もうひとつ、地球をつくるとしたら。

「前例がない」と経験が言いました。「難しい」と困難が言いました。「不可能だ」と理性が言いました。
「面白そうだ」と想像力が言いました。「やってみよう」と行動力が言いました。
もうひとつ、地球をつくる。私たちは変わっていくことを選択しました。
歴史をつくれた重工業会社は、未来をつくるクリエイティブ集団へ。
グループ各社のスタッフひとりひとりの力を結集し、
「IHIグループ」として、時代のニーズに応えていきます。
世界で、宇宙で培った「想像力」と「行動力」で、世界にたたたひとつの「IHIグループ」へ。

IHIグループのあたらしい未来、はじめました。
## Contents

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ICONE-20 Call for Paper ................................................................................................. 50
Welcome to the 19th International Conference on Nuclear Engineering.

On March 11th, the northern part of the main island of Japan was hit by a massive earthquake, and the ensuing Tsunami occurred by the earthquake devastated the area killing and injuring numerous people and wreaked havoc on its infrastructure. Furthermore, Fukushima Daiichi nuclear power plants of Tokyo Electric Power Company (TEPCO) were heavily damaged, therefore, we concluded to suspend the ICONE19 in Makuhari this May. We have discussed the alternative ICONE19 and we decided to hold the ICONE19 in Osaka this October.

More than 7 months have passed since the earthquake, but there still remain many people evacuating from their home-town. Concerning Fukushima Daiichi nuclear power plants, every effort has been taken to restore with all Japan’s wisdom and technology.

Now in Japan, a lot of discussions concerning future nuclear power are taken place at various levels.

JSME has set up the special taskforce to investigate various issues that JSME should suggest with regard to this accident.

Atomic Energy Commission of Japan re-started discussing about the “Framework for Nuclear Energy Policy” under the circumstances that the issues surrounding the nuclear power of Japan is largely changed.

The ICONE19 in Osaka has set the plenary session including the special session regarding the current status of Fukushima Daiichi nuclear power plants.

This is the disaster which influence the various aspects of nuclear industry. I believe it’s worthy of considering about the way of proceeding future of nuclear for every person who is engaged in nuclear industry, and I hope ICONE19 will give you a chance.

Hideaki Suzuki
General Conference Chairperson
Fellow of the The Japan Atomic Power Company
Welcome to the 19th International Conference on Nuclear Engineering from TPC

The 19th International Conference on Nuclear Engineering (ICONE19) has been announced to be held at Makuhari, Chiba on this May. However, the conference was suspended due to the severe damage of TEPCO's Fukushima Dai-ichi nuclear power plants by the Tohoku district-off the Pacific Ocean earthquake and Tsunami with consideration of a hard situation of Japanese nuclear community.

The suspension of the conference was hard to accept for the Technical Program Committee (TPC) because the preparation of the program, session assignments, proceedings, etc. for the conference was almost completed before the earthquake. Nevertheless, the proceedings have been decided to publish with a large number of precious papers submitted, and then the CD including over the 400 papers has been distributed to the registered authors on this summer.

The number of submittals of abstract, draft papers and final papers was 1,058, 704 and 506, respectively.

In the mean time, JSME has discussed the alternative ICONE19. Finally, JSME decided to hold the ICONE19 in Osaka (ICONE19 Osaka) this October. The ICONE19 Osaka is planning to hold the plenary session including the special session regarding the current situation of TEPCO's Fukushima Dai-ichi nuclear power plants. In addition to that, the technical sessions have the oral and poster presentations of the papers included in the ICONE19 proceedings (CD).

TPC highly appreciates a lot of efforts of track leaders for calling for abstracts, reviewing papers, etc. and cooperation with our the operation of conference.

Oct. 6, 2011
Fumio Kasahara
Chair of Technical Program Committee
Senior Counselor of the Japan Nuclear Energy Safety Organization
ICONE-19 Organization

Honorary Chairperson
Mykola Kulinich  Ambassador of Ukraine to Japan, Ukraine
Alexander Bychkov  Deputy Director General, International Atomic Energy Agency (IAEA)
John Ritch  Director General, World Nuclear Association
Ganjie LI  Ministry of Environmental Protection, China

General Conference Chairperson
Hideaki Suzuki  Fellow, The Japan Atomic Power Company, Japan
Jack Allen  President, Westinghouse Japan
Zengguang Lei  Chief Engineer, LEI China National Nuclear Corporation, China

Steering Committee
Chairperson
Yoshitaka Tatsumi  The Japan Atomic Power Company, Japan
Romney Duffey  Principal Scientist, AECL, Canada
Ivan Foltov  First Vice-President, National Nuclear Energy Generating Company, Ukraine

Co-Chairperson
Kazuhiro Yamamoto  The Japan Atomic Power Company, Japan
Stephen Kidd  Deputy Director General, World Nuclear Association, UK
Guanghui Su  Professor, Xi'an Jiaotong University, China

Members
Masanori Aritomi  Professor, Tokyo Institute of Technology, Japan
Yasuo Koizumi  Professor, Shinsyu University, Japan
Naoki Chigusa  Kansai Electric Power Company, Japan
Yuichiro Yoshimoto Technical Executive, Hitachi-GE Nuclear Energy, Ltd., Japan
Kazuyuki Takase  Japan Atomic Energy Agency, Japan
Dmitry Paramonov  Westinghouse, USA
Taras Kostyuk  Vice President, Canada Ukraine Chamber of Commerce, CEO, Advanced Energy Technologies Consulting, Inc., Canada

Technical Program Committee
Chairperson
Fumio Kasahara  Senior Counselor, Japan Nuclear Energy Safety Organization, Japan
Asif Arastu  Bechtel Power Corporation, USA
Xinrong Liu  China Nuclear Power Engineering Co., Ltd., China

Assistant Chairperson
Zenichi Ogiso  Japan Nuclear Energy Safety Organization, Japan
Hiroshige Kikura  Professor, Tokyo Institute of Technology, Japan
Tomio Okawa  Professor, The University of Electro-Communications, Japan
Jovica Riznic  Canadian Nuclear Safety Commission, Canada
Liangzhi CAO  Professor, Xi'an Jiaotong University, china

Local Organizing Committee
Chairperson
Hideaki Suzuki  The Japan Atomic Power Company

Co-Chairperson
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Tomio Okawa  The University of Electro-Communications
Koji Okamoto  The University of Tokyo
Susumu Ozaki  OCL Corporation
Hiroshige Kikura  Tokyo Institute of Technology
Sumio Fujii  Mitsubishi Heavy Industries, Ltd.
Robert Tsai  Exelon

Members
Nobuo Ishizuka  Japan Atomic Industrial Forum, Inc.
Hiroshi Uetsuka  Japan Atomic Energy Agency
Kenji Urase  Hitachi-GE Nuclear Energy, Ltd.
Toshiyuki Oshima  Nuclear and Industrial Safety Agency
Izumi Kinoshita  Central Research Institute of Electric Power Company Industry
Toru Kanazawa  Global Nuclear Fuel Japan
Kenichi Kubota  Toshiba Corporation
Satoshi Kurata  Chubu Electric Power Company
Sadayuki Kuramoto  Electric Power Development Co., Ltd.
Masao Kuroda  Japan Power Engineering and Inspection Corporation
Muneki Sakata  CDaES (CD-Adapco Co. Ltd. Japan Office)
Masaki Tsuyama  The Japan Electrical Manufacturers' Association
Takashi Dodo  Japan Nuclear Technology Institute
Yoshihiro Tomioka  The Federation of Electric Power Companies of Japan
Toshiya Miki  Fuji Electric Systems
Yukihiro Iguchi  Japan Nuclear Energy Safety Organization
Takao Ikeda  JGC Corporation
Masaaki Kitayama  Nuclear Fuel Industries, Ltd.
Hiroyuki Tsuchi  Nuclear Waste Management Organization of Japan
Yusuke Inagaki  Radioactive Waste Management Funding and Research Center
Akitoshi Hotta  Tepco Systems Corporation
Aleksandr Kroshilin  All-Russian Research Institute for NPP Operation
Pavel Poluektov  Bochvar Institute
Igor Pioro  University of Ontario Institute of Technology
Joe Miller  EDA Inc.
Richard Schultz  Idaho National Laboratory

ICONE19 Osaka Local Organizing & Technical Program Committee
Chairperson
Yasuo Koizumi  Shinsyu University

Secretariat
Tetsuaki Takeda  University of Yamanashi
Tomio Okawa  The University of Electro-Communications

Member
Isao Kataoka  Osaka University
Akira Yamaguchi  Osaka University
Hiroshi Horiike  Osaka University
Kenji Yoshida  Osaka University
Takashi Takata  Osaka University
Eiji Hoashi  Osaka University
Yutaka Oda  Osaka University
Hisashi Umekawa  Kansai University
Ryosuke Matsumoto  Kansai University
Takeyuki Ami  Kansai University
Fumio Kasahara  Japan Nuclear Energy Safety Organization
Kazuhiko Yamamoto  The Japan Atomic Power Company
Hiroshige Kikura  Tokyo Institute of Technology
Hedeo Otake  The Japan Society of Mechanical Engineers
Saori Kawasaki  The Japan Society of Mechanical Engineers
Program Overview

Oct. 24, Monday
Registration
8:30 – 18:00

Opening Session
10:00 – 11:00
Chairs Yasuo Koizumi, Shinshu Univ., Japan
Stephen Kidd, WNA, UK
Guanghui Su, Xi'an Jiaotong Univ., China
Masanori Aritomi, Tokyo Institute of Technology, Japan
Stephen Kidd, Deputy Director General, WNA, UK
Changxin Liu, Deputy Secretary General, CNS, China

Keynote Session
11:00 – 13:00
Chairs Kazuhiko Yamamoto, The Japan Atomic Power Company, Japan
Asif Arastu, Bechtel Power Corporation, USA
Changxin Liu, CNS, China
Shunsuke Kondo, Chairman of the Japan Atomic Energy Commission, Japan
Nils Diaz, Managing Director, The ND2 Group, LLC, (past Chairman U.S. Nuclear Regulatory Commission), USA
Xiaoming Li, General Manager Assistant, China National Nuclear Corporation, China

Lunch
13:00 – 14:30

Plenary Session I
14:30 – 17:00
Chairs Yutaka Abe, Univ. of Tsukuba, Japan
Igor Pioro, Univ. of Ontario Institute of Technology, Canada
Changxin Liu, CNS, China
Shigeaki Tsunoyama, President, Aizu University, Japan
Romney Duffy, Principal Scientist, Atomic Energy of Canada Ltd. (retired), Canada
Danrong Song, Professor, Nuclear Power Institute of China, China

Technical Sessions 24A-1, 24B-1, 24C-1 and 24D-1
11:10 – 13:10
Technical Sessions 24A-2, 24B-2, 24C-2 and 24D-2
14:00 – 16:00

Technical Sessions 24A-3, 24B-3, 24C-3 and 24D-3
16:00 – 18:00

Banquet
18:30 – 20:30
Chair Tetsuaki Takeda, Univ. of Yamanashi, Japan
ICONE20 Introduction by ASME
Welcome Speech from Osaka University by Prof. Tomoyuki Kakeshita,
Dean of Graduate School of Engineering, Osaka University

Oct. 25, Tuesday
Registration
8:30 – 13:00

Plenary Session II
9:00 – 11:30
Chairs Fumio Kasahara, JNES, Japan
Joseph Miller, Principle Engineer and President of EDA Inc., USA
Danrong Song, Professor, Nuclear Power Institute of China, China
Kunihisa Soda, Fellow, Japan Atomic Energy Agency (past Deputy Chair, Nuclear Safety
Commission), Japan
Jack DeVine, Senior Vice President, Worley Parsons, USA
Guanghui Su, Professor, Xi'an Jiaotong University, China

9:00 – 11:00

Lunch
11:30 – 13:00
Fukushima Session

Fukushima Report
13:00 – 14:00
Chair Masahiro Osakabe, Tokyo Univ. of Marine Science and Technology, Japan
Koji Okamoto, Professor, the University of Tokyo, Japan

Forum: Lessons Learned From Fukushima and Global Initiatives
14:00 – 15:30
Chairs Masahiro Osakabe, Tokyo Univ. of Marine Science and Technology, Japan
Jovica Riznic, Commissioner, Canadian Nuclear Safety Commissioner, Canada
Richard Schultz, Consulting Engineer, INL, USA
Panelists
Wataru Mizumachi, IAEA, NEA ISOE Committee 7th Chairman, Technical Adviser, JNES, Japan
Koji Okamoto, Professor, the University of Tokyo, Japan
Salomon Levy, Owner, Levy & Associates (past General Manager, Boiling Water Reactor Operations, General Electric Co.)
Bryan Erler, Erler Engineering Ltd., USA
Changxin Liu, Deputy Secretary General, CNS, China

Closing
15:30
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<tr>
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Technical Sessions
Oct.24th

Session 24 A-1 (11:10 · 13:10)
Session Chair, Co-chair
Satoshi Kurata, Chubu Electric Power Co., Inc.

TRK 1 Plant Operations, Maintenance, Engineering, Modifications, Life Cycle and Balance of Plant Expand All Sessions In Track
Track Chair: Satoshi Kurata, Chubu Electric Power Co., Inc.
Track Co-Chair: Koji Yamada, Chubu Electric Power Co., Inc.
Track Co-Chair: Motonari Haraguchi, Hitachi Ltd.
Track Co-Chair: Joe Miller, EDA, Inc.
Track Co-Chair: Xinrong LIU, China Nuclear Power Engineering Co., Ltd

ICONE19 · 44012
NUCLEAR POWER PLANT PERFORMANCE MONITORING USING DATA VALIDATION AND RECONCILIATION (DVR) – APPLICATION AT THE BRAZILIAN ANGRA 2 PWR PLANT
Anh Tho Tran Quang, BELSIM S.A.

ICONE19-43133
Applying the Real Options Approach on Nuclear Power Project Decision Making
Haitao Song, State Nuclear Power Engineering Corporation (China)

ICONE19-43948
DEVELOPING MAINTENANCE TECHNOLOGIES FOR FBR’s HEAT EXCHANGER UNITS by ADVANCED LASER PROCESSING
Akihiko NISHIMURA, Japan Atomic Energy Agency

ICONE19-43397
Study on Comprehensive and coordination construction and operation mode of nuclear power plant to power grid
Wang Lu, GuangDong Electrical Design Institute(GEDD), China
ICONE19-43398
USING THREE-DIMENSION VIRTUAL REALITY MAIN CONTROL ROOM FOR INTEGRATED SYSTEM VALIDATION AND HUMAN RELIABILITY ANALYSIS
Chih-Wei Yang, Institute of Nuclear Energy Research, Taiwan

TRK 2 Component Reliability and Materials Issues Expand All Sessions In Track
Track Chair: Hidenori Takahashi, Toshiba
Track Co-Chair: yoshihiro isobe, nuclear fuel industries ltd.
Track Co-Chair: chiaki kato, Japan Atomic Energy Agency
Track Co-Chair: Jovica Riznic, Canadian Nuclear Safety Commission
Track Co-Chair: Guoqiang Wang, Westinghouse Electric Company LLC
Track Co-Chair: Eberhard Altstadt, Helmholtz-Zentrum Dresden-Rossendorf
Track Co-Chair: Wei Huang, Nuclear Power Institute of China

ICONE19-43194
EFFECT OF THERMO-MECHANICAL PROCESSING VARIABLES ON MICROSTRUCTURE, TEXTURE AND PROPERTIES OF COLD WORKED ZR-2.5NB ALLOY DURING FABRICATION OF PRESSURE TUBE FOR PHWR
Nudurupati Saibaba, Nuclear Fuel Complex, Hyderabad, India

ICONE19-43291
Development of laser peening technology for low pressure turbine blades
Itaru Chida, Toshiba Corporation

ICONE19-43201
Flaw Evaluation of Cracks in Shroud Support Welds of Tokai-2
Koji Dozaki, The Japan Atomic Power Company

ICONE19-43979
The Effect of Mechanical Loading on Residual Stress Induced by Laser Peening
Toshiyuki Tazawa, Toshiba Corporation
Session 24 A-2  (14:00 - 16:00)
Session Chair, Co-chair
Koji Yamada, Chubu Electric Power Co.,Inc.

**ICONE19-44017**
INFLUENCE OF THE RESIDUAL STRESSES AND STRAINS GENERATED BY HEAT TREATMENTS ON THE HYDROGEN EMBRITTLEMENT OF A NUCLEAR REACTOR PRESSURE VESSEL
J. Toribio, Dept. of Materials Engineering, University of Salamanca,

**ICONE19-43175**
Simplified Evaluation Method of Strain Rate Being Generated on Structural Materials During Plant Start-up
Koji Dozaki, The Japan Atomic Power Company

**ICONE19-43877**
Prediction of Residual Stress Improvement by Water Jet Peening (WJP) Using Cavitating Jet and Residual Stress Simulations
Masashi Fukaya, Hitachi, Ltd

**ICONE19-43221**
Planning of Environmental Mitigation for Stress Corrosion Cracking of BWR Core Internals by Means of Noble Metal Chemical Addition and of Electrochemical Corrosion Potential Measurement
Yutaka Ueyama, The Japan Atomic Power Company

**ICONE19-43499**
Experimental Study on Diffusion of Metals in Lead-Bismuth Eutectic in A Thin Tube
Eriko Irisawa-Yamaki, Tokyo Institute of Technology

**ICONE19-43141**
HIGH TEMPERATURE OXIDATION OF FBR STRUCTURAL MATERIALS IN CARBON DIOXIDE AND IN AIR
Tomohiro FURUKAWA, Japan Atomic Energy Agency
ICONE19-43174
Microstructural Studies of Zr-2.5Nb and Zircaloy-2 Pressure Tubes Irradiated in Indian Pressurized Heavy Water Reactors
Dinesh Srivastava, Bhabha Atomic Research Center, Mumbai, India

ICONE19-43658
DEFECT DETECTABILITY OF EDDY CURRENT TESTING FOR UNDERWATER LASER BEAM WELDING
Souichi Ueno, Toshiba Corp

ICONE19-43166
MICROSTRUCTURAL AND POSITRON ANNHIATION STUDIES OF HYDRIDE PHASE FORMATION IN SINGLE AND TWO PHASE ZIRCONIUM BASE ALLOYS
Dinesh Srivastava, BARC, Trombay, Mumbai
Session 24 A-3  (16:00 - 18:00)
Session Chair, Co-chair
Qiusheng Liu, Kobe University
Ernie Hauser, Cameron Measurement Systems, Caldon Ultrasonics

TRK 10 Computational Fluid Dynamics (CFD) and Coupled Codes
Track Chair: Akira Yamaguchi, Graduate school of Engineering, Osaka University
Track Co-Chair: Hiroyuki Ohshima, JAEA
Track Co-Chair: Muftuoglu Kurshad, GE Hitachi Nuclear Energy
Track Co-Chair: Nikolay Kolev, Siemens
Track Co-Chair: Richard Johnson, Idaho National Laboratory
Track Co-Chair: Yassin Hassan, Department of Nuclear Engineering
Track Co-Chair: Liangzhi Cao, Xi'an Jiaotong University
Track Co-Chair: Ludwig Haber, Alden Research Laboratory

ICONE19-44013
ROD EJECTION ACCIDENT BY THE COUPLED SYSTEM CODE ATHLET-QUABOX/CUBBOX
Yann Périn, GRS mbH

ICONE19-43986
Development of PIRT and Assessment Matrix for V&V of Sodium Fire Analysis Codes
Shuji Ohno, JAEA

ICONE19-43730
Numerical Investigation on Large-scale Eddy Structure in Unsteady Pipe Elbow Flow at High Reynolds Number Conditions with Large Eddy Simulation Approach
Masaaki Tanaka, JAEA

ICONE19-44127
STUDY ON TURBULENT MODELING IN GAS ENTRAINMENT EVALUATION METHOD
Kei Ito, JAEA
ICONE19-44132
SIX DIFFERENT TURBULENCE MODELS AND EXPERIMENTS COMPARISONS ON THERMAL MIXING PHENOMENON IN A TEE PIPING
Chao Jen Li, Industrial Technology Research Institute

ICONE19-43076
A CFD Study of the Flow Field and Aerodynamic Torque on a Triple-offset Butterfly Valve Used in Nuclear Power Plant
Qinzhao Zhang, Tsinghua University

ICONE19-43534
Numerical Simulation of Dynamic Flow Structure and Thermal Stratification Phenomena in LMFBR
Makoto Shibahara, Osaka University

ICONE19-43453
EFFECTS OF TURBULENCE NEAR A FREE SURFACE ON THE DYNAMICS OF TWO-PHASE FLOW
Ken Uzawa, JAEA
**Session 24 B-1 (11:10 - 13:10)**

Session Chair, Co-chair
Hideaki Heki, Toshiba Corporation
Leon Cizelj, Jožef Stefan Institute

**TRK 3 Structural Integrity**

Track Chair: Kazuyuki Tsukimori, Japan Atomic Energy Agency
Track Co-Chair: Kenji Takahashi, Mitsubishi Heavy Industries, LTD.
Track Co-Chair: Asif Arastu, Bechtel Power Corporation
Track Co-Chair: Leon Cizelj, Jožef Stefan Institute
Track Co-Chair: Zhenmao Chen, Xi'an Jiaotong University
Track Co-Chair: Qing Mao, China Nuclear Power Engineering Co., LTD

**ICONE19-43961**

Performance Analysis of Passively Safe BWR with Experimental and Numerical Simulation
Jun Yang, Purdue University

**ICONE19-43121**

A Generic Model for Residual Compressive Strength of Concrete after Fire in Nuclear Power Plants
Yihai Li, Guangdong Electric Power Design Institute, China

**ICONE19-43440**

SPECTRAL ELEMENT MODEL FOR THE AXIAL-BENDING-SHEAR COUPLED VIBRATION OF A COMPOSITE TIMOSHENKO BEAM
Usik Lee, Inha University

**ICONE19-43489**

PRESSURIZED WATER REACTOR VESSEL INTERNALS GUIDE TUBE GUIDE CARD WEAR AGING MANAGEMENT
Ibrahim Mohammed, Westinghouse Electric Company
TRK 4 Nuclear Technology Applications and Innovations
Track Chair: Ikuo Ioka, Japan Atomic Energy Agency
Track Co-Chair: Toshiharu Muramatsu, Japan Atomic Energy Agency
Track Co-Chair: Romney Duffey, AECL
Track Co-Chair: Ivo Klenak, Jozef Stefan Institute
Track Co-Chair: Danrong Song, Nuclear Power Institute of China
Track Co-Chair: Chaohui He, Xian Jiaotong University

ICONE19-44128
PHENOMENOLOGICAL EVALUATION OF LASER-IRRADIATED WELDING PROCESSES WITH A COMBINED USE OF HIGHER-ACCURACY EXPERIMENTS AND COMPUTATIONAL SCIENCE METHODOLOGIES (3) IN-SITU OBSERVATIONS OF WELDED POOL USING AN INTENSE X-RAY BEAM
Tomonori Yamada, Japan Atomic Energy Agency

ICONE19-43910
Design of radiation shielding for the CPHS target station
B. Zhong, Tsinghua University

TRK 5 Advanced Reactors and Near Term Deployment
Track Chair: Hideaki Heki, Toshiba Corporation
Track Co-Chair: Dmitry Paramonov, Westinghouse
Track Co-Chair: Annalisa Manera, Paul Scherrer Institute
Track Co-Chair: Kan WANG, Tsinghua University
Track Co-Chair: Dongsheng Li, China Nuclear Power Technology Research Institute

ICONE19-43842
EVALUATION OF DAMAGES OF AIRPLANE CRASH IN EUROPEAN ADVANCED BOILING WATER REACTOR (EU-ABWR)
Kazuhiro Kamei, Toshiba Corporation

ICONE19-43646
A Study for Small · medium LWR Development of JAPC
Tosihiko Okazaki, Japan Atomic Power Company
Session 24 B-2 (14:00 - 16:00)

TRK 6 Safety and Security Expand All Sessions In Track
Session Chair, Co-chair
Yoshiyuki Narumiya, Kansai Electric Power Co
Xinrong LIU, China Nuclear Power Engineering Co., Ltd

Track Chair: Kohei Hisamochi, Hitachi-GE Nuclear Energy, Ltd.
Track Co-Chair: Nobuyuki Ueda, central Research Institute of Electric Power Industry
Track Co-Chair: Martin Sattison, Idaho National Laboratory
Track Co-Chair: Jianqiang Shan, Xi'an Jiaotong University

ICONE19-43321
Development of Integrated Parameter Database for Risk Assessment at the Rokkasho Reprocessing Plant
Yoshikazu Tamauchi, Japan Nuclear Fuel Limited

ICONE19-43422
EXPERIMENTAL STUDY ON THERMAL INTERACTION OF ETHANOL JETS IN HIGH TEMPERATURE FLUORINERT
Rongyuan Sa, Tokyo institute of Technology

ICONE19-43100
AIR INGRESS ANALYSIS OF CHIMNEY EFFECT FOR SIMULTANEOUS RUPTURE OF TWO PRIMARY PIPES IN THE HTR-PM
Zheng Yanhua, INET, Tsinghua University

ICONE19-43784
A TRANSIENT MODELING OF A HELIUM TURBINE POWER SYSTEM
Heng Xie, Jie Wang, Institute of Nuclear Engineering Technology, Tsinghua University

ICONE19-43276
Preliminary study on In-Vessel Retention in large-scale advanced PWR
Hong XU, State Nuclear Power Technology Research & Development Centre, Beijing
ICONE19-43410
ANALYSIS OF HYDROGEN MITIGATION IN A SEVERE ACCIDENT
Jie Zou, School of Mechanical Engineering, Shanghai Jiaotong University, Shanghai

ICONE19-43286
REDEFINING INTERRELATIONSHIP BETWEEN NUCLEAR SAFETY, NUCLEAR SECURITY AND SAFEGUARDS
Kazutomo Irie, Japan Nuclear Energy Safety Organization/ The University of Tokyo

ICONE19-43782
Reaction Path Analysis of Sodium-Water Reaction Phenomena in support of Chemical Reaction Model Development
Shin Kikuchi, Japan Atomic Energy Agency

ICONE19-43435
VARIA - AN APPLICATION FOR MASS COMPUTING AND STATISTICAL ANALYSIS OF THE SIMULATION RESULTS IN BEPU SAFETY ASSESSMENT
Evgeny V. Moiseenko, Nuclear Safety Institute of Russian Academy of Sciences (IBRAE RAN)
Session 24 B-3  (16:00 - 18:00)
Session Chair, Co-chair
Yuichiro Yoshimoto, Hitachi·GE Nuclear Energy
Shi Lei, CNS, INET, Tsinghua University

TRK 7 Codes, Standards, Licensing and Regulatory Issues Expand All Sessions In Track
Track Chair: Tetsuya Nagata, Hitachi·GE Nuclear Energy
Track Co-Chair: Ralph Hill, Westinghouse Electric Company
Track Co-Chair: Aleksandr Kroshilin, VNIIAES
Track Co-Chair: Lingfu Zeng, ÅF·Industry AB
Track Co-Chair: Xuewu Cao, Shanghai Jiao Tong University

ICONE19-43272
OPINIONS ON DEVELOPMENT OF CHINA NUCLEAR POWER STANDARD SYSTEM
Huangweifeng Zhengjunming, General Design Division General Design Division, China Nuclear Power Engineering Co.,Ltd.

ICONE19-43364
USING PROBABILISTIC SAFETY ASSESSMENTS IN OPERATING TECHNICAL SPECIFICATIONS: RECONCILING RISK INSIGHTS AND PRACTICAL PLANT CONSIDERATIONS
Isaac Malgas, Eskom, Generation Koeberg Nuclear Power Station, South Africa

ICONE19-43382
STUDY ON THE NEAR SURFACE DISPOSAL OF LILW IN CHINA
Wentang Zheng, Guangdong electric power design institute

TRK 8 Fuel Cycle, Radioactive Waste Management and Decommissioning Expand All Sessions In Track
Track Chair: Tsutomu Baba, Japan Nuclear Energy Safety Organization
Track Co-Chair: Morimasa Naito, Japan Atomic Energy Agency
Track Co-Chair: Patricia Paviet-Hartmann, Idaho National Laboratory
Track Co-Chair: Pavel Poluektov, Bochvar Institute
Track Co-Chair: Hubert Druenne, Tractebel · GDF SUEZ
Track Co-Chair: Xuegang Liu, Tsinghua University, Beijing, China
ICONE 19-43519
Preliminary Research on Thorium-Uranium Fuel Cycle Characteristic in PWR
Wei Chunlin, Tsinghua University, Beijing

ICONE19-43160
Development of Spent Ion Exchange Resin Processing in Nuclear Power Stations
Yasutomi Morimoto, JGC Corporation, Research and Development Center

ICONE19-43801
OUTLINE OF LAUNDRY DRAINAGE TREATMENT SYSTEM COMBINING CATALYTIC OXIDATION AND FILTRATION
Masanori Kanda, NGK Insulators, Ltd

ICONE19-43560
Interpretation of Hydrogeological Characteristics based on Data from Long Term Cross-Hole Pumping Test
Hironori ONOE, Japan Atomic Energy Agency

ICONE19-43388
A calculation of spatial range of colloidal silicic acid deposited downstream from the alkali front
Yuichi Niibori, Dept. of Quantum Science & Energy Engineering, Tohoku University

ICONE19-43234
RADIOLOGICAL CHARACTERIZATION FOR SMALL TYPE LIGHT WATER REACTOR
Ken·ichi Tanaka, Japan Atomic Power Company

ICONE19-43255
A preliminary study on the transport behavior for a potential disposal site of LILW in southern China
Shuping Yi, Guangdong Electric Power Design Institute, China
Session 24 C-1 (11:10 - 13:10)

Session Chair, Co-chair
Guanghui Su, Xi'an Jiaotong University
Yoshihisa Nishi, Central Research Institute of Electric Power

TRK 9 Thermal Hydraulics
Track Chair: Kazuyuki Takase, Japan Atomic Energy Agency
Track Co-Chair: Hiroyasu Ohtake, Kogakuin University
Track Co-Chair: Michitsugu Mori, Tokyo Electric Power Co., Inc.
Track Co-Chair: Yasushi Yamamoto, Toshiba Corporation
Track Co-Chair: SHINICHI MOROOKA, Japan/Waseda University
Track Co-Chair: Richard Schultz, Idaho National Laboratory
Track Co-Chair: Yassin Hassan, Department of Nuclear Engineering
Track Co-Chair: Guanghui Su, Xi'an Jiaotong University

ICONE19-43529
Validation of Coupled Neutron Kinetics and Thermal Hydraulics Analysis Code
SKETCH-INS/TRACE5.0 and Application to Statistical Safety Evaluation of BWR Loss of Load Transient
Ryoko ICHIKAWA, Japan Nuclear Energy Safety Organization

ICONE19-43592
Improvement of MARS Code Reflood Model
Moonkyu Hwang, Korea Atomic Energy Research Institute

ICONE19-43969
RELAP5 Analysis of OECD/NEA ROSA-2 Project Experiments on Intermediate-break LOCAs at Hot Leg or Cold Leg
Takeshi TAKEDA, Japan Atomic Energy Agency (JAEA)

ICONE19-43568
MODELING OF DYNAMIC INSTABILITIES IN BOILING SYSTEMS
L.C. Ruspini, Department of Energy and Process Engineering, NTNU, Norway
ICONE19-43043
Investigation of Wall Temperature Fluctuations by Visualization Tests for Steam-Water Two-Phase Flow in the Pressurizer Spray Piping
Koji Miyoshi, Institute of Nuclear Safety System, Inc.

ICONE19-43538
Visualization of Cavitation Flow Field Downstream from an Orifice
Yukinori NAGAYA, Institute of Nuclear Safety System, Inc.

ICONE19-43258
Visualization of Bubble Size Distribution in Inclined Rectangular Channel
Gang Hong, CNNC Key Laboratory on Nuclear Reactor Thermal Hydraulics

ICONE19-43607
APPLICATION OF CONSTANT ELECTRIC CURRENT METHOD IN DISPERSED BUBBLY FLOW
Shin-ichiro UESAWA, University of Tsukuba

ICONE19-44020
Multi-dimensional Two-Phase Flow Measurements in a Large-Diameter Pipe Using Wire-Mesh Sensor
Taizo KANAI, Central Research Institute of Electric Power Industry

ICONE19-44019
LIQUID FILM THICKNESS MEASUREMENT IN SMALL SQUARE PIPE USING ULTRASONIC PULSE-ECHO METHOD
Goro AOYAMA, Hitachi, Ltd.

ICONE19-43085
Prediction of Critical Heat Flux in Narrow Rectangular Channels Using an Artificial Neural Network
Zhou Lei, CNNC Key Laboratory on Nuclear Reactor Thermal Hydraulics Technology, Nuclear Power Institute of China
ICONE19-43852

NUCLEATE BOILING HEAT TRANSFER AND CRITICAL HEAT FLUX IN TITANIUM DIOXIDE-WATER NANOF ﬂUIDS

Tomio Okawa, Department of Mechanical Engineering, Osaka University
Session 24 C-2 (14:00 - 16:00)
Session Chair, Co-chair
Yasushi Yamamoto, Toshiba Corporation
He Keyu, China Nuclear Power Engineering Co., Ltd.

ICONE19-44124
Development of PIRT for Fast Reactor under Natural Circulation Decay Heat Removal Operations
Norihiro Doda, JAEA

ICONE19-43704
Modeling on Bubbly to Churn Flow Pattern Transition for Vertical Upward Flows in Narrow Rectangular Channel
Yanlin Wang, Nuclear Power Institute of China

ICONE19-43535
COMPARISON OF THE WATER AND SODIUM CAVITATION PHENOMENA IN VENTURI
Teddy Ardiansyah, Tokyo Institute of Technology

ICONE19-43900
PREDICTION OF BYPASS FLOWS IN HTR-PM BY THE FLOW NETWORK METHOD
Jun Sun, INET, Tsinghua University

ICONE19-43309
ANALYSIS ON ATWS CAUSED BY EARTHQUAKE OF THE HTR-10GT
Lang Minggang, Tsinghua University, Beijing China

ICONE19-43192
STUDY ON HIGH SPEED LITHIUM JET FOR NEUTRON SOURCE OF BORON NEUTRON CAPTURE THERAPY (BNCT)
Minoru Takahashi, Tokyo Institute of Technology
ICONE19-43977
Development of Prediction Technology of Two-Phase Flow Dynamics under Earthquake Acceleration (1) Numerical Simulation of Two-Phase Flow Behavior under Earthquake Acceleration
Hiroyuki Yoshida, Japan Atomic Energy Agency

ICONE19-44166
Development of Prediction Technology of Two-Phase Flow Dynamics under Earthquake Acceleration (2) · Experimental Study on Flow Rate Fluctuation ·
Hideaki Monji, University of Tsukuba

ICONE19-44150
Development of Prediction Technology of Two-Phase Flow Dynamics under Earthquake Acceleration (3) · The effect of structure vibration on bubbly flow behavior ·
Kousuke Mizuno, University of Tsukuba

ICONE19-43222
Countercurrent Air-Water Tests Using a Scale Model of a Pressurizer Surge Line
Chihiro Yanagi, Institute of Nuclear Safety System, Inc.(INSS)
Session 24 C-3 (16:00 - 18:00)
Session Chair, Co-chair
Hiroyuki Yoshida, Japan Atomic Energy Agency
Asif Arastu, Bechtel Power Corporation

ICONE19-43528
EFFECT OF SOLIDIFICATION ON BREAKUP BEHAVIOR DURING MOLTEN MATERIAL JET AND COOLANT INTERACTION
Takashi Wada, University of Tsukuba

ICONE19-43982
SIMULATION OF SOLID-LIQUID MULTIPHASE FLOWS WITH FUEL RELOCATION AND FREEZING BEHAVIOR IN PIN BUNDLE GEOMETRY
Md. Abdul Malek Soner, Kyushu University

ICONE19-43284
HEAT AND MOMENTUM TRANSFER MECHANISMS UNDER THE DIRECT-CONTACT-CONDENSATION BETWEEN SUPERSONIC STEAM FLOW AND WATER JET
Shunsuke Shibayama, University of Tsukuba

ICONE19-43556
Bubble behavior in subcooled flow boiling in a vertical rectangular channel
ROUHOLLAH AHMADI, Osaka University

ICONE19-43523
Farther study on transient boiling phenomena generated by microwave heating
Shota Suzuki, University of Tsukuba

ICONE19-43407
EXPERIMENTAL STUDY IN INFLUENCE OF FLOW STRUCTURE ON JET SURFACE FRAGMENTATION
Taihei Kuroda, University of Tsukuba
ICONE19-43421  
Nuclear reaction analysis for composition measurement of BN thin films  
T. Kobayashi, Tsuyama National College of Technology

ICONE19-43556  
Bubble behavior in subcooled flow boiling in a vertical rectangular channel  
ROUHOLLAH AHMADI, Osaka University

ICONE19-43284  
HEAT AND MOMENTUM TRANSFER MECHANISMS UNDER THE DIRECT-CONTACT-CONDENSATION BETWEEN SUPERSONIC STEAM FLOW AND WATER JET  
Shunsuke Shibayama, University of Tsukuba

ICONE19-43407  
EXPERIMENTAL STUDY IN INFLUENCE OF FLOW STRUCTURE ON JET SURFACE FRAGMENTATION  
Taihei Kuroda, University of Tsukuba

ICONE19-44189  
THE EFFECT OF RICE HUSK ASH ADDITION AND SAND VOLUME VARIATION ON LIQUID RADIOACTIVE WASTE CEMENTATION  
Saiful A. Nugroho, GadjahMada University, Indonesia

ICONE19-43348  
MEASUREMENT OF NON-EQUIBIAXIAL RESIDUAL STRESS FIELD BY INDENTATION TECHNIQUE USING ASYMMETRIC INDENTER  
Houichi Kitano, Osaka University

ICONE19-43024  
Effect of the two phase flow models in the nuclear reactor single channel stability analysis  
Jiyun Zhao, Nanyang Technological University, China
Session 24 D-1  (11:10 - 13:10)
Session Chair: Co-chair
Hiroshige Kikura, Tokyo Institute of Technology
Tao Zhou, Chinese Academy of Sciences

TRK 16 Student Paper Competition
Track Chair: Hiroshige Kikura, Tokyo Institute of Technology
Track Co-Chair: Tomio Okawa, The University of Electro-Communications
Track Co-Chair: Igor Pioro, University of Ontario Institute of Technology
Track Co-Chair: Sama Bilbao y Leon, Virginia Commonwealth University
Track Co-Chair: Wolfgang Hansen, Technical University Dresden
Track Co-Chair: Suyuan Yu, INET, Tsinghua University
Track Co-Chair: Suizheng Qiu, Xi’an Jiaotong University

ICONE19-43420
INVESTIGATION OF FLOW STRUCTURE TRANSITION IN LOWER PLENUM OF ABWR
Shun Watanabe, University of Tsukuba

ICONE19-43507
THERMAL ASPECTS OF USING ThO2 IN A 54- AND 64-ELEMENT FUEL BUNDLE DESIGNED FOR SCWR APPLICATION
Ayman Abdalla, University of Ontario Institute of Technology (Canada)

ICONE19-43692
THERMALHYDRAULIC ANALYSIS OF 43-, 54-, AND 64-ELEMENT BUNDLES WITH UO2 PLUS SiC FUEL FOR SUPERCRITICAL WATER-COOLED REACTORS
Ayman Abdalla, University of Ontario Institute of Technology (Canada)

ICONE19-43858
An improved critical heat flux prediction model for subcooled and low quality flow boiling under motion condition based on microscopic mechanism
Wenxing LIU, Xi’an Jiaotong University (China)
ICONE19-44082
EFFECT OF HEAT TRANSFER COEFFICIENT ON SHEATH AND FUEL CENTRELINE TEMPERATURES IN SCWRS
Lisa Grande, University of Ontario Institute of Technology (Canada)

ICONE19-43109
STUDY ON BOILING HEAT TRANSFER OF MINI-HEAT TRANSFER SURFACE IN NARROW CHANNELS
Yoshiki Morita, Shinshu University

ICONE19-43215
NUMERICAL RESEARCH ON THE THERMAL HYDRAULICS OF THE COOLANT IN A PEBBLE BED REACTOR CORE BY CFD
Hua Li, Xi'an Jiaotong University (China)

ICONE19-43248
Experimental study on method for heat transfer enhancement using a porous material
Takuya Shimura, University of Yamanashi

ICONE19-43503
DEVELOPING A HEAT-TRANSFER CORRELATION FOR SUPERCRITICAL WATER FLOWING IN VERTICAL TUBES AND ITS APPLICATION IN SCWRS
Sahil Gupta, University of Ontario Institute of Technology (Canada)

ICONE19-43617
THE STUDY OF VELOCIMETRY IN HIGH TEMPERATURE FLOW
Tomonori Ihara, Tokyo Institute of Technology

ICONE19-43509
A RELATIONSHIP BETWEEN THE MOTION OF A ZIGZAGGING BUBBLE AND ITS WAKE
Rintarou Tachibana, Shizuoka university

ICONE19-44083
WHOLE-FIELD VELOCITY MEASUREMENTS OF ISOTHERMAL BUBBLE PLUME USING PTV
Abdul Khan, Texas A&M University (USA)
ICONE19-43240
EFFECTS OF HOMOGENEOUS GEOMETRY MODELS IN SIMULATING THE FUEL BALLS IN HTR-10
Jinn-Jer Peir, National Tsing Hua University (Taiwan)

ICONE19-44066
THE TRIGONAL NODAL SP3 METHOD OF THE REACTOR CODE DYN3D
Susan Duerigen, Helmholtz-Zentrum Dresden-Rossendorf (Germany)

ICONE19-43235
DEVELOPMENT OF A MONTE CARLO MULTI-GROUP CONSTANTS GENERATION CODE
Mancang Li, Tsinghua University (China)

ICONE19-43237
EVALUATION OF PHYSICAL PROPERTIES OF SIMULATED PLUTONIUM INERT MATRIX FUEL OF VARYING DENSITIES WITH THERMAL SHOCK EXPERIMENTS
Nadia Rohbeck, Lehrstuhl Wasserstoff-und Kernenergietechnik, Technische Universität Dresden (Germany)

ICONE19-43803
HEAT-TRANSFER CALCULATIONS OF A RE-ENTRANT CHANNEL FOR PRESSURE-TUBE SCWRS
Eugene Saltanov, University of Ontario Institute of Technology (Canada)

ICONE19-43288
TUDY ABOUT SUSTAINABLE SCENARIO OF NUCLEAR FUEL CYCLE IN CHINA
Yilin KONG, Tohoku University
Session 24 D-2  (14:00 - 16:00)
Session Chair, Co-chair
Tomio Okawa, The University of Electro-Communications
Mamoru Ishii, Purdue University

ICONE19-43372
Numerical Simulation of Opposing Mixed Convection Heat Transfer of Lithium-Lead in a Vertical Square Channel with Heat Source
Weifeng Ni, Xi'an Jiaotong University (China)

ICONE19-43691
Thermalhydraulic Analysis of Uranium Carbide (UC) Fuel in 54 and 64-Element Fuel Bundles for SCWRs
Arif Qureshi, University of Ontario Institute of Technology (Canada)

ICONE19-43492
STUDY OF SELECTED TURBULENT MODELS FOR SUPERCRITICAL WATER HEAT TRANSFER IN VERTICAL BARE TUBES USING CFD CODE FLUENT-12
Amjad Farah, University of Ontario Institute of Technology (Canada)

ICONE19-43654
SIMULATION OF HYDROGEN DEFLAGRATION EXPERIMENTS IN THE ENACCEF FACILITY USING ASTEC CODE
Mantas Povilaitis, Lithuanian Energy Institute

ICONE19-43773
EFFECT OF GAP CONDUCTANCE ON HIGH THERMAL-CONDUCTIVITY FUELS IN SUPERCRITICAL WATER-COOLED REACTORS (SCWRS)
Wargha Peiman, University of Ontario Institute of Technology (Canada)

ICONE19-43981
Numerical Simulation of Effective Viscosity in Solid-Fluid Mixture Flows Using Finite Volume Particle Method
Takahito Suzuki, Kyushu University
ICONE19-43281
MEASUREMENT OF MASS TRANSFER COEFFICIENT IN DIRECT CONTACT SULFURIC ACID CONCENTRATION FOR IS PROCESS
Katsuteru Sugiyama, University of Tsukuba

ICONE19-43635
MODERATOR HEAT-LOSS ANALYSIS OF A CERAMIC-INSULATED RE-ENTRANT SCWR FUEL-CHANNEL
Jeffrey Samuel, University of Ontario Institute of Technology (Canada)

ICONE19-43021
PARAMETER DESIGN AND OPTIMIZATION OF TIGHT-LATTICE ROD BUNDLES
Chunhui DAI, Xi’an Jiaotong University (China)

ICONE19-43238
EXPERIMENTAL AND THEORETICAL STUDIES OF THE WALL BOUNDARY REGION “HEAVY LIQUID-METAL”
Kirill Makhov, Nizhny Novgorod State Technical University by R.E. Alekseev

ICONE19-43644
TEMPERATURE PROFILES OF A VERTICAL BARE 7-ELEMENT BUNDLE COOLED WITH SUPERCRITICAL FREON-12
Graham Richards, University of Ontario Institute of Technology

ICONE19-43210
EXPERIMENTAL STUDY OF LIQUID-METAL TARGET DESIGNS OF ACCELERATING-CONTROLLED SYSTEMS
Mikhail Iarmonov, Nizhny Novgorod State Technical University by R.E. Alekseev

ICONE19-43640
INTERMEDIATE DOUBLE-PIPE HEAT EXCHANGER FOR THERMOCHEMICAL HYDROGEN CO-GENERATION WITH SCW NPP
Andrew Lukomski, University of Ontario Institute of Technology (Canada)
ICONE19-43522
A Partial Factor-Based Approach for the Assessment of Nuclear Piping Vulnerable to Corrosion
Xufang Zhang, University of Waterloo (Canada)

ICONE19-43734
Development of Cesium Trapper and Single-Gas-Bubble Injector into Sodium Pool
Kazuki Mizutani, Hokkaido university

ICONE19-44184
RADIOLOGICAL CONSEQUENCES ANALYSIS FOR POSTULATED LBLOCA ON PWR 1300 AT MURIA PENINSULA
Irwan Ferdiansyah, Gadjah Mada University (India)

ICONE19-43162
EFFECT OF GRAVITY ON DISTRIBUTION PARAMETER AND DRIFT VELOCITY IN VERTICAL UPWARD BUBBY TWO-PHASE FLOW
Yusuke Shimomura, Tokyo University of Marine Science and Technology

ICONE19-43876
UPDATED HEAT TRANSFER CORRELATIONS FOR SUPERCRITICAL WATERCOOLED REACTOR APPLICATIONS
Sarah Mokry, University of Ontario Institute of Technology
Session Chair, Co-chair
Igor Pioro, University of Ontario Institute of Technology
Fumio Kasahara, Japan Nuclear Energy Safety Organization (JNES)

ICONE19-43127
Thermal Hydraulic Analysis of Thermal Stratification in Pressurizer Surge Line
Yang Mengjia, China Guangdong Nuclear Power Engineering CO., LTD.

ICONE19-43525
EVALUATION OF HEAT LOSS AND WATER TEMPERATURE IN A SPENT FUEL PIT
Michio Murase, Institute of Nuclear Safety System, Inc

ICONE19-43830
Numerical Simulation of Two-phase Critical Flow with the Phase Change in the Nozzle Tube
Masahiro Ishigaki, Japan Atomic Energy Agency

ICONE19-43627
Best Estimate Probabilistic Safety Assessment Results for the Westinghouse Advanced Loop Tester (WALT)
Guoqiang Wang, Westinghouse Electric Company LLC

ICONE19-43273
INVESTIGATION OF CRITICAL HEAT FLUX IN THE ROD BUNDLE USING MECHANISTIC APPROACH IN CONJUNCTION WITH THE SUBCHANNEL CODE
Dinesh Chandraker, Bhabha Atomic Research Centre, India

ICONE19-43123
Reduced Height Effect on the PWR’s Integral Test Facility during Long Term Cooling
Yuquan Li, State Nuclear Power Technology R&D Center, China

ICONE19-43809
Analysis of thermal-hydraulic performance on Starting Methods of IPWR
Liang Zhao, Xi'an Jiaotong University
ICONE19-43167
BUCKET-TYPE GAS ENTRAINMENT INTO LIQUID FROM FREE SURFACE BY VORTEX
Yasuo Koizumi, Shinshu University

ICONE19-43786
THERMAL HYDRAULIC TEST OF ADVANCED FUEL BUNDLE WITH SPECTRAL SHIFT ROD (SSR) FOR BWR · EFFECT OF THERMAL HYDRAULIC PARAMETERS ON STEADY STATE CHARACTERISTICS ·
Takao Kondo, Hitachi-GE Nuclear Energy, Ltd.

ICONE19-43586
Effectiveness of natural circulation on molecular diffusion of two component gases in a stratified fluid layer
Tetsuaki Takeda, University of Yamanashi

ICONE19-43772
DROPLET DEPOSITION RATE IN VERTICAL ANNULAR TWO-PHASE FLOW
Pravin Sawant, Energy Research, Inc., Rockville, MD·20852, USA
Michitsugu Mori, Tokyo Electric Power Co., Inc.
Oct. 25th

**Session 25 A-1** (9:00-11:00)
Session Chair, Co-chair
Atsushi Ishikawa, IHI
Robin J. McCollum, Bechtel Marine Propulsion Inc.

**TRK 11 Instrumentation & Controls**
Track Chair: Kenji Urase, Hitachi-GE Nuclear Energy, Ltd.
Track Co-Chair: Bob Stakenborg, ILD, Inc.
Track Co-Chair: Zhijian Zhang
Track Co-Chair: Hirohisa Satomi, Hitachi, Ltd.

**ICONE19-43115**
ASSESSMENT OF ADVANCED REACTOR CORE PROTECTION SYSTEM FOR PRESSURIZED WATER REACTOR
Wang Kee In, KAERI

**ICONE19-43169**
VERIFICATION OF FPGA-BASED NPP I&C SYSTEMS: GENERAL APPROACH AND TECHNIQUES
Anton Andrasov, Centre for Safety Infrastructure-Oriented Research and Analysis

**ICONE19-43216**
ASSESSMENT OF MULTI-VERSION NPP I&C SYSTEMS SAFETY: METRIC-BASED APPROACH, TECHNIQUE AND TOOL
Viacheslav I. Duzhyi, Centre for Safety Infrastructure-Oriented Research and Analysis

**ICONE19-43159**
Conceptual Design of an FPGA-Based AMSAC System for Taiwan's Maanshan NPP
Jun-Jen Lu, National Tsing Hua University

**ICONE19-43011**
ROBUSTNESS OF NUCLEAR CORE ACTIVITY RECONSTRUCTION BY DATA ASSIMILATION
Bertrand BOURIQUET, CERFACS
ICONE19-43013
OPTIMAL DESIGN OF MEASUREMENT NETWORK FOR NEUTRONIC ACTIVITY FIELD RECONSTRUCTION BY DATA ASSIMILATION
Bertrand BOURIQUET, CERFACS

ICONE19-43461
RESEARCH ON THE OPTIMIZATION OF SAFETY INFORMATION AND CONTROL SYSTEM OF CPR1000 NPP
Ke Tan, CNPEC, Shenzhen, PRC

ICONE19-43003
REACTOR COOLANT FLOW CALCULATOR
Peter Hung, Westinghouse Electric Company LLC

ICONE19-43623
THE BACKUP OF MAIN CONTROL MEANS ANALYSIS AND APPLICATION IN HYH NPP
Huang Weijun, China Nuclear Power Design Co., LTD

ICONE19-43895
OPTIMUM INJECTION PRESSURE OF A CAVITATING JET ON INTRODUCTION OF COMPRESSIVE RESIDUAL STRESS INTO STAINLESS STEEL
Hitoshi Soyama, Tohoku University
Session 25 B-1 (9:00-11:00)
Session Chair, Co-chair
Tetsuaki Takeda, University of Yamanashi
David L. Aumiller, Bechtel Marine Propulsion Inc.

TRK 12 Next Generation Systems
Track Chair: Ryodai Nakai, Japan Atomic Energy Agency
Track Co-Chair: Tetsuaki Takeda, University of Yamanashi
Track Co-Chair: Ryutaro Hino, Japan Atomic Energy Agency
Track Co-Chair: Huiping Cheng
Track Co-Chair: Glenn Harvel, University of Ontario Institute of Technology
Track Co-Chair: Toru Nakatsuka, Japan Atomic Energy Agency

ICONE19-43804
SAFETY CONSIDERATION IN CORE DESIGN OF KALIMER-600, METALLIC FUELED SFR
Moo-Hoon Bae, Korea Institute of Nuclear Safety (KINS)

ICONE19-43835
Development of a Helical-Coil Double Wall Tube Steam Generator for 4S Reactor
Yuko Kitajima, TOSHIBA Corporation

ICONE19-43807
SAFETY ASPECTS OF VERY HIGH TEMPERATURE REACTOR CORE DESIGN
Chang-Yong Jin, Korea Institute of Nuclear Safety (KINS)

ICONE19-43264
TIGHTLY COUPLED MULTIPHYSICS SIMULATIONS FOR PRISMATIC REACTORS
Hiroyuki Sato, Japan Atomic Energy Agency (JAEA)

ICONE19-43788
Research on Physical Characteristics of the First Core in the Pebble Bed High Temperature Gas-Cooled Reactor
Jingyu ZHANG, Tsinghua University (China)
ICONE19-43227
THE DYNAMIC MATHEMATICAL SIMULATION MODEL OF STEAM GENERATOR FOR HTR-PM
Sui Zhe, INET, Tsinghua University (China)

ICONE19-43742
FLOWSHEET STUDY OF HI SEPARATION PROCESS FROM HI-H2O-I2 SOLUTION IN THE THERMOCHEMICAL HYDROGEN PRODUCTION IODINE-SULFUR (IS) PROCESS
Seiji Kasahara, Japan Atomic Energy Agency (JAEA)

ICONE19-43220
DEVELOPMENT OF HYDRAULIC ANALYSIS CODE FOR OPTIMIZING CERAMICS REACTORS
Atsuhiko Terada, Japan Atomic Energy Agency (JAEA)

ICONE19-43177
Experimental Study of Airflow-Mixture by Using PIV
Yu Kamiji, Japan Atomic Energy Agency (JAEA)

ICONE19-43459
ADS CORE DESIGN AND BURNUP ANALYSIS
Yongwei YANG, INET, Tsinghua University, China

ICONE19-43038
Response matrix method and its application to SCWR single channel stability analysis
Jiyun Zhao, Nanyang Technological University, China

ICONE19-43147
NUMERICAL ANALYSIS OF TURBULENT FLOW WITH HEAT TRANSFER IN A SQUARE DUCT WITH 45 DEGREE RIBS
Yuria Okagaki, Utsunomiya University

ICONE19-43563
Corrosion test of metallic materials in high temperature acidic environments of IS process
Nobuyuki Tanaka, Japan Atomic Energy Agency
Session 25 C-1  (9:00-11:00)
Session Chair, Co-chair
Kazuhiro Yamamoto, Japan Atomic Power Company

TRK 13 Fusion Engineering
Track Chair: Hiroshi Horiike, Osaka University
Track Co-Chair: Yican Wu, Institute of Plasma Physics, Chinese Academy of Sciences
Track Co-Chair: Igor Jovanovic, The Pennsylvania State University
Track Co-Chair: Kunugi Tomoaki, Kyoto University
Track Co-Chair: Akihiko Shimizu, Kyushu University

ICONE19-43944
FIRST NEUTRONICS ANALYSIS FOR ITER BIO-SHIELD EQUATORIAL PORT PLUG
Tong Qiang Dang, University of Science and Technology of China, China

ICONE19-43608
DIAGNOSTICS OF HIGH-SPEED LIQUID LITHIUM JET FOR IFMIF/EVEDA LITHIUM TEST LOOP
Takuji Kanemura, Japan Atomic Energy Agency (JAEA)

ICONE19-44185
Study on Surface Wave Characteristics of Free Surface Flow of Liquid Metal Lithium for IFMIF
Eiji Hoashi, Osaka University

ICONE19-43107
UPWINDING MESHFREE POINT COLLOCATION METHOD FOR UNSTEADY MAGNETOHYDRODYNAMIC FLOW AT HIGH HARTMANN NUMBERS
Zhao Liang, Xi'an Jiaotong University

TRK 15 Nuclear Education, Human Resources and Public Acceptance
Track Chair: Junko Ogawa, Tokyo City University
Track Co-Chair: Koji Okamoto, The University of Tokyo
Track Co-Chair: Jay Kunze, Idaho State University
Track Co-Chair: Stephen Kidd, WNA
Track Co-Chair: Changxin Liu, Chinese Nuclear Society
Track Co-Chair: Kazuhiro Yamamoto, The Japan Atomic Power Company
ICONE19-43045
The Current State and Issues Regarding Communication from the Nuclear Energy Industry to the Mass Media in Japan
Tatsuro Tsuchida, The University of Tokyo

ICONE19-43270
PROGRESSION OF TECHNOLOGY EDUCATION FOR ATOMIC ENERGY ENGINEERING IN TSUYAMA NATIONAL COLLEGE OF TECHNOLOGY
T. Kobayashi, Tsuyama National College of Technology

ICONE19-43294
ANALYSIS AND EVALUATION FOR SOCIAL ACCEPTABILITY FOR UTILIZING NUCLEAR POWER IN CHINA
Ting XU, Tohoku University

ICONE19-43265
PUBLIC OFFERING SYSTEM OF RESEARCH AND DEVELOPMENT IDEAS IN JAPC
Yoshiyuki Nakayama, The Japan Atomic Power Company
Session 25 D-1  (9:00-11:00)
Session Chair, Co-chair
Robert A. Wall, Bechtel Marine Propulsion Inc
Wang Yongliang, Hefei Institutes of Physical Science, Chinese Academy of Sciences

TRK 14 Reactor Physics, Neutronics and Transport Theory
Track Chair: Akio Yamamoto, Nagoya University
Track Co-Chair: Hideki Matsumoto, Mitsubishi Heavy Industries, Ltd./Reactor Core Engineering
Track Co-Chair: Hongchun Wu, Xi’an Jiaotong University
Track Co-Chair: Zafar Koreshi, Air University

ICONE19-43095
Development of BWR Transient Analysis Code TRACT
Norio Sakai, Toshiba Corporation

ICONE19-43911
THE SIMULATION ON THE RUNNING-IN PHASE OF THE HTR-10
Bing XIA, Institute of Nuclear and New Energy Technology (China)

ICONE19-43917
CHARACTERISTIC STATISTIC ALGORITHM (CSA) AND ITS APPLICATION ON LARGE PWR RELOADING DESIGN
Zhihong Liu, INET, Tsinghua University, China

ICONE19-43959
VERIFICATION OF JUPITER STANDARD ANALYSIS METHOD FOR UPGRADING JOYO MK-III CORE DESIGN AND MANAGEMENT
Shigetaka Maeda, Japan Atomic Energy Agency (JAEA)

ICONE19-43353
DEVELOPMENT AND VALIDATION OF BURNUP FUNCTION IN REACTOR MONTE CARLO RMC
Ding SHE, Tsinghua University (China)
ICONE19-43067
Application of data mining in three-dimensional space time reactor model
Botao Jiang, Xi'an Jiaotong University (China)

ICONE19-43209
SPATIALLY DEPENDENT GRAY RESONANCE SHIELDING METHOD FOR GENERATING RADIAL POWER PROFILES WITHIN PELLET
Hiroki Koike, Mitsubishi Heavy Industries, Ltd.

ICONE19-43188
Development of a New Lattice Physics Code GALAXY-H for Hexagonal Geometries
Yohei Kamiyama, Mitsubishi Heavy Industries, Ltd.
Instruction to speakers and session chairs

Speakers
Please report your arrival to the session chairpersons 5 minutes prior to the beginning of each session.

Equipments for Presentation
An LCD projector, PC, microphones, laser pointer are provided in all the session rooms. Please bring your PDF file in a USB memory or your own PC for the presentation. Before the session, please make sure that your data is properly displayed on the screen.

Presentation Time for Each Speaker

Opening Session: 20 minutes
Keynote speech: 40 minutes including discussions.
Plenary speech: 50 minutes including discussions.
Forum: 15 minutes including discussions.

Technical session
Oral presentation: 5 minutes for each speaker. No discussion.
Please keep your presentation time strictly.
Parallel poster presentation: 60 minutes. Free Discussion.

Student session
Oral presentation: 3 minutes for each speaker. No discussion.
Please keep your presentation time strictly.
Parallel poster presentation: 60 minutes. Free discussion.

Equipments for student presentation
An LCD projector, PC, microphones, laser pointer are provided in all the session rooms. Please bring your PDF file for the presentation in a USB memory or send your PDF file to the secretariat until Sept. 18, 2011.
Cafeterias:
(1) FAMILLE in welfare building of Univ. CO-OP.
(2) KUJIRA-YA on the 2nd floor of welfare building of Univ.CO-OP.
(3) SAWARABI
(4) TAKUMI

Restaurants:
(5) La Scena on the 15th floor of high-rise building, “GSE Common East”.
(6) Minerva on the 2nd floor of Icho-Kaikan.

Banquet : Oct. 24, 18:30-20:30 at (5) La-Scena
Call for Papers

Join us July 30-August 3, 2012 in Anaheim, CA when the premier global conference for the Nuclear Industry joins together with the foremost conference on Power Engineering and Plant Operations.

- Track 1 Plant Operations, Maintenance, Engineering, Modifications, Life Cycle, and Balance of Plant
- Track 2 Component Reliability and Materials Issues
- Track 3 Plant Systems, Structures, and Components
- Track 4 Steam Generator Technology Applications & Innovation
- Track 5 Advanced Reactors and Near-Term Deployment
- Track 6 Safety and Security
- Track 7 Codes, Standards, Licensing, and Regulatory Issues
- Track 8 Fuel Cycle, Radioactive Waste Management and Decommissioning
- Track 9 Thermal Hydraulics
- Track 10 Computational Fluid Dynamics (CFD) and Coupled Codes
- Track 11 Instrumentation and Controls
- Track 12 Next Generation Systems
- Track 13 Fusion Engineering
- Track 14 Reactor Physics, Neutronics, and Transport Theory
- Track 15 Nuclear Education, Human Resources, and Public Acceptance
- Track 16 Student Paper Competition
- Track 17 Beyond Design Basis Events
- Track 18 Industry Forum: Keynote, Plenary, and Panel Session
- Track 19 Fuels & Combustion, Materials Handling, Emissions
- Track 20 Heat Exchangers & Cooling Systems
- Track 21 Turbines, Generators, & Auxiliaries
- Track 22 Advanced Energy Systems and Renewables (Wind, Solar, Geothermal)
- Track 23 Performance Testing & Performance Test Codes
- Track 24 Simple and Combined Cycles

Visit the conference website for more details including Power related tracks.

Westinghouse Electric Company is the global industry leader in nuclear fuel reliability. Through partnerships with the company’s nuclear fuel business subsidiary—Nuclear Fuel Industries Ltd. in Japan—and the European Fuel Group in Europe, we provide state-of-the-art technology in:

- Cladding, Structures and Channels
- Fuel Rods and Pellets
- Fuel Assemblies
- Analytical Methods
- Manufacturing Processes

To ensure outstanding fuel performance for our customers, Westinghouse and NFI fuel technology is designed to significantly reduce fuel failures, maximize available fuel energy and increase the rate of power extraction.

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It was 1970 when MHI completed Mihama Unit 1, first PWR nuclear power plant in Japan.
Since then, we have made an endeavor in developing state of the art technology.
And now Mitsubishi group provide high performance and reliable products in the fields of PWR power plants, nuclear fuels, advanced reactors, nuclear fuel cycle systems. Furthermore, we respond to whatever required in such maintenance services as inspections, repair works with consistent system works on our own responsibility.
As the achievement was well appraised by our clients in all over the world. Mitsubishi Heavy Industries, Ltd. is contributing to energy and environmental issues in the world by a superior nuclear power technology and related service.