***Chris San Marchi - Sandia National Laboratories***
Chair: ***Paul Korinko - Savannah River National Laboratory***
Chair: ***Peter Gill - Jacobs***
Chair: ***Laurent Briottet - French Alternative Energies and Atomic Energy Commission (CEA)***
Chair: ***Steven Xu - Kinetrics***
Presentations:

Materials Compatibility Concerns for Hydrogen Blended Into Natural Gas, {PVP2021-62045}
Technical Paper Publication
Chris San Marchi - Sandia National Laboratories
Joseph Ronevich - Sandia National Laboratories

Reducing the Cost of Fatigue Crack Growth Testing for Storage Vessel Steels in Hydrogen Gas, {PVP2021-62047}
Technical Paper Publication
Kevin Nibur - Hy-Performance Materials Testing, LLC.
Brian Somerday - Somerday Consulting LLC

Effect of Internal Hydrogen on Fatigue Crack Initiation Sites in 316L Austenitic Stainless Steel, {PVP2021-62944}
Technical Paper Publication
Brian Kagay - Sandia National Laboratories
Joseph Ronevich - Sandia National Laboratories
Chris San Marchi - Sandia National Laboratories

Results of Round Robin Tests for Qualifying Hydrogen Compatibility of Materials – Contribution of Kriss, {PVP2021-61359}
Technical Presentation Only
Ung Bong Baek - Division of Industrial Metrology, Korea Research Institute of Standard and Science (KRISS)
Thanh Tuan Nguyen - Division of Industrial Metrology, Korea Research Institute of Standard and Science (KRISS)
Jae-Yeoung Park - Division of Industrial Metrology, Korea Research Institute of Standard and Science (KRISS)
Seung Hoon Nahm - Division of Industrial Metrology, Korea Research Institute of Standard and Science, (KRISS)

The Resistance of Pearlitic Lamellar Structure to Hydrogen-Induced Fatigue Crack Growth Acceleration in Carbon Steels, {PVP2021-61877}
Technical Presentation Only
Haruki Nishida - Kyushu University
Hisao Matsunaga - Kyushu University
Yuhei Ogawa - Kyushu Unversity

MF-06-01/11-01 Materials and Technologies for Nuclear Power Plants I and Small-scale and miniature mechanical testing (Joint with C&S)
7/13/2021
5:00 PM to 6:05 PM - Room G

Chair: ***Masato Yamamoto - CRIEPI***
Chair: ***Do Jun Shim - Structural Integrity Associates, Inc.***
Chair: ***Paul Korinko - Savannah River National Laboratory***
Chair: ***Peter Gill - Jacobs***
Chair: ***William Server - ATI Consulting***
Chair: ***Noel Odowd - MSSI***
Presentations:

Development and Validation of Sub-Miniaturized Geometry for Bending Tests to Extract Tensile Properties of Materials for Nuclear and Fusion Applications, {PVP2021-61555}
Technical Presentation Only
Alexander Bakaev - SCK CEN
Alexander Zinovev - SCK CEN
Dmitry Terentyev - SCK CEN
Chao Yin - SCK CEN
Geert Berkmans - SCK CEN

Estimation of the Threshold Toughness in Acid Environments (KIEAC) By Using Circumferential Notched Tensile Specimens (CNT), {PVP2021-61761}
Technical Paper Publication
Borja Martínez - LADICIM, University of Cantabria
José Álvarez - LADICIM, University of Cantabria
Federico Gutiérrez-Solana - LADICIM, University of Cantabria
Alberto Cayón Martínez - University of Cantabria
Sergio Cicero - LADICIM, University of Cantabria
Laura Andrea - LADICIM, University of Cantabria
Roberto Lacalle - LADICIM, University of Cantabria

FRACTESUS Project: General Framework of Materials Selection and Testing Processes, {PVP2021-61906}
Technical Paper Publication
Tomasz Brynk - SCK CEN
Inge Uytdenhouwen - SCK CEN
Marlies Lambrecht - SCK CEN
Pentti Arffman - VTT
Eberhard Altstadt - Helmholtz-Zentrum Dresden-Rossendorf
Tom Petit - CEA

Development of Mini-Compact Tension Specimen Fabrication and Test Methods in Hot Cell for Post-Irradiation Examination of Reactor Pressure Vessel Steels, {PVP2021-61027}
Technical Paper Publication
Frideriki Naziris - NRG
Casper Versteylen - NRG
Frederick Frith - NRG
Marcel Bregman - NRG

Murthy Kolluri - NRG

Evaluation of an Alloy 52 / Cladded Carbon Steel Repair Weld by Cold Metal Transfer, {PVP2021-61981}
Technical Paper Publication
Caitlin Huotilainen - VTT Technical Research Centre of Finland
Heikki Keinänen - VTT Technical Research Centre of Finland
Juha Kuutti - VTT Technical Research Centre of Finland
Pekka Nevasmaa - VTT Technical Research Centre of Finland
Henrik Siren - Aalto University
Iikka Virkkunen - Aalto University

Study on Fracture Behavior and Assessment for Dissimilar Metal Weld of Low Alloy Steel and Ni-Base Alloy Weld Using a BWR Reactor Pressure Vessel Material, {PVP2021-61467}
Technical Paper Publication
Takahiro Hayashi - Toshiba Energy Systems & Solutions Corporation
Takuya Ogawa - Toshiba Energy Systems & Solutions Corporation
Shuichi Yoshida - Toshiba Energy Systems & Solutions Corporation
Masao Itatani - Toshiba Energy Systems & Solutions Corporation
Yasuhiro Hattori - Toshiba Energy Systems & Solutions Corporation
Tetsushi Yamaoka - Toshiba Energy Systems & Solutions Corporation
Shigeaki Tanaka - Toshiba Energy Systems & Solutions Corporation
Toshiyuki Saito - Toshiba Energy Systems & Solutions Corporation

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MF-16-01 Creep and Creep-Fatigue Interaction
7/13/2021
5:00 PM to 6:05 PM - Room D

Chair: ***Catrin Mair Davies - Imperial College London***
Chair: ***Do Jun Shim - Structural Integrity Associates, Inc.***
Chair: ***Paul Korinko - Savannah River National Laboratory***
Chair: ***Peter Gill - Jacobs***
Chair: ***Haiyang Qian - G E Power***
Chair: ***Yun-Jae Kim - Korea Univ***
Presentations:

Error Estimates in Extrapolation of Creep Rupture Data: Applied to an Austenitic Stainless Steel, {PVP2021-61795}
Technical Paper Publication
Rolf Sandstrom - KTH Royal Institute of Technology
Junjing He - Hangzhou Dianzi University

Creep Damage Predictions Under Multiaxial Conditions for 316L Stainless Steel Samples Manufactured by Laser Powder Bed Fusion, {PVP2021-61836}
Technical Paper Publication
Daniel J Burridge - Imperial College London
Catrin M. Davies - Imperial College London

Life Prediction of Modified Grad 91 Tube-Sheet Structures Under Creep-Fatigue Loading Condition, {PVP2021-62066}
Technical Paper Publication
Nazrul Islam - Bangladesh University of Engineering and Technology

Md Ala Uddin - Bangladesh University of Engineering and Technology

Introduction of First-Principles Calculations Into Fundamental Creep Models for Austenitic Steels, {PVP2021-61688}
Technical Presentation Only
Junjing He - Hangzhou Dianzi University
Rolf Sandström - KTH Royal Institute of Technology
Jing Zhang - KTH Royal Institute of Technology
Pavel Korzhavyi - KTH Royal Institute of Technology

The Relation Between Precipitation and Creep Cavitation at Grain Boundary During High Temperature Service, {PVP2021-61848}
Technical Presentation Only
Siqi He - university of Bristol
Hao Shang - University of Bristol
Antonio Fernandez-Caballero - University of Oxford
Alexander Warren - University of Bristol
David Knowles - University of Bristol
Peter Flewitt - University of Bristol
Tomas Martin - University of Bristol

SE-03-01 Damping and Vibration Control
7/13/2021
5:00 PM to 6:05 PM - Room B

Chair: ***Keisuke Minagawa - Saitama Institute of Technology***
Chair: ***Taichi Matsuoka - Meiji University***
Chair: ***Osamu Furuya - Tokyo Denki University***
Chair: ***Satoshi Fujita - Tokyo Denki Univ***
Chair: ***Fabrizio Paolacci - University Roma Tre***
Presentations:

Research and Development of Viscous Fluid Dampers for Improvement of Seismic Resistance of Thermal Power Plants: Part 11 Optimization of Dampers by Genetic Algorithm, {PVP2021-61481}
Technical Paper Publication
Keisuke Minagawa - Saitama Institute of Technology
Kiyoshi Aida - Mitsubishi Power, Ltd.
Satoshi Fujita - Tokyo Denki University

Research on Modal Parameter Identification of Fuel Assembly Based on POD Method, {PVP2021-61673}
Technical Paper Publication
Xuan Huang - No.328, the 1st Section, Changshun Avenue, Shuangliu District, Chengdu, Sichuan Province, China.
Fengchun Cai - Science and Technology on Reactor System Design Technology Laboratory Nuclear Power Institute of China,Chengdu, Sichuan, China
Shuai Liu - Science and Technology on Reactor System Design Technology Laboratory Nuclear Power Institute of China,Chengdu, Sichuan, China
Zhipeng Feng - Science and Technology on Reactor System Design Technology Laboratory Nuclear Power Institute of China,Chengdu, Sichuan, China
Jian Liu - Science and Technology on Reactor System Design Technology Laboratory Nuclear Power Institute of China,Chengdu, Sichuan, China

Xiaozhou Jiang - Science and Technology on Reactor System Design Technology Laboratory Nuclear Power Institute of China,Chengdu, Sichuan, China
Ke Zhang - Science and Technology on Reactor System Design Technology Laboratory Nuclear Power Institute of China,Chengdu, Sichuan, China

Application of Risk-Based Design Methodology to Tuned Mass Damper, {PVP2021-61900}
Technical Paper Publication
Fabrizio Paolacci - Roma Tre University
Daniele Corritore - Roma Tre University
Keisuke Minagawa - Saitama Institute of Technology

Modified Response Spectrum Accounting for Seismic Load Categorization as Primary or Secondary in Multi-Modal Piping Systems, {PVP2021-61395}
Technical Paper Publication
Pierre LABBÉ - LABBE Consultant
Thuong Anh Nguyen - EDF Lab Paris-Saclay

Effect of Shape Modeling on FEM Analysis Results of Equal Tee Pipe, {PVP2021-61733}
Technical Paper Publication
Izumi Nakamura - National Research Institute for Earth Science and Disaster Resilience
Tadahiro Shibutani - Yokohama National University

NDE-02-01 NDE Techniques and Applications for Petrochemical and Power Plant Components
7/13/2021
5:00 PM to 6:05 PM - Room C

Chair: ***Anne Jã£â¼Ngert - Materials Testing Institute (MPA) University of Stuttgart***
Chair: ***Min Zhang - Praxair, Inc.***
Chair: ***Vivek Agarwal - Idaho National Laboratory***
Presentations:

Application of Ultrasonic Guided Wave Testing for Overhead Pipelines in Service, {PVP2021-60816}
Technical Paper Publication
Shuhong Liu - Shanghai Institute of Special Equipment Inspection and Technical Research
Ju Ding - Shanghai Institute of Special Equipment Inspection and Technical Research
Shenghui Wang - Shanghai Institute of Special Equipment Inspection and Technical Research

Inspection Method of Finned Tube and Finned Heat Exchanger, {PVP2021-60907}
Technical Paper Publication
Ju Ding - Shanghai Institute of Special Equipment Inspection and Technical Research
Min Zhang - Praxair,Inc
Shu-Hong Liu - Shanghai Institute of Special Equipment Inspection and Technical Research
Jie-Lu Wang - Shanghai Institute of Special Equipment Inspection and Technical Research
Sheng-Hui Wang - Shanghai Institute of Special Equipment Inspection and Technical Research

Study on Ultrasonic Phased Array Detection and Imaging Techniques for Oil Storage Tank Floor Covered With Sludge, {PVP2021-61635}
Technical Paper Publication

Jingwei Cheng - HEFEI GENERAL MACHINERY RESEARCH INSTITUTE CO., LTD.
Xuedong Chen - HEFEI GENERAL MACHINERY RESEARCH INSTITUTE CO., LTD.
Zhichao Fan - HEFEI GENERAL MACHINERY RESEARCH INSTITUTE CO., LTD.
Wei Chen - HEFEI GENERAL MACHINERY RESEARCH INSTITUTE CO., LTD.
Zhe Wang - HEFEI GENERAL MACHINERY RESEARCH INSTITUTE CO., LTD.
Wei Cheng - HEFEI GENERAL MACHINERY RESEARCH INSTITUTE CO., LTD.
Wanbao Xu - HEFEI GENERAL MACHINERY RESEARCH INSTITUTE CO., LTD.

In-Service Inspection of Extended Dry Storage of Spent Nuclear Fuel, Part I: Crawler Technology Development, {PVP2021-62058}
Technical Paper Publication
Ryan Meyer - Pacific Northwest National Laboratory
Jeremy Renshaw - Electric Power Research Institute
Jamie Beard - Robotic Technologies of Tennessee
Jonathan Tatman - Electric Power Research Institute
Spencer Toone - Arizona Public Service Company
Matt Keene - Duke Energy
Paul Plante - Maine Yankee Atomic Power Company
Neil Fales - Maine Yankee Atomic Power Company
Gabriel Grant - Southern Nuclear Company
Uwe Wolf - Orano TN
Karan Mauskar - Orano TN
Darrell Dunn - United States Nuclear Regulatory Commission
Bruce Lin - United States Nuclear Regulatory Commission

Inservice Inspection of Extended Dry Storage of Spent Nuclear Fuel, Part II: NDE/Sensor Technology Development and Codification, {PVP2021-62069}
Technical Paper Publication
Ryan Meyer - Pacific Northwest National Laboratory
Jeremy Renshaw - Electric Power Research Institute
Kenn Hunter - Exelon Corporation
Mike Orihuela - Electric Power Research Institute
Jim Stadler - Baker Hughes
Spencer Toone - Arizona Public Service
Karan Mauskar - Orano TN
Uwe Wolf - Orano TN
Marvin Klein - Intelligent Optical Systems, Inc.
Max Weidmann - Intelligent Optical Systems, Inc.
Bradley Bobbs - Intelligent Optical Systems, Inc.
Darrell Dunn - United States Nuclear Regulatory Commission
Bruce Lin - United States Nuclear Regulatory Commission

CS-03-02 Environmental Fatigue Issues (Joint M&F)
7/13/2021
8:00 PM to 9:05 PM - Room D

Chair: ***Seiji Asada - Mitsubishi Heavy Industries, Ltd***
Chair: ***Anees Udyawar - Westinghouse Electric Company***
Chair: ***Valery Lacroix - Tractebel Engineering***
Chair: ***Claude Faidy - CF Integrity Engineering***
Chair: ***Thomas Métais - EDF***

Chair: ***Ryan Crane - ASME***
Presentations:

A Fatigue Crack Growth Model for Type 304 Austenitic Stainless Steels In a Pressurized Water Reactor Environment, {PVP2021-65973}
Technical Paper Publication
Kathleen Barron - Naval Nuclear Lab
Denise Paraventi - Naval Nuclear Laboratory

Comparison of International Codes for a Fatigue Crack Growth Flaw Tolerance Sample Problem, {PVP2021-61651}
Technical Paper Publication
Gary Stevens - Electric Power Research Institute (EPRI)

A Fatigue Crack Growth Model for Type 304 Austenitic Stainless Steels in an Elevated Temperature Air Environment, {PVP2021-65972}
Technical Paper Publication
Kathleen Barron - Naval Nuclear Lab

INCEFA-SCALE (Increasing Safety in NPPs by Covering Gaps in Environmental Fatigue Assessment - Focusing on Gaps Between Laboratory Data and Component-Scale), {PVP2021-61793}
Technical Paper Publication
Kevin Mottershead - Jacobs
Roman Cicero - Inesco Ingenieros
Alec Mclennan - Jacobs
Stephan Courtin - EDF
Caitlin Huotilainen - VTT
Sergio Cicero - University of Cantabria

Design by Analysis, Codes, Standards and Rules on EAF - Applicability to Stainless Steels in PWR Primary Piping, {PVP2021-62187}
Technical Paper Publication
Jussi Solin - VTT
Tommi Seppänen - VTT
Petri Lemettinen - Fortum Power and Heat Oy
Rami Vanninen - TVO
Erkki Pulkkinen - TVO

DA-04-01 Inelastic, Nonlinear, and Limit Load Analysis
7/13/2021
8:00 PM to 9:05 PM - Room I

Chair: ***Nathan Barkley - Becht Engineering***
Chair: ***Dan Vlaicu - Ontario Power Generation***
Chair: ***Phillip Wiseman - Lisega, Inc.***
Chair: ***Jaan Taagepera - Chevron ETC***
Presentations:

Cyclic Stress-Strain Curve of Austenitic Stainless Steels Applicable to Elastic-Plastic Stress Analysis, {PVP2021-60525}
Technical Paper Publication

Seiji Asada - Mitsubishi Heavy Industries, Ltd
Yuichiro Nomura - Mitsubishi Heavy Industries, Ltd

Comparative Research on Nonlinear Analysis Method Technique for the Failure Modes Based on RCC-M Annex ZC, {PVP2021-62035}
Technical Paper Publication
Xuejiao Shao - Nuclear Power Institute of China
Xiaolong Fu - Nuclear Power Institute of China
Hai Xie - Nuclear Power Institute of China
Ying Zhang - Nuclear Power Institute of China
Jun Tian - Nuclear Power Institute of China
Furui Xiong - Science and Technology on Reactor System Design Technology Laboratory, Nuclear Power Institute of China
Mingda Yu - Nuclear Power Institute of China
Kaikai Shi - Nuclear Power Institute of China

A New Approach for Weld Creep Lifetime Assessment Based on Local Property Measurement, {PVP2021-62109}
Technical Presentation Only
WEI ZHANG - Oak Ridge National Laboratory
Yiyu Wang - Oak Ridge National Laboratory
Yanli Wang - Oak Ridge National Laboratory
Zhili Feng - Oak Ridge National Laboratory

FSI-05-01 International Symposium on Emerging Technologies
7/13/2021
8:00 PM to 9:05 PM - Room H

Chair: ***David Gross - Dominion Engineering Inc***
Chair: ***Pierre Moussou - Electricitã© De France***
Chair: ***Victor Janzen - Victorpjanzen***
Chair: ***Trey Walters - Applied Flow Technology***
Chair: ***Tomoyo Taniguchi - Tottori University***
Presentations:

Sensitivity Analysis of Tunable Equation of State Material Model In Pulsed Mercury Target Simulation, {PVP2021-60940}
Technical Paper Publication
Lianshan Lin - Oak Ridge National Laboratory
Drew Winder - Oak Ridge National Laboratory

Vibration Transmission Characteristics of Periodic Composite Pipeline Considering Friction Coupling Effect, {PVP2021-61134}
Technical Paper Publication
Qingna Zeng - Science and Technology on Reactor system Design Technology Laboratory
Donghui Wang - Science and Technology on Reactor system Design Technology Laboratory
Fenggang Zang - Science and Technology on Reactor system Design Technology Laboratory
Yixiong Zhang - Science and Technology on Reactor system Design Technology Laboratory

Evaluation of Water Flow on Interfacial Strength in PSA Film Delamination, {PVP2021-61929}

Technical Paper Publication
Ibuki Mashio - Tokyo Institute of Technology
Kazuaki Inaba - Tokyo Institute of Technology

MF-02-03 Materials for hydrogen service III (Joint with C&S)
7/13/2021
8:00 PM to 9:05 PM - Room E

Chair: ***Hisao Matsunaga - Kyushu University***
Chair: ***Do Jun Shim - Structural Integrity Associates, Inc.***
Chair: ***Sylvain Pillot - Industeel Arcelormittal Group - CRMC***
Chair: ***Chris San Marchi - Sandia National Laboratories***
Chair: ***Paul Korinko - Savannah River National Laboratory***
Chair: ***Peter Gill - Jacobs***
Chair: ***Joe Ronevich - Sandia National Laboratories***
Chair: ***Laurent Briottet - French Alternative Energies and Atomic Energy Commission (CEA)***
Chair: ***Steven Xu - Kinetrics***
Presentations:

Fatigue Crack Growth in Ferritic Microstructure Under the Exposure to Gaseous Hydrogen: An Overview, {PVP2021-61717}
Technical Presentation Only
Yuhei Ogawa - Kyushu University
Osamu Takakuwa - Kyushu University
Hisao Matsunaga - Kyushu University

Fatigue Crack Growth Retardation After Single Overloading, as an Indicator of Hydrogen-Effect on the Extension of Crack-Tip Plastic-Zone, {PVP2021-61740}
Technical Presentation Only
Keiichiro Iwata - Kyushu University
Yuhei Ogawa - Kyushu University
Masami Nakamura - Kyushu University
Saburo Okazaki - Kyushu University
Osamu Takakuwa - Kyushu University
Hisao Matsunaga - Kyushu University

Temperature-Effects on the Internal/external-Hydrogen-Driven Tensile Ductility Loss and Relevant Failure Mechanisms in a Ni-Based Superalloy 718, {PVP2021-61739}
Technical Presentation Only
Kohei Noguchi - Kyushu university
Yuhei Ogawa - Kyushu university
Osamu Takakuwa - Kyushu university
Hisao Matsunaga - Kyushu university

Evaluation of Hydrogen Embrittlement Behaviors in Pipeline Steel Welds Using In-Situ SP Test In High-Pressure Hydrogen Environments, {PVP2021-62195}
Technical Paper Publication
Hyung-Seop Shin - Andong National University
Nick A Custodio - Andong National University

Juho Yeo - Andong National University
Jae Won Cho - Andong National University
Un-Bong Baek - Korea Research Institute of Standards and Science
Seunghoon Nahm - Korea Research Institute of Standards and Science

Fatigue Crack Growth Study of X70 Line Pipe Steel in Hydrogen Containing Natural Gas Blends, {PVP2021-61821}
Technical Paper Publication
Ashwini Chandra - DNV GL
Thomas Prewitt - DNV GL
Ramgopal Thodla - DNV GL
Matthews Wendy - Sourthern California Gas Company
Siari Sosa - Sourthern California Gas Company

MF-06-02 Materials and Technologies for Nuclear Power Plants II
7/13/2021
8:00 PM to 9:05 PM - Room G

Chair: ***Weiju Ren - Oak Ridge National Laboratory***
Chair: ***Do Jun Shim - Structural Integrity Associates, Inc.***
Chair: ***Paul Korinko - Savannah River National Laboratory***
Chair: ***Peter Gill - Jacobs***
Chair: ***Xiang Chen - ORNL***
Chair: ***Rita Kirchhofer - Exponent***
Presentations:

Creep and Creep Rupture Behaviors of Alloy 690 Steam Generator Tubes at High Temperature – Experiments and Larson-Miller Parameters (Lmp), {PVP2021-61922}
Technical Presentation Only
Jongmin Kim - Korea Atomic Energy Research Institute
Woogon Kim - Korea Atomic Energy Research Institute
Minchul Kim - Korea Atomic Energy Research Institute

Secondary Stress Weighting Factor and Plastic Reduction Factor for Circumferential Surface Cracked Pipe and Elbow Tests at Elevated Temperature and Internal Pressure, {PVP2021-60449}
Technical Paper Publication
Sushma Pothana - Engineering Mechanics Corporation of Columbus
Gery Wilkowski - Engineering Mechanics Corporation of Columbus
Suresh Kalyanam - Engineering Mechanics Corporation of Columbus
Yunior Hioe - Engineering Mechanics Corporation of Columbus
Bud F Brust - Engineering Mechanics Corporation of Columbus
Fabian Orth - Engineering Mechanics Corporation of Columbus
Prabhat Krishnaswamy - Engineering Mechanics Corporation of Columbus
Gary Hattery - Engineering Mechanics Corporation of Columbus
Steve Burger - Naval Nuclear Laboratory
Steven Gilbert - Naval Nuclear Laboratory

A Discussion of Strength Reduction Factor Development for Thermal Aging Effect on Nuclear Structural Alloys, {PVP2021-61055}
Technical Paper Publication
Weiju Ren - Oak Ridge National Laboratory

In-Situ Evolution of Thermal Property in Sic Composites Under the Combination of He and Si Irradiation, {PVP2021-63006}
Technical Presentation Only
Di Chen - University of Houston
Piyush Sabharwall - Idaho National Laboratory
Wei-Kan Chu - University of Houston
Ken Williams - University of Houston

Creep Data Acquisition in Heat Affected Zone of 9-12% Cr Csef Steels With Specially Designed Experiments, {PVP2021-62044}
Technical Presentation Only
Yiyu Wang - Oak Ridge National Laboratory
Wei Zhang - Oak Ridge National Laboratory
Hui Huang - Oak Ridge National Laboratory
Yanli Wang - Oak Ridge National Laboratory
Jian Chen - Oak Ridge National Laboratory
Zhili Feng - Oak Ridge National Laboratory

Residual Lifetime Assessment of Service-Aged Dissimilar Forge 91-Pipe 91 Steel Header Welds With High Temperature Digital Image Correlation, {PVP2021-62049}
Technical Presentation Only
Yiyu Wang - Oak Ridge National Laboratory
Wei Zhang - Oak Ridge National Laboratory
Yanli Wang - Oak Ridge National Laboratory
John Siefert - Electric Power Research Institute
Alex Bridges - Electric Power Research Institute
Steven Kung - Electric Power Research Institute
Zhili Feng - Oak Ridge National Laboratory

OAC-01-01 Safety, Reliability, and Risk Management
7/13/2021
8:00 PM to 9:05 PM - Room C

Chair: ***Alton J. Reich - Streamline Automation***
Chair: ***Nicholas Klymyshyn - Pacific Northwest National Laboratory***
Chair: ***Joseph Cluever - LPI, Inc.***
Chair: ***Mustafa HADJ-NACER - University of Nevada, Reno***
Chair: ***Georges Bezdikian - Georges BEZDIKIAN Consulting***
Presentations:

Failure Assessment of Gas Pipeline Based on Fuzzy Bayesian Network and AHP, {PVP2021-60054}
Technical Paper Publication
Qiaoyan Yu - China University of Petroluem
Lei Hou - China University of Petroluem
Yanhao Li - China University of Petroluem
Chong Chai - China University of Petroluem

Application of Ultrasonic Guided Wave in LMPH Tube of Ethylene Cracking Furnace, {PVP2021-60903}

Technical Paper Publication
Ju Ding - Shanghai Institute of Special Equipment Inspection and Technical Research
Sheng-Hui Wang - Shanghai Institute of Special Equipment Inspection and Technical Research
Shu-Hong Liu - Shanghai Institute of Special Equipment Inspection and Technical Research

Causal Relationship Extraction of LNG Unloading System Under Abnormal Conditions Based on Bidirectional LSTM Network, {PVP2021-61321}
Technical Paper Publication
Xu Kangkai - College of safety and Ocean Engineering, China University of Petroleum(Beijing)
Hu Jinqiu - State Key Laboratory of Oil and Gas Resources and Exploration, China University of Petroleum (Beijing)
Dong Shaohua - College of safety and Ocean Engineering, China University of Petroleum(Beijing)
Feng Lingan - College of safety and Ocean Engineering, China University of Petroleum(Beijing)

Research and Application of Safety Valves Inspection Method Based on Failure and Risk Big Data, {PVP2021-61747}
Technical Paper Publication
Jian Xing - China Special Equipment Inspection and Research Institute
Shuping Ai - China Special Equipment Inspection and Research Institute
Zhiyuan Han - China Special Equipment Inspection and Research Institute

Influence of Alcohol Additives on the Viscosity and Solubility of Ethanol/Diesel Fuel Blends: A Molecular Dynamics Simulation Study, {PVP2021-61884}
Technical Paper Publication
Xueying Li - China university of petroleum Beijing
Lei Hou - China University of Petroleum Beijing
Chong Chai - China University of Petroleum Beijing
Sichen He - China University of Petroleum Beijing

Statistically Analyzing the Characteristics of Gas Pipelines Accidents Based on PHMSA Database, {PVP2021-61937}
Technical Paper Publication
Shengli Liu - 031180787950

SE-09-01 Advanced Seismic Evaluation and Code
7/13/2021
8:00 PM to 9:05 PM - Room B

Chair: ***Yinsheng Li - Japan Atomic Energy Agency***
Chair: ***Taichi Matsuoka - Meiji University***
Chair: ***Akira Maekawa - The Kansai Electric Power Co., Inc.***
Chair: ***Keisuke Minagawa - Saitama Institute of Technology***
Chair: ***Izumi Nakamura - National Res Inst***
Chair: ***Fabrizio Paolacci - University Roma Tre***
Chair: ***Akihito Otani - Ishikawajima Harima Heavy Ind***
Chair: ***Osamu Furuya - Tokyo Denki University***
Presentations:

Natural Frequency of Oval-Type Vibration of an Aboveground Storage Tank Installed With Wind Girders, {PVP2021-60476}

Technical Paper Publication
Shoichi Yoshida - Yokohama National University

Acceleration and Displacement Response of Base Isolation System With Friction Subjected to Random Vibration, {PVP2021-61720}
Technical Paper Publication
Shigeru Aoki - Tokyo Metropolitan College of Industrial Technology
Katsumi Kurita - Tokyo Metropolitan College of Industrial Technology

Micro Ultrasonic Knurling Technology Creating High Precision Texture on Sliding Surface in Mechanical System (Fundamental Experiment), {PVP2021-61905}
Technical Paper Publication
Shigeru Aoki - Tokyo Metropolitan College of Industrial Technology
Yasunori Sakai - Shibaura Institute of Technology
Tomohisa Tanaka - Tokyo Institute of Technology

Strength Distribution Characteristics of Elbow Pipes Considering Low Cycle Fatigue Based on Analysis, {PVP2021-61943}
Technical Paper Publication
Ryuya Shimazu - Central Research Institute of Electric Power Industry
Michiya Sakai - Central Research Institute of Electric Power Industry
Yohei Ono - Central Research Institute of Electric Power Industry
Shinichi Matsuura - Central Research Institute of Electric Power Industry

Effect of Parameters of Elasto-Plastic Damper on Mitigation of Connected Cabinets Storing Electronics Subjected to Seismic Waves, {PVP2021-62002}
Technical Paper Publication
Atsuhiko Shintani - Osaka Prefecture Univ.
Takuma Yoshida - Osaka Prefecture Univ.
Chihiro Nakagawa - Osaka Prefecture Univ.
Tomohiro Ito - Independent Author

WEDNESDAY, JULY 14, 2021

CS-08-01 Hydrogen Effects on Material Behavior for Structural Integrity Assessment (Joint MF-2)
7/14/2021
9:00 AM to 10:05 AM - Room E

Chair: ***Steven Xu - Kinectrics***
Chair: ***Anees Udyawar - Westinghouse Electric Company***
Chair: ***Valery Lacroix - Tractebel Engineering***
Chair: ***Chris San Marchi - Sandia National Laboratories***
Chair: ***David Cho - Bruce Power***
Chair: ***Ryan Crane - ASME***
Chair: ***Jinyang Zheng - Zhejiang University***
Chair: ***Michael Martin - Rolls Royce***
Presentations:

Probabilistic Design Factors for Pipes Used for Hydrogen Transport, {PVP2021-61411}
Technical Presentation Only
Pluvinage Guy - UL

A Newly Developed Measuring Principle for Precise Measurement of Forces in Test Autoclaves, {PVP2021-62072}
Technical Paper Publication
Alexandra Oßwald - MPA University of Stuttgart
Martin Werz - MPA University of Stuttgart
Stefan Weihe - MPA University of Stuttgart

CS-11-02 Integrity Management
7/14/2021
9:00 AM to 10:05 AM - Room F

Chair: ***Xuedong Chen - Hefei General Machinery Research Institute***
Chair: ***Anees Udyawar - Westinghouse Electric Company***
Chair: ***Valery Lacroix - Tractebel Engineering***
Chair: ***Jianfeng Shi - Zhejiang University***
Chair: ***Ryan Crane - ASME***
Chair: ***Jinyang Zheng - Zhejiang University***
Chair: ***Zhichao Fan - Hefei General Machinery Research Institute***
Chair: ***Yinghua Liu - Qsinghua University***
Presentations:

Research on Action Layers and Application and Database Design of Safety Barrier in Petrochemical Plant, {PVP2021-61330}
Technical Paper Publication
ZHOU FANG - Beijing University of Chemical Technology Beijing, P. R. China
Zhibo Huan - Beijing University of Chemical Technology Beijing, P. R. China
Zhe Wang - Beijing Institute of Architectural Design（BIAD）, Beijing, P. R. China
Guanghai Li - China Special Equipment Inspection and Research Institute (CSEI), Beijing, P. R. China
Ruxin Chen - Beijing University of Chemical Technology Beijing, P. R. China

Safety Assessment of Long Term Serviced Pressure Vessels: A Case Study of Typical Refining and Chemical Plants in China, {PVP2021-61470}
Technical Paper Publication
Zhiyuan Han - China Special Equipment Inspection and Research Institute
Guoshan Xie - China Special Equipment Inspection and Research Institute
Haiyi Jiang - China Special Equipment Inspection and Research Institute
Xiaowei Li - China Special Equipment Inspection and Research Institute

Application and Limitation of Safety Valves Inspection Codes in China, {PVP2021-61727}
Technical Paper Publication
jian xing - China Special Equipment Inspection and Research Institute
Zhiyuan Han - China Special Equipment Inspection and Research Institute
Shuping Ai - China Special Equipment Inspection and Research Institute

Technical Progress Review and Prospect of Safety Guarantee for Long-Term Service Hydrogenation Reactors, {PVP2021-64839}
Technical Paper Publication
Xuedong Chen - Hefei General Machinery Research Institute
Zhichao Fan - Hefei General Machinery Research Institute
Jie Dong - Hefei General Machinery Research Institute
Shantung Tu - East China University of Science and Technology
Cengdian Liu - East China University of Science and Technology
Changjun Liu - East China University of Science and Technology

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DA-01-01 Design & Analysis of Pressure Vessels & Components I
7/14/2021
9:00 AM to 10:05 AM - Room I

Chair: ***Nathan Barkley - Becht Engineering***
Chair: ***Clay Rodery - C&S Technology LLC***
Chair: ***Phillip Wiseman - Lisega, Inc.***
Chair: ***Tasnim Hassan - North Carolina State Univ***
Chair: ***Jaan Taagepera - Chevron ETC***
Presentations:

Study the Integrity of Flange to Gasket Connection Using ASME PCC-1 Under Bolt Tightening and Operating Condition, {PVP2021-61779}
Technical Paper Publication
Balram Kalra - ISGEC HITACHI ZOSEN LTD.
Arun Kumar - ISGEC Hitachi Zosen Ltd.

NuScale Pressure and Temperature Limits Methodology Using Finite Element Analysis, {PVP2021-61856}
Technical Paper Publication
Heqin Xu - NuScale Power, LLC
Joe Remic - NuScale Power, LLC
Hongqing Xu - NuScale Power, LLC

Estimation of the Stresses in Rotational Autofrettage of Thick-Walled Pressure Vessels Using von Mises Yield Criterion, {PVP2021-61888}
Technical Paper Publication
Dr. Seikh Mustafa Kamal - Indian Institute of Technology Jammu
Faruque Aziz - Tezpur University

Research on Design Method of Hydrogen Storage Pressure Vessel in the Hydrogen Refueling Station Based on Failure Mode, {PVP2021-61901}
Technical Paper Publication
Fang Ji - China Special Equipment Inspection Institute
Zhiwei Chen - China Special Equipment Inspection Institute
Xiaoliang Jia - China Special Equipment Inspection Institute
Cenfan Liu - China Special Equipment Inspection Institute
Linlin Duan - China Special Equipment Inspection Institute

Development of Minimum Pressurization Temperature Envelopes for Hydroprocessing Reactors - A Case Study, {PVP2021-61954}
Technical Paper Publication
GURUMURTHY KAGITA - ENGINEERS INDIA LIMITED
Krishnakant V. Pudipeddi - ENGINEERS INDIA LIMITED
Penchala S. K. Pottem - ENGINEERS INDIA LIMITED
Gudimella G. S. Achary - ENGINEERS INDIA LIMITED
Subramanyam V. R. Sripada - ENGINEERS INDIA LIMITED

FSI-02-02 Flow-induced Vibration II
7/14/2021
9:00 AM to 10:05 AM - Room H

Chair: ***David Weaver - McMaster***
Chair: ***Pierre Moussou - Electricitã© De France***
Chair: ***Njuki Mureithi - Polytechnique Montreal***
Chair: ***Trey Walters - Applied Flow Technology***
Chair: ***Tomoyo Taniguchi - Tottori University***
Chair: ***Marwan Hassan - University Of Guelph***
Presentations:

A Study on Fluid-elastic Instability of Tube Array with Different Stiffness Asymmetry in Cross Flow, {PVP2021-61410}
Technical Paper Publication
Hongsheng Zhang - Yanshan University
Liqin Cao - Yanshan University
Wei Tan - Tianjin University
Kai Guo - Yanshan University

Numerical Prediction of the Phase Difference in Tube Bundles Experiencing Streamwise Fluidelastic Instability, {PVP2021-63798}
Technical Paper Publication
Sameer A Rehman - University of Guelph
Salim El Bouzidi - Canadian Nuclear Laboratories
Osama Elbanhawy - University of Guelph
Marwan Hassan - University of Guelph
David S Weaver - McMaster University

Flow-Induced Vibration Behaviour of a Rotated Square Tube Array Subjected to Cross-Flow, {PVP2021-62462}
Technical Paper Publication
Sameh Darwish - Ecole Polytechnique Montreal
Abdallah Hadji - Ecole Polytechnique Montreal
Huy Peter Pham - Ecole Polytechnique Montreal
Njuki Mureithi - Ecole Polytechnique Montreal
Changhoon Ha - DOOSAN HEAVY INDUSTRIES & CONSTRUCTION

Measurement of Steam-Generator Tube Damping Caused by Anti-Vibration-Bar Supports, {PVP2021-62112}
Technical Paper Publication
Bruce Smith - Rhodes Associates Inc.
Paul Feenstra - Canadian Nuclear Laboratories
Michael C. Liu - Intertek

Experimental Investigation of Jet Cross-Flow Induced Vibration of a Rod Bundle, {PVP2021-65000}
Technical Paper Publication
Ibrahim Gad-El-Hak - Polytechnique Montreal
Njuki Mureithi - Polytechnique Montreal
Kostas Karazis - Framatome Inc.
Gary Williams - Framatome Inc.

HT-06-01 Design and Analysis of High-Pressure Equipment for Oil and Gas Exploration and Production
7/14/2021
9:00 AM to 10:05 AM - Room A

Chair: ***Kumarswamy Karpanan - Technipfmc***
Chair: ***David Gross - Dominion Engineering Inc***
Chair: ***Melanie Sarzynski - Wiss, Janney, Elstner Associates, Inc.***
Chair: ***Matthew Edel - BakerRisk***
Chair: ***Daniel Peters - Structural Integrity Associates***
Chair: ***Przemyslaw Lutkiewicz - Freudenberg Oil & Gas Technologies***
Chair: ***Mangesh Edke - n/a***
Presentations:

Hydrogen Embrittlement in Inconel 718 Produced by Selective Laser Melting, {PVP2021-60453}
Technical Paper Publication
Giuseppe Macoretta - Department of Civil and Industrial Engineering - University of Pisa
Bernardo Disma Monelli - Department of Civil and Industrial Engineering - University of Pisa
Marco Beghini - Department of Civil and Industrial Engineering - University of Pisa
Renzo Valentini - Department of Civil and Industrial Engineering - University of Pisa
Francesco Aiello - Department of Civil and Industrial Engineering - University of Pisa
Mattia Moda - Department of Civil and Industrial Engineering - University of Pisa

General Metal to Metal Static Seals Leak Tightness Overview - R&D Processes, FEA and Tests and Further Code Implementation, {PVP2021-61239}
Technical Paper Publication
Przemyslaw Lutkiewicz - Freudenberg Oil & Gas Technologies
David Robertson - Freudenberg Oil & Gas Technologies
Sam Lee - TechnipFMC

Designing and Optimising Duplex/Superduplex Compact Flanges to Negate HISC in Subsea Applications, {PVP2021-61347}
Technical Paper Publication
Przemyslaw Lutkiewicz - Freudenberg Oil & Gas Technologies

Limit Loads of Bolted Flange Connections, {PVP2021-62712}
Technical Paper Publication
Przemyslaw Lutkiewicz - Freudenberg Oil & Gas Technologies
Finn Kirkemo - Equinor

Evaluation of Cracks Embedded in Zones With Large Scale Plasticity in Subsea HPHT Equipment – Comparing FAD and Driving Force Approaches, {PVP2021-62992}
Technical Paper Publication
Mandar Kulkarni - Stress Engineering Services Inc.
Daniel Kluk - Stress Engineering Services, Inc
Carlos Lopez - Stress Engineering Services, Inc
John Chappell - Stress Engineering Services, Inc

Functional Analysis of a HPHT Subsea Tool Under Thermal Loads, {PVP2021-65338}
Technical Paper Publication
Gaurav Bansal - Schlumberger
Ali Sepehri - Schlumberger
Mangesh Edke - Schlumberger

MF-01-01 Application of Fracture Mechanics in Failure Assessment I
7/14/2021
9:00 AM to 10:05 AM - Room D

Chair: ***Harry Coules - University of Bristol***
Chair: ***Douglas Scarth - Kinectrics***
Chair: ***Do Jun Shim - Structural Integrity Associates, Inc.***
Chair: ***Paul Korinko - Savannah River National Laboratory***
Chair: ***Peter Gill - Jacobs***
Chair: ***Preeti Doddihal - Kinectrics Inc.***
Chair: ***Poh-Sang Lam - Savannah River National Lab***
Chair: ***Jessica Lam - Ontario Power Generation (OPG)***
Presentations:

Three-Dimensional Finite Element Analyses of Separation Work Rate For Crack Extension in a Thin Curved Compact Tension Specimen With Finite Step Nodal Release Method, {PVP2021-62656}
Technical Paper Publication
Shin-Jang Sung - University of Michigan
Shengjia Wu - University of Michigan
Jwo Pan - University of Michigan

Application of 3D Constraint-Based Fracture Mechanics for the Determination of R-Curves of Thermal Aged 16MND5 Steel, {PVP2021-61656}
Technical Paper Publication
Zheng Liu - Tianjin University
Xin Wang - Carleton University
Ron Miller - Carleton University
Yueyin Shen - Nuclear Power Institute of China
Xu Chen - Tianjin University

Stress Intensity Factor Predictions at Clad Interfaces, {PVP2021-61684}
Technical Paper Publication
William Brayshaw - Jacobs
Peter James - Jacobs
Ben Pellereau - Rolls-Royce

Machine Learning Modeling of Dynamic Strength of Resistance Spot Welds in High Strength Steels, {PVP2021-63093}
Technical Paper Publication
Xian-Kui Zhu - Savannah River National Lab
Jesse Zhu - Cornell University
Wei Zhang - The Ohio State University

The Impact of Silicon Content on the Corrosion Resistance of Nickel-Molybdenum Alloy in High Concentration Sulfuric Acid Transport, {PVP2021-62023}
Technical Paper Publication
Abdulla Fawzi Almomani - United Arab Emirates University
Hazem Alhaj - Inspection and Corrosion Department Abu Dhabi Polymers Co. Ltd. (Borouge)
Abdel-Hamid Ismail Mourad - United Arab Emirates University

The Influence of Low Melting Point Elements on Hot-Cracking of 310 Austenitic Stainless Steel, {PVP2021-62031}
Technical Paper Publication
Abdulla Fawzi Almomani - United Arab Emirates University
Hazem Alhaj - Inspection and Corrosion Department Abu Dhabi Polymers Co. Ltd. (Borouge)
Abdel-Hamid Ismail Mourad - United Arab Emirates University

MF-08-01/10-01 Development of Stress Intensity Factor Solutions (Joint with C&S) and Pipeline Integrity
7/14/2021
9:00 AM to 10:05 AM - Room G

Chair: ***Peter Gill - Jacobs***
Chair: ***Mo Uddin - Engineering Mechanics Corporation of Columbus***
Chair: ***Do Jun Shim - Structural Integrity Associates, Inc.***
Chair: ***Yinsheng Li - Japan Atomic Energy Agency***
Chair: ***Paul Korinko - Savannah River National Laboratory***
Chair: ***Xian-Kui Zhu - Savannah River National Lab***
Presentations:

A New Stress-Intensity Factor Solution for an External Surface Crack in Spheres, {PVP2021-61397}
Technical Paper Publication
James Sobotka - Southwest Research Institute
Yi-Der Lee - Southwest Research Institute
R. Craig Mcclung - Southwest Research Institute
Joseph Cardinal - Southwest Research Institute

Interlaboratory Study of All-Weld-Metal Strip Tensile Testing of Narrow Groove Pipeline Girth Welds, {PVP2021-61420}
Technical Paper Publication
Dong-Yeob Park - Canmetmaterials, Natural Resources Canada
Jean-Philippe Gravel - CanmetMATERIALS, Natural Resources Canada
Su Xu - CanmetMATERIALS, Natural Resources Canada
James Gianetto - CanmetMATERIALS. Natural Resources Canada
Justin Crapps - ExxonMobil Upstream Integrated Solutions
Robert Lazor - TC Energy
Marie Quintana - The Lincoln Electric Company

Evaluation of Normalization Method With Crack Mouth Opening Displacement for Developing J-R Curves, {PVP2021-60755}
Technical Paper Publication
Xian-Kui Zhu - Savannah River National Lab

Fatigue Crack Growth Rate Data Assessment, {PVP2021-62038}
Technical Paper Publication
Enyang Wang - BMT Canada
Aaron Dinovitzer - BMT Canada
Sanjay Tiku - BMT Canada

Prediction of Ultimate Load of Pipeline With Defects Based On Material Hardening, {PVP2021-61647}
Technical Paper Publication
Zhuoyu Fang - China University of Petroleum(Beijing), Pipeline Technol & Safety Res Ctr
Shaohua Dong - China University of Petroleum(Beijing), Pipeline Technol & Safety Res Ctr

Analytical Limit Load Formula and Procedure for Strength Calculation of Axial Complex Shaped Defect in Pipe, {PVP2021-61640}
Technical Paper Publication
Igor Orynyak - National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute"
Yulia Bai - National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute"
Roman Mazuryk - National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute"

OAC-06-01 Operation and Maintenance of Pressure Vessels, Heat Exchangers, Piping and Supports
7/14/2021
9:00 AM to 10:05 AM - Room C

Chair: ***Ayman Cheta - Qatar Shell GTL***
Chair: ***Yasumasa Shoji - YS Corporation LLC***
Chair: ***Nicholas Klymyshyn - Pacific Northwest National Laboratory***
Chair: ***Mustafa HADJ-NACER - University of Nevada, Reno***
Chair: ***Georges Bezdikian - Georges BEZDIKIAN Consulting***
Chair: ***Takuyo KAIDA - Sumitomo Chemical Co., Ltd.***
Presentations:

Structural Integrity Assessment of Refractory Lined Component With Thermal Hot Spot Subjected to Steam Cooling, {PVP2021-61077}
Technical Paper Publication
Eui Jong Yoo - GS Caltex Coporation
Capjoo Choi - GS Engineering & Construction

Developing and Implementing Ch. VII O&M Programs at CCGT Plants: Case Studies, {PVP2021-61416}
Technical Paper Publication
Peter Jackson - Tetra Engrg Group Inc
Robert Rosario - TETRA ENGINEERING GROUP, INC.
Anita Johny - TETRA ENGINEERING GROUP, INC.
Andreas Fabricius - TETRA ENGINEERING EUROPE

Alexandria Wholey - TETRA ENGINEERING GROUP, INC.

Development of Inhibitor for Corrosion Protection of Condensate Stripping Process in Industrial Coal Gasification Unit, {PVP2021-61869}
Technical Paper Publication
Meng He - China Special Equipment Inspection and Research Institute
Haoyuan Kang - China Special Equipment Inspection and Research Institute
Juanbo Liu - China Special Equipment Inspection and Research Institute
Sheng Chen - China Special Equipment Inspection and Research Institute
Xueru Gong - China Special Equipment Inspection and Research Institute
Li Sun - China Special Equipment Inspection and Research Institute

A Case Study of a Challenging Coke Drum Skirt Repair: A Through Wall Crack Extended 360 Degrees Around Circumference, {PVP2021-62435}
Technical Paper Publication
Huidong Gao - Shell
Jorge Penso - Shell Global Solutions Inc (US)
David Dewees - Becht Engineering Co., Inc.
Everett Chatham - Shell Exploration & Production Company

Storage Tanks Settlement Assessment and Repair Optimization With the Presence of Bottom Plate Corrosion, {PVP2021-60447}
Technical Presentation Only
Meshal Al Saiari - Saudi Aramco
Abdulaziz Moshaweh - Saudi Aramco

SE-07-01 Seismic Evaluation of Systems, Structures and Components
7/14/2021
9:00 AM to 10:05 AM - Room B

Chair: ***Fabrizio Paolacci - University Roma Tre***
Chair: ***Taichi Matsuoka - Meiji University***
Chair: ***Keisuke Minagawa - Saitama Institute of Technology***
Chair: ***Satoru Kai - IHI Corporation***
Chair: ***Akemi Nishida - Japan Atomic Energy Agency***
Chair: ***Akihito Otani - Ishikawajima Harima Heavy Ind***
Chair: ***Osamu Furuya - Tokyo Denki University***
Presentations:

Seismic Fragility and Behavior of Spherical Pressure Vessels, {PVP2021-61069}
Technical Paper Publication
Sezer Öztürk - Fatih Sultan Mehmet Vakif University
Kayahan Akgül - Istanbul University
Ali Sarı - Istanbul Technical University

Seismic Analysis of VVER-1000 Polar Crane, {PVP2021-61706}
Technical Paper Publication
Yaroslav Dubyk - IPP-CENTRE
Vitalii Antonchenko - IPP-CENTRE

Study on Reliability of Seismic Capacity Analysis for Important Equipment in Nuclear Facilities, {PVP2021-61742}
Technical Paper Publication
Hitoshi Muta - Tokyo City University
Yasuki Ohtori - Tokyo City University
Osamu Furuya - Tokyo Denki University
Satoshi Fujita - Tokyo Denki University

Research and Examination of Seismic Safety Evaluation and Function Maintenance for Important Equipment in Nuclear Facilities, {PVP2021-61781}
Technical Paper Publication
Osamu Furuya - Tokyo Denki University
Satoshi Fujita - Tokyo Denki University
Hitoshi Muta - Tokyo City University
Yasuki Ohtori - Tokyo City University
Tatsuya Itoi - The University of Tokyo
Shigeki Okamura - Toyama Prefectural University
Keisuke Minagawa - Saitama Institute of Technology
Izumi Nakamura - National Research Institute for Earth Science and Disaster Resilience
Shigeru Fujimoto - Kanagawa University
Akihito Otani - IHI
Akemi Nishida - Japan Atomic Energy Agency
Tomoyoshi Watakabe - Japan Atomic Energy Agency

CS-07-01 Recent Developments in ASME Codes and Standards I
7/14/2021
5:00 PM to 6:05 PM - Room D

Chair: ***T. L. Sham - Idaho National Laboratory***
Chair: ***Anees Udyawar - Westinghouse Electric Company***
Chair: ***Valery Lacroix - Tractebel Engineering***
Chair: ***Michael McMurtrey - Idaho National Laboratory***
Chair: ***Ryan Crane - ASME***
Presentations:

A Case for New Low Pressure Vessel (LPV) Codes for Design Pressures Below 15 psi (100 kPA), {PVP2021-62293}
Technical Paper Publication
Barry Millet - Fluor Enterprises, Inc.
Kaveh Ebrahimi - Fluor Limited
James Lu - Fluor Enterprises, Inc.
Donald Spencer - Fluor Enterprises, Inc.

ASME Section III Standards Committee Fatigue Action Plan, {PVP2021-61295}
Technical Paper Publication
Suzanne McKillop - MPR Associates
Robert Keating - MPR Associates
Paul Donavin - Engineering Management

A Probabilistic Margin Assessment of the ASME Section III, Division 5 Primary Load Design Rules for Class A Components, {PVP2021-61570}
Technical Paper Publication
Andrea Nicolas - Argonne National Laboratory
Mark Messner - Argonne National Laboratory
T. -L. Sham - Argonne National Laboratory

A Viscoplastic Model for Alloy 617 for Use With the ASME Section III, Division 5 Design by Inelastic Analysis Rules, {PVP2021-61607}
Technical Paper Publication
Mark Messner - Argonne National Laboratory
T.-L. Sham - Argonne National Laboratory

Proposed Alternative Rules for Establishing Pressure-Temperature Rating of Aluminum Alloy Flanges, {PVP2021-61641}
Technical Paper Publication
Ayman Cheta - Qatar Shell GTL Limited

CS-11-03 Engineering Failure Analysis
7/14/2021
5:00 PM to 6:05 PM - Room F

Chair: ***Yinghua Liu - Qsinghua University***
Chair: ***Anees Udyawar - Westinghouse Electric Company***
Chair: ***Valery Lacroix - Tractebel Engineering***
Chair: ***Jianfeng Shi - Zhejiang University***
Chair: ***Ryan Crane - ASME***
Chair: ***Jinyang Zheng - Zhejiang University***
Chair: ***Jun Shen - Qsinghua University***
Chair: ***Guangxu Cheng - Xi'an Jiaotong University***
Presentations:

Research on Characterization Method of Pressure Equipment Accident, {PVP2021-61376}
Technical Paper Publication
ZHOU FANG - Beijing University of Chemical Technology Beijing, P. R. China
Zhibo Huan - Beijing University of Chemical Technology Beijing, P. R. China
Zhe Wang - Beijing Institute of Architectural Design（BIAD）, Beijing, P. R. China
Junjie Fu - Beijing University of Chemical Technology Beijing, P. R. China
Puan Shi - Beijing University of Chemical Technology Beijing, P. R. China
Qia Liu - Beijing University of Chemical Technology Beijing, P. R. China
Gang Wu - Beijing University of Chemical Technology Beijing, P. R. China

Failure Analysis of a Cracked Stainless-Steel Steam-Water Separator, {PVP2021-62032}
Technical Paper Publication
Jin Shi - China Special Equipment Inspection and Research Institute
Xin Cheng - China special equipment research and inspetion institute
Wen Liu - China special equipment research and inspection institute

Failure Analysis and Intelligent Prevention and Control Technology of High Pressure Air Cooler in Hydrogen Environment, {PVP2021-61814}
Technical Paper Publication
Ou Guofu - Institute of Flow Induced Corrosion and Intelligent Prevention and Control
Jin Haozhe - Zhejiang Sci-Tech University ; Changzhou University
Yong Gu - Zhejiang Sci-Tech University
Liu Xiaofei - Zhejiang Sci-Tech University
Yu Chengyang - Zhejiang Sci-Tech University

Cause Analysis and Database Establishment of Typical Pressure Equipment Explosion Accidents, {PVP2021-61083}
Technical Paper Publication
Zhou Fang - Beijing University of Chemical Technology Beijing, P. R. China
Junjie Fu - Beijing University of Chemical Technology Beijing
Zhe Wang - Beijing Institute of Architectural Design （BIAD）
Zhiwei Chen - China Special Equipment Inspection and Research Institute (CSEI)
Guanghai Li - China Special Equipment Inspection and Research Institute (CSEI)

Prediction Method and Application Case Analysis of Dangerous Parts of Pipelines in Petrochemical Plants, {PVP2021-61356}
Technical Paper Publication
ZHOU FANG - Beijing University of Chemical Technology Beijing, P. R. China
Ruxin Chen - Beijing University of Chemical Technology Beijing, P. R. China
Zhe Wang - Beijing Institute of Architectural Design （BIAD）, Beijing, P. R. China
Zhibo Huan - Beijing University of Chemical Technology Beijing, P. R. China
Qia Liu - Beijing University of Chemical Technology Beijing, P. R. China
He Yan - China Special Equipment Inspection and Research Institute (CSEI), Beijing, P. R. China

Analysis and Treatment of Defects on the Buried Civil Gas Pipeline, {PVP2021-61912}
Technical Paper Publication
Jielu Wang - Shanghai Institute of Special Equipment Inspection and Technical Research
Wei Li - Shanghai Institute of Special Equipment Inspection and Technical Research
Shaoxing Hou - Shanghai Institute of Special Equipment Inspection and Technical Research

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DA-01-02 Design & Analysis of Heat Exchangers & Components II
7/14/2021
5:00 PM to 6:05 PM - Room I

Chair: ***Nathan Barkley - Becht Engineering***
Chair: ***Clay Rodery - C&S Technology LLC***
Chair: ***Phillip Wiseman - Lisega, Inc.***
Chair: ***Tasnim Hassan - North Carolina State Univ***
Chair: ***Jaan Taagepera - Chevron ETC***
Presentations:

Applicability of Design Rules for Openings in Shells, ASME B&PV Code, Section VIII, Division 2 - A Case Study, {PVP2021-62020}
Technical Paper Publication
GURUMURTHY K - ENGINEERS INDIA LIMITED
Krishnakant V. Pudipeddi - ENGINEERS INDIA LIMITED
Subramanyam V. R. Sripada - ENGINEERS INDIA LIMITED

Correlating Incident Heat Flux and Source Temperature to Meet ASTM E1529 Requirements for RAM Packaging Components Thermal Testing, {PVP2021-62039}
Technical Paper Publication
Austin Baird - Sandia National Laboratories
Walt Gill - Sandia National Laboratories
Hector Mendoza - Sandia National Laboratories
Victor Figueroa - Sandia National Laboratories

Alternative Nozzle Reinforcement Rules for Gasketed Plate Heat Exchangers, {PVP2021-62106}
Technical Paper Publication
Milan Nikic - ABSA the pressure equipment safety authority
Djordje Srnic - ABSA the pressure equipment safety authority

Validation of Modern Finite Analysis Methods for Glassy Polymers Using Historical Studies, {PVP2021-62146}
Technical Paper Publication
Bart Kemper - Kemper Engineering Services, LLC

A Comparative Study of Radial Nozzle Criteria; Section VIII, Division 2, Part 4.5.5 to Part 5.2.2, {PVP2021-66583}
Technical Paper Publication
Craig Boyak - TBD

MF-12-01 Materials and Fabrication: General Topics I
7/14/2021
5:00 PM to 6:05 PM - Room G

Chair: ***Mo Uddin - Engineering Mechanics Corporation of Columbus***
Chair: ***Do Jun Shim - Structural Integrity Associates, Inc.***
Chair: ***Paul Korinko - Savannah River National Laboratory***
Chair: ***Peter Gill - Jacobs***
Chair: ***David Rudland - US NRC***
Chair: ***John Sharples - Wood Nuclear***
Presentations:

Further Development of Probabilistic Leak-Before-Break Methods, {PVP2021-62936}
Technical Paper Publication
Peter Gill - Jacobs
Brian Daniels - Jacobs

Application of Leak-Before-Break to Small Diameter Stainless Steel Piping in PWRs, {PVP2021-62368}
Technical Paper Publication
Nathaniel Cofie - Structural Integrity Associates, Inc.
Dilipkumar Dedhia - Structural Integrity Associates, Inc.
Do Jun Shim - Structural Integrity Associates, Inc.

Full-Scale Hydrostatic Test of Internal CFRP Repair on a Degraded Pipe With a Postulated Flaw for Short-Term Loading in Safety Related Nuclear Applications, {PVP2021-63062}
Technical Paper Publication
Mo Uddin - Engineering Mechanics Corporation of Columbus
Fabian Orth - Engineering Mechanics Corporation of Columbus
Yunior Hioe - Engineering Mechanics Corporation of Columbus
Prabhat Krishnaswamy - Engineering Mechanics Corporation of Columbus
Laura Smith - Office of Nuclear Reactor Regulation
Chakrapani Basavaraju - Office of Nuclear Reactor Regulation

Vibration Attenuation of Periodic Composite Pipeline Considering Fluid Structure Interaction, {PVP2021-61396}
Technical Paper Publication
Qingna Zeng - Science and Technology on Reactor system Design Technology Laboratory
Donghui Wang - Science and Technology on Reactor system Design Technology Laboratory
Fenggang Zang - Science and Technology on Reactor system Design Technology Laboratory
Yixiong Zhang - Science and Technology on Reactor system Design Technology Laboratory

Fatigue Behavior and Lifetime Assessment of the Austenitic Stainless Steel AISI 347 and its Associated Filler Metal ER 347 Under Low-, High- and Very High Cycle Fatigue Loadings, {PVP2021-62005}
Technical Paper Publication
Tim Schopf - Materials Testing Institute University of Stuttgart
Stefan Weihe - Materials Testing Institute University of Stuttgart
Tobias Daniel - Institute of Materials Science and Engineering Technical University of Kaiserslautern
Marek Smaga - Institute of Materials Science and Engineering Technical University of Kaiserslautern
Tilmann Beck - Institute of Materials Science and Engineering Technical University of Kaiserslautern
Jürgen Rudolph - Framatome GmbH

Pilot Study on Seismic Fragility Evaluation for Degraded Austenitic Stainless Steel Piping Using the Probabilistic Fracture Mechanics Code PASCAL-SP, {PVP2021-62233}
Technical Paper Publication
Kisaburo Azuma - Nuclear Regulation Authority, Japan
Yoshihito Yamaguchi - Nuclear Safety Research Center, Japan Atomic Energy Agency
Yinsheng Li - Nuclear Safety Research Center, Japan Atomic Energy Agency (JAEA)

MF-22-01 Materials and Fabrication: General Topics II
7/14/2021
5:00 PM to 6:05 PM - Room E

Chair: ***Do Jun Shim - Structural Integrity Associates, Inc.***
Chair: ***Yinsheng Li - Japan Atomic Energy Agency***
Chair: ***Paul Korinko - Savannah River National Laboratory***
Chair: ***Peter Gill - Jacobs***
Chair: ***Sureshkumar Kalyanam - Engineering Mechanics Corporation of Columbus***
Chair: ***Yifan Huang - Candu Energy Inc./snc-Lavalin Nuclear***
Presentations:

Assessment of Residual Stress for Thick Butt-Welded Plate of a Reactor Pressure Vessel Steel, {PVP2021-61897}
Technical Paper Publication
Yoosung Ha - Japan Atomic Energy Agency
Shigetaka Okano - Osaka University

Hisashi Takamizawa - Japan Atomic Energy Agency
Jinya Katsuyama - Japan Atomic Energy Agency
Masahito Mochizuki - Osaka University

Finite Element Analysis to Investigate the Effect of Geometries of DWTT Specimens on the CTOA - An Interim Report, {PVP2021-62285}
Technical Paper Publication
Jia Xue - CanmetMATERIALS
Bruce Williams - CanmetMATERIALS
Su Xu - CanmetMATERIALS
William R. Tyson - CanmetMATERIALS

Modeling of Plastic Zones and Fracture Paths in Representative Material Elements With Bulk Hydrides in Hydrided Irradiated Zr-2.5Nb Pressure Tube Materials Under Plane Strain Conditions, {PVP2021-62458}
Technical Paper Publication
Shengjia Wu - University of Michigan
Jwo Pan - University of Michigan
Douglas Scarth - Kinectrics Inc.

Application of Different Data-Driven Methods in Material Performance Prediction of 2.25Cr-1Mo-0.25V Steel After Forming and Tempering, {PVP2021-61529}
Technical Paper Publication
You Li - Zhejiang University
Zhiping Chen - Zhejiang University
Hongfei Li - Zhejiang University

Strain Based Damage Model Predictions of Ductile Crack Growth in Multiple Fracture Specimen Geometries, {PVP2021-61172}
Technical Paper Publication
Sureshkumar Kalyanam - Engineering Mechanics Corporation of Columbus
Lance Hill - Engg. Mech Corp of Columbus
Gery Wilkowski - Engg. Mech Corp of Columbus
Yunior Hioe - Engg Mech Corp of Columbus
Frederick Brust - Engg. Mech Corp of Columbus

Modeling the Fracture Behavior of SEN(T) Specimens With Crack In Heat-Affected-Zone, {PVP2021-63027}
Technical Paper Publication
Sureshkumar Kalyanam - Engineering Mechanics Corporation of Columbus
Lance Hill - Engg Mech Corp of Columbus

OAC-04-03 Transportation of Radioactive and other Hazardous Materials III
7/14/2021
5:00 PM to 6:05 PM - Room C

Chair: ***Zenghu Han - Argonne National Laboratory***
Chair: ***Mike Weber - Bundesanstalt Fuer Materialforschung Und -prufung (BAM)***
Chair: ***Steve Hensel - SRNS***
Chair: ***Nicholas Klymyshyn - Pacific Northwest National Laboratory***

Chair: ***Steffen Komann - Federal Institute For Materials Research***
Chair: ***Mustafa HADJ-NACER - University of Nevada, Reno***
Chair: ***Georges Bezdikian - Georges BEZDIKIAN Consulting***
Chair: ***David Tamburello - Savannah River National Lab***
Presentations:

Thermal Stress Analysis of a Spent Nuclear Fuel Canister, {PVP2021-61608}
Technical Paper Publication
Ben Jensen - Pacific Northwest National Laboratory
Charlton Campbell - Pacific Northwest National Laboratory
Nicholas Klymyshyn - Pacific Northwest National Laboratory

Thermal Analysis Evaluations Using the Dry Cask Simulator, {PVP2021-61846}
Technical Paper Publication
Sarah Suffield - Pacific Northwest National Laboratory
David Richmond - Pacific Northwest National Laboratory
James Fort - Pacific Northwest National Laboratory

Transient Thermal Modeling of the High Burnup Demonstration Research Project Cask Using STAR-CCM+ and COBRA-SFS, {PVP2021-62082}
Technical Paper Publication
David Richmond - Pacific Northwest National Laboratory
James Fort - Pacific Northwest National Laboratory
Sarah Suffield - Pacific Northwest National Laboratory

Development and Validation of Radiant Heat Systems to Test RAM Packages Under Non-Uniform Thermal Environments, {PVP2021-62121}
Technical Paper Publication
Hector Mendoza - Sandia National Laboratory
Victor Figueroa - Sandia National Laboratories
Walter Gill - Sandia National Laboratories
Scott Sanborn - Sandia National Laboratories

Thermal Analysis of a 9977 Package During a KAC Fire Accident, {PVP2021-62975}
Technical Paper Publication
David Tamburello - Savannah River National Lab
Matthew Kesterson - Savannah River National Laboratory
Andrew Escobar - Savannah River Nuclear Solutions

Thermal Analysis of a 9977 Shipping Package During a Fire-Drop-Smoldering Accident, {PVP2021-63002}
Technical Paper Publication
David Tamburello - Savannah River National Lab
Matthew Kesterson - Savannah River National Laboratory
Andrew Escobar - Savannah River Nuclear Solutions

SE-08-01 Multi-Hazards and Margins
7/14/2021
5:00 PM to 6:05 PM - Room B

Chair: ***Taichi Matsuoka - Meiji University***
Chair: ***Keisuke Minagawa - Saitama Institute of Technology***
Chair: ***Oreste Bursi - University of Trento***
Chair: ***CONSTANTINE PETROPOULOS - SARGENT & LUNDY, LLC***
Chair: ***Ismail kisisek - Surgent & Lundy LLC***
Chair: ***Antonio C. Caputo - University Roma Tre***
Chair: ***Fabrizio Paolacci - University Roma Tre***
Presentations:

Experimental Investigation on the Seismic Performance of a Multi-Component System for Major-Hazard Industrial Facilities, {PVP2021-61696}
Technical Paper Publication
Oreste Bursi - University of Trento, Department of Civil, Environmental and Mechanical Engineering (DICAM)
Christoph Butenweg - Center of Wind and Earthquake Engineering", RWTH Aachen
Igor Lanese - Department of Industrial Products - Scientific Coordinator Tests on Dampers and Shock Transmitters
Marko Marinkovic - University of Belgrade, Department of Eng. mechanics and theory of structures
Chiara Nardin - University of Trento, Department of Civil, Environmental and Mechanical Engineering (DICAM)
Fabrizio Paolacci - University Roma Tre
Alberto Pavese - University of Pavia Department of Civil Engineering and Architecture
Gianluca Quinci - Roma Tre University, Department of Engineering

Shake Table Testing for a Multi-Component Prototype Industrial Plant: Input and System Modelling Issues, {PVP2021-61702}
Technical Paper Publication
Chiara Nardin - University of Trento
Oreste Salvatore Bursi - University of Trento
Alberto Pavese - EUCENTRE Foundation
Igor Lanese - EUCENTRE Foundation
Fabrizio Paolacci - Roma Tre University
Gianluca Quinci - Roma Tre University

Mechanical Response of an Industrial Piping System Under Strong Cyclic Loading, {PVP2021-62273}
Technical Paper Publication
Charalampos Karvelas - National Technical University of Athens
Giannoula Chatzopoulou - University of Thessaly
Nikolaos Stathas - University of Patras
Elias Strepelias - University of Patras
Xenofon Palios - University of Patras
Anna Zervaki - University of Thessaly
Stathis Bousias - University of Patras
Spyros A. Karamanos - University of Thessaly

CS-07-02 Recent Developments in ASME Codes and Standards II
7/14/2021
8:00 PM to 9:05 PM - Room D

Chair: ***T. L. Sham - Idaho National Laboratory***
Chair: ***Anees Udyawar - Westinghouse Electric Company***
Chair: ***Valery Lacroix - Tractebel Engineering***

Chair: ***Michael McMurtrey - Idaho National Laboratory***
Chair: ***Ryan Crane - ASME***
Presentations:

Evaluation of Primary-Load Effects on Creep-Fatigue Life of Alloy 617 Using Simplified Model Test Method, {PVP2021-61658}
Technical Paper Publication
Yanli Wang - Oak Ridge National Laboratory
Peijun Hou - University of Tennessee, Knoxville
Robert Jetter - R. I. Jetter Consulting
T. L. Sham - Argonne National Laboratory

Simplified Criteria With Reduced Testing Effort for Selecting Clad Materials for High Temperature Reactor Structural Components, {PVP2021-61858}
Technical Paper Publication
Bipul Barua - Argonne National Laboratory
Robert I. Jetter - RI Jetter Consulting
Mark C. Messner - Argonne National Laboratory
Ting-Leung Sham - Argonne National Laboratory

A Comprehensive Comparison Between Different Multiaxial Cycle Counting Procedure, {PVP2021-62067}
Technical Paper Publication
Andrea Rovinelli - Argonne National Laboratory
Mark C. Messner - Argonne National Laboratory
T.-L. Sham - Argonne National Laboratory

ASME Post Construction Standards: 25 Years of Progress, {PVP2021-62836}
Technical Paper Publication
Clay Rodery - C&S Technology LLC

CS-15-01 Probabilistic and Risk-Informed Methods for Structural Integrity Assessment
7/14/2021
8:00 PM to 9:05 PM - Room F

Chair: ***Steven Xu - Kinectrics***
Chair: ***Anees Udyawar - Westinghouse Electric Company***
Chair: ***Valery Lacroix - Tractebel Engineering***
Chair: ***Yinsheng Li - Japan Atomic Energy Agency***
Chair: ***Ryan Crane - ASME***
Chair: ***David Rudland - US NRC***
Presentations:

Quantitative Risk Assessment of Densely Populated High Consequence Area of Gas Transmission Pipeline, {PVP2021-61097}
Technical Paper Publication
Li-Guo Zhou - Sinopec Dalian Research Institute of Petrochemical and Petrochemicals
Xiao-Lin Wang - Sinopec Dalian Research Institute of Petrochemical and Petrochemicals
Lei Shi - Sinopec Dalian Research Institute of Petrochemical and Petrochemicals
Ming Li - Sinopec Dalian Research Institute of Petrochemical and Petrochemicals

Yong Wang - Sinopec Dalian Research Institute of Petrochemical and Petrochemicals
Jing Yang - Sinopec Dalian Research Institute of Petrochemical and Petrochemicals

Benchmarking Study on Probabilistic Fracture Mechanics Analysis Codes xLPR and PASCAL-SP Considering Primary Water Stress Corrosion Cracking, {PVP2021-61202}
Technical Paper Publication
Jinya Katsuyama - Japan Atomic Energy Agency
Akihiro Mano - Japan Atomic Energy Agency
Yinsheng Li - Japan Atomic Energy Agency

Development of Guideline on Seismic Fragility Evaluation for Aged Piping, {PVP2021-61509}
Technical Paper Publication
Yoshihito Yamaguchi - Japan Atomic Energy Agency
Jinya Katsuyama - Japan Atomic Energy Agency
Koichi Masaki - Mizuho Information & Research Institute, Inc
Yinsheng Li - Japan Atomic Energy Agency

A Multi-Scale Failure-Probability-and-NDE-Based Fatigue Life Model for Estimating Component Co-Reliability of Uncracked and Cracked Pipes, {PVP2021-62169}
Technical Paper Publication
Jeffrey Fong - National Inst. of Standards & Tech.
Pedro Marcal - MPACT, Corp.
Robert Rainsberger - XYZ Scientific Applications, Inc.
N. Alan Heckert - National Inst. of Standards and Tech.
James Filliben - National Inst. of Standards and Tech.
Steven Doctor - Pacific Northwest National Laboratory
Ned Finney - Duke Energy

Technical Basis for Increased Inspection Interval of Cold Leg Pressurized Water Reactor Dissimilar Metal Welds Using xLPR, {PVP2021-62560}
Technical Paper Publication
Christopher Lohse - Structural Integrity Associates
Do Jun Shim - Structural Integrity Associates
Dilip Dedhia - Structural Integrity Associates
Rohan Dutta - Structural Integrity Associates
Nathan Glunt - Electric Power Research Institute

Probabilistic Fracture Mechanics Evaluation of a BWR Feedwater Nozzle, {PVP2021-62933}
Technical Paper Publication
Kevin Wong - Structural Integrity Associates
Garivalde Dominguez - Structural Integrity Associates
Do Jun Shim - Structural Integrity Associates
Steven Richter - Columbia Generating Station

DA-01-03 Design & Analysis of Heat Exchangers & Components
7/14/2021
8:00 PM to 9:05 PM - Room I

Chair: ***Robert Keating - N/A***

Chair: ***Clay Rodery - C&S Technology LLC***
Chair: ***Phillip Wiseman - Lisega, Inc.***
Chair: ***Tasnim Hassan - North Carolina State Univ***
Chair: ***Nathan Barkley - Becht Engineering***
Chair: ***Jaan Taagepera - Chevron ETC***
Chair: ***Heramb Mahajan - N/A***
Presentations:

Structural Integrity Assessment of a Unit Cell in a Laboratory-Scale Printed Circuit Heat Exchanger for Molten Salt Reactors With Supercritical CO2 Power Cycle, {PVP2021-60735}
Technical Paper Publication
Shuai Che - University of Michigan
Sheng Zhang - University of Michigan
Adam Burak - University of Michigan
Xiaodong Sun - University of Michigan

Technical Basis for Proposed ASME Code Case for Construction of Compact Heat Exchangers in High Temperature Reactors, {PVP2021-60926}
Technical Paper Publication
Robert Keating - MPR Associates, Inc.
Suzanne Mckillop - MPR Associates

Strategies for Application of Reliability and Integrity Management for Inservice Inspection of Compact Heat Exchangers in High Temperature Reactors, {PVP2021-60931}
Technical Paper Publication
Robert Keating - MPR Associates, Inc.
Suzanne Mckillop - MPR Associates
Ian Jentz - University of Wisconsin Madison

A Unified Constitutive Model for Diffusion Bonded Alloy 800H To Perform Full Inelastic Analysis of Components in High Temperature Nuclear Service, {PVP2021-62952}
Technical Paper Publication
Heramb Mahajan - North Carolina State University
Tasnim Hassan - North Carolina State Univeristy

Printed Circuit Heat Exchanger Core Experiments Under Tension and Pressure Loading, {PVP2021-62961}
Technical Presentation Only
Heramb Mahajan - North Carolina State University
Tasnim Hassan - North Carolina State University

DA-10-01/11-01 Design of Bolted Joints (joint with CT) and CFD in Design and Analysis
7/14/2021
8:00 PM to 9:05 PM - Room G

Chair: ***Warren Brown - Integrity Engineering Solutions***
Chair: ***Clay Rodery - C&S Technology LLC***
Chair: ***Phillip Wiseman - Lisega, Inc.***
Chair: ***Nathan Barkley - Becht Engineering***

Chair: ***Jaan Taagepera - Chevron ETC***
Chair: ***Gys Van Zyl - n/a***
Presentations:

Sealing Evaluation of Tubesheet-Flanged Joint Under Internal Pressure and Non-Axisymmetry Thermal Loading, {PVP2021-60398}
Technical Paper Publication
Hui Tang - Harbin Boiler Co., Ltd.
Qianyu SHI - Harbin Boiler Co., Ltd.
Qi Li - Harbin Boiler Co., Ltd.
Zhijian Wang - Harbin Boiler Co., Ltd.
Ming Ma - Harbin Boiler Co., Ltd.

Reactive CFD Simulation of Fixed Coke Formation in an Industrial RFCC Riser Reactor, {PVP2021-61671}
Technical Paper Publication
Sheng Chen - Key Laboratory of Special Equipment Safety and Energy-saving for State Market Regulation China Special Equipment Inspection and Research Institute (CSEI)
Haoyuan Kang - Key Laboratory of Special Equipment Safety and Energy-saving for State Market Regulation China Special Equipment Inspection and Research Institute (CSEI)
Mengke Wang - China University of Petroleum-Beijing
Cenfan Liu - Key Laboratory of Special Equipment Safety and Energy-saving for State Market Regulation China Special Equipment Inspection and Research Institute (CSEI)
Haitao Lin - China Huanqiu Contracting & Engineering Co., Ltd.
Juanbo Liu - Key Laboratory of Special Equipment Safety and Energy-saving for State Market Regulation China Special Equipment Inspection and Research Institute (CSEI)

CFD Simulation of Cavitation Erosion Behavior in an Impeller of Industrial Lean Amine Liquid Pump, {PVP2021-61674}
Technical Paper Publication
Sheng Chen - Key Laboratory of Special Equipment Safety and Energy-saving for State Market Regulation China Special Equipment Inspection and Research Institute (CSEI)
Haitao Lin - China Huanqiu Contracting & Engineering Co., Ltd.
Li Sun - Key Laboratory of Special Equipment Safety and Energy-saving for State Market Regulation China Special Equipment Inspection and Research Institute (CSEI)
Linlin Duan - Key Laboratory of Special Equipment Safety and Energy-saving for State Market Regulation China Special Equipment Inspection and Research Institute (CSEI)
Juanbo Liu - Key Laboratory of Special Equipment Safety and Energy-saving for State Market Regulation China Special Equipment Inspection and Research Institute (CSEI)
Meng He - Key Laboratory of Special Equipment Safety and Energy-saving for State Market Regulation China Special Equipment Inspection and Research Institute (CSEI)

The CFD Analysis of Erosion in the Four-Way Pipe of the Heavy Oil Thermal Production Wellhead, {PVP2021-61913}
Technical Paper Publication
Guotao Wang - China University of Petroleum
Chongchong Zhang - China Special Equipment Inspection and Research Institute (CSEI)
Linlin Duan - duanlinlin1206@163.com
Liang Sun - China Special Equipment Inspection and Research Institute
Cenfan Liu - China Special Equipment Inspection and Research Institute

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FSI-02-03 Flow-induced Vibration III
7/14/2021

8:00 PM to 9:05 PM - Room H

Chair: ***Marwan Hassan - University Of Guelph***
Chair: ***Pierre Moussou - Electricitã© De France***
Chair: ***Njuki Mureithi - Polytechnique Montreal***
Chair: ***Trey Walters - Applied Flow Technology***
Chair: ***Tomoyo Taniguchi - Tottori University***
Presentations:

Coupling of Neutron Noise and Dynamic Finite Element Analyses to Perform Remote Condition Monitoring for Reactor Vessel Internals, {PVP2021-62201}
Technical Paper Publication
Gregory Banyay - Westinghouse Electric Company
Matthew Palamara - Westinghouse Electric Company
Stephen Smith - Westinghouse Electric Company

Two Way Coupled Fields Multi-Physics Modeling Is Investigated as an Additional Approach to Address Fluid Elastic Instability, {PVP2021-61819}
Technical Paper Publication
Michael Breach - U.S. NRC/NRR/DE/EMCB

Numerical Studies on Modal Analysis of Curved Tube and Coil Tube in Coil-Wound Heat Exchanger, {PVP2021-61657}
Technical Paper Publication
Yue Wang - Tianjin University
Peng Ren - Tianjin University
Guorui Zhu - Tianjin University
Wei Tan - Tianjin University

Research on Characteristics of Fluid Exciting Force of Reactor Internals, {PVP2021-62128}
Technical Paper Publication
Zhipeng Feng - NPIC
Liwen Deng - Nuclear Power Institute of China
Xuan Huang - Nuclear Power Institute of China
Pingchuan Shen - Nuclear Power Institute of China
Shuai Liu - NPIC
Fengchun Cai - Nuclear Power Institute of China

Turbulence-Induced Vibration of Tube Bundles Subjected to Cross-Flow and Loose Support, {PVP2021-62693}
Technical Presentation Only
Jiang Lai - Nuclear Power Institute of China

HT-01-01 Joe Kapp Memorial Session: Design and Analysis of High-Pressure Equipment
7/14/2021
8:00 PM to 9:05 PM - Room B

Chair: ***Melanie Sarzynski - Wiss, Janney, Elstner Associates, Inc.***
Chair: ***David Gross - Dominion Engineering Inc***

Chair: ***Kannan Subramanian - Stress Engineering Services***
Chair: ***Matthew Edel - BakerRisk***
Chair: ***Myles Parr - Structural Integrity Associates, Inc.***
Chair: ***Mangesh Edke - n/a***
Presentations:

Background of Addition of Fatigue Crack Growth Rate Factors for Intermediate Strength Ferritic Steels in KD-4 of ASME Section VIII Division 3, {PVP2021-60650}
Technical Paper Publication
Susumu Terada - Kobe Steel, Ltd.
Toshio Yoshida - Former Mitsui Engineering & Shipbulding Co. Ltd.

A Study on Residual Stresses on Autofrettaged LDPE Tubing Including the Bauschinger Effect and Strain Aging, {PVP2021-60845}
Technical Paper Publication
Taylor Nyquist - A&A Machine & Fabrication, LLC
Kraig Warren - A&A Machine & Fabrication, LLC

Thick-Wall Cylinder Reference Stress Crack Solutions for API 579-1/ASME FFS-1 Annex 9C, {PVP2021-61075}
Technical Paper Publication
Greg Thorwald, Ph.D. - Quest Integrity USA, LLC
Lucie Parietti - Quest Integrity

Overview of Revisions to the ASME Boiler and Pressure Vessel Code Section VIII Division 3 for the 2021 Edition and Near Future, {PVP2021-61169}
Technical Paper Publication
Adam Maslowski - ASME
Kannan Subramanian - Stress Engineering Servicer
Melanie Sarzynski - Wiss, Janney, Elstner Associates, Inc.
Daniel Peters - Structural Integrity Associates

Exploring Life Extension Opportunities of High-Pressure Hydrogen Pressure Vessels at Refueling Stations, {PVP2021-61815}
Technical Paper Publication
Joe Ronevich - Sandia National Laboratories
Chris San Marchi - Sandia National Laboratories
Dusty Brooks - Sandia National Laboratories
John M Emery - Sandia National Laboratories
Peter Grimmer - Sandia National Laboratories
Eileen Chant - Becht
J Robert Sims - Becht
Alex Belokobylka - Becht
Dave Farese - Air Products & Chemicals
John Felbaum - Fiba Technologies

A Model for Stress-Driven Hydrogen Diffusion in Stainless Steels for High-Pressure Applications, {PVP2021-61861}
Technical Presentation Only
Giuseppe Macoretta - Department of Civil and Industrial Engineering - University of Pisa
Francesco Aiello - Department of Civil and Industrial Engineering - University of Pisa
Marco Beghini - Department of Civil and Industrial Engineering - University of Pisa
Bernardo Disma Monelli - Department of Civil and Industrial Engineering - University of Pisa

MF-05-01 Fitness-For-Service and Failure Assessment
7/14/2021
8:00 PM to 9:05 PM - Room E

Chair: ***Preeti Doddihal - Kinectrics Inc.***
Chair: ***Do Jun Shim - Structural Integrity Associates, Inc.***
Chair: ***Paul Korinko - Savannah River National Laboratory***
Chair: ***Peter Gill - Jacobs***
Chair: ***Marvin Cohn - Intertek***
Chair: ***Carl Jaske - HSI GROUP, INC.***
Chair: ***Harry Coules - University of Bristol***
Chair: ***Bruce Wiersma - Savannah River National Laboratory***
Chair: ***Sureshkumar Kalyanam - Engineering Mechanics Corporation of Columbus***
Presentations:

Assessment of Flaws in Non-Stress Relieved Carbon Steel Welds Caused by Hydrogen Attack, {PVP2021-61603}
Technical Paper Publication
Kenneth Bagnoli - ExxonMobil Research and Engineering ompany
Zachary Cater-Cyker - ExxonMobil Research and Engineering Company
Clifford Hay - ExxonMobil Research and Engineering
Yunior Hioe - Engineering Mechanics Corporation of Columbus
Brandon Rollins - DNV GL USA, Inc.
Kamran Nikbin - Imperial College London
Ryan Holloman - ADV Integrity Inc.
Gery Wilkowski - Engineering Mechanics Corporation of Columbus

Statistical Analysis of Localized Corrosion in Service Water Piping, {PVP2021-61831}
Technical Paper Publication
Stephen Parker - Structural Integrity Associates
Adam Roukema - Structural Integrity Associates
Ioannis Patten - Structural Integrity Associates

Cumulative Creep Damage Using Advanced Predictive Analysis, {PVP2021-62535}
Technical Paper Publication
Marvin Cohn - Intertek
Michael Liu - Intertek
Michael Cronin - Intertek
Nikhil Kumar - Intertek
Martin Gascon - Intertek

Fracture Toughness Behavior of Carbon Steels in Mildly Sour Waters, {PVP2021-63030}
Technical Paper Publication
Brandon Rollins - DNV GL
Oliver Tarbard - ExxonMobil Research and Engineering Company
Kenneth Bagnoli - ExxonMobil Research and Engineering Company
Ramgopal Thodla - DNV GL

High Energy Piping Walkdowns in Compliance With ASME B31.1, {PVP2021-62533}
Technical Paper Publication
Marvin Cohn - Intertek
Robert Gialdini - Intertek
Osborne Nye - Intertek

OAC-03-01/04-01 Monitoring, Diagnostics & Inspection and Storage and Transportation of Radioactive and other Hazardous Materials I
7/14/2021
8:00 PM to 9:05 PM - Room C

Chair: ***Steve Hensel - SRNS***
Chair: ***Radim Kopriva - UJV Rez, A. S.***
Chair: ***Nicholas Klymyshyn - Pacific Northwest National Laboratory***
Chair: ***L Ike Ezekoye - Ezekoye Engineering Services, LLC***
Chair: ***Milan Brumovsky - UJV Rez Plc***
Chair: ***Mustafa HADJ-NACER - University of Nevada, Reno***
Chair: ***Georges Bezdikian - Georges BEZDIKIAN Consulting***
Presentations:

A Convolution Neural Network Based Fault Diagnosis Model for Slug Flow Condition of Oil-Gas Separator, {PVP2021-61681}
Technical Paper Publication
Jiaquan Liu - China University of Petroleum (Beijing)
Lei Hou - China University of Petroleum (Beijing)
Xin Wang - China University of Petroleum (Beijing)
Lei Xu - China University of Petroleum (Beijing)
Rui Zhang - China University of Petroleum (Beijing)
Kai Yang - China University of Petroleum (Beijing)

Testing a Tunable Diode Laser Absorption Spectroscopy Oxygen Analyzer, {PVP2021-61691}
Technical Paper Publication
Alton Reich - Streamline Automation
James Shaw - Streamline Automation
John Bergmans - Bergmans Mechatronics Limited

Investigation on the Piezoresistive Behavior of Short Carbon Fiber Reinforced Polyethylene Composites, {PVP2021-62136}
Technical Presentation Only
Ningtao Shang - Zhejiang University
Riwu Yao - Zhejiang University
Jianfeng Shi - Zhejiang University
Jinyang Zheng - Zhejiang University

30 CM Horizontal Drop of a Surrogate 17x17 PWR Fuel Assembly, {PVP2021-60533}
Technical Paper Publication
Elena Kalinina - Sandia National Laboratories
Douglas Ammerman - Sandia National Laboratories
Carissa Grey - Sandia National Laboratories
Gregg Flores - Sandia National Laboratories

Lucas Lujan - Sandia National Laboratories
Sylvia Saltzstein - Sandia National Laboratories
Danielle Michel - Sandia National Laboratories

Structural Dynamics Modeling of Spent Nuclear Fuel During Hypothetical Package Drop Events, {PVP2021-61610}
Technical Paper Publication
Kevin Kadooka - Pacific Northwest National Laboratory
James Fitzpatrick - Pacific Northwest National Laboratory
Nicholas Klymyshyn - Pacific Northwest National Laboratory

Spent Nuclear Fuel Mechanical Loads in the General Package Drop Scenario, {PVP2021-61617}
Technical Paper Publication
Nicholas Klymyshyn - Pacific Northwest National Laboratory
Casey Spitz - Pacific Northwest National Laboratory
Pavlo Ivanusa - Pacific Northwest National Laboratory
Kevin Kadooka - Pacific Northwest National Laboratory
James Fitzpatrick - Pacific Northwest National Laboratory

THURSDAY, JULY 15, 2021

CS-36-01 Combined Session: Master Curve Method and Applications, and Improvement of Flaw Characterization Rules for Fitness for Service
7/15/2021
9:00 AM to 10:05 AM - Room E

Chair: ***William Server - ATI Consulting***
Chair: ***Anees Udyawar - Westinghouse Electric Company***
Chair: ***Valery Lacroix - Tractebel Engineering***
Chair: ***Masato Yamamoto - CRIEPI***
Chair: ***Ryan Crane - ASME***
Presentations:

Effect of Neutron Irradiation on the Mechanical Properties of an A508 CL2 and 15Kh2NMFA Irradiated in the NOMAD_3 Rig in the BR2 Cooling Water, {PVP2021-61969}
Technical Paper Publication
Rachid Chaouadi - SCK CEN The Belgian Nuclear Research Centre
Inge Uytdenhouwen - SCK CEN The Belgian Nuclear Research Centre

Determination of Eurofer97 Fracture Toughness by Testing Small C(T) Specimens, {PVP2021-62040}
Technical Paper Publication
David Andres - UKAEA
Marta Serrano - CIEMAT
Rebeca Hernandez - CIEMAT
Yiqiang Wang - UK Atomic Energy Authority
Mark Richardson - United Kingdom Atomic Energy Authority

Dedicated CT Tests and Numerical Simulations to Assess Crack Arrest by Quasi-Laminar Flaws, {PVP2021-60379}
Technical Paper Publication

Pierre Dulieu - Tractebel
Valéry Lacroix - Tractebel
Robert Gérard - Tractebel
Tomasz Brynk - SCK CEN Belgian Nuclear Research Centre
Inge Uytdenhouwen - SCK CEN Belgian Nuclear Research Centre
Rachid Chaouadi - SCK CEN Belgian Nuclear Research Centre

Assessment of the Resolution of Nonplanar Flaws in Pressure Retaining Components in Terms of Stress Intensity Factors, {PVP2021-60413}
Technical Paper Publication
Valery Lacroix - Tractebel (Engie)
Pierre Dulieu - Tractebel (Engie)
Kunio Hasegawa - Japan Atomic Energy Agency

A Review of Conservatisms in Fracture Mechanics Assessments, {PVP2021-61934}
Technical Paper Publication
John Sharples - Jacobs Clean Energy
Peter James - Jacobs Clean Energy

Improvement and Assessment of the Plastic Collapse Bending Moment Equations in Circumferentially Cracked Pipe, {PVP2021-61989}
Technical Paper Publication
Cécilia Desclaux - Tractebel (Engie)
Valery Lacroix - Tractebel (Engie)
Kunio Hasegawa - Japan Atomic Energy Agency

CT-01-01 Design and Analysis of Bolted Flange Joints
7/15/2021
9:00 AM to 10:05 AM - Room H

Chair: ***Jerry Waterland - VSP Technologies***
Chair: ***Reza Adibi-Asl - Kinectrics***
Chair: ***Toshiyuki Sawa - Hiroshima Univ***
Chair: ***Manfred Schaaf - AMTEC Gmbh***
Chair: ***Satoshi Nagata - Toyo Engineering Corporation***
Chair: ***Hubert Lejeune - Cetim***
Presentations:

Statistical and Lifetime Characterization of PTFE Materials for Extreme Environments, {PVP2021-60521}
Technical Paper Publication
Sannmit Shinde - University of Central Florida
Meghan Kenny - UCF
Dominic Devito - UCF
Ali Gordon - UCF
Paul Nichols - Garlock Sealing Technologies
Jim Drago - Garlock Sealing Technologies
Ming-Hang Yang - Garlock Sealing Technologies
Zachary Poust - Garlock Sealing Technologies

Experimental Characterization of the Ageing Behaviour of Anaerobic Threadlockers, {PVP2021-62422}
Technical Paper Publication
Dario Croccolo - University of Bologna
Massimiliano De Agostinis - University of Bologna
Stefano Fini - University of Bologna
Giorgio Olmi - University of Bologna
Luca Paiardini - University of Bologna
Francesco Robusto - University of Bologna

Can the Four-Hour Installation Dwell Time Be Reduced?, {PVP2021-61833}
Technical Paper Publication
Igor Meira - TEADIT
Carlos Daniel Braga Girao Barroso - TEADIT
José Carlos Carvalho Veiga - TEADIT

Accurate Evaluation of Bolt and Clamped Members Stiffnesses Of Bolted Joints, {PVP2021-61621}
Technical Paper Publication
Rashique Iftekhar Rousseau - École de Technologie Supérieure
Abdel-Hakim Bouzid - École de Technologie Supérieure
Zijian Zhao - École de Technologie Supérieure

High Temperature Aged Leakage Relaxation Screening Tests on Confined Flexible Graphite Gaskets, {PVP2021-61730}
Technical Paper Publication
Abdel-Hakim Bouzid - École de technologie supérieure
Shubhra Kanti Das - École de technologie supérieure

DA-03-01 Fatigue (joint with M&F and C&S)
7/15/2021
9:00 AM to 10:05 AM - Room D

Chair: ***Nathan Barkley - Becht Engineering***
Chair: ***Phillip Wiseman - Lisega, Inc.***
Chair: ***Shane Finneran - DNV GL***
Chair: ***Jaan Taagepera - Chevron ETC***
Chair: ***Jose Duo - IMPSA***
Presentations:

Development of New Design Fatigue Curves in Japan – Treatment of Variable Loading Amplitude Effect, {PVP2021-60418}
Technical Paper Publication
Seiji Asada - Mitsubishi Heavy Industries, Ltd
Yuichiro Nomura - Mitsubishi Heavy Industries, Ltd

Effects of a Single Overload on Fatigue Crack Growth of Type 316 Stainless Steel, {PVP2021-61513}
Technical Paper Publication
Koji Miyoshi - Institute of Nuclear Safety System, Inc.
Masayuki Kamaya - Institute of Nuclear Safety System, Inc.

Fatigue Life Calculation Method of 4130X High Pressure Hydrogen Storage Cylinder With Initial Crack Defect, {PVP2021-61530}
Technical Paper Publication
Peng Ge - Zhejiang University
Zhiping Chen - Zhejiang university
Mengjie Liu - Zhejiang university

Explicit Finite Element Fatigue Crack Growth Analysis of An Instrumentation Ring Under Thermal Transient Loading, {PVP2021-62207}
Technical Paper Publication
Joshua Selling - Fluor Marine Propulsion, LLC
Thomas Damiani - Fluor Marine Propulsion, LLC
James Holliday - Fluor Marine Propulsion, LLC

Microstructural Based FEM-Calculation of Stress/Strain Fields in Steel AISI 316L and Its Validation by Digital Image Correlation, {PVP2021-62779}
Technical Paper Publication
Markus Niffenegger - Paul Scherrer Institut
Vicente Herrera-Solaz - Paul Scherrer Institut

DA-07-01 Thermal Stresses and Elevated Temperature Design
7/15/2021
9:00 AM to 10:05 AM - Room I

Chair: ***Clay Rodery - C&S Technology LLC***
Chair: ***Phillip Wiseman - Lisega, Inc.***
Chair: ***Tasnim Hassan - North Carolina State Univ***
Chair: ***Nathan Barkley - Becht Engineering***
Chair: ***Jaan Taagepera - Chevron ETC***
Chair: ***Albert Segall - Penn State Univ***
Chair: ***Adin Mann - N/A***
Presentations:

Application of Load Release Factor Method in Thermal Expansion Load Imposed on Vessel Nozzle, {PVP2021-61676}
Technical Paper Publication
Xiangbing Zhang - Beijing University Of Chemical Technology
Chenghong Duan - Beijing University Of Chemical Technology
Mingwan Lu - Tsinghua University
Xiangpeng Luo - Beijing University Of Chemical Technology

Numerical Investigation on Local Thermal Buckling Behaviours of Buried Large Diameter Heating Pipeline, {PVP2021-61959}
Technical Paper Publication
Yue Yang - China University of Petroleum-Beijing
Hong Zhang - China University of Petroleum-Beijing
Xiaoben Liu - China University of Petroleum-Beijing
Weilun Fang - China University of Petroleum-Beijing
Lei Sun - Beijing Gas and Thermal Engineering Design Institute Co. LTD
Jibei Feng - Beijing Gas and Thermal Engineering Design Institute Co. LTD
Mingxu Gao - Beijing Gas and Thermal Engineering Design Institute Co. LTD

Fracture Analysis of Reactor Pressure Vessel Lower Head Considering Core Meltdown Accident, {PVP2021-62062}
Technical Paper Publication
Yaroslav Dubyk - IPP-CENTRE
Vitalii Antonchenko - IPP-CENTRE
Maksym Zarazovskii - IPP-CENTRE

Prediction of J-Integrals at Defects in W-9CR Steel Sandwich-Type Cooling Pipes, {PVP2021-62878}
Technical Paper Publication
Tristan Calvet - Imperial College London
Yiqiang Wang - CCFE
Minh-Son Pham - Imperial Colege London
Catrin Davies - Imperial College London

Proposed Method to Map the Elastic Follow-Up 3D Distribution Time History Using Finite Element Methods, {PVP2021-61605}
Technical Paper Publication
Michael Breach - U.S. NRC/NRR/DE/EMCB

Comparison of Candidate Steady Loading Elevated Temperature Design-by-Analysis Methods, {PVP2021-63905}
Technical Paper Publication
Adin Mann - Emerson Process Management, Fisher Valve Division
David Dewees - Becht Engineering Co., Inc
Chithranjan Nadarajah - Becht Engineering Co., Inc.
Mark Messner - Argonne National Laboratory
David Andersen - Doosan Babcock
Benjamin Hantz - Valero Energy

HT-02-01 Structures under Extreme Loading Conditions (Joint Topic)
7/15/2021
9:00 AM to 10:05 AM - Room B

Chair: ***David Gross - Dominion Engineering Inc***
Chair: ***Melanie Sarzynski - Wiss, Janney, Elstner Associates, Inc.***
Chair: ***Matthew Edel - BakerRisk***
Chair: ***Mangesh Edke - n/a***
Presentations:

Pressurized Thermal Shock Analysis With Sub-Modeling, {PVP2021-61794}
Technical Paper Publication
Lorenzo Stefanini - NRG
Casper Versteylen - NRG
Fajar Pangukir - NRG
Heleen Uitslag-Doolaard - NRG
F. H. E. (Ciska) De Haan - De Wilde - NRG

Numerical Simulation and Measurements of Reaction Load for an Impulsively Loaded Pressure Vessel, {PVP2021-62085}

Technical Paper Publication
Matthew Fister - Los Alamos National Laboratory
Kevin Fehlmann - Los Alamos National Laboratory
Dusan Spernjak - Los Alamos National Laboratory

Design and Test of Pressure Vessels for Contained Blast and Fragment Impact, {PVP2021-62086}
Technical Paper Publication
James Mathis - Southwest Research Institute
Scott Mullin - Southwest Research Institute
Greg Wattis - Southwest Research Institute
Laura Hunt - Southwest Research Institute
Steve Beissel - Southwest Research Institute

A Proposed Methodology for ECV Fitness-for-Service Evaluation, {PVP2021-60441}
Technical Paper Publication
Thomas A. Duffey - TA Duffey, Consulting Engineer
Joshem Gibson - Los Alamos National Laboratory

Explosive Testing of High-Pressure Vessel for Proton Imaging of Shock Physics Experiments, {PVP2021-61620}
Technical Paper Publication
Dusan Spernjak - Los Alamos National Laboratory
Devin Cardon - Los Alamos National Laboratory
Jesse Scarafiotti - Los Alamos National Laboratory
Morgan Biel - Los Alamos National Laboratory
Joshem Gibson - Los Alamos National Laboratory
Kevin Fehlmann - Los Alamos National Laboratory
Matthew Lakey - Los Alamos National Laboratory
Christopher Romero - Los Alamos National Laboratory
Gerald Bustos - Los Alamos National Laboratory
Mark Marr-Lyon - Los Alamos National Laboratory
Anna Llobet - Los Alamos National Laboratory

MF-01-02 Application of Fracture Mechanics in Failure Assessment II
7/15/2021
9:00 AM to 10:05 AM - Room F

Chair: ***Jessica Lam - Ontario Power Generation (OPG)***
Chair: ***Do Jun Shim - Structural Integrity Associates, Inc.***
Chair: ***Paul Korinko - Savannah River National Laboratory***
Chair: ***Peter Gill - Jacobs***
Chair: ***Kiminobu Hojo - Mitsubishi Heavy Industries Ltd***
Chair: ***Preeti Doddihal - Kinectrics Inc.***
Chair: ***Gustavo Henrique Bolognesi Donato - FEI***
Chair: ***Poh-Sang Lam - Savannah River National Lab***
Presentations:

Simulations of Crack Extensions in Small Arc-Shaped Tension Specimens of Uncharged and Hydrogen-Charged 21-6-9 Austenitic Stainless Steels Using Nodal Release Method, {PVP2021-62648}
Technical Paper Publication
Shengjia Wu - University of Michigan

Shin-Jang Sung - University of Michigan
Jwo Pan - University of Michigan
Paul Korinko - Savannah River National Laboratory

Delayed Hydride Cracking Initiation Evaluation of Interacting Flaws in a CANDU Reactor Zr-Nb Pressure Tube, {PVP2021-62822}
Technical Paper Publication
Douglas Scarth - Kinectrics Inc.
Preeti Doddihal - Kinectrics Inc.
Monique Ip - Bruce Power

Vibration-Assisted Friction Stir Welding of AA 2024-T3 Plates, {PVP2021-62249}
Technical Paper Publication
Ibrahim Sabry - Modern Academy for Engineering and Technology
Abdel-Hamid Ismail Mourad - United Arab Emirates University
Dinu Thomas Thekkuden - United Arab Emirates University

Tribological Analysis of Squeeze Stir Cast Recycled Aluminum MMC's, {PVP2021-62819}
Technical Paper Publication
John Victor Christy - United Arab Emirates University
Abdel Hamid Ismail Mourad - United Arab Emirates University
Jaber Abu Qudeiri - United Arab Emirates University

The Creep Crack Growth Behavior of GH3535 Superalloy at 650ºC, {PVP2021-61787}
Technical Paper Publication
Fan guangcheng - Shanghai Institute of Applied Physics, Chinese Academy of Sciences
Lu Yanling - Shanghai Institute of Applied Physics, Chinese Academy of Sciences
Wang Wanxia - Shanghai Institute of Applied Physics, Chinese Academy of Sciences
Tan Jianping - East China University of Science and Technology,School of Mechanical and Power Engineering
Shi Kexian - Shanghai Power Equipment Research Institute Co.,LTD
Wang Songlin - Shanghai Institute of Applied Physics, Chinese Academy of Sciences

Review on the Current Progress of Thixoforming Process, {PVP2021-62263}
Technical Paper Publication
Shubhra Shitole - United Arab Emirates University
Abdel-Hamid Ismail Mourad - United Arab Emirates University

MF-17-01 Advanced and Additive Manufacturing and Material Technologies (joint with D&A)
7/15/2021
9:00 AM to 10:05 AM - Room G

Chair: ***Paul Korinko - Savannah River National Laboratory***
Chair: ***Do Jun Shim - Structural Integrity Associates, Inc.***
Chair: ***Sylvain Pillot - Industeel Arcelormittal Group - CRMC***
Chair: ***Chris San Marchi - Sandia National Laboratories***
Chair: ***Andrew Duncan - Savannah River National Laboratory***
Chair: ***Peter Gill - Jacobs***
Chair: ***Michael McMurtrey - Idaho National Laboratory***

Chair: ***Catrin Mair Davies - Imperial College London***
Chair: ***Anthony Horn - Amec Foster Wheeler***
Chair: ***Frederick Brust - Engineering Mechanics Corp of Columbus***
Chair: ***Matthew Mandeville - DNV GL***
Chair: ***ARINDAM Chakraborty - VIAS***
Presentations:

Directed Energy Deposition of UNS S31603 Materials by Wire Arc Energy for Nuclear Application, {PVP2021-66584}
Technical Paper Publication
Heesung Ahn - BEES, Inc.
Youngseob Jang - BEES, Inc.
Sungho Heo - BEES, Inc.

Prediction of Residual Stresses and Stress Intensity Factors in Fracture Mechanics Samples Manufactured by Laser Powder Bed Fusion, {PVP2021-62996}
Technical Paper Publication
Michael Fielden - Imperial College London
Catrin Mair Davies - Imperial College London

Safety Justification Strategy for the Implementation of Additive Manufacture Small-Bore Globe Valves for Nuclear Plant, {PVP2021-62614}
Technical Paper Publication
Bill Press - Institution of Mechanical Engineers
Adam Dukes - Institution of Mechanical Engineers
John Sulley - Institution of Mechanical Engineers
Dave Poole - Institute of Engineering & Technology (IET)
Jack Adams - Institute of Mechanical Engineers
Luke Burling - Rolls-Royce PLC

Welding Tube to Tubesheet Joints for Corrosion Resisting Applications, {PVP2021-60974}
Technical Paper Publication
Haresh Sippy - Tema India Ltd

Qualification Challenges for Additive Manufacturing in High Temperature Nuclear Applications, {PVP2021-62331}
Technical Paper Publication
Michael McMurtrey - Idaho National Laboratory
Mark Messner - Argonne National Laboratory

OAC-04-02 Transportation of Radioactive and other Hazardous Materials II
7/15/2021
9:00 AM to 10:05 AM - Room C

Chair: ***Nicholas Klymyshyn - Pacific Northwest National Laboratory***
Chair: ***Mike Weber - Bundesanstalt Fuer Materialforschung Und -prufung (BAM)***
Chair: ***Steve Hensel - SRNS***
Chair: ***Zenghu Han - Argonne National Laboratory***
Chair: ***Steffen Komann - Federal Institute For Materials Research***
Chair: ***Mustafa HADJ-NACER - University of Nevada, Reno***

Chair: ***Georges Bezdikian - Georges BEZDIKIAN Consulting***
Chair: ***David Tamburello - Savannah River National Lab***
Presentations:

Modeling and Sensitivity Analysis of the TN-32 UNF Cask: Comparison With the HBU Project Data, {PVP2021-61716}
Technical Paper Publication
Megan Higley - University of Nevada, Reno
Mustafa Hadj-Nacer - University of Nevada, Reno
Miles Greiner - University of Nevada, Reno

A Simple Method to Estimate Airborne Release Fractions Associated With the Pressurized Release of Radioactive Materials, {PVP2021-61863}
Technical Paper Publication
Steve Hensel - SRNS
Ray Sprankle - SRNS

A Numerical Approach to Correlate Compression Stress Relaxation and Compression Set of Elastomer O-Rings With Tightness, {PVP2021-61976}
Technical Paper Publication
Mike Weber - Bundesanstalt fuer Materialforschung und -pruefung (BAM)
Maha Zaghdoudi - Bundesanstalt fuer Materialforschung und -pruefung (BAM)
Matthias Jaunich - Bundesanstalt fuer Materialforschung und -pruefung (BAM)
Anja Kömmling - Bundesanstalt fuer Materialforschung und -pruefung (BAM)
Dietmar Wolff - Bundesanstalt fuer Materialforschung und -pruefung (BAM)

Fire-Induced Pressure Response and Failure of Primary Containment Vessels, {PVP2021-62126}
Technical Presentation Only
Hector Mendoza - Sandia National Laboratories
Walter Gill - Sandia National Laboratories
Victor Figueroa - Sandia National Laboratories
Scott Sanborn - Sandia National Laboratories
Ray Sprankle - Savannah River Site (SRS), Savannah River Nuclear Solutions (SRNS)

Fire-Induced Pressure Response and Failure of 3013 Containers, {PVP2021-62139}
Technical Paper Publication
Hector Mendoza - Sandia National Laboratories
Austin Baird - Sandia National Laboratories
Victor Figueroa - Sandia National Laboratories
Walter Gill - Sandia National Laboratories
Scott Sanborn - Sandia National Laboratories
Stephen Hensel - Savannah River Site (SRS) / Savannah River Nuclear Solutions (SRNS)

Investigation of the Internal Impact During a 9 M Drop Test of an Accident-Safe Waste Package, {PVP2021-60996}
Technical Paper Publication
Marko Nehrig - Bundesanstalt fuer Materialforschung und -pruefung (BAM)
Robert Scheidemann - Bundesanstalt fuer Materialforschung und -pruefung (BAM)
Viktor Ballheimer - Bundesanstalt fuer Materialforschung und -pruefung (BAM)
Frank Wille - Bundesanstalt fuer Materialforschung und -pruefung (BAM)

CS-11-01 Extreme Pressure Equipment
7/15/2021
5:00 PM to 6:05 PM - Room B

Chair: ***Jinyang Zheng - Zhejiang University***
Chair: ***Anees Udyawar - Westinghouse Electric Company***
Chair: ***Valery Lacroix - Tractebel Engineering***
Chair: ***Jianfeng Shi - Zhejiang University***
Chair: ***Ryan Crane - ASME***
Chair: ***Xuedong Chen - Hefei General Machinery Research Institute***
Presentations:

Comparison of Vehicle-Mounted High-Pressure Hydrogen Storage Cylinders in United Nations Standards and Chinese Standards, {PVP2021-60905}
Technical Paper Publication
Ju Ding - Shanghai Institute of Special Equipment Inspection and Technical Research
Yi-Xi Yu - Shanghai Institute of Special Equipment Inspection and Technical Research
Yi-Wen Yuan - Shanghai Institute of Special Equipment Inspection and Technical Research

Research on Fire Test Method of High Pressure Hydrogen Storage Cylinders for Transportation, {PVP2021-61876}
Technical Paper Publication
Jun Li - China Special Equipment Inspection and Research Institute
Xiang Li - China Special Equipment Inspection and Research Institute
Jiepu Li - China Special Equipment Inspection and Research Institute
Baodi Zhao - China Special Equipment Inspection and Research Institute
Chunlin Gu - China Special Equipment Inspection and Research Institute
Jian Guan - China Special Equipment Inspection and Research Institute

Review and Problem Analysis on the Development of Hydrogen Fueling Stations in China, {PVP2021-61938}
Technical Paper Publication
Zhixiang Duan - China Special Equipment Inspection and Research Institute
Kun Shi - China Special Equipment Inspection and Research Institute

Numerical Simulation on Fire Test of 45 MPa Hydrogen Storage Vessels for Hydrogen Stations, {PVP2021-62147}
Technical Paper Publication
Kun Yang - Taiyuan University of Technology
Guide Deng - China Special Equipment Inspection and Research Institute
Haifeng Liang - Taiyuan University of Technology
Lin Liang - China Special Equipment Inspection and Research Institute

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CT-08-01 New and Emerging Methods of Analysis and Applications
7/15/2021
5:00 PM to 6:05 PM - Room H

Chair: ***Youngho Park - New Mexico State Univ***
Chair: ***Reza Adibi-Asl - Kinectrics***
Chair: ***Jerry Waterland - VSP Technologies***
Chair: ***Satoshi Nagata - Toyo Engineering Corporation***

Chair: ***Hubert Lejeune - Cetim***
Presentations:

Stress Analysis of Tubes During Die Expansion Process, {PVP2021-61724}
Technical Paper Publication
Zijian Zhao - École de technologie supérieure
Abdel-Hakim Bouzid - École de Technologie Supérieure

Optimization for Nuclear Class 1 Opening Reinforcement, {PVP2021-62839}
Technical Paper Publication
Wolf Reinhardt - q

Self-Loosening Behavior of the Nut Due to Tension Change Considering the Inclination of Bearing Surface, {PVP2021-62497}
Technical Paper Publication
Yasumasa Shoji - YS Corporation LLC

Torsional Fatigue Test Applicable to Helical Spring Material Used in Candu Fuel Channel Spacers, {PVP2021-63016}
Technical Paper Publication
Andre Gagnon - SNC-Lavalin
Tejasvi Kashyap - SNC-Lavalin
Don Metzger - SNC-Lavalin

The Elastic Characterization of Composite Based on Ultrasonic Waves, {PVP2021-62015}
Technical Paper Publication
Youngho Park - New Mexico State Univ
Jason Dana - New Mexico State University

Analysis of Test Method to Extract Material Properties From Candu Fuel Channel Spacers Made of Helical Springs, {PVP2021-62917}
Technical Paper Publication
Don Metzger - SNC-Lavalin
Andre Gagnon - SNC-Lavalin
Tejasvi Kashyap - SNC-Lavalin

DA-12-01 Fracture I (joint with M&F)
7/15/2021
5:00 PM to 6:05 PM - Room D

Chair: ***Nathan Barkley - Becht Engineering***
Chair: ***Phillip Wiseman - Lisega, Inc.***
Chair: ***Shane Finneran - DNV GL***
Chair: ***Jaan Taagepera - Chevron ETC***
Presentations:

Effect Failure Strain Criterion Accounting for the Effect Of Material Strength, {PVP2021-60402}
Technical Paper Publication
Nareg Baghous - Khalifa University

Imad Barsoum - Khalifa University

Fracture Mechanics Assessment of Hydrogen Storage Vessel, {PVP2021-60601}
Technical Paper Publication
xiaoliang jia - China Special Equipment Inspection And Research Institute
Zhiwei Chen - China Special Equipment Inspection And Research Institute
Fang Ji - China Special Equipment Inspection And Research Institute

Temperature Dependent Failure Behaviour of Components Containing Crack Fields: An Experimental and Numerical Approach, {PVP2021-61998}
Technical Paper Publication
Stefan Weihe - MPA University of Stuttgart
Ludwig Stumpfrock - MPA University of Stuttgart
Ulrich Weber - MPA University of Stuttgart
Michael Seidenfuss - IMWF University of Stuttgart
Patrick Gauder - IMWF University of Stuttgart

Calculation of Outer Crack Stress Intensity Factors for Nozzle Junctions in Cylindrical Pressure Vessels Using FCPAS, {PVP2021-64385}
Technical Paper Publication
Murat Bozkurt - University of Strathclyde Glasgow
Asraf Uzzaman - University of the West of Scotland
David Nash - University of Strathclyde

Numerical Analysis of the Crack Driving Force of Mismatched Girth Welded Pipes Subject to Large Plastic Deformations, {PVP2021-61188}
Technical Paper Publication
Kai Wu - China University of Petroleum (Beijing)
Hong Zhang - China University of Petroleum (Beijing)
Yue Yang - China University of Petroleum (Beijing)
Xiaoben Liu - China University of Petroleum (Beijing)

Crack Propagation Calculation for Axial Cracks in Hollow Cylinders Subjected to Thermal Shock, {PVP2021-61406}
Technical Paper Publication
Markus Niffenegger - Paul Scherrer Institut
Diego F Mora - Paul Scherrer Institut

DA-15-01 Combined Session in D&A
7/15/2021
5:00 PM to 6:05 PM - Room I

Chair: ***Pierre Mertiny - University of Alberta***
Chair: ***Phillip Wiseman - Lisega, Inc.***
Chair: ***Kannan Subramanian - Stress Engineering Services***
Chair: ***Nathan Barkley - Becht Engineering***
Chair: ***Jaan Taagepera - Chevron ETC***
Chair: ***rodery clay - CS Tech***
Presentations:

Comparison of Ni-Steel Dissimilar Joints for Coke Drum External Weld Repairs Based on Isothermal Low-Cycle Fatigue Tests, {PVP2021-62939}
Technical Paper Publication
Shutong Zhang - The Ohio State University
Sebastian Romo - The Ohio State University
Rafael Arthur Giorjao - The Ohio State University
Jorge Penso - Shell Global Solutions (US) Inc.
Haixia Guo - Suncor Energy Inc.
Simon Yuen - Suncor Energy Inc.
Lisa Ely - Stress Engineering Services, Inc.
Antonio J. Ramirez - The Ohio State University

Considering Hydrotest Pressure Loading in the Calculation of MAWP of a Pressure Vessel, {PVP2021-60168}
Technical Paper Publication
Suresh Nawandar - McDermott International Inc.

Prediction of Electrical Properties of Carbon Fiber Reinforced Polyethylene Composites Based on Monte Carlo Method, {PVP2021-61813}
Technical Presentation Only
Xingchen Liu - Zhejiang University
Riwu Yao - Zhejiang University
Jianfeng Shi - Zhejiang University
Jinyang Zheng - Zhejiang University

The Role of Motion Amplification Camera to Resolve Chronic Piping Vibration, {PVP2021-60898}
Technical Presentation Only
Meshal Al Saiari - Saudi Aramco

DA-19-01 Special Considerations in the Design and Analysis of Supports, Restraints, and Welded Attachments
7/15/2021
5:00 PM to 6:05 PM - Room E

Chair: ***Kshitij Gawande - Lisega***
Chair: ***Phillip Wiseman - Lisega, Inc.***
Chair: ***Nathan Barkley - Becht Engineering***
Chair: ***Jaan Taagepera - Chevron ETC***
Presentations:

Case Study of Supplemental Steel Structures, {PVP2021-62077}
Technical Paper Publication
Phillip Wiseman - Lisega, Inc.
Raju Subedi - LISEGA

Effect of Piping System Vibration (FIV, AIV, PIV) on Pipe Support Loads, {PVP2021-62080}
Technical Paper Publication
Phillip Wiseman - Lisega, Inc.
Emmanuel Appiah - Pemak Engineering, LLC

Case Study to Evaluate Stresses in Welded Endplates in Structural Steel, {PVP2021-62084}
Technical Paper Publication
Kshitij Gawande - LISEGA INC
Raju Subedi - LISEGA INC
Alex Mayes - MSC Software

Supports for Non-Metallic Large Diameter Pipes, {PVP2021-62935}
Technical Paper Publication
Cynthia Heinrichs - Wood
Bhaskar Shitolé - Wood

MF-24-01 Materials and Fabrication for Refining
7/15/2021
5:00 PM to 6:05 PM - Room G

Chair: ***Cathleen Shargay - Fluor***
Chair: ***Michiel Brongers - Engineering Mechanics Corporation of Columbus***
Chair: ***Do Jun Shim - Structural Integrity Associates, Inc.***
Chair: ***Sylvain Pillot - Industeel Arcelormittal Group - CRMC***
Chair: ***Paul Korinko - Savannah River National Laboratory***
Chair: ***Peter Gill - Jacobs***
Chair: ***Jorge Penso - Shell Projects and Technology***
Presentations:

Developing a Weld Overlay Specification for Hyper Duplex Stainless Steel, {PVP2021-62042}
Technical Paper Publication
Andres Fabricio Acuna - Year
Antonio Ramirez - Ohio State University
Ravi Menon - ESAB
Per-Åke Björnstedt - ESAB
Leonardo Carvalho - Petrobras

Hydrogen Damage in Transfer Line Exchanger Tubes, {PVP2021-62868}
Technical Paper Publication
Amy Adams - Shell Downstream Manufacturing
Mary Catherine Huff - Shell Downstream Manufacturing
Jorge Penso - Shell Global Solutions (US) Inc.

Stress Relaxation Cracking of Thick-Wall Stainless Steel Piping in Various Refining Units, {PVP2021-63046}
Technical Paper Publication
Cathleen Shargay - Fluor
Jorge Penso - Shell Houston Technology Center

Microstructure Control and Optimization of Centrifugal Casting Furnace Tube HP40 Alloys Based on Cafe Model, {PVP2021-61633}
Technical Paper Publication

Shulin Xiang - Hefei General Machinery Research Institute Co. Ltd.
Tao Chen - Hefei General Machinery Research Institute Co. Ltd.
Zhichao Fan - Hefei General Machinery Research Institute Co. Ltd.
Xiaoming Lian - Hefei General Machinery Research Institute Co. Ltd.
Xuedong Chen - Hefei General Machinery Research Institute Co. Ltd.

OAC-03-02/07-01 Monitoring, Diagnostics & Inspection and Plant Life Extension: Aging & Life Management
7/15/2021
5:00 PM to 6:05 PM - Room C

Chair: ***F.H.E De Haan -de Wilde - NRG***
Chair: ***Nicholas Klymyshyn - Pacific Northwest National Laboratory***
Chair: ***Mustafa HADJ-NACER - University of Nevada, Reno***
Chair: ***Georges Bezdikian - Georges BEZDIKIAN Consulting***
Presentations:

Development and Implementation of an In-Situ Repair Method for ISFSI Canisters, {PVP2021-60688}
Technical Paper Publication
Allen Williams - WDPMS
Jamie Beard - Robotic Technologies of Tennessee, LLC
Kyle Johnson - VRC Metal Systems
Jerry Stephenson - Southern California Edison
Stephen Canfield - Robotic Technologies of Tennessee, LLC

An Update of the Assessment Methodology for Civil Ageing Management for LTO/CSO Based on International Standards and Engineering Judgement, {PVP2021-61499}
Technical Paper Publication
F. H. E. (Ciska) De Haan - De Wilde - NRG
m.j. Janssen - NRG

Effect of the Third Body Layer on Fretting Wear Behavior of 316 Stainless Steel, {PVP2021-61550}
Technical Paper Publication
Shengzan Zhang - Tianjin University
Liyan Liu - Tianjin University
Xu Ma - Tianjin University
Wei Tan - Tianjin University
Guorui Zhu - Tianjin University

Case History of Hydrotreater Prefeed Heater Fire Recovery, {PVP2021-62954}
Technical Presentation Only
Jorge Penso - Shell Projects and Technology
Neil Park - Shell

Strain Gage Apparatus for Equipment Nozzle Loads, {PVP2021-62940}
Technical Presentation Only
Bhaskar Shitole - Wood Plc

CS-09-01 ASME Code Section XI Activities
7/15/2021
8:00 PM to 9:05 PM - Room F

Chair: ***Russell Cipolla - Intertek AIM***
Chair: ***Anees Udyawar - Westinghouse Electric Company***
Chair: ***Valery Lacroix - Tractebel Engineering***
Chair: ***Ryan Crane - ASME***
Presentations:

Simplified HTHA Evaluation Using Larson Miller Parameter Concepts, {PVP2021-62968}
Technical Paper Publication
Sujay Krishnamurthy - Honeywell UOP
Ben Hantz - Valero

Modeling Crack Growth in ASME Section XI Flaw Evaluations, {PVP2021-64992}
Technical Paper Publication
Anees Udyawar - Westinghouse Electric Company
Warren Bamford - Bamford Consulting Services LLC

Development of the Buckling Evaluation Method for Large Scale Vessel by the Testing of Gr. 91 Vessel Subjected to Horizontal and Cyclic Vertical Loading, {PVP2021-60672}
Technical Paper Publication
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Masashi Miyazaki - Japan Atomic Energy Agency

Evaluation of the Japanese Fatigue Test Data in Gr.91 for Elevated Temperature Design, {PVP2021-60773}
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Takashi Onizawa - Japan Atimic Energy Agency

Technical Basis Summary for Code Case N-860: Inspection Requirements and Evaluation Standards for Spent Nuclear Fuel Storage and Transportation Containment Systems, {PVP2021-64176}
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Chair: ***Jaan Taagepera - Chevron ETC***
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Jian Shuai - China University of Petroleum-Beijing (CUPB)

Hydrogen Induced Cracking Damage Estimation and Evaluation, {PVP2021-61887}
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A Simplified Method for Analyzing Pressure Vessel Response to An External Blast Overpressure Generated From an Explosion, {PVP2021-61854}
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Barry Millet - Fluor Enterprises Inc
Kenneth Kirkpatrick - Fluor Enterprises Inc
Bryan Mosher - Fluor Enterprises Inc

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Shuai Liu - Science and Technology on Reactor System Design Technology Laboratory Nuclear Power Institute of China,Chengdu, Sichuan, China
Zhipeng Feng - Science and Technology on Reactor System Design Technology Laboratory, Nuclear Power Institute of China Chengdu, China
Guo Chen - Science and Technology on Reactor System Design Technology Laboratory, Nuclear Power Institute of China Chengdu, China
Wanjun Wu - Science and Technology on Reactor System Design Technology Laboratory, Nuclear Power Institute of China Chengdu, China
Xiaozhou Jiang - Science and Technology on Reactor System Design Technology Laboratory, Nuclear Power Institute of China Chengdu, China

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Wanjun Wu - The Nulear Power Institute Of China
Zhipeng Feng - The Nulear Power Institute Of China
Xuan Huang - The Nulear Power Institute Of China
Xiaozhou Jiang - The Nulear Power Institute Of China
Bihao Wang - The Nulear Power Institute Of China

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Role of Material Parameters in Numerical Crack Growth Simulation: A Specimen Level and Prototype-Based Approach for Piping System, {PVP2021-60664}
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B. N. Rao - Indian Institute of Technology Madras
K Velusamy - Homi Bhabha National Institute
B. M. Sachin - Indian Institute of Technology Madras

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qingna zeng - Science and Technology on Reactor system Design Technology Laboratory
fenggang zang - Science and Technology on Reactor system Design Technology Laboratory
yixiong zhang - Science and Technology on Reactor system Design Technology Laboratory

An Application of the Brittle Fracture Criterion Gp Method to a RPV Type Geometry – Towards the Industrialization of the Method, {PVP2021-61636}
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Iago Santos - University of São Paulo
Diego Burgos - University of São Paulo

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Guy Richards - Blanson Ltd
Veda Thipparthi - Kemper Engineering Services
Ana Escobar - Kemper Engineering Services

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Proposal of Simulation Material Test Technique for Clarifying the Structure Failure Mechanisms Under Excessive Seismic Loads, {PVP2021-61866}

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PVP2021-61730	Shubhra Kanti	Das	CT-01-01
PVP2021-62878	Catrin	Davies	DA-07-01
PVP2021-61836	Catrin Mair	Davies	MF-16-01
PVP2021-62996	Catrin Mair	Davies	MF-17-01
PVP2021-60160	Massimiliano	De Agostinis	CS-01-02/03-01
PVP2021-62422	Massimiliano	De Agostinis	CT-01-01
PVP2021-61794	F. H. E. (Ciska)	De Haan - De Wilde	HT-02-01
PVP2021-61499	F.H.E	De Haan -de Wilde	OAC-03-02/07-01
PVP2021-62845	David	Dean	MF-04-01
PVP2021-62560	Dilip	Dedhia	CS-15-01
PVP2021-61880	Michael	Demkowicz	MF-02-01
PVP2021-62147	Guide	Deng	CS-11-01
PVP2021-61989	Cécilia	Desclaux	CS-36-01

PVP2021-60521	Dominic	Devito	CT-01-01
PVP2021-62435	David	Dewees	OAC-06-01
PVP2021-62046	Peter	Dillström	MF-04-01
PVP2021-60903	Ju	Ding	OAC-01-01
PVP2021-60905	Ju	Ding	CS-11-01
PVP2021-60907	Ju	Ding	NDE-02-01
PVP2021-62169	Steven	Doctor	CS-15-01
PVP2021-62822	Preeti	Doddihal	MF-01-02
PVP2021-61295	Paul	Donavin	CS-07-01
PVP2021-64839	Jie	Dong	CS-11-02
PVP2021-60521	Jim	Drago	CT-01-01
PVP2021-61674	Linlin	Duan	DA-10-01/11-01
PVP2021-61901	Linlin	Duan	DA-01-01
PVP2021-61913	Linlin	Duan	DA-10-01/11-01
PVP2021-61938	Zhixiang	Duan	CS-11-01
PVP2021-61706	Yaroslav	Dubyk	SE-07-01
PVP2021-62062	Yaroslav	Dubyk	DA-07-01
PVP2021-62063	Yaroslav	Dubyk	SE-01-01
PVP2021-60441	Thomas A.	Duffey	HT-02-01
PVP2021-60379	Pierre	Dulieu	CS-36-01
PVP2021-62058	Darrell	Dunn	NDE-02-01
PVP2021-62069	Darrell	Dunn	NDE-02-01
PVP2021-62560	Rohan	Dutta	CS-15-01
PVP2021-61138	Fabien	Ebling	MF-02-01
PVP2021-65338	Mangesh	Edke	HT-06-01
PVP2021-63798	Salim	El Bouzidi	FSI-02-02
PVP2021-62412	Osama	Elbanhawy	FSI-02-01
PVP2021-63798	Osama	Elbanhawy	FSI-02-02
PVP2021-62939	Lisa	Ely	DA-15-01
PVP2021-61815	John M	Emery	HT-01-01
PVP2021-62148	Ana	Escobar	DA-12-02
PVP2021-62975	Andrew	Escobar	OAC-04-03
PVP2021-63002	Andrew	Escobar	OAC-04-03
PVP2021-61193	L Ike	Ezekoye	OAC-01-02
PVP2021-61416	Andreas	Fabricius	OAC-06-01
PVP2021-62058	Neil	Fales	NDE-02-01
PVP2021-61633	Zhichao	Fan	MF-24-01
PVP2021-61635	Zhichao	Fan	NDE-02-01
PVP2021-61687	Zhichao	Fan	NDE-01-01
PVP2021-61959	Weilun	Fang	DA-07-01
PVP2021-61083	ZHOU	FANG	CS-11-03
PVP2021-61330	ZHOU	FANG	CS-11-02
PVP2021-61356	ZHOU	FANG	CS-11-03
PVP2021-61376	ZHOU	FANG	CS-11-03
PVP2021-61647	Zhuoyu	Fang	MF-08-01/10-01
PVP2021-61815	Dave	Farese	HT-01-01
PVP2021-61964	Ronald	Farrell	OAC-01-02
PVP2021-61620	Kevin	Fehlmann	HT-02-01
PVP2021-61815	John	Felbaum	HT-01-01

PVP2021-61959	Jibei	Feng	DA-07-01
PVP2021-62137	Ying	Feng	NDE-01-01
PVP2021-62044	Zhili	Feng	MF-06-02
PVP2021-62049	Zhili	Feng	MF-06-02
PVP2021-62109	Zhili	Feng	DA-04-01
PVP2021-61673	Zhipeng	Feng	SE-03-01
PVP2021-61986	Zhipeng	Feng	DA-08-01/09-01
PVP2021-62108	Zhipeng	Feng	OAC-01-02
PVP2021-62110	Zhipeng	Feng	DA-08-01/09-01
PVP2021-62128	Zhipeng	Feng	FSI-02-03
PVP2021-61848	Antonio	Fernandez-Caballero	MF-16-01
PVP2021-62039	Victor	Figueroa	DA-01-02
PVP2021-62126	Victor	Figueroa	OAC-04-02
PVP2021-62139	Victor	Figueroa	OAC-04-02
PVP2021-62169	James	Filliben	CS-15-01
PVP2021-60160	Stefano	Fini	CS-01-02/03-01
PVP2021-62422	Stefano	Fini	CT-01-01
PVP2021-62169	Ned	Finney	CS-15-01
PVP2021-62085	Matthew	Fister	HT-02-01
PVP2021-61617	James	Fitzpatrick	OAC-03-01/04-01
PVP2021-61848	Peter	Flewitt	MF-16-01
PVP2021-60533	Gregg	Flores	OAC-03-01/04-01
PVP2021-62169	Jeffrey	Fong	CS-15-01
PVP2021-61846	James	Fort	OAC-04-03
PVP2021-61027	Frederick	Frith	MF-06-01/11-01
PVP2021-61376	Junjie	Fu	CS-11-03
PVP2021-61781	Shigeru	Fujimoto	SE-07-01
PVP2021-61481	Satoshi	Fujita	SE-03-01
PVP2021-61742	Satoshi	Fujita	SE-07-01
PVP2021-61318	Takuya	Fukahori	CS-10-01
PVP2021-61742	Osamu	Furuya	SE-07-01
PVP2021-61781	Osamu	Furuya	SE-07-01
PVP2021-61954	Gudimella	G. S. Achary	DA-01-01
PVP2021-62435	Huidong	Gao	OAC-06-01
PVP2021-61959	Mingxu	Gao	DA-07-01
PVP2021-62535	Martin	Gascon	MF-05-01
PVP2021-61998	Patrick	Gauder	DA-12-01
PVP2021-62795	Patrick	Gauder	NDE-01-01
PVP2021-62084	Kshitij	Gawande	DA-19-01
PVP2021-61530	Peng	Ge	DA-03-01
PVP2021-60379	Robert	Gérard	CS-36-01
PVP2021-61420	James	Gianetto	MF-08-01/10-01
PVP2021-61620	Joshem	Gibson	HT-02-01
PVP2021-60449	Steven	Gilbert	MF-06-02
PVP2021-62046	Peter	Gill	MF-04-01
PVP2021-62429	Peter	Gill	CS-01-02/03-01
PVP2021-62936	Peter	Gill	MF-12-01
PVP2021-62121	Walter	Gill	OAC-04-03
PVP2021-62139	Walter	Gill	OAC-04-02

PVP2021-62939	Rafael Arthur	Giorjao	DA-15-01
PVP2021-62560	Nathan	Glunt	CS-15-01
PVP2021-61869	Xueru	Gong	OAC-06-01
PVP2021-61294	Gustavo	Gonzalez	NDE-01-01
PVP2021-61894	Shyam	Gopalakrishnan	CS-01-01
PVP2021-60521	Ali	Gordon	CT-01-01
PVP2021-62058	Gabriel	Grant	NDE-02-01
PVP2021-61716	Miles	Greiner	OAC-04-02
PVP2021-60533	Carissa	Grey	OAC-03-01/04-01
PVP2021-62909	Adam	Griffiths	CS-01-01
PVP2021-61815	Peter	Grimmer	HT-01-01
PVP2021-60160	Ottaviano	Grisolia	CS-01-02/03-01
PVP2021-61876	Chunlin	Gu	CS-11-01
PVP2021-61814	Yong	Gu	CS-11-03
PVP2021-61876	Jian	Guan	CS-11-01
PVP2021-61787	Fan	guangcheng	MF-01-02
PVP2021-62939	Haixia	Guo	DA-15-01
PVP2021-61410	Kai	Guo	FSI-02-02
PVP2021-62137	Weican	Guo	NDE-01-01
PVP2021-61230	Xiaolu	Guo	FSI-01-01
PVP2021-61761	Federico	Gutiérrez-Solana	MF-06-01/11-01
PVP2021-61411	Pluvinage	Guy	CS-08-01
PVP2021-62462	Changhoon	Ha	FSI-02-02
PVP2021-61892	Yoosung	Ha	CS-10-01
PVP2021-61897	Yoosung	Ha	MF-22-01
PVP2021-61636	Xie	Hai	DA-12-02
PVP2021-61533	Milad	Haji mohammad karim	DA-02-01:
PVP2021-61470	Zhiyuan	Han	CS-11-02
PVP2021-61747	Zhiyuan	Han	OAC-01-01
PVP2021-63905	Benjamin	Hantz	DA-07-01
PVP2021-67230	Stephen	Harris	OAC-01-02
PVP2021-60413	Kunio	Hasegawa	CS-36-01
PVP2021-61989	Kunio	Hasegawa	CS-36-01
PVP2021-60773	Ryuta	Hashidate	CS-09-01
PVP2021-63798	Marwan	Hassan	FSI-02-02
PVP2021-60449	Gary	Hattery	MF-06-02
PVP2021-61467	Yasuhiro	Hattori	MF-06-01/11-01
PVP2021-61603	Clifford	Hay	MF-05-01
PVP2021-61467	Takahiro	Hayashi	MF-06-01/11-01
PVP2021-61688	Junjing	He	MF-16-01
PVP2021-61674	Meng	He	DA-10-01/11-01
PVP2021-61869	Meng	He	OAC-06-01
PVP2021-61884	Sichen	He	OAC-01-01
PVP2021-61848	siqi	he	MF-16-01
PVP2021-62169	N. Alan	Heckert	CS-15-01
PVP2021-62935	Cynthia	Heinrichs	DA-19-01
PVP2021-61945	Gilbert	HENAFF	MF-02-01
PVP2021-62139	Stephen	Hensel	OAC-04-02
PVP2021-61863	Steve	Hensel	OAC-04-02

PVP2021-66584	Sungho	Heo	MF-17-01
PVP2021-62040	Rebeca	Hernandez	CS-36-01
PVP2021-61716	Megan	Higley	OAC-04-02
PVP2021-62429	Mike	Hilton	CS-01-02/03-01
PVP2021-60449	Yunior	Hioe	MF-06-02
PVP2021-61172	Yunior	Hioe	MF-22-01
PVP2021-61603	Yunior	Hioe	MF-05-01
PVP2021-63062	Yunior	Hioe	MF-12-01
PVP2021-61963	Kazuo	Hirota	SE-01-01
PVP2021-61668	Takatoshi	Hirota	CS-10-01
PVP2021-61893	Takatoshi	Hirota	CS-10-01
PVP2021-61318	Kiminobu	Hojo	CS-10-01
PVP2021-61668	Kiminobu	Hojo	CS-10-01
PVP2021-62207	James	Holliday	DA-03-01
PVP2021-61603	Ryan	Holloman	MF-05-01
PVP2021-61812	Joeng	Hong	DA-12-02
PVP2021-61912	Shaoxing	Hou	CS-11-03
PVP2021-61356	Zhibo	Huan	CS-11-03
PVP2021-62044	Hui	Huang	MF-06-02
PVP2021-61673	Xuan	Huang	SE-03-01
PVP2021-61986	Xuan	Huang	DA-08-01/09-01
PVP2021-62110	Xuan	Huang	DA-08-01/09-01
PVP2021-62128	Xuan	Huang	FSI-02-03
PVP2021-62868	Mary	Huff	MF-24-01
PVP2021-61854	Jacob	Hundl	DA-08-01/09-01
PVP2021-62086	Laura	Hunt	HT-02-01
PVP2021-62069	Kenn	Hunter	NDE-02-01
PVP2021-61793	Caitlin	Huotilainen	CS-03-02
PVP2021-61878	Masakazu	Ichimiya	DA-14-01
PVP2021-61952	Masakazu	Ichimiya	DA-14-01
PVP2021-61343	Shunichi	Ikesue	SE-01-01
PVP2021-61929	Kazuaki	Inaba	FSI-05-01
PVP2021-62822	Monique	Ip	MF-01-02
PVP2021-61343	Hidekazu	Ishii	SE-01-01
PVP2021-62066	Nazrul	Islam	MF-16-01
PVP2021-62023	Abdel Hamid	Ismail Mourad	MF-01-01
PVP2021-62031	Abdel Hamid	Ismail Mourad	MF-01-01
PVP2021-62249	Abdel Hamid	Ismail Mourad	MF-01-02
PVP2021-62263	Abdel Hamid	Ismail Mourad	MF-01-02
PVP2021-62819	Abdel Hamid	Ismail Mourad	MF-01-02
PVP2021-62023	Abdel-Hamid	Ismail Mourad	MF-01-01
PVP2021-62031	Abdel-Hamid	Ismail Mourad	MF-01-01
PVP2021-61467	Masao	Itatani	MF-06-01/11-01
PVP2021-62002	Tomohiro	Ito	SE-09-01
PVP2021-61781	Tatsuya	Itoi	SE-07-01
PVP2021-62812	Oleg	Ivanov	FSI-01-01
PVP2021-61617	Pavlo	Ivanusa	OAC-03-01/04-01
PVP2021-61740	Keiichiro	Iwata	MF-02-03
PVP2021-61893	Keiko	Iwata	CS-10-01

PVP2021-62795	Anne	Jã£â¼Ngert	NDE-01-01
PVP2021-61416	Peter	Jackson	OAC-06-01
PVP2021-62845	Peter	James	MF-04-01
PVP2021-61976	Matthias	Jaunich	OAC-04-02
PVP2021-61608	Ben	Jensen	OAC-04-03
PVP2021-60931	Ian	Jentz	DA-01-03
PVP2021-61658	Robert	Jetter	CS-07-02
PVP2021-61991	Beilei	Ji	OAC-01-02
PVP2021-60601	Fang	Ji	DA-12-01
PVP2021-61901	Fang	Ji	DA-01-01
PVP2021-60601	xiaoliang	jia	DA-12-01
PVP2021-61901	Xiaoliang	Jia	DA-01-01
PVP2021-61470	Haiyi	Jiang	CS-11-02
PVP2021-61673	Xiaozhou	Jiang	SE-03-01
PVP2021-61986	Xiaozhou	Jiang	DA-08-01/09-01
PVP2021-62108	Xiaozhou	Jiang	OAC-01-02
PVP2021-62110	Xiaozhou	Jiang	DA-08-01/09-01
PVP2021-61787	Tan	Jianping	MF-01-02
PVP2021-60688	Kyle	Johnson	OAC-03-02/07-01
PVP2021-61416	Anita	Johny	OAC-06-01
PVP2021-61954	GURUMURTHY	K	DA-01-01
PVP2021-62020	GURUMURTHY	K	DA-01-02
PVP2021-61610	Kevin	Kadooka	OAC-03-01/04-01
PVP2021-61617	Kevin	Kadooka	OAC-03-01/04-01
PVP2021-62436	Brian	Kagay	MF-02-01
PVP2021-62944	Brian	Kagay	MF-02-02
PVP2021-61878	Satoru	Kai	DA-14-01
PVP2021-61636	Shi	Kai Kai	DA-12-02
PVP2021-60533	Elena	Kalinina	OAC-03-01/04-01
PVP2021-61779	Balram	Kalra	DA-01-01
PVP2021-60449	Suresh	Kalyanam	MF-06-02
PVP2021-61812	Suresh	Kalyanam	DA-12-02
PVP2021-61172	Sureshkumar	Kalyanam	MF-22-01
PVP2021-63027	Sureshkumar	Kalyanam	MF-22-01
PVP2021-61888	SEIKH MUSTAFA	KAMAL	DA-01-01
PVP2021-62118	Sun-Yeh	Kang	DA-02-01:
PVP2021-62273	Spyros	Karamanos	SE-08-01
PVP2021-62273	Spyros A.	Karamanos	SE-08-01
PVP2021-65000	Kostas	Karazis	FSI-02-02
PVP2021-61866	Naoto	Kasahara	DA-14-01
PVP2021-61952	Naoto	Kasahara	DA-14-01
PVP2021-62917	Tejasvi	Kashyap	CT-08-01
PVP2021-61668	Jinya	Katsuyama	CS-10-01
PVP2021-61725	Jinya	Katsuyama	CS-10-01
PVP2021-61892	Jinya	Katsuyama	CS-10-01
PVP2021-61897	Jinya	Katsuyama	MF-22-01
PVP2021-60926	Robert	Keating	DA-01-03
PVP2021-60931	Robert	Keating	DA-01-03
PVP2021-62058	Matt	Keene	NDE-02-01

PVP2021-62146	Bart	Kemper	DA-01-02
PVP2021-62148	Bart	Kemper	DA-12-02
PVP2021-61787	Shi	Kexian	MF-01-02
PVP2021-61650	Hyun-Su	Kim	DA-14-01
PVP2021-62118	Jong Min	Kim	DA-02-01:
PVP2021-61922	Jongmin	Kim	MF-06-02
PVP2021-61922	Minchul	Kim	MF-06-02
PVP2021-62118	Seung Hyun	Kim	DA-02-01:
PVP2021-62712	Finn	Kirkemo	HT-06-01
PVP2021-62429	Mark	Kirkham	CS-01-02/03-01
PVP2021-61854	Kenneth	Kirkpatrick	DA-08-01/09-01
PVP2021-62412	Hossam	Kishawy	FSI-02-01
PVP2021-62069	Marvin	Klein	NDE-02-01
PVP2021-61608	Nicholas	Klymyshyn	OAC-04-03
PVP2021-61610	Nicholas	Klymyshyn	OAC-03-01/04-01
PVP2021-61617	Nicholas	Klymyshyn	OAC-03-01/04-01
PVP2021-61848	David	Knowles	MF-16-01
PVP2021-61027	Murthy	Kolluri	MF-06-01/11-01
PVP2021-61976	Anja	Kömmling	OAC-04-02
PVP2021-61522	Zichen	Kong	CS-01-02/03-01
PVP2021-62648	Paul	Korinko	MF-01-02
PVP2021-61688	Pavel	Korzhavyi	MF-16-01
PVP2021-62968	Sujay	Krishnamurthy	CS-09-01
PVP2021-60449	Prabhat	Krishnaswamy	MF-06-02
PVP2021-63062	Prabhat	Krishnaswamy	MF-12-01
PVP2021-61294	Joseph	Krynicki	NDE-01-01
PVP2021-62992	Mandar	Kulkarni	HT-06-01
PVP2021-62535	Nikhil	Kumar	MF-05-01
PVP2021-62049	Steven	Kung	MF-06-02
PVP2021-61981	Juha	Kuutti	MF-06-01/11-01
PVP2021-61395	Pierre	Labbe	SE-03-01
PVP2021-61761	Roberto	Lacalle	MF-06-01/11-01
PVP2021-60413	Valery	Lacroix	CS-36-01
PVP2021-62693	Jiang	Lai	FSI-02-03
PVP2021-61620	Matthew	Lakey	HT-02-01
PVP2021-61906	Marlies	Lambrecht	MF-06-01/11-01
PVP2021-62046	Robert	Lammert	MF-04-01
PVP2021-61696	Igor	Lanese	SE-08-01
PVP2021-61702	Igor	Lanese	SE-08-01
PVP2021-61420	Robert	Lazor	MF-08-01/10-01
PVP2021-60433	BONGHEE	Lee	CS-01-02/03-01
PVP2021-61212	Kyoung-Hun	Lee	CS-01-01
PVP2021-61239	Sam	Lee	HT-06-01
PVP2021-62187	Petri	Lemettinen	CS-03-02
PVP2021-61083	Guanghai	Li	CS-11-03
PVP2021-61330	Guanghai	Li	CS-11-02
PVP2021-61529	Hongfei	Li	MF-22-01
PVP2021-61876	Jiepu	Li	CS-11-01
PVP2021-61097	Ming	Li	CS-15-01

PVP2021-60398	Qi	Li	DA-10-01/11-01
PVP2021-61470	Xiaowei	Li	CS-11-02
PVP2021-61884	Xueying	Li	OAC-01-01
PVP2021-60054	Yanhao	Li	OAC-01-01
PVP2021-61202	Yinsheng	Li	CS-15-01
PVP2021-61509	Yinsheng	Li	CS-15-01
PVP2021-62233	Yinsheng	Li	MF-12-01
PVP2021-61529	You	Li	MF-22-01
PVP2021-61633	Xiaoming	Lian	MF-24-01
PVP2021-62147	Haifeng	Liang	CS-11-01
PVP2021-62147	Lin	Liang	CS-11-01
PVP2021-62058	Bruce	Lin	NDE-02-01
PVP2021-62069	Bruce	Lin	NDE-02-01
PVP2021-61671	Haitao	Lin	DA-10-01/11-01
PVP2021-60940	Lianshan	Lin	FSI-05-01
PVP2021-61321	Feng	Lingan	OAC-01-01
PVP2021-61671	Cenfan	Liu	DA-10-01/11-01
PVP2021-61901	Cenfan	Liu	DA-01-01
PVP2021-61913	Cenfan	Liu	DA-10-01/11-01
PVP2021-64839	Cengdian	Liu	CS-11-02
PVP2021-64839	Changjun	Liu	CS-11-02
PVP2021-61673	Jian	Liu	SE-03-01
PVP2021-61991	Jianping	Liu	OAC-01-02
PVP2021-61681	Jiaquan	LIU	OAC-03-01/04-01
PVP2021-61671	Juanbo	Liu	DA-10-01/11-01
PVP2021-61674	Juanbo	Liu	DA-10-01/11-01
PVP2021-61869	Juanbo	Liu	OAC-06-01
PVP2021-61530	Mengjie	Liu	DA-03-01
PVP2021-61880	Mengying	Liu	MF-02-01
PVP2021-62112	Michael C.	Liu	FSI-02-02
PVP2021-61356	Qia	Liu	CS-11-03
PVP2021-61376	Qia	Liu	CS-11-03
PVP2021-61937	Shengli	Liu	OAC-01-01
PVP2021-61673	Shuai	Liu	SE-03-01
PVP2021-62108	Shuai	Liu	OAC-01-02
PVP2021-62110	Shuai	Liu	DA-08-01/09-01
PVP2021-62128	Shuai	Liu	FSI-02-03
PVP2021-60816	Shuhong	Liu	NDE-02-01
PVP2021-60903	Shu-Hong	Liu	OAC-01-01
PVP2021-60907	Shu-Hong	Liu	NDE-02-01
PVP2021-62032	Wen	Liu	CS-11-03
PVP2021-61188	Xiaoben	Liu	DA-12-01
PVP2021-61959	Xiaoben	Liu	DA-07-01
PVP2021-61230	Xiaoliang	Liu	FSI-01-01
PVP2021-61620	Anna	Llobet	HT-02-01
PVP2021-60160	Antonietta	Lo Conte	CS-01-02/03-01
PVP2021-62434	Bradley	Loftin	OAC-01-02
PVP2021-62992	Carlos	Lopez	HT-06-01
PVP2021-62293	James	Lu	CS-07-01

PVP2021-61725	Kai	Lu	CS-10-01
PVP2021-61676	Mingwan	Lu	DA-07-01
PVP2021-65813	Marek	Lubecki	FSI-01-01
PVP2021-60533	Lucas	Lujan	OAC-03-01/04-01
PVP2021-61676	Xiangpeng	Luo	DA-07-01
PVP2021-61239	Przemyslaw	Lutkiewicz	HT-06-01
PVP2021-61347	Przemyslaw	Lutkiewicz	HT-06-01
PVP2021-60398	Ming	Ma	DA-10-01/11-01
PVP2021-61550	Xu	Ma	OAC-03-02/07-01
PVP2021-62989	Sergio	Mã¶Ller	FSI-02-01
PVP2021-61942	Hideo	Machida	CS-10-01
PVP2021-60453	GIUSEPPE	MACORETTA	HT-06-01
PVP2021-61861	GIUSEPPE	MACORETTA	HT-01-01
PVP2021-62429	Colin	Madew	CS-01-02/03-01
PVP2021-62952	Heramb	Mahajan	DA-01-03
PVP2021-62961	Heramb	Mahajan	DA-01-03
PVP2021-63905	Adin	Mann	DA-07-01
PVP2021-62909	Jonathan	Mann	CS-01-01
PVP2021-61202	Akihiro	Mano	CS-15-01
PVP2021-61696	Marko	Marinkovic	SE-08-01
PVP2021-61620	Mark	Marr-Lyon	HT-02-01
PVP2021-61848	Tomas	Martin	MF-16-01
PVP2021-62434	Coleen	Martinez	OAC-01-02
PVP2021-62434	Oscar	Martinez	OAC-01-02
PVP2021-61509	Koichi	Masaki	CS-15-01
PVP2021-61801	Ameya	Mathkar	CS-01-01
PVP2021-61717	Hisao	Matsunaga	MF-02-03
PVP2021-61739	Hisao	Matsunaga	MF-02-03
PVP2021-61740	Hisao	Matsunaga	MF-02-03
PVP2021-61943	Shinichi	Matsuura	SE-09-01
PVP2021-62058	Karan	Mauskar	NDE-02-01
PVP2021-62069	Karan	Mauskar	NDE-02-01
PVP2021-62084	Alex	Mayes	DA-19-01
PVP2021-61640	Roman	Mazuryk	MF-08-01/10-01
PVP2021-61397	R. Craig	Mcclung	MF-08-01/10-01
PVP2021-61295	Suzanne	McKillop	CS-07-01
PVP2021-61793	Alec	Mclennan	CS-03-02
PVP2021-62429	Alec	Mclennan	CS-01-02/03-01
PVP2021-62331	Michael	McMurtrey	MF-17-01
PVP2021-62845	Caroline	Meek	MF-04-01
PVP2021-61833	Igor	Meira	CT-01-01
PVP2021-62039	Hector	Mendoza	DA-01-02
PVP2021-62121	Hector	Mendoza	OAC-04-03
PVP2021-62126	Hector	Mendoza	OAC-04-02
PVP2021-62139	Hector	Mendoza	OAC-04-02
PVP2021-62042	Ravi	Menon	MF-24-01
PVP2021-62436	Daniel	Merkel	MF-02-01
PVP2021-61607	Mark	Messner	CS-07-01
PVP2021-63905	Mark	Messner	DA-07-01

PVP2021-61858	Mark C.	Messner	CS-07-02
PVP2021-62917	Don	Metzger	CT-08-01
PVP2021-63016	Don	Metzger	CT-08-01
PVP2021-62058	Ryan	Meyer	NDE-02-01
PVP2021-62069	Ryan	Meyer	NDE-02-01
PVP2021-60533	Danielle	Michel	OAC-03-01/04-01
PVP2021-61138	Thorsten	Michler	MF-02-01
PVP2021-61656	Ron	Miller	MF-01-01
PVP2021-62293	Barry	Millet	CS-07-01
PVP2021-61481	Keisuke	Minagawa	SE-03-01
PVP2021-61781	Keisuke	Minagawa	SE-07-01
PVP2021-61900	Keisuke	Minagawa	SE-03-01
PVP2021-61318	Fumiyoshi	Minami	CS-10-01
PVP2021-61668	Fumiyoshi	Minami	CS-10-01
PVP2021-61963	Tomonori	Mineno	SE-01-01
PVP2021-61942	Takayuki	Miyagawa	CS-10-01
PVP2021-60672	Masashi	Miyazaki	CS-09-01
PVP2021-61513	Koji	Miyoshi	DA-03-01
PVP2021-61897	Masahito	Mochizuki	MF-22-01
PVP2021-60453	Mattia	Moda	HT-06-01
PVP2021-62412	Atef	Mohany	FSI-02-01
PVP2021-62989	Sergio Viçosa	Möller	FSI-02-01
PVP2021-61861	Bernardo Disma	Monelli	HT-01-01
PVP2021-61406	Diego Fernando	Mora Mendez	DA-12-01
PVP2021-61854	Bryan	Mosher	DA-08-01/09-01
PVP2021-61793	Kevin	Mottershead	CS-03-02
PVP2021-62086	SCOTT	MULLIN	HT-02-01
PVP2021-60672	Hisatomo	Murakami	CS-09-01
PVP2021-62462	Njuki	Mureithi	FSI-02-02
PVP2021-65000	Njuki	Mureithi	FSI-02-02
PVP2021-61742	Hitoshi	Muta	SE-07-01
PVP2021-61781	Hitoshi	Muta	SE-07-01
PVP2021-63905	Chithranjan	Nadarajah	DA-07-01
PVP2021-61318	Yasuto	Nagoshi	CS-10-01
PVP2021-61725	Yasuto	Nagoshi	CS-10-01
PVP2021-61359	Seung Hoon	Nahm	MF-02-02
PVP2021-62195	Seunghoon	Nahm	MF-02-03
PVP2021-62002	Chihiro	Nakagawa	SE-09-01
PVP2021-61733	Izumi	Nakamura	SE-03-01
PVP2021-61781	Izumi	Nakamura	SE-07-01
PVP2021-61952	Izumi	Nakamura	DA-14-01
PVP2021-61740	Masami	Nakamura	MF-02-03
PVP2021-61319	Teruhiro	Nakashima	SE-01-01
PVP2021-61696	Chiara	Nardin	SE-08-01
PVP2021-61702	Chiara	Nardin	SE-08-01
PVP2021-64385	David	Nash	DA-12-01
PVP2021-60168	Suresh	Nawandar	DA-15-01
PVP2021-61027	Frideriki	Naziris	MF-06-01/11-01
PVP2021-60996	Marko	Nehrig	OAC-04-02

PVP2021-61981	Pekka	Nevasmaa	MF-06-01/11-01
PVP2021-62047	Kevin	Nibur	MF-02-02
PVP2021-60495	Tomas	Nicak	MF-04-01
PVP2021-60521	Paul	Nichols	CT-01-01
PVP2021-61570	Andrea	Nicolas	CS-07-01
PVP2021-62779	Markus	Niffenegger	DA-03-01
PVP2021-61603	Kamran	Nikbin	MF-05-01
PVP2021-62106	Milan	Nikic	DA-01-02
PVP2021-61781	Akemi	Nishida	SE-07-01
PVP2021-61877	Haruki	Nishida	MF-02-02
PVP2021-61892	Yutaka	Nishiyama	CS-10-01
PVP2021-61893	Yutaka	Nishiyama	CS-10-01
PVP2021-62434	Paul	Nogradi	OAC-01-02
PVP2021-61739	Kohei	Noguchi	MF-02-03
PVP2021-62087	Dale	Norman	DA-02-01:
PVP2021-62533	Osborne	Nye	MF-05-01
PVP2021-60845	John	Nyquist	HT-01-01
PVP2021-61138	Heiner	Oesterlin	MF-02-01
PVP2021-61668	Takuya	Ogawa	CS-10-01
PVP2021-61717	Yuhei	Ogawa	MF-02-03
PVP2021-61877	Yuhei	Ogawa	MF-02-02
PVP2021-61668	Minoru	Ohata	CS-10-01
PVP2021-61318	Mitsuru	Ohata	CS-10-01
PVP2021-61963	Naoki	Ohno	SE-01-01
PVP2021-61781	Yasuki	Ohtori	SE-07-01
PVP2021-61668	Hiroshi	Okada	CS-10-01
PVP2021-60672	Takashi	Okafuji	CS-09-01
PVP2021-61781	Shigeki	Okamura	SE-07-01
PVP2021-61740	Saburo	Okazaki	MF-02-03
PVP2021-62422	Giorgio	Olmi	CT-01-01
PVP2021-60773	Takashi	Onizawa	CS-09-01
PVP2021-61866	Takashi	Onizawa	DA-14-01
PVP2021-61943	Yohei	Ono	SE-09-01
PVP2021-62429	Paul	Onwuarolu	CS-01-02/03-01
PVP2021-62069	Mike	Orihuela	NDE-02-01
PVP2021-60449	Fabian	Orth	MF-06-02
PVP2021-61640	Igor	Orynyak	MF-08-01/10-01
PVP2021-62072	Alexandra	Oßwald	CS-08-01
PVP2021-61781	Akihito	Otani	SE-07-01
PVP2021-61069	Sezer	Öztürk	SE-07-01
PVP2021-62422	Luca	Paiardini	CT-01-01
PVP2021-62273	Xenofon	Palios	SE-08-01
PVP2021-62648	Jwo	Pan	MF-01-02
PVP2021-62656	Jwo	Pan	MF-01-01
PVP2021-61794	Fajar	Pangukir	HT-02-01
PVP2021-61696	Fabrizio	Paolacci	SE-08-01
PVP2021-61702	Fabrizio	Paolacci	SE-08-01
PVP2021-61420	Dong-Yeob	Park	MF-08-01/10-01
PVP2021-61359	Jae-Yeoung	Park	MF-02-02

PVP2021-62015	Youngho	Park	CT-08-01
PVP2021-61831	Stephen	Parker	MF-05-01
PVP2021-61650	Krishna	Parvathaneni	DA-14-01
PVP2021-61801	Sujay	Pathre	CS-01-01
PVP2021-61894	Sujay	Pathre	CS-01-01
PVP2021-61831	Ioannis	Patten	MF-05-01
PVP2021-61696	Alberto	Pavese	SE-08-01
PVP2021-61702	Alberto	Pavese	SE-08-01
PVP2021-61684	Ben	Pellereau	MF-01-01
PVP2021-62868	Jorge	Penso	MF-24-01
PVP2021-62939	Jorge	Penso	DA-15-01
PVP2021-62954	Jorge	Penso	OAC-03-02/07-01
PVP2021-61169	Daniel	Peters	HT-01-01
PVP2021-61906	Tom	Petit	MF-06-01/11-01
PVP2021-62462	Huy Peter	Pham	FSI-02-02
PVP2021-62878	Minh-Son	Pham	DA-07-01
PVP2021-60160	Francesco	Piccini	CS-01-02/03-01
PVP2021-62058	Paul	Plante	NDE-02-01
PVP2021-62909	Norman	Platts	CS-01-01
PVP2021-62614	Dave	Poole	MF-17-01
PVP2021-60449	sushma	pothana	MF-06-02
PVP2021-61812	sushma	pothana	DA-12-02
PVP2021-60521	Zachary	Poust	CT-01-01
PVP2021-62614	William	Press	MF-17-01
PVP2021-62187	Erkki	Pulkkinen	CS-03-02
PVP2021-65103	Pierre	Quenneville	SE-01-01
PVP2021-61696	Gianluca	Quinci	SE-08-01
PVP2021-61702	Gianluca	Quinci	SE-08-01
PVP2021-61420	Marie	Quintana	MF-08-01/10-01
PVP2021-60664	SURESH KUMAR	R	DA-12-02
PVP2021-62169	Robert	Rainsberger	CS-15-01
PVP2021-62939	Antonio J.	Ramirez	DA-15-01
PVP2021-61691	Alton J.	Reich	OAC-03-01/04-01
PVP2021-62839	Wolf	Reinhardt	CT-08-01
PVP2021-61055	Weiju	Ren	MF-06-02
PVP2021-62148	Guy	Richards	DA-12-02
PVP2021-62040	Mark	Richardson	CS-36-01
PVP2021-62082	David	Richmond	OAC-04-03
PVP2021-62933	Steven	Richter	CS-15-01
PVP2021-62422	Francesco	Robusto	CT-01-01
PVP2021-62836	Clay	Rodery	CS-07-02
PVP2021-61603	Brandon	Rollins	MF-05-01
PVP2021-63030	Brandon	Rollins	MF-05-01
PVP2021-61620	Christopher	Romero	HT-02-01
PVP2021-61815	Joe	Ronevich	HT-01-01
PVP2021-62436	Joseph	Ronevich	MF-02-01
PVP2021-61621	Rashique Iftekhar	Rousseau	CT-01-01
PVP2021-62067	Andrea	Rovinelli	CS-07-02
PVP2021-61522	Jürgen	Rudolph	CS-01-02/03-01

PVP2021-62005	Jürgen	Rudolph	MF-12-01
PVP2021-61866	Hashidate	Ryuta	DA-14-01
PVP2021-61954	Penchala	S. K. Pottem	DA-01-01
PVP2021-60664	B. M.	Sachin	DA-12-02
PVP2021-60672	Hiromi	Sago	CS-09-01
PVP2021-61343	Hiromi	Sago	SE-01-01
PVP2021-65103	Kaveh	Sahami	SE-01-01
PVP2021-61467	Toshiyuki	Saito	MF-06-01/11-01
PVP2021-61318	Kimihisa	Sakima	CS-10-01
PVP2021-61812	Cedric	Sallaberry	DA-12-02
PVP2021-60533	Sylvia	Saltzstein	OAC-03-01/04-01
PVP2021-61636	Jules	Samuel	DA-12-02
PVP2021-62045	Chris	San Marchi	MF-02-02
PVP2021-62436	Chris	San Marchi	MF-02-01
PVP2021-62944	Chris	San Marchi	MF-02-02
PVP2021-62121	Scott	Sanborn	OAC-04-03
PVP2021-62126	Scott	Sanborn	OAC-04-02
PVP2021-62139	Scott	Sanborn	OAC-04-02
PVP2021-61795	Rolf	Sandström	MF-16-01
PVP2021-62017	Iago	Santos	DA-12-02
PVP2021-61069	Ali	Sarı	SE-07-01
PVP2021-61169	Melanie	Sarzynski	HT-01-01
PVP2021-61952	Takuya	Sato	DA-14-01
PVP2021-61620	Jesse	Scarafiotti	HT-02-01
PVP2021-62458	Douglas	Scarth	MF-22-01
PVP2021-62429	Tom	Schofield	CS-01-02/03-01
PVP2021-62005	Tim	Schopf	MF-12-01
PVP2021-62436	Robert	Seffens	MF-02-01
PVP2021-61998	Michael	Seidenfuss	DA-12-01
PVP2021-62207	Joshua	Selling	DA-03-01
PVP2021-61507	Tommi	Seppänen	CS-01-02/03-01
PVP2021-62696	Mahmoud Mohamed Emam Ragab	Shaaban	FSI-02-01
PVP2021-61658	T. L.	Sham	CS-07-02
PVP2021-61570	T. -L.	Sham	CS-07-01
PVP2021-62067	T.-L.	Sham	CS-07-02
PVP2021-61858	Ting-Leung	Sham	CS-07-02
PVP2021-62035	Xuejiao	Shao	DA-04-01
PVP2021-61321	Dong	Shaohua	OAC-01-01
PVP2021-63046	Cathleen	Shargay	MF-24-01
PVP2021-61934	John	Sharples	CS-36-01
PVP2021-61881	Jie	Shen	CS-01-01
PVP2021-62128	Pingchuan	Shen	FSI-02-03
PVP2021-61656	Yueyin	Shen	MF-01-01
PVP2021-61880	Emmeline	Sheu	MF-02-01
PVP2021-61813	Jianfeng	Shi	DA-15-01
PVP2021-61993	Jianfeng	Shi	DA-02-02:
PVP2021-62014	Jianfeng	Shi	DA-02-02:
PVP2021-62123	Jianfeng	Shi	DA-02-02:

PVP2021-62132	Jianfeng	Shi	DA-02-02:
PVP2021-62136	Jianfeng	Shi	OAC-03-01/04-01
PVP2021-62137	Jianfeng	Shi	NDE-01-01
PVP2021-62032	Jin	Shi	CS-11-03
PVP2021-62035	Kaikai	Shi	DA-04-01
PVP2021-61097	Lei	Shi	CS-15-01
PVP2021-61991	Ning	Shi	OAC-01-02
PVP2021-61376	Puan	Shi	CS-11-03
PVP2021-60398	Qianyu	SHI	DA-10-01/11-01
PVP2021-62368	Do Jun	Shim	MF-12-01
PVP2021-62933	Do Jun	Shim	CS-15-01
PVP2021-61943	RYUYA	SHIMAZU	SE-09-01
PVP2021-61725	Masaki	Shimodaira	CS-10-01
PVP2021-62195	Hyung-Seop	Shin	MF-02-03
PVP2021-60521	Sannmit	Shinde	CT-01-01
PVP2021-62002	Atsuhiko	Shintani	SE-09-01
PVP2021-62940	Bhaskar	Shitole	OAC-03-02/07-01
PVP2021-62497	Yasumasa	Shoji	CT-08-01
PVP2021-62049	John	Siefert	MF-06-02
PVP2021-61955	Fabian E.	Silber	FSI-01-01
PVP2021-62436	Kevin	Simmons	MF-02-01
PVP2021-61815	J Robert	Sims	HT-01-01
PVP2021-60974	Haresh	Sippy	MF-17-01
PVP2021-61981	Henrik	Siren	MF-06-01/11-01
PVP2021-62005	Marek	Smaga	MF-12-01
PVP2021-62112	Bruce	Smith	FSI-02-02
PVP2021-63062	Laura	Smith	MF-12-01
PVP2021-62429	Russell	Smith	CS-01-02/03-01
PVP2021-62201	Stephen	Smith	FSI-02-03
PVP2021-61367	Steven	Smith	CS-01-01
PVP2021-61397	James	Sobotka	MF-08-01/10-01
PVP2021-61507	Jussi	Solin	CS-01-02/03-01
PVP2021-62187	Jussi	Solin	CS-03-02
PVP2021-61787	Wang	Songlin	MF-01-02
PVP2021-61821	Siari	Sosa	MF-02-03
PVP2021-62293	Donald	Spencer	CS-07-01
PVP2021-61620	Dusan	Spernjak	HT-02-01
PVP2021-62085	Dusan	Spernjak	HT-02-01
PVP2021-62126	Ray	Sprankle	OAC-04-02
PVP2021-62069	Jim	Stadler	NDE-02-01
PVP2021-62273	Nikolaos	Stathas	SE-08-01
PVP2021-61794	Lorenzo	Stefanini	HT-02-01
PVP2021-60688	Jerry	Stephenson	OAC-03-02/07-01
PVP2021-61651	Gary	Stevens	CS-03-02
PVP2021-62273	Elias	Strepelias	SE-08-01
PVP2021-61998	Ludwig	Stumpfrock	DA-12-01
PVP2021-61687	Yuanlian	Su	NDE-01-01
PVP2021-61169	Kannan	Subramanian	HT-01-01
PVP2021-61887	Kannan	Subramanian	DA-08-01/09-01

PVP2021-61846	Sarah	Suffield	OAC-04-03
PVP2021-62082	Sarah	Suffield	OAC-04-03
PVP2021-62614	John	Sulley	MF-17-01
PVP2021-61959	Lei	Sun	DA-07-01
PVP2021-61674	Li	Sun	DA-10-01/11-01
PVP2021-61869	Li	Sun	OAC-06-01
PVP2021-61913	Liang	Sun	DA-10-01/11-01
PVP2021-60735	Xiaodong	Sun	DA-01-03
PVP2021-62429	Matt	Sutcliffe	CS-01-02/03-01
PVP2021-61961	Christian	Swacek	CS-01-02/03-01
PVP2021-61668	Akiyuki	Takahashi	CS-10-01
PVP2021-61739	Osamu	Takakuwa	MF-02-03
PVP2021-61740	Osamu	Takakuwa	MF-02-03
PVP2021-61892	Hisashi	Takamizawa	CS-10-01
PVP2021-61893	Hisashi	Takamizawa	CS-10-01
PVP2021-61897	Hisashi	Takamizawa	MF-22-01
PVP2021-62975	David	Tamburello	OAC-04-03
PVP2021-63002	David	Tamburello	OAC-04-03
PVP2021-61410	Wei	Tan	FSI-02-02
PVP2021-61550	Wei	Tan	OAC-03-02/07-01
PVP2021-61657	Wei	Tan	FSI-02-03
PVP2021-61467	Shigeaki	Tanaka	MF-06-01/11-01
PVP2021-61905	Tomohisa	Tanaka	SE-09-01
PVP2021-62058	Jonathan	Tatman	NDE-02-01
PVP2021-60650	Susumu	Terada	HT-01-01
PVP2021-61555	Dmitry	Terentyev	MF-06-01/11-01
PVP2021-61359	Nguyen	Thanh Tuan	MF-02-02
PVP2021-62148	Veda	Thipparthi	DA-12-02
PVP2021-61294	Neeraj	Thirumalai	NDE-01-01
PVP2021-61821	Ramgopal	Thodla	MF-02-03
PVP2021-63030	Ramgopal	Thodla	MF-05-01
PVP2021-62249	Dinu	Thomas Thekkuden	MF-01-02
PVP2021-61075	Greg	Thorwald, Ph.D.	HT-01-01
PVP2021-62035	Jun	Tian	DA-04-01
PVP2021-62038	Sanjay	Tiku	MF-08-01/10-01
PVP2021-61892	Tohru	Tobita	CS-10-01
PVP2021-61893	Tohru	Tobita	CS-10-01
PVP2021-62058	Spencer	Toone	NDE-02-01
PVP2021-62069	Spencer	Toone	NDE-02-01
PVP2021-64839	Shantung	Tu	CS-11-02
PVP2021-62285	William R.	Tyson	MF-22-01
PVP2021-63062	Mo	Uddin	MF-12-01
PVP2021-64992	Anees	Udyawar	CS-09-01
PVP2021-61668	Takashi	Ueda	CS-10-01
PVP2021-61794	Heleen	Uitslag-Doolaard	HT-02-01
PVP2021-62845	Nick	Underwood	MF-04-01
PVP2021-65813	Kamil	Urbanowicz	FSI-01-01
PVP2021-60379	Inge	Uytdenhouwen	CS-36-01
PVP2021-61969	Inge	Uytdenhouwen	CS-36-01

PVP2021-61954	Subramanyam	V. R. Sripada	DA-01-01
PVP2021-62020	Subramanyam	V. R. Sripada	DA-01-02
PVP2021-60453	Renzo	Valentini	HT-06-01
PVP2021-61861	Renzo	Valentini	HT-01-01
PVP2021-62434	Blake	Van Hoy	OAC-01-02
PVP2021-62187	Rami	Vanninen	CS-03-02
PVP2021-60664	K	Velusamy	DA-12-02
PVP2021-61981	Iikka	Virkkunen	MF-06-01/11-01
PVP2021-62046	Georg	Wackenhut	MF-04-01
PVP2021-61866	Takashi	Wakai	DA-14-01
PVP2021-62108	Bihao	Wang	OAC-01-02
PVP2021-62110	Bihao	Wang	DA-08-01/09-01
PVP2021-60988	Donghui	Wang	DA-12-02
PVP2021-62038	Duncan	Wang	MF-08-01/10-01
PVP2021-61912	Jielu	Wang	CS-11-03
PVP2021-60907	Jie-Lu	Wang	NDE-02-01
PVP2021-61671	Mengke	Wang	DA-10-01/11-01
PVP2021-60816	Shenghui	Wang	NDE-02-01
PVP2021-60907	Sheng-Hui	Wang	NDE-02-01
PVP2021-61656	Xin	Wang	MF-01-01
PVP2021-61681	Xin	Wang	OAC-03-01/04-01
PVP2021-61022	Xu	Wang	DA-08-01/09-01
PVP2021-61658	Yanli	Wang	CS-07-02
PVP2021-62044	Yanli	Wang	MF-06-02
PVP2021-62049	Yanli	Wang	MF-06-02
PVP2021-62109	Yanli	Wang	DA-04-01
PVP2021-62040	Yiqiang	Wang	CS-36-01
PVP2021-62044	Yiyu	Wang	MF-06-02
PVP2021-62049	Yiyu	Wang	MF-06-02
PVP2021-61097	Yong	Wang	CS-15-01
PVP2021-61083	Zhe	Wang	CS-11-03
PVP2021-61330	Zhe	Wang	CS-11-02
PVP2021-61356	Zhe	Wang	CS-11-03
PVP2021-61376	Zhe	Wang	CS-11-03
PVP2021-61635	Zhe	Wang	NDE-02-01
PVP2021-61687	Zhe	Wang	NDE-01-01
PVP2021-60398	Zhijian	Wang	DA-10-01/11-01
PVP2021-61787	Wang	Wanxia	MF-01-02
PVP2021-61848	Alexander	Warren	MF-16-01
PVP2021-61781	Tomoyoshi	Watakabe	SE-07-01
PVP2021-62086	Greg	Wattis	HT-02-01
PVP2021-63798	David S	Weaver	FSI-02-02
PVP2021-61976	Mike	Weber	OAC-04-02
PVP2021-61998	Ulrich	Weber	DA-12-01
PVP2021-62069	Max	Weidmann	NDE-02-01
PVP2021-61955	Stefan	Weihe	FSI-01-01
PVP2021-61961	Stefan	Weihe	CS-01-02/03-01
PVP2021-62072	Stefan	Weihe	CS-08-01
PVP2021-62795	Stefan	Weihe	NDE-01-01

PVP2021-61821	Matthews	Wendy	MF-02-03
PVP2021-61797	Robert	Weyer	DA-02-01:
PVP2021-61416	Alexandria	Wholey	OAC-06-01
PVP2021-61172	Gery	Wilkowski	MF-22-01
PVP2021-61603	Gery	Wilkowski	MF-05-01
PVP2021-60996	Frank	Wille	OAC-04-02
PVP2021-60688	Allen	Williams	OAC-03-02/07-01
PVP2021-65000	Gary	Williams	FSI-02-02
PVP2021-63006	Ken	Williams	MF-06-02
PVP2021-62046	Paul	Williams	MF-04-01
PVP2021-62077	Phillip	Wiseman	DA-19-01
PVP2021-62080	Phillip	Wiseman	DA-19-01
PVP2021-62058	Uwe	Wolf	NDE-02-01
PVP2021-62069	Uwe	Wolf	NDE-02-01
PVP2021-61976	Dietmar	Wolff	OAC-04-02
PVP2021-62933	Kevin	Wong	CS-15-01
PVP2021-61376	Gang	Wu	CS-11-03
PVP2021-61188	Kai	Wu	DA-12-01
PVP2021-62458	Shengjia	Wu	MF-22-01
PVP2021-61986	Wanjun	Wu	DA-08-01/09-01
PVP2021-62108	Wanjun	Wu	OAC-01-02
PVP2021-61993	Guangte	Xiang	DA-02-02:
PVP2021-61633	Shulin	Xiang	MF-24-01
PVP2021-61814	Liu	Xiaofei	CS-11-03
PVP2021-61881	Guoshan	Xie	CS-01-01
PVP2021-61522	Hai	Xie	CS-01-02/03-01
PVP2021-62035	Hai	Xie	DA-04-01
PVP2021-61727	Jian	Xing	CS-11-02
PVP2021-61747	Jian	Xing	OAC-01-01
PVP2021-62035	Furui	Xiong	DA-04-01
PVP2021-61856	Heqin	Xu	DA-01-01
PVP2021-61856	Hongqing	Xu	DA-01-01
PVP2021-61321	Kangkai	Xu	OAC-01-01
PVP2021-61681	Lei	Xu	OAC-03-01/04-01
PVP2021-61230	Shuangqing	Xu	FSI-01-01
PVP2021-61420	Su	Xu	MF-08-01/10-01
PVP2021-62285	Su	Xu	MF-22-01
PVP2021-61635	Wanbao	Xu	NDE-02-01
PVP2021-62285	Jia	Xue	MF-22-01
PVP2021-61942	Hiroki	Yada	CS-10-01
PVP2021-61509	Yoshihito	Yamaguchi	CS-15-01
PVP2021-61343	Tomohiko	Yamamoto	SE-01-01
PVP2021-61467	Tetsushi	Yamaoka	MF-06-01/11-01
PVP2021-61356	He	Yan	CS-11-03
PVP2021-61097	Jing	Yang	CS-15-01
PVP2021-61681	Kai	Yang	OAC-03-01/04-01
PVP2021-60521	Ming-Hang	Yang	CT-01-01
PVP2021-61188	Yue	Yang	DA-12-01
PVP2021-61959	Yue	Yang	DA-07-01

PVP2021-61668	Kenji	Yashirodai	CS-10-01
PVP2021-62195	Juho	Yeo	MF-02-03
PVP2021-61555	Chao	Yin	MF-06-01/11-01
PVP2021-61343	Shinobu	Yokoi	SE-01-01
PVP2021-61077	Eui-Jong	Yoo	OAC-06-01
PVP2021-60476	Shoichi	Yoshida	SE-09-01
PVP2021-61467	Shuichi	Yoshida	MF-06-01/11-01
PVP2021-61319	YUICHI	YOSHIDA	SE-01-01
PVP2021-62035	Mingda	Yu	DA-04-01
PVP2021-60054	Qiaoyan	Yu	OAC-01-01
PVP2021-60905	Yi-Wen	Yuan	CS-11-01
PVP2021-62939	Simon	Yuen	DA-15-01
PVP2021-60988	fenggang	zang	DA-12-02
PVP2021-61134	Fenggang	Zang	FSI-05-01
PVP2021-61396	Fenggang	Zang	MF-12-01
PVP2021-62062	Maksym	Zarazovskii	DA-07-01
PVP2021-61134	qingna	zeng	FSI-05-01
PVP2021-61396	qingna	zeng	MF-12-01
PVP2021-62014	Sheng	Zeng	DA-02-02:
PVP2021-62273	Anna	Zervaki	SE-08-01
PVP2021-61991	Hong	Zhang	OAC-01-02
PVP2021-61688	Jing	Zhang	MF-16-01
PVP2021-61673	Ke	Zhang	SE-03-01
PVP2021-61681	Rui	Zhang	OAC-03-01/04-01
PVP2021-61022	Shengzhu	Zhang	DA-08-01/09-01
PVP2021-62939	Shutong	Zhang	DA-15-01
PVP2021-62109	WEI	ZHANG	DA-04-01
PVP2021-63093	Wei	Zhang	MF-01-01
PVP2021-62035	Ying	Zhang	DA-04-01
PVP2021-60988	yixiong	zhang	DA-12-02
PVP2021-61134	Yixiong	Zhang	FSI-05-01
PVP2021-61396	Yixiong	Zhang	MF-12-01
PVP2021-61876	Baodi	Zhao	CS-11-01
PVP2021-61358	Pengcheng	Zhao	DA-08-01/09-01
PVP2021-61621	Zijian	Zhao	CT-01-01
PVP2021-61724	Zijian	Zhao	CT-08-01
PVP2021-61813	Jinyang	Zheng	DA-15-01
PVP2021-61993	Jinyang	Zheng	DA-02-02:
PVP2021-62014	Jinyang	Zheng	DA-02-02:
PVP2021-62123	Jinyang	Zheng	DA-02-02:
PVP2021-62132	Jinyang	Zheng	DA-02-02:
PVP2021-62136	Jinyang	Zheng	OAC-03-01/04-01
PVP2021-62137	Jinyang	Zheng	NDE-01-01
PVP2021-61097	LI GUO	ZHOU	CS-15-01
PVP2021-61881	Guodong	Zhu	CS-01-01
PVP2021-61550	Guorui	Zhu	OAC-03-02/07-01
PVP2021-61657	Guorui	Zhu	FSI-02-03
PVP2021-60755	Xian-Kui	Zhu	MF-08-01/10-01
PVP2021-63093	Xian-Kui	Zhu	MF-01-01

Thank you for attending PVP 2021!