



9TH INTERNATIONAL CONFERENCE ON NUCLEAR PLANT INSTRUMENTATION, CONTROL & HUMAN-MACHINE INTERFACE TECHNOLOGIES (NPIC & HMIT)



A TOPICAL MEETING OF THE AMERICAN NUCLEAR SOCIETY



www.npic-hmit2015.org

FEBRUARY 23-26, 2015

THE WESTIN CHARLOTTE HOTEL
CHARLOTTE, NORTH CAROLINA

CALL FOR PAPERS

CONFERENCE WEBSITE & CONTACT INFORMATION

<http://www.npic-hmit2015.org>

Dr. H.M. Hashemian, Conference General Chair
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Dr. Sacit Cetiner, Technical Program Chair; cetinerms@ornl.gov

ABSTRACT & FULL PAPER SUBMISSION GUIDELINES

Abstracts (Due September 1, 2014)

Maximum of 400 words (or one page) identifying title, authors, affiliations, and three paragraphs or less (limited to 300 words) describing the key concepts of the paper. Select from topic areas highlighted on the second page of this call for papers. Authors of accepted abstracts will be notified by **September 25, 2014**.

Full Papers (Due November 30, 2014)

Papers must be a maximum of 4,000 words (8-10 pages) and describe work that is new, significant, and relevant to the nuclear industry and the subject of the conference (each table, figure, or other illustration counts as 200 words or half a page). Authors of accepted papers must agree to register and attend the conference and present their papers in person. Papers that are not presented in person at the conference will not appear in the final conference publication. Authors of accepted full papers will be notified by **December 15, 2014**.

PAPER SUBMISSION WEBSITE

<http://epsr.ans.org>

In addition to uploading your paper to the website, please forward a copy of your paper to H.M. Hashemian at hash@ams-corp.com or fax to 865-691-9344, as well as to Sacit Cetiner at cetinerms@ornl.gov.



KEY DATES

ABSTRACTS DUE
SEPTEMBER 1, 2014

NOTIFICATION OF ABSTRACT
ACCEPTANCE
SEPTEMBER 25, 2014

FULL PAPERS DUE
NOVEMBER 30, 2014

NOTIFICATION OF FULL PAPER
ACCEPTANCE
DECEMBER 15, 2014

CONFERENCE FEATURES

- 4 full days of plenary and panel sessions, featuring nuclear utility executives and senior managers, top government officials, and high-level executives of vendor organizations.
- Nearly 400 scientific and technical papers presented by utilities, academia, and suppliers.
- A special two-day training course on fundamentals of nuclear plant instrumentation on the weekend preceding the conference. [Click here for more information.](#)
- Up to 50 vendor exhibits showcasing the latest products in nuclear plant I&C and HMI.



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LIST OF TECHNICAL TOPICS & SESSIONS

INSTRUMENTATION & CONTROL (I&C) TOPICS

Latest Trends in Digital I&C
Management of I&C Aging and Obsolescence
Electromagnetic Compatibility (EMC) and EMI/RFI Issues
Nuclear Energy R&D in I&C Areas
Next Generation I&C Systems
Safety Critical Software Development, Qualification, and V&V
I&C and OLM Considerations for Life Beyond 60 Years
Wireless Technologies for Nuclear Facilities
Education and Training of I&C Professionals
Diversity and Defense in Depth (D3)
Modeling Digital I&C Systems in PRA/PSA
Advanced Surveillance, Diagnostics, and Prognostics
Field Programmable Gate Array (FPGA)
I&C Modernization Experience
On-line Monitoring for Maintenance Optimization
Hazard and Failure Mode Analysis for Digital Systems
I&C Regulations, Standards, and Guidelines
Digital System Reliability
Light Water Reactor Sustainability (LWRS)
On-line Monitoring of Rod Control Systems
Cyber Security in Digital I&C
Managing and Preserving I&C Knowledge and Competence
Advanced Sensors and Measurement Technologies
Cable Aging and Cable Condition Monitoring
Research Reactor I&C
Inpile Instrumentation
I&C Lessons Learned from Fukushima
Productivity/Efficiency Improvement
SMR Instrumentation & Control
Digital Control System Applications
I&C for Advanced Reactors
General Sessions in I&C

NOTE: Additional topics/sessions will be added to I&C or HMI list if five or more papers are submitted to fill the new session. Please send your recommendations to Conference General Chair H.M. Hashemian at hash@ams-corp.com or call 865-691-1756.

HUMAN-MACHINE INTERFACE (HMI) TOPICS

Current Concepts in Advanced Control Rooms
Experience with Control Room Modernization
Lessons Learned from the Design and Operation of Generation III and III+ Reactors
Nuclear Energy R&D in HMI Areas
Applications of Technology to Enhance O&M
Design and Development of Group-View, Wall-Panel Displays
Visualization Techniques to Improve Human Decision Making
Computerized Procedure Systems
Use of Virtual Reality to Support Design and O&M
Use of Simulation for Design, Engineering, Maintenance and Verification Activities
Advances in HFE Design and Analysis Tools
Advances in Human-Automation and Human Performance Assessment
Emerging Concepts of Operations for Advanced Reactors
HFE Standards and Guidelines Update
Workstation and Control Room Layout Design for Computer-Based Control Rooms
Designing Control Rooms for Small Modular Reactors
Innovative Human Interface Technologies
HFE Use of PRA/PSA Insights and Results for Design and Operations
Computerized Operator Decision and Support Systems
Innovative Solutions to Alarm Overload
HFE Verification and Validation: Approaches and Methods
Display Design of Situation Awareness and Managing Unplanned, Unanticipated Events
Use of Work-Domain and Cognitive Task Analysis for Human-System Interface Design
Human Reliability Issues in Digital Systems and Computer-Based Control Rooms
HFE Education and Training
Lessons Learned from Soft Controls in Plant Operations
Human Factor Lessons from Fukushima
HFE Contributions to Productivity and Efficiency
Human Factors Aspects of SMRs
Operation of Hybrid Control Room
General Sessions in HMI