

Webinar Agenda
Advanced Sensors and Instrumentation (ASI)
2018 NE I&C Review
(All Times are Eastern Daylight Time)

Wednesday, October 31, 2018

- 10:00 am Welcome and Overview of Webinar Protocol (Craig Primer, INL)
10:15 am NEET-ASI Overview (Suibel Schuppner, DOE)
10:30 am LWRs Plant Modernization Overview (Craig Primer, INL)
11:00 am Materials and Chemical Technologies Overview (Amanda Lines, PNNL)
11:30 am In-Pile Instrumentation Initiative (Patrick Calderoni, INL)

12:00 pm Lunch Break

- 12:30 pm Advanced Fuels Program Overview (Steve Hayes, INL)
1:00 pm Transient Testing Instrumentation Experiments (TREAT) (Nic Woolstenhulme, INL)
1:30 pm Nuclear Science User Facilities Instrumentation (NSUF) (Brenden Heidrich, INL)

Sensors:

- 2:00 pm 3-D Chemo-Mechanical Degradation State Monitoring, Diagnostic and Prognostics of Corrosion Processes in Nuclear Power Plant Secondary Piping Structures (Douglas Adams, Vanderbilt University)
2:30 pm Integrated silicon/chalcogenide glass hybrid plasmonic sensor for monitoring of temperature in nuclear facilities (Maria Mitkova, Boise State University)
3:00 pm High temperature embedded/integrated sensors (HiTEIS) for remote monitoring of reactor and fuel cycle systems (Xiaoning Jiang, North Carolina State University)
3:30 pm Versatile Acoustic and Optical Sensing Platforms for Passive Structural System Monitoring (Daniel Homa, Virginia Tech)
4:00 pm Fiber Optic Sensor for Simultaneous Measurement of Temperature and Pressure (Derek Rountree, Luna Innovations Incorporated) SBIR
4:30 pm Performance of the supplemental instrumentation in the ATR AGR 5/6/7 irradiation (Troy Unruh, INL)
5:00 pm Feedback/Discussion (Craig Primer, INL)

5:30pm Adjourn

Webinar Agenda
Advanced Sensors and Instrumentation (ASI)
2018 NE I&C Review
(All Times are Eastern Daylight Time)

Thursday, November 1, 2018

10:00 am Welcome and Overview of Webinar Protocol (Craig Primer, INL)

Digital Monitoring and Control:

10:10 am Demonstration of Embedded I&C (Alex Melin, ORNL)

10:40 am Development of Model Based Assessment Process for Qualification of Embedded Digital Devices in NPP Applications (Richard Wood, University of Tennessee)

11:10 am Nuclear Qualification Demonstration of a Cost-Effective Common Cause Failure Mitigation in Embedded Digital Devices (Matt Gibson, EPRI)

11:40 am Using “Big Data” to help understand NPP challenges (Tom Gruenwald, Blue Wave)

12:10 pm Lunch Break

Nuclear Plant Communication:

12:40 pm Self-Powered Wireless Through-Wall Data Communication for Nuclear Environments (Lei Zuo, Virginia Tech)

1:10 pm Transmission of Information by Acoustic Communication along Metal Pathways in Nuclear Facilities (Alexander Heifetz, Argonne National Laboratory)

1:40 pm Wireless Reactor Power Distribution Measurement System Utilizing an In-Core Radiation and Temperature Tolerant Wireless Transmitter and a Gamma-Harvesting Power Supply (Jorge Carvajal, Westinghouse Electric Company)

2:10 pm Assessing the EMI/RFI Risks of Wireless Devices Using a Cognitive Radio System (Chad Kiger, AMS Corp)

2:40 pm Wireless Valve Position Indication Sensor System (Vivek Agarwal, INL)

Advanced Concepts of Operation:

3:10 pm I&C Architecture (Jeffrey Joe, INL)

3:40 pm Digital Architecture (Vivek Agarwal, INL)

4:10 pm Advanced Application (Shawn St. Germain, INL)

4:40 pm Feedback/Discussion (Craig Primer, INL)

5:10 pm Concluding Remarks (Suibel Schuppner, DOE)

5:30 pm Adjourn