

Sunday April 25th

16:30-18:00 Registration (Wood Room)

18:00-20:00 Reception (Wood Room)

Monday April 26th

07:00-08:00 Continental Breakfast (Courtyard Room Foyer)

08:00-10:20 Opening Plenary (Courtyard Room)

Chairs:

- **Daniel Brady** (Natural Resources Canada)
- **Wenquan Shen** (State Nuclear Power Technology Committee)

08:00-08:15 WELCOMING ADDRESS

- **Mary Preville** (Natural Resources Canada)

08:15-08:40 PLENARY TALK 1

- **Tony De Vuono** (Atomic Energy of Canada Limited)

08:40-09:05 PLENARY TALK 2

- **Yanping Huang** (Nuclear Power Institute of China)

09:05-09:30 PLENARY TALK 3

- **Rick Didsbury** (Atomic Energy of Canada Limited)

09:30-09:55 PLENARY TALK 4

- **Cong Li** (State Nuclear Power Technology Committee)

09:55-10:20 PLENARY TALK 5

- **Daniel Brady** (Natural Resources Canada)

10:20-10:55 BREAK

Monday April 26th

10:55-12:10

Material Session 1 (Corrosion)

Room: Courtyard B

Chairs:

- **David Guzonas** (Atomic Energy of Canada Limited)
- **Changchun Ge** (University of Science and Technology Beijing)

10:55-11:20

ASSESSMENT OF CORROSION AND STRESS CORROSION CRACKING RESULTS FOR SCWR DEVELOPMENT: GAPS AND NEEDS

- **Wenyue Zheng** (Natural Resources Canada)
- **Gordon Ping Gu** (Natural Resources Canada)
- **David Guzonas** (Atomic Energy of Canada Limited)
- **Jingli Luo** (University of Alberta)

11:20-11:45

HIGH TEMPERATURE OXIDATION BEHAVIOR OF ODS IRON-BASE ALLOYS FOR NUCLEAR ENERGY APPLICATION

- **Ming Li** (University of Science and Technology Beijing)
- **Zhangjian Zhou** (University of Science and Technology Beijing)
- **Lu Liao** (University of Science and Technology Beijing)
- **Wanhua Chen** (University of Science and Technology Beijing)
- **Changchun Ge** (University of Science and Technology Beijing)

11:45-12:10

CORROSION BEHAVIOR OF P92 IN SUPERCRITICAL WATER

- **Kaiju Yin** (Nuclear Power Institute of China)
- **Shaoyu Qiu** (Nuclear Power Institute of China)
- **Rui Tang** (Nuclear Power Institute of China)
- **Qiang Zhang** (Nuclear Power Institute of China)
- **Lefu Zhang** (Shanghai Jiaotong University)

12:10-13:10

LUNCH (YONGE STREET GRILLE)

Monday April 26th

10:55-12:10

Thermalhydraulics General Session

Room: Courtyard A

Chairs:

- **Dionysius Groeneveld** (University of Ottawa)
- **Qincheng Bi** (Xi'an Jiaotong University)

10:55-11:20

PROGRESS OF THERMAL-HYDRAULIC RESEARCH ON SCWR IN NPIC

- **Yongliang Li** (Nuclear Power Institute of China)
- **Yangping Huang** (Nuclear Power Institute of China)
- **Xiao Yan** (Nuclear Power Institute of China)
- **Daogang Lu** (North China Electric Power University)
- **Xiaokang Zeng** (Nuclear Power Institute of China)
- **Zejun Xiao** (Nuclear Power Institute of China)

11:20-11:45

HEAT-LOSS CALCULATIONS FOR PRESSURE-CHANNEL SCWRs

- **Wargha Peiman** (University of Ontario Institute of Technology)
- **Kamiel Gabriel** (University of Ontario Institute of Technology)
- **Igor Piro** (University of Ontario Institute of Technology)

11:45-12:10

RECENT IMPROVEMENT OF ATHAS CODE FOR SCWR

- **Jianqiang Shan** (Xi'an Jiaotong University)
- **Xuanxiang Chen** (Xi'an Jiaotong University)
- **Junjie Pan** (Xi'an Jiaotong University)
- **Yuanbin Zhu** (Xi'an Jiaotong University)

12:10-13:10

LUNCH (YONGE STREET GRILLE)

Monday April 26th

- 13:10-14:50** **Chemistry Session 1 (Corrosion Product Transport)**
Room: Courtyard B
Chairs:
- **William Cook** (University of New Brunswick)
 - **Xueyuan Zhang** (North China Electric Power University)
- 13:10-13:35** **AN OVERVIEW OF CORROSION PRODUCTS SOLUBILITIES IN SUBCRITICAL AND SUPERCRITICAL WATER**
- **Liyan Qiu** (Atomic Energy of Canada Limited)
 - **David Guzonas** (Atomic Energy of Canada Limited)
- 13:35-14:00** **THE SOLUBILITY OF MAGNETITE AND NICKEL FERRITE UNDER SUPERCRITICAL WATER REACTOR COOLANT CONDITIONS**
- **Francis Brosseau** (University of Guelph)
 - **David Guzonas** (Atomic Energy of Canada Limited)
 - **Peter Tremaine** (University of Guelph)
- 14:00-14:25** **THE DESIGN AND APPLICATION OF A NEW BASSETT-TYPE DIAMOND ANVIL CELL FOR SPECTROSCOPIC ANALYSIS OF SUPERCRITICAL AQUEOUS SOLUTIONS**
- **Alan Anderson** (St. Francis Xavier University)
 - **Peter Meredith** (St. Francis Xavier University)
 - **William Bassett** (Cornell University)
 - **Robert Mayanovic** (Missouri State University)
 - **Chris Benmore** (Argonne National Laboratory)
- 14:25-14:50** **POURBAIX DIAGRAMS FOR IRON, NICKEL, AND CHROMIUM IN SUB-CRITICAL AND SUPERCRITICAL WATER**
- **William Cook** (University of New Brunswick)
 - **Robert Olive** (University of New Brunswick)
- 14:50-15:10** **BREAK**

Monday April 26th

- 13:10-14:50** **Safety Analysis Session**
Room: Courtyard A
Chairs:
- **David Novog** (McMaster University)
 - **Jianqiang Shan** (Xi'an Jiaotong University)
- 13:10-13:35** **RISK ASSESSMENTS AND REGULATORY CONCERNS FOR CANADA'S GEN-IV REACTORS**
- **Ima Ituen** (McMaster University)
 - **David Novog** (McMaster University)
- 13:35-14:00** **LOFA ANALYSIS OF CANDU®-SCWR**
- **Jianqiang Shan** (Xi'an Jiaotong University)
 - **Yang Jiang** (Xi'an Jiaotong University)
- 14:00-14:25** **RESEARCH AND DEVELOPMENT OF ONE DIMENSIONAL TWO-PHASE SYSTEM CODE USED IN PT-SCWR**
- **Ye Tian** (Tsinghua University)
 - **Baoshan Jia** (Tsinghua University)
- 14:25-14:50** **MODELLING AND SIMULATION OF DYNAMIC CHARACTERISTICS OF CANDU®-SCWR**
- **Peiwei Sun** (University of Western Ontario)
 - **Jin Jiang** (University of Western Ontario)
- 14:50-15:10** **BREAK**

Monday April 26th

15:10-16:50

Core Design and Thermo-Cycle

Room: Courtyard B

Chairs:

- **Metin Yetisir** (Atomic Energy of Canada Limited)
- **Bingde Chen** (Nuclear Power Institute of China)

15:10-15:35

CHINESE SCWR R&D IN NPIC

- **Songtao Liu** (Nuclear Power Institute of China)
- **Xiang Li** (Nuclear Power Institute of China)
- **Dong Yao** (Nuclear Power Institute of China)

15:35-16:00

DEVELOPMENT OF OUT-OF-CORE CONCEPTS FOR A SUPERCRITICAL-WATER, PRESSURE-TUBE REACTOR

- **William Diamond** (Atomic Energy of Canada Limited)

16:00-16:25

CYCLE EFFICIENCY AND FLOWRATES IN A SUPERCRITICAL WATER REACTOR: A THERMODYNAMIC ANALYSIS OF THE EFFECTS OF FINAL FEEDWATER TEMPERATURE AND NUMBER OF FEEDWATER HEATERS

- **Matthew Edwards** (Atomic Energy of Canada Limited)
- **William Cook** (University of New Brunswick)

16:25-16:50

NUCLEAR STEAM-REHEAT OPTIONS: RUSSIAN EXPERIENCE

- **Eugene Saltanov** (University of Ontario Institute of Technology)
- **Krysten King** (University of Ontario Institute of Technology)
- **Amjad Farah** (University of Ontario Institute of Technology)
- **Igor Pioro** (University of Ontario Institute of Technology)

16:50

END OF DAY 1

Monday April 26th

15:10-16:50

Reactor Core Physics

Room: Courtyard A

Chairs:

- **Jeremy Pencer** (Atomic Energy of Canada Limited)
- **Liangzhi Cao** (Xi'an Jiaotong University)

15:10-15:35

REACTOR PHYSICS STUDIES FOR A PRESSURE TUBE SUPERCRITICAL WATER REACTOR (PT-SCWR)

- **Peter Boczar** (Atomic Energy of Canada Limited)
- **Wei Shen** (Atomic Energy of Canada Limited)
- **Jeremy Pencer** (Atomic Energy of Canada Limited)
- **Bronwyn Hyland** (Atomic Energy of Canada Limited)
- **Ragnar Dworschak** (Atomic Energy of Canada Limited)

15:35-16:00

RESEARCH ON THERMAL NEUTRON SCATTERING DATA FOR COMPOUNDS

- **Guanbo Wang** (Tsinghua University)
- **Kan Wang** (Tsinghua University)
- **Ganglin Yu** (Tsinghua University)

16:00-16:25

STUDY OF CHARACTERISTICS OF TH-U CYCLE IN CANDU®-SCWR

- **Jianfeng Shi** (Tsinghua University)
- **Gong Shi** (Tsinghua University)

16:25-16:50

SIMULATIONS OF SINGLE PIN CELL AND CANDU®-SCWR LATTICE CELL USING 2D TRANSPORT CODES WIMS AND NEWT

- **Michael McDonald** (McMaster University)
- **David Novog** (McMaster University)

16:50

END OF DAY 1

Tuesday April 27th

- 07:30-08:30** **Continental Breakfast (Courtyard Room Foyer)**
- 08:30-10:10** **Material Session 2 (Radiation and Microstructure Modeling)**
Room: Courtyard B
Chairs:
- **Wenyue Zheng** (Natural Resources Canada)
 - **Zhangjian Zhou** (University of Science and Technology Beijing)
- 8:30-8:55** **STRUCTURE EVOLUTION AND NATURE OF DEFECTS IN BCC IRON BY COLLISION CASCADE FROM MOLECULAR DYNAMICS SIMULATION**
- Jun Cai (North China Electric Power University)
 - Daogang Lu (North China Electric Power University)
 - Yan Ma (North China Electric Power University)
- 8:55-9:20** **MOLECULAR DYNAMICS SIMULATIONS OF DISPLACEMENT CASCADES IN FE-10%CR SYSTEMS**
- Gang Yu (North China Electric Power University)
 - Daogang Lu (North China Electric Power University)
 - Yan Ma (North China Electric Power University)
 - Jun Cai (North China Electric Power University)
 - R. Schaeublin (CRPP - EPFL, Villingen PSI, Switzerland)
- 9:20-9:45** **ELECTRON MICROSCOPY STUDY OF MICROSTRUCTURE OF THE OXIDE-DISPERSION-STRENGTHED STEEL**
- Hui Xing (Shanghai Jiaotong University)
 - Jian Sun (Shanghai Jiaotong University)
 - Zhangjian Zhou (University of Science and Technology Beijing)
- 9:45-10:10** **INFLUENCE OF STRESS ON PRIMARY DEFECT DAMAGE IN A-FE**
- Kevin Boyle (Natural Resources Canada)
 - Ishraq Shabib (Natural Resources Canada)
 - Ronald Miller (Carleton University)
- 10:10-10:30** **BREAK**

Tuesday April 27th

- 07:30-08:30** **Continental Breakfast (Courtyard Room Foyer)**
- 08:30-10:10** **Thermalhydraulics Assessment Session**
Room: Courtyard A
Chairs:
- Igor Pioro (UOIT)
 - Kaiwen Du (China Institute of Atomic Energy)
- 8:30-8:55** **COMPARISON OF SELECTED HEAT-TRANSFER CORRELATIONS FOR SUPERCRITICAL WATER FLOWING UPWARD IN VERTICAL BARE TUBES**
- Amjad Farah (UOIT)
 - Krysten King (UOIT)
 - Sahil Gupta (UOIT)
 - Sarah Mokry (UOIT)
 - Igor Pioro (UOIT)
- 8:55-9:20** **ASSESSMENT OF SUPERCRITICAL HEAT-TRANSFER CORRELATIONS AGAINST AECL DATABASE FOR TUBES**
- Shujun Wang (Atomic Energy of Canada Limited)
 - Lanqin Yuan (Atomic Energy of Canada Limited)
 - Laurence Leung (Atomic Energy of Canada Limited)
- 9:20-9:45** **COMPARISON OF THE HEAT TRANSFER CHARACTERISTICS OF SUPERCRITICAL PRESSURE WATER TO THAT OF SUBCRITICAL PRESSURE WATER IN VERTICALLY-UPWARD TUBES**
- Jianguo Wang (Xi'an Jiaotong University)
 - Huixiong Li (Xi'an Jiaotong University)
 - Shuiqing Yu (Xi'an Jiaotong University)
 - Tingkuan Chen (Xi'an Jiaotong University)
- 9:45-10:10** **COMPARATIVE STUDY AND ADVANCEMENT ON A SUPERCRITICAL-WATER HEAT-TRANSFER CORRELATION FOR VERTICAL BARE TUBES**
- Sarah Mokry (UOIT)
 - Amjad Farah (UOIT)
 - Sahil Gupta (UOIT)
 - Krysten King (UOIT)
 - Igor Pioro (UOIT)
- 10:10-10:30** **BREAK**

Tuesday April 27th

- 10:30-12:10** **Chemistry Session 2 (Radiolysis and Chemistry Control)**
Room: Courtyard B
Chairs:
- Peter Tremaine (University of Guelph)
 - Yan Ma (North China Electric Power University)
- 10:30-10:55** **STRATEGIES FOR CORROSION MONITORING AND CONTROL IN A CANDU®-SCWR**
- David Guzonas (Atomic Energy of Canada Limited)
 - Matt Edwards (Atomic Energy of Canada Limited)
- 10:55-11:20** **MONTE-CARLO SIMULATION OF THE RADIOLYSIS OF SUPERCRITICAL WATER AT 400 °C AND LIQUID-LIKE DENSITIES**
- Jintana Meesungnoen (University of Sherbrook)
 - Sunuchakan Sanguanmith (University of Sherbrook)
 - David Guzonas (Atomic Energy of Canada Limited)
 - Craig R. Stuart (Atomic Energy of Canada Limited)
 - Jean-Paul Jay-Gerin (University of Sherbrook)
- 11:20-11:45** **CHEMICAL KINETICS IN H₂O AND D₂O UNDER HYDROTHERMAL CONDITIONS**
- Khashayar Ghandi (Mount Allison University)
 - Christopher Alcorn (Mount Allison University)
 - Gwen Legate (Mount Allison University)
 - Paul Percival (Simon Fraser University)
 - Jean-Claude Brodovitch (Simon Fraser University)
- 11:45-12:10** **FLOW REACTOR STUDIES OF HYDRAZINE STABILITY UNDER HYDROTHERMAL CONDITIONS RELEVANT TO AN SCWR**
- Igor Svishchev (Trent University)
 - Andriy Plugatyr (Trent University)
 - David Guzonas (Atomic Energy of Canada Limited)
- 12:10-13:10** **LUNCH (YONGE STREET GRILLE)**

Tuesday April 27th

- 10:30-12:10** **SCW Experiment Session**
Room: Courtyard A
Chairs:
- Laurence Leung (Atomic Energy of Canada Limited)
 - Yanping Huang (Nuclear Power Institute of China)
- 10:30-10:55** **EXPERIMENTAL INVESTIGATION ON HEAT TRANSFER OF SUPERCRITICAL PRESSURE WATER IN ANNULAR CHANNEL**
- Gang Wu (Xi'an Jiaotong University)
 - Qincheng Bi (Xi'an Jiaotong University)
 - Zhendong Yang (Xi'an Jiaotong University)
 - Mingling Li (Xi'an Jiaotong University)
- 10:55-11:20** **HEAT TRANSFER AND TURBULENCE MEASUREMENTS IN SUPERCRITICAL PRESSURE WATER**
- Jeremy Licht (Atomic Energy of Canada Limited)
 - Mark Anderson (University of Wisconsin-Madison)
 - Michael Corradini (University of Wisconsin-Madison)
- 11:20-11:45** **PROGRESS ON THE INSULATED FUEL CHANNEL EXPERIMENTS FOR SUPERCRITICAL WATER-COOLED REACTORS**
- Jeremy Licht (Atomic Energy of Canada Limited)
- 11:45-12:10** **PROGRESS ON THE RESEARCH OF THERMAL-HYDRAULICS FOR SCWR IN CIAE**
- Yuzhou Chen (China Institute of Atomic Energy)
 - Chunsheng Yang (China Institute of Atomic Energy)
 - Minfu Zhao (China Institute of Atomic Energy)
 - Kaiwen Du (China Institute of Atomic Energy)
 - Shuming Zhang (China Institute of Atomic Energy)
- 12:10-13:10** **LUNCH (YONGE STREET GRILLE)**

Tuesday April 27th

13:10-14:50

Material Session 3 (Corrosion 2)

Room: Courtyard B

Chairs:

- **Jingli Luo** (University of Alberta)
- **Jian Sun** (Shanghai Jiaotong University)

13:10-13:35

STEEL CORROSION IN SUPERCRITICAL WATER: AN ASSESSMENT OF THE KEY PARAMETERS

- **David Guzonas** (Atomic Energy of Canada Limited)
- **John Wills** (Atomic Energy of Canada Limited)
- **Holly Dole** (Atomic Energy of Canada Limited)
- **Jennifer Michel** (Atomic Energy of Canada Limited)
- **Sooinn Jang** (Atomic Energy of Canada Limited)
- **Meghan Haycock** (Atomic Energy of Canada Limited)
- **Maris Chutumstid** (Atomic Energy of Canada Limited)

13:35-14:00

CORROSION TESTS OF CANDIDATE FUEL CLADDING AND REACTOR INTERNAL STRUCTURAL MATERIALS

- **Lefu Zhang** (Shanghai Jiaotong University)
- **Fawen Zhu** (Shanghai Jiaotong University)
- **Yichen Bao** (Shanghai Jiaotong University)
- **Rui Tang** (Nuclear Power Institute of China)

14:00-14:25

CORROSION DATABASE FOR SCWR DEVELOPMENT

- **Gordon Ping Gu** (Natural Resources Canada)
- **Wenyue Zheng** (Natural Resources Canada)
- **David Guzonas** (Atomic Energy of Canada Limited)

14:25-14:50

PRELIMINARY STUDY OF OXIDATION MECHANISMS OF HIGH CR STEELS IN SUPERCRITICAL WATER

- **Dorota Artymowicz** (University of Toronto)
- **C Andrei** (McMaster University)
- **J Huang** (McMaster University)
- **Jamie Miles** (University of New Brunswick)
- **William Cook (University of New Brunswick)**
- **Gianluigi Botton** (McMaster University)
- **Roger Newman** (University of Toronto)

14:50-15:10

BREAK

Tuesday April 27th

13:10-14:50

Coupled Neutronic/Thermalhydraulic Analysis

Room: Courtyard A

Chairs:

- **Wei Shen** (Atomic Energy of Canada Limited)
- **Ganglin Yu** (Tsinghua University)

13:10-13:35

CORE AND SUB-CHANNEL ANALYSIS OF SCWR WITH MIXED SPECTRUM CORE

- **Xiaojing Liu** (Shanghai Jiaotong University)
- **Ting Yang** (Shanghai Jiaotong University)
- **Xu Cheng** (Shanghai Jiaotong University)

13:35-14:00

A CORE DESIGN STUDY OF CANDU-SCWR BY THREE-DIMENSIONAL NEUTRONICS/THERMAL-HYDRAULICS COUPLING

- **Liangzhi Cao** (Xi'an Jiaotong University)
- **Ping Yang** (Xi'an Jiaotong University)
- **Hongchun Wu** (Xi'an Jiaotong University)

14:00-14:25

COMPARISONS OF THERMAL SCWR ASSEMBLY DESIGNS BY IN- OR INTER-ASSEMBLY MODERATION

- **Peng Zhang** (Tsinghua University)
- **Kan Wang** (Tsinghua University)

14:25-14:50

MODELS FOR SAFETY ANALYSIS OF THE GENERATION IV SUPERCRITICAL WATER-COOLED REACTOR

- **Geneviève Harrisson** (Ecole Polytechnique de Montreal)
- **Guy Marleau** (Ecole Polytechnique de Montreal)

14:50-15:10

BREAK

Tuesday April 27th

- 15:10-16:50** **Material Session 4 (Mechanical Properties)**
Room: Courtyard B
Chairs:
- **Selcuk Kuyucak** (Natural Resources Canada)
 - **Xiao Huang** (Carleton University)
- 15:10-15:35** **CHALLENGES IN MECHANICAL PERFORMANCE OF MATERIALS IN SCWR**
- **Famarz Zarandi** (Natural Resources Canada)
 - **William Tyson** (Natural Resources Canada)
- 15:35-16:00** **HIGH-TEMPERATURE STRESS RUPTURE PERFORMANCE OF HASTELLOY C-276**
- **Yan Ma** (North China Electric Power University)
 - **Daogang Lu** (North China Electric Power University)
- 16:00-16:25** **THE RECENT DEVELOPMENT OF FABRICATION OF ODS FERRITIC STEELS FOR SUPERCRITICAL WATER-COOLED REACTORS CORE APPLICATION**
- **Zhangjian Zhou** (USTB)
 - **Ming Li** (USTB)
 - **Lu Liao** (USTB)
 - **Xing Liu** (USTB)
 - **P He** (USTB)
 - **Yingli Xu** (USTB)
 - **Wanhua Chen** (USTB)
 - **Changchun Ge** (USTB)
- 16:25-16:50** **TESTING OF ULTRAFILTRATION MEMBRANES FOR APPLICATION IN GENERATION IV- SUPER CRITICAL WATER REACTOR**
- **Pascal Mertins** (University of Saskatoon)
 - **Janusz Kozinski** (University of Saskatoon)
 - **Ian Butler** (McGill University)
 - **Dominic Ryan** (McGill University)
 - **Sikun Xu** (Atomic Energy of Canada Limited)
- 16:50-18:00** **END OF DAY-2 SESSIONS**
- 18:00-18:30** **PRE-BANQUET GATHERING (WOOD ROOM FOYER)**
- 18:30-21:00** **WORKSHOP BANQUET (WOOD ROOM)**
- **Speaker: Edward Malison** (Centerline (Windsor) Limited)

Tuesday April 27th

- 15:10-16:50** **Hydrogen Production**
Room: Courtyard A
Chairs:
- **Sellathurai Suppiah** (Atomic Energy of Canada Limited)
 - **Zhaolin (Forest) Wang** (University of Ontario Institute of Technology)
- 15:10-15:35** **NUCLEAR HYDROGEN PRODUCTION SUITED FOR CANADIAN SUPERCRITICAL WATER-COOLED REACTORS**
- **Sellathurai Suppiah** (Atomic Energy of Canada Limited)
 - **Lorne Stolberg** (Atomic Energy of Canada Limited)
 - **Sandra York** (Atomic Energy of Canada Limited)
 - **Alexi Shkarupin** (Atomic Energy of Canada Limited)
- 15:35-16:00** **ASPECTS OF HYDROGEN CO-GENERATION USING A THERMOCHEMICAL CYCLE LINKED TO A SUPERCRITICAL WATER-COOLED NUCLEAR REACTOR**
- **Andrew Lukomski** (University of Ontario Institute of Technology)
 - **Igor Pioro** (University of Ontario Institute of Technology)
 - **Kamiel Gabriel** (University of Ontario Institute of Technology)
- 16:00-16:25** **DEGRADATION OF MATERIALS UNDER CONDITIONS OF THERMOCHEMICAL CYCLES FOR HYDROGEN PRODUCTION**
- **Stan Klimas** (Atomic Energy of Canada Limited)
 - **Henry Searle** (Atomic Energy of Canada Limited)
 - **Lorne Stolberg** (Atomic Energy of Canada Limited)
- 16:25-16:50** **THERMAL INTEGRATION OF SCWR NUCLEAR AND THERMOCHEMICAL HYDROGEN PLANTS**
- **Zhaolin (Forest) Wang** (University of Ontario Institute of Technology)
 - **Greg Naterer** (University of Ontario Institute of Technology)
 - **Kamiel Gabriel** (University of Ontario Institute of Technology)
- 16:50-18:00** **END OF DAY-2 SESSIONS**
- 18:00-18:30** **PRE-BANQUET GATHERING (WOOD ROOM FOYER)**
- 18:30-21:00** **WORKSHOP BANQUET (WOOD ROOM)**
- **Speaker: Edward Malison** (Centerline (Windsor) Limited)

Wednesday April 28th

07:30-08:30 Continental Breakfast (Alexander Room Foyer)

08:30-10:10 Material Session 5 (Cracking and Coating)

Room: Alexander A

Chairs:

- Jian Li (Natural Resources Canada)
-

8:30-8:55 POTENTIAL USE OF CERAMIC MATERIALS FOR SUPERCRITICAL WATER-COOLED REACTORS

- Blaine Geddes (Carleton University)
- Xiao Huang (Carleton University)
- David Guzonas (Atomic Energy of Canada Limited)

8:55-9:20 DEVELOPMENT OF CERAMIC COATINGS FOR METALLIC COMPONENTS IN SUPERCRITICAL WATER-COOLED REACTORS

- Chunwen Sun (National Research Council)
- Yongsong Xie (National Research Council)
- Peter Yao (National Research Council)
- Lefu Zhang (Shanghai Jiaotong University)
- Jamie Miles (University of New Brunswick)
- William Cook (University of New Brunswick)
- Rob Hui (National Research Council)

9:20-9:45 STRESS CORROSION CRACKING OF 316 SS AND ALLOY 625 IN SUPERCRITICAL WATER

- Zhuoyuan Chen (University of Alberta)
- Jingli Luo (University of Alberta)
- Weixing Chen (University of Alberta)
- Wenyue Zheng (Natural Resources Canada)
- David Guzonas (Atomic Energy of Canada Limited)

9:45-10:10 DELAYED HYDRIDE CRACKING AND ELASTIC PROPERTIES OF EXCEL, A CANDIDATE CANDU-SCWR PRESSURE TUBE MATERIALS

- Zhengliang Pan (Atomic Energy of Canada Limited)

10:10-10:30 BREAK

Wednesday April 28th

07:30-08:30 Continental Breakfast (Alexander Room Foyer)

08:30-10:10 Surrogate Fluid Heat Transfer Session

Room: Alexander B

Chairs:

- Jeremy Licht (Atomic Energy of Canada Limited)
- Huixiong Li (Xi'an Jiaotong University)

8:30-8:55 CONSTRUCTION OF A FLOW LOOP FOR SUPERCRITICAL HEAT TRANSFER EXPERIMENTS

- Loubna Jeddi (University of Ottawa)
- Stavros Tavoularis (University of Ottawa)
- Dionysius Groeneveld (University of Ottawa)

8:55-9:20 HEAT TRANSFER IN A VERTICAL 7-ELEMENT BUNDLE COOLED WITH SUPERCRITICAL FREON-12

- Graham Richards (UOIT)
- Ashley Milner (UOIT)
- Caleb Pascoe (UOIT)
- Hemal Patel (UOIT)
- Wargha Peiman (UOIT)
- Eugene Saltanov (UOIT)
- R.S. Pomet'ko (Institute of Physics and Power Engineering)
- A.N. Opanasenko (Institute of Physics and Power Engineering)
- A.S. Shelegov (IATE)
- P.L. Kirillov (Institute of Physics and Power Engineering)
- Igor Pioro (UOIT)

9:20-9:45 FLUID-TO-FLUID SCALING OF HEAT TRANSFER IN SUPERCRITICAL FLUIDS

- Xu Cheng (Shanghai Jiaotong University)
- Xiaojing Liu (Shanghai Jiaotong University)
- H Gu (Shanghai Jiaotong University)

9:45-10:10 LOOK-UP TABLE FOR TRANS-CRITICAL HEAT TRANSFER

- Hussam Zahlan (University of Ottawa)
- Dionysius Groeneveld (University of Ottawa)
- Stavros Tavoularis (University of Ottawa)

10:10-10:30 BREAK

Wednesday April 28th

10:30-12:10

Applications

Room: Alexander A

Chairs:

- **Jonathan Tyo** (Atomic Energy of Canada Limited)
- **Yanhua Yang** (Shanghai Jiaotong University)

10:30-10:55

SUPER CRITICAL WATER REACTOR FOR USE IN STEAM GENERATION FOR RECOVERY OF BITUMEN RESOURCES

- **Jonathan Tyo** (Atomic Energy of Canada Limited)
- **Tracy Zhou** (Atomic Energy of Canada Limited)
- **Madan Dhawan** (Atomic Energy of Canada Limited)
- **Robert Bodner** (Atomic Energy of Canada Limited)
- **Cathy Cottrell** (Atomic Energy of Canada Limited)
- **Sermet Kuran** (Atomic Energy of Canada Limited)

10:55-11:20

CLEAN ENERGY AND HYDROGEN FOR OIL SANDS DEVELOPMENT WITH CANDU SCWR NUCLEAR REACTORS AND CU-CL CYCLES

- **Zhaolin (Forest) Wang** (UOIT)
- **Greg Naterer** (UOIT)
- **Kamiel Gabriel** (UOIT)

11:20-11:45

NUCLEAR-PRODUCED HYDROGEN BY A THERMOCHEMICAL CU-CL PLANT FOR PASSENGER HYDROGEN TRAINS

- **Gabriel Marin** (UOIT)
- **Greg Naterer** (UOIT)
- **Kamiel Gabriel** (UOIT)

11:45-12:10

THERMAL ASPECTS OF MIXED OXIDE FUEL IN APPLICATION TO SUPERCRITICAL WATER-COOLED NUCLEAR REACTORS

- **Lisa Grande** (UOIT)
- **Wargha Peiman** (UOIT)
- **Adrianexy Rodriguez-Prado** (UOIT)
- **Bryan Villamere** (UOIT)
- **Sally Mikhael** (UOIT)
- **Leyland Allison** (UOIT)
- **Igor Pioro** (UOIT)

12:10-13:10

LUNCH (YONGE STREET GRILLE)

Wednesday April 28th

10:30-12:10

General

Room: Alexander B

Chairs:

- **Yang Ruan** (Atomic Energy of Canada Limited)
- **Yuzhou Chen** (China Institute of Atomic Energy)

10:30-10:55

PRELIMINARY ANALYSIS OF CANDIDATE ALLOYS FOR USE IN THE CANDU®-SCWR

- **William Cook** (University of New Brunswick)
- **Jamie Miles** (University of New Brunswick)
- **Jian Li** (Natural Resources Canada)
- **Selcuk Kuyucak** (Natural Resources Canada)
- **Wenyue Zheng** (Natural Resources Canada)

10:55-11:20

A COMPARATIVE STUDY ON HYDRAULIC FEATURES OF SUPERCRITICAL WATER NATURAL AND FORCED CIRCULATION LOOPS

- **Bo Kuang** (Shanghai Jiaotong University)
- **Li-Guo Du** (East China Electric Power Design Institute)

11:20-11:45

TREATMENT OF NEUTRON CROSS-SECTION WITH INTERPOLATION

- **Xiang Zhang** (Tsinghua University)
- **Ganglin Yu** (Tsinghua University)
- **Guangwen Bi** (Shanghai Nuclear Engineering Research and Design Institute)
- **Kan Wang** (Tsinghua University)

12:10-13:10

LUNCH (YONGE STREET GRILLE)

Wednesday April 28th

13:10-14:50 **Panel Discussion**
(Alexander Room)

13:10-13:35 CHAIR PERSONS REPORT ON SESSION HIGHLIGHT

13:35-14:00 PARTICIPANTS COMMENTS

14:00-14:25 COLLABORATION DISCUSSIONS

14:25-14:50 CLOSING

Thursday April 29th

**07:30-20:00 FIRST DAY TECHNICAL TOUR
(REGISTERED PARTICIPANTS ONLY)**

- 07:30** Departure from Courtyard Marriott Hotel
- 7:30-12:30** Travel to Ottawa
- 12:30-13:30** Lunch
- 13:30-14:30** Tour of Parliament Hill and meet with Senator J. Day
- 14:30-16:30** Tour of Material Technology Laboratory (Ottawa)
- 16:30-18:00** Travel to Pembroke
- 18:00-20:00** Dinner in Pembroke
- 20:00** Check in at Pembroke Best Western Hotel

Friday April 30th

**07:30-19:30 SECOND DAY TECHNICAL TOUR
(REGISTERED PARTICIPANTS ONLY)**

- 07:30** Departure from Pembroke Best Western Hotel
- 7:30-8:15** Travel to Chalk River
- 08:15-08-45** Check-in at AECL
- 08:45-12:00** Tour of AECL Chalk River Laboratories
- 12:00-13:00** Lunch
- 13:00-14:30** Tour of AECL Chalk River Laboratories
- 14:30-19:30** Travel to Toronto
- 19:30** Technical tour end at Courtyard Marriott Hotel