

INTERNATIONAL CONFERENCE ON ENVIRONMENTAL DEGRADATION

AUGUST 10-14, 2025 | LONG BEACH, CA

August 10

Sunday

Opening Reception

6:00 – 9:00 PM

Opening Reception at Rainbow Lagoon

August 11

Monday

7:00 – 8:15 AM Speaker Breakfast in Beacon B		
8:15 – 10:00 AM Welcome & Plenary Session in Regency BCH Dr. Peter L. Andresen and Dr. Mayur Jagatia		
10:00 – 10:30 AM Morning Break in Regency Foyer		
Regency A Modeling of SCC, Fatigue, and Other Material Degradation Phenomena	Regency BCH Advanced Reactor Materials Performance - MCS	Regency DEF Balance of Plant Structures Degradation (Cables, Concrete, CISCC, etc.)
No presentation	10:30 – 11:00 AM Material Qualification for Molten Chloride Fast Reactor Applications – Testing Needs and Knowledge Gaps Caitlin Huotilainen	10:30 – 11:00 AM Influence of environmental impacts on corrosion of SMR TRISO fuel waste storage containers Yoel Emun
11:00 – 11:30 AM Experimental Evaluation of a PWSCC Phenomenological Predictive Model Takaharu Maeguchi	11:00 – 11:30 AM Corrosion behaviour of 316 L stainless steel in eutectic KCl-LiCl molten salt using a natural circulation loop Hung (Harry) Ha	11:00 – 11:30 AM Corrosion Behavior of Candidate Container Material for Underground Disposal of High-Level Radioactive Waste Yi Chen Lin
11:30 AM – 12:00 PM Investigation of welding repairs impacts on SCC of austenitic stainless steel with experimental testing and numerical simulation Tuan Hiep Pham	11:30 AM – 12:00 PM Molten Chloride Salt Corrosion of Ultra-High Temperature Ceramics Brian Carpman	11:30 AM – 12:00 PM The Effect of Nitrates on Chloride- Induced SCC Growth of 304L at Near-Ambient Temperatures Mychailo Toloczko
12:00 – 1:45 PM Lunch Break - on your own		

Regency A Modeling of SCC, Fatigue, and Other Material Degradation Phenomena	Regency BCH Advanced Reactor Materials Performance - MCS	Regency DEF Mechanistic Understanding
1:45 – 2:15 PM Corrosion fatigue of 304L stainless steel in simulated LWR water environment Mustafa Subasic	1:45 – 2:15 PM Impact of molten salts corrosion on creep behavior of structural materials Rishi Pillai	1:45 – 2:15 PM On the use of KOH as alkalising agent for the water-cooled breeder blanket section of the European fusion demonstration power plant DEMO Liberato Volpe
2:15 – 2:45 PM Effects of Sulfur Content on Stress Corrosion Cracking Performance of Stainless Steel in Deaerated Water John Lathrop	2:15 – 2:45 PM Degradation of Candidate Structural Materials for Molten Chloride Fast Reactor Applications – Recent Experimental Developments and Progress Caitlin Huotilainen	2:15 – 2:45 PM Pressurized Water Reactor Primary Water Corrosion of Ni-Cr alloys under Tensile and Compressive Stress Karen Kruska (presented by Ziqing Zhai)
2:45 – 3:15 PM Evolution of Process-Zone-Based Hybrid Model for Resistance to Crack Initiation Due to Hydrided Region Overloads in CANDU Pressure Tubes Leonid Gutkin	2:45 – 3:15 PM Impact of long-term thermal aging on mechanical properties of ferritic-martensitic steels HT9 and T92 Andrew Peterson	2:45 – 3:15 PM Effect of dissolved oxygen and temperature on oxidation and stress corrosion cracking of 316L stainless steel in pressurized water reactors primary environment Charles Fayolle
3:15 – 3:30 PM Afternoon Break in Regency Foyer		
Regency A Zirconium and Fuel Cladding	Regency BCH Advanced Reactor Materials Performance - other	Regency DEF Mechanistic Understanding
3:30 – 4:00 PM In-Situ Loading and Corrosion of Coated Zircaloy with Scratch Defects Zhenyu Fei	3:30 – 4:00 PM Modeling Thermo-Mechanical Response of Nuclear-Grade Graphite for Reactor Applications using Grizzly Code Parikshit Bajpai	3:30 – 4:00 PM Effects of corrosion potential on SCC propagation and crack tip structure of 316 stainless steel in simulated PWR Primary water Katsuhiko Fujii
4:00 – 4:30 PM The Effect of Surface Finish on the Corrosion and Deuterium Pickup of Zr-2.5Nb Pressure Tubes Heidi Nordin	4:00 – 4:30 PM Creep Fracture Behavior of Alloy 800H Weldment with Haynes 230 Filler Metal at 760 °C and 950 °C Qingshan Dong	4:00 – 4:30 PM Understanding The Effect of Shot Peening on Stress Corrosion Cracking of 316L Stainless Steel in High Temperature Water Muhammad Abduh Fuadi (presented by Fabio Scenini)
4:30 – 5:00 PM Tag, You're It: Exploring the Effect of Surface Tagging on Nuclear Fuel Cladding Lindsay O'Brien	4:30 – 5:00 PM Creep crack growth of 316H stainless steel in a simulated AGR environment James Rafferty	4:30 – 5:00 PM Mechanism of flow accelerated corrosion suppression at low temperatures by dissolved oxygen and Cr content in steel Hiroshi Abe

August 12

Tuesday

7:00 – 8:15 AM
Speaker Breakfast in Beacon B

8:15 – 9:00 AM
Plenary Session in Regency BCH
Dr Gary S. Was

Regency A
Plant Chemistry

Regency BCH
Irradiation Damage of Plant Materials

Regency DEF

New and Novel Manufacturing
Methodologies (AM, HIP, Weld, etc.) -
Other

9:00 – 9:30 AM

**EAC of Non-Sensitized Stainless
Steel and Alloy 600 Across a Range
of LiOH vs. KOH Estimated Crevice
Chemistries**

Peter Chou

9:00 – 9:30 AM

**Cavity formation and potential void
swelling concern for austenitic
stainless steels in pressurized water
reactors : review of cluster dynamic
model and experimental results**

Daniel Brimbal

9:00 – 9:30 AM

**Accelerated environmentally-
assisted crack initiation testing of
additively manufactured 316L
stainless steel in LWR environments:
Results of an international Round-
Robin initiative**

Michael Grimm

9:30 – 10:00 AM

**Environmentally Assisted Cracking in
KOH**

Peter Andresen

9:30 – 10:00 AM

**Determination of Transmuted Helium
in Nuclear Reactor Materials**

Nicolas Huin

9:30 – 10:00 AM

**Microstructure Evolution, Mechanical
Properties and Stress Corrosion
Cracking Resistance of 316L
Stainless Steel Produced by WAAM**

Josiane Nguejio

10:00 – 10:30 AM
Morning Break in Regency Foyer

Regency A
Plant Chemistry

Regency BCH
Irradiation Damage of Plant Materials

Regency DEF

New and Novel Manufacturing
Methodologies (AM, HIP, Weld, etc.) -
Other

10:30 – 11:00 AM

**A study of corrosion and release of
Alloy 690 plates exposed to
simulated pressurized water reactor
primary water**

Daniel Brimbal

10:30 – 11:00 AM

**High-temperature micro indentation
of proton-irradiated stainless steels
prior to IASCC testing**

Gokul Obulan Subramanian

10:30 – 11:00 AM

**PWSCC Crack Growth Rate Testing
of Additively Manufactured Type
316L Stainless Steel**

Karyn Cooper

11:00 – 11:30 AM

**Study of the influence of surface
state on the release of corrosion
products from steam generator
tubes made of alloy 690 exposed to
simulated primary environment at
325°C**

Pierre Vantenay

11:00 – 11:30 AM

**Characterization of the NRU G-16
F/N Exposed to CANDU-Relevant
Irradiation Conditions: A Surrogate
for Lifetime Predictions in Plant**

Mitchell Mattucci

11:00 – 11:30 AM

**Stress Corrosion Cracking Growth In
Laser-Powder Bed Fusion Additively
Manufactured 316/316L Stainless
Steel**

Ainsley Pinkowitz

11:30 AM – 12:00 PM Modeling and Experimental Investigation of Factors Affecting CRUD Deposition in PWRs: Role of Zn, Ni, and Redox Potential Sri Saravana Konganapuram Narasimma Bharathi	11:30 AM – 12:00 PM A transmission electron microscopy study of Type 304 and 316Ti stainless steels irradiated in the BOR-60 reactor at 330°C and in the PHENIX one at 380-402°C Alexandra Renault-Laborne	11:30 AM – 12:00 PM Structural materials with co-optimized mechanical properties and corrosion resistance for advanced reactors Rishi Pillai
Sessions Adjourn		

August 13

Wednesday

7:00 – 8:30 AM Speaker Breakfast in Beacon B		
Regency A Plant Operating Experience	Regency BCH Advanced Reactor Materials Performance - MS	Regency DEF
8:30 – 9:00 AM Understanding of EDF recent SCC operating experience on the SIS and RHR systems Francois Foct	8:30 – 9:00 AM Molten Salt Reactor Materials Degradation Matrix Cem Topbasi	No presentation
9:00 – 9:30 AM SEM-FIB and TEM characterization of the microstructure and oxides in weld roots of EDF safety injection pipeline Priscille Cuvillier (presented by Francois Foct)	9:00 – 9:30 AM The Effect of Cold Work on the Dealloying Behavior of Binary Ni-20Cr Alloy in Molten FLiNaK John Scully (presented by Harjot Singh)	No presentation
9:30 – 10:00 AM Failure Analysis of Krško NPP Safety Injection 304SS Piping Arash Parsi	9:30 – 10:00 AM The Effect of Temperature on the Dealloying Behavior of Binary Ni-20Cr Alloy in Molten FLiNaK Elena Romanovskaia (presented by Harjot Singh)	No presentation
10:00 – 10:30 AM Morning Break in Regency Foyer		
Regency A Plant Operating Experience & Life Beyond 80	Regency BCH Advanced Reactor Materials Performance - MS	Regency DEF PWR SCC Initiation of Ni-Base Alloys (Primary and Secondary)
10:30 – 11:00 AM Laboratory Analysis of a High Pressure Coolant Injection (HCPI) Steam Isolation Valve Stem Blake Wiggins	10:30 – 11:00 AM Corrosion of 316H Stainless Steel and ER16-8-2 Weld Filler Metal in Molten FLiBe Kevin Chan	10:30 – 11:00 AM The Role of Delta Phase in the Stress Corrosion Cracking (SCC) of Alloy 718 in Simulated Pressurized Water Reactor (PWR) Primary Water (PW) Environment Mi Wang (presented by Gary Was)

11:00 – 11:30 AM Assessment of Thermal Ageing in Low Alloy Steels Harvested from an Aged PWR Pressurizer Catherine Cmar	11:00 – 11:30 AM Corrosion Tests of SS 316 in Static and Flowing U-bearing Fluoride Salts Jinsuo Zhang	11:00 – 11:30 AM SCC Initiation Behavior of Alloys 690, 152, 152M, 52, and 52M exposed to 360°C Simulated PWR Primary Water for 5.7 Years Mychailo Toloczko
11:30 AM – 12:00 PM Investigation of long-range ordering kinetics of Ni-Cr-Fe alloys with Kinetic Monte Carlo simulations Daniel Brimbal	11:30 AM – 12:00 PM Slow Strain Rate Tensile Testing of Structural Alloys in High Temperature Air and Molten Flibe Stella Tsotsos	11:30 AM – 12:00 PM Effect of Temperature and Cold Work on the Creep Behavior of Alloy 690 in Air Ziqing Zhai
12:00 – 1:45 PM Lunch Break - on your own		
Regency A Life Beyond 80	Regency BCH Advanced Reactor Materials Performance - MS	Regency DEF PWR SCC Initiation of Ni-Base Alloys – and – BWR and Other Chemistry SCC Testing
1:45 – 2:15 PM Effects of Minor Alloying Elements and Impurities on Long-Range Ordering in Ni-Cr-Based Alloys Noah Weible	1:45 – 2:15 PM Intergranular Crack Initiation in FCC Alloys at Advanced Reactor Temperatures Andrew Brittan	1:45 – 2:15 PM Role of Pb in Initiating and Propagating Stress Corrosion Cracks in Cold Worked Alloy 800 Jaganathan Ulaganathan (presented by Nicolas Huin)
2:15 – 2:45 PM Understanding and Assessing Possible Long-Term Aging Effects in Alloy 690 and Its Weld Metals Matthew Olszta	2:15 – 2:45 PM Crack Growth Rate Testing in High Temperature Air and in Molten Flibe Andrew Dong	2:15 – 2:45 PM Probabilistic distribution of SCC growth rates and sensitivity analysis for PFM evaluation Dan Akazawa
2:45 – 3:15 PM Formation of Ni₂Cr in isothermally aged alloys 690, 625 and 625 plus Julie Tucker	2:45 – 3:15 PM NiMo Overlays for Improved Corrosion Resistance in Molten Salts Tim Hall (presented by Maria Inman)	2:45 – 3:15 PM Effect of welding residual stress retained in HAZ specmens on SCC growth rate at low K level Katsuhiko Kumagai
3:15 – 3:30 PM Afternoon Break in Regency Foyer		
Regency A Life Beyond 80	Regency BCH	Regency DEF BWR and Other Chemistry SCC Testing
3:30 – 4:00 PM Long Term Aging Study of Alloys 690, 152, 152M, 52, and 52M exposed to 360°C Simulated PWR Primary Water for 5.7 Years Mychailo Toloczko	No presentation	3:30 – 4:00 PM Stress Corrosion Cracking (SCC) of Warm Worked 304L in CANDU Calandria vessel Environments Stuart Medway

4:00 – 4:30 PM Effect of Long-term Thermal Aging on Microstructure and Mechanical Behavior of A52 Dissimilar Metal Welds Zaiqing Que (presented by Pål Efsing)	No presentation	4:00 – 4:30 PM Effect of thermal aging on susceptibility to SCC initiation in 316L stainless steel with machined surface So Aoki
4:30 – 5:00 PM Long-Term Thermal Aging Behavior of Nickel-Base Alloys William Blankenship	No presentation	4:30 – 5:00 PM Development of a Method for Evaluating SCC Initiation Lifetime of Alloy 82 and Alloy 52 Weld Metals in BWR Environment Takahiro Hayashi
5:30 – 7:00 PM Poster Reception in Beacon Rotunda		
7:00 – 9:00 PM Banquet in Beacon A		

August 14

Thursday

7:00 – 8:30 AM Speaker Breakfast in Beacon B		
Regency A PWR SS Testing	Regency BCH New and Novel Manufacturing Methodologies (AM, HIP, Weld, etc.) - Other	Regency DEF PWR SCC Growth of Ni-Base Alloys (Primary and Secondary)
8:30 – 9:00 AM Stress Corrosion Crack Initiation Behavior of Cold Worked Stainless Steel 304L in Oxygenated PWR Primary Water Ziqing Zhai	8:30 – 9:00 AM Evaluation of Microstructure and Mechanical Properties of Electron Beam Welded XM-19 for Small Modular Reactor Applications Yejin Kweon	8:30 – 9:00 AM Characterization and SCC of Welds and Weld Dilution Zones Peter Andresen
9:00 – 9:30 AM Stress Corrosion Crack Growth Rate Performance of Stainless Steel Heat Affected Zone Material in Deaerated Water David Morton	9:00 – 9:30 AM Corrosion Behavior of Incoloy 800H Welded with Different Filler Materials in Helium Environment under High Temperature Gas Cooled Reactor Conditions Liyang Qiu	9:00 – 9:30 AM Alloy 52i SCC Growth Rate Model Development as a Temperature-Dependent FOI over Alloy 82H Bryce Campbell

<p>9:30 – 10:00 AM</p> <p>Effect of Temperature On Fatigue Threshold and Fatigue Crack Growth at Low Stress Intensities in Hydrogenated Water</p> <p>Tyler Moss</p>	<p>9:30 – 10:00 AM</p> <p>Characterization and performance testing Additively Manufactured Alloy 625 in High Temperature Water</p> <p>James Hall</p>	<p>9:30 – 10:00 AM</p> <p>Evaluation of different SCC propagation laws based on a literature review – case of nickel-based alloy A182</p> <p>Colette Perez</p>
<p>10:00 – 10:30 AM</p> <p>Morning Break in Regency Foyer</p>		
<p>Regency A</p> <p>PWR SS Testing</p>	<p>Regency BCH</p> <p>New and Novel Manufacturing Methodologies - (AM, HIP, Weld, etc.) - PM HIP</p>	<p>Regency DEF</p> <p>PWR SCC Growth of Ni-Base Alloys (Primary and Secondary) and Mechanistic Understanding and Irradiation Damage of Plant Materials</p>
<p>10:30 – 11:00 AM</p> <p>Effects of surface preparation on the oxidation of a 316L stainless steel in PWR primary water</p> <p>Thalita De Paula</p>	<p>10:30 – 11:00 AM</p> <p>Study on the Corrosion/Mechanical Properties of 316H Stainless Steel Cladded by A625 Using the Hot Isostatic Pressing (HIP) Method in Molten Chloride Salt</p> <p>Minsung Hong</p>	<p>10:30 – 11:00 AM</p> <p>Corrosion of steam generator tubes: effects of sulfur and lead on the damage mechanisms</p> <p>Estelle Lagardere</p>
<p>11:00 – 11:30 AM</p> <p>Tailoring Nanoporous Oxides via Anodization for Superior Corrosion Resistance of Stainless Steel in Nuclear Reactor Coolant Systems</p> <p>Surya Prakash Goud Gajagouni</p>	<p>11:00 – 11:30 AM</p> <p>Enabling PM-HIP for Large, Near-Net Shape Parts with an Effective, Selective, and Environmentally-Benign Electrochemical Can Removal Method</p> <p>Katherine Lee</p>	<p>11:00 – 11:30 AM</p> <p>Impact of environment and microstructure on crack initiation in martensitic Cr-steels at room temperature</p> <p>Martin Weiser</p>
<p>No presentation</p>	<p>11:30 AM – 12:00 PM</p> <p>Effect of vacuum heat treatment on the oxygen concentration and microstructural features of 316H stainless steel powder for PM-HIP</p> <p>Arpan Arora</p>	<p>No presentation</p>
<p>end of conference</p>		