

10th International Embedded Topical Meeting on Nuclear Plant Instrumentation, Control & Human-Machine Interface Technologies NPIC & HMIT 2017

June 11–15, 2017 • San Francisco, CA, USA • Hyatt Regency San Francisco

CALL FOR PAPERS

Abstract Submission Deadline: Sunday, October 30, 2016



ANS



June 11–15, 2017

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ABOUT THE MEETING

This embedded topical is the tenth in a series organized by ANS Human Factors, and Instrumentation and Controls Division (HFICD). Authors are invited to participate in the International Meeting on Nuclear Plant Instrumentation, Control, and Human-Machine Interface Technologies (NPIC & HMIT).

NPIC & HMIT is the de facto forum for nuclear instrumentation and control (I&C) and human factors engineering (HFE) professionals to meet with leaders in industry and academia, discover the state of the technology, exchange information, discuss future directions.

Sponsored by American Nuclear Society (ANS), NPIC & HMIT builds upon the successes of previous meetings. The meeting welcomes the submission of full-length technical papers, which will be peer reviewed and published as conference proceedings.

Submitted papers must be presented.

ABSTRACT GUIDELINES

Maximum of one-page abstract must be submitted identifying title, authors, affiliations, and three paragraphs (total less than 1000 words) describing the key concepts of the paper.

A wide range of topic areas are highlighted on the second page of this call. Authors are encouraged to submit papers on these proposed topics as well as others. Authors of accepted abstracts will be notified by November 15, 2016.

FULL PAPER SUBMISSION

Full papers must describe work that is new, significant, and relevant to the nuclear industry and the subject of the conference. 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 proceedings. Authors of accepted full papers will be notified by March 30, 2017.

SUBMISSION WEBSITE

<http://npic-hmit2017.org>

Detailed information and announcements regarding the conference will be posted on the website.

PROCEEDINGS COORDINATOR

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KEY DATES

Abstracts Due

September 30, 2016

Notification of Acceptance

November 15, 2016

Full Papers Due

February 28, 2017

Final Papers Due

April 15, 2017

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INSTRUMENTATION AND CONTROLS (I&C)

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

HUMAN FACTORS (HF)

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

Note: The topics listed above are not session titles; they are provided as a guide for paper topics. The Technical Program Committee will be happy to expand the areas and include new sessions into the program. Please contact the Technical Program Chairs for suggestions.