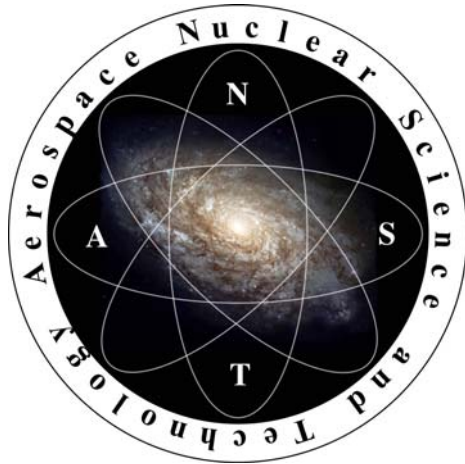




Space Nuclear Conference 2007 (SNC '07)

Embedded Topical Meeting at the 2007 ANS Annual Meeting

June 24-28, 2007 • Boston, MA



CALL FOR PAPERS

General Chairs

Dr. Charles Chitwood
Center Deputy Director, NASA MSFC

Vice Admiral John J. Grossenbacher (Ret.)
Laboratory Director, INL

Technical Program Chairs

Dr. Shannon Bragg-Sitton, *LANL*
Dr. Steven D. Howe, *INL Center for Space Nuclear Research*

About the Meeting

Space Nuclear Conference 2007 (SNC '07) will be the second topical meeting organized by the Aerospace Nuclear Science and Technology (ANST) technical group. NASA funding has been established to develop capabilities for unmanned and manned missions to the Moon, Mars, and beyond. Strategies implementing nuclear based power and propulsion technology, as well as radiation shielding protection, will be an integral part of successful missions of these types.

The purpose of the meeting is to bring together and provide a communications network and forum for information exchange for the wide cross section of research and management personnel from government, industry, academia, and the national laboratory system that are involved in the initiative. To this end, the meeting will address topics ranging from overviews of current programs and plans to detailed issues related to space travel such as nuclear-based power and propulsion systems designs, materials, testing, safety, space environmental effects and nuclear power system radiation shielding for humans and electronic components, and human factor strategies for the safe and reliable operation of nuclear power and propulsion plants.

This conference will have full-length technical papers, which will be peer reviewed and published on a CDROM, available at the meeting. At least one author is required to attend the conference and present his or her paper.

Plenary Sessions

- Space Nuclear Power & Propulsion
- Radioisotope Power Sources
- Key Issues and Challenges
- Future Opportunities

Steering Committee

Samim Anghaie, *University of Florida*
Nasser Barghouty, *NASA MSFC*
Norbert Frischauf, *ESA*
Michael Houts, *NASA MSFC*
Thomas K. Larson, *INL*
Lee Mason, *NASA GRC*
Dale Rogers, *United Technologies*
Dion Sunderland, *Anatech*
Melissa Van Dyke, *NASA MSFC*

Publications Chair

Samim Anghaie, *University of Florida*

Abstracts due: December 1, 2006

Draft Papers Due: February 1, 2007

Final Papers Due: April 15, 2007

www.ans.org/goto/space07

email: space@ans.org

Topical Areas

1. **Mission Design for Manned and Unmanned Space Exploration**
2. **Planetary (Moon, Mars) Surface Power Strategy and Design**
3. **Concepts for Advanced Space Systems:** Space Power and Propulsion and Surface Power Systems
4. **Power Conversion Design and Integration and Spacecraft Power Strategies**
5. **Application of Nuclear Thermal Propulsion to Vision for Space Exploration Missions**
6. **Space Reactor Design and Analysis**
7. **Nuclear Fuels Development**
8. **Thermal Fluid Design Issues** Including: Thermal Fluid Physics, Computational Thermal Fluid Dynamics (CTFD), Zero-Gravity, Thermal Hydraulics
9. **Materials Assessments** Including: Requirements, Characterization, Structural Performance, Testing
10. **Dynamics, Instrumentation & Control, and Systems Engineering**
11. **Component Development:** Pumps, Radiators, Heat Exchangers, Electronics, Cabling
12. **Radiation Shielding and Protection** Including: Environment Definition, Transport Modeling and Simulation, Integration of Shielding Strategies with Power and Structure Designs, Dose and Risk Analysis
13. **Component Testing and Validation** Including: Validation of Behavior at Temperature and Over Lifetime
14. **Ground Testing of Full-Scale Systems**
15. **In-Situ Resource Utilization for Surface Bases** Including Power and Energy Requirements
16. **Systems Modeling and Simulation**
17. **Human Interactions with Surface Power Systems** Including: Deployment, Operations, and Maintenance
18. **Space Nuclear Power Safety** Including: Software Quality Assurance (SQA) Testing, Benchmarks for Nuclear Analysis Software and Data, Materials and Systems Degradation Benchmarks, Lessons Learned
19. **Public and Stakeholder Interests Related to the Space Nuclear Program**
20. **Space Nuclear Education**

Technical Program Committee

Eric Alderson, *University of Wisconsin*
 Samim Anghaie, *University of Florida*
 Nasser Barghouty, *NASA MSFC*
 Connie Blackwood, *Universities Space Research Association*
 Leo Bobek, *University of Massachusetts–Lowell*
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