



NETS-2018



Nuclear and Emerging Technologies for Space (NETS-2018)

26 February - 1 March 2018 • Palace Station Hotel & Casino • Las Vegas, NV

CALL FOR PAPERS

Summary Paper Submissions Due: ~~17 Nov 2017~~ **14 Dec 2017**

Author Notification: **5 Jan 2018** • Final Revisions Due: **19 Jan 2018**

<http://anstd.ans.org/nets-2018/>

Sponsored by ANS Aerospace Nuclear Science & Technology Division and ANS Nevada and Trinity Sections

About the Meeting

In February 2018, the Aerospace Nuclear Science & Technology Division (ANSTD) of the American Nuclear Society (ANS) will hold the 2018 Nuclear and Emerging Technologies for Space (NETS-2018) topical meeting at the Palace Station Hotel & Casino in Las Vegas, Nevada. NETS-2018 is the premier meeting for the sharing of ideas related to nuclear technology research and development, testing, experimentation, deployment and manufacturing for use in space or on non-terrestrial planetary bodies. Specific areas of interest include: (1) electrical power generation (both radioisotope and fission systems) for both space and surface-based applications, (2) nuclear propulsion applications, and (3) the infrastructure, facilities and mission support elements necessary to deploy such technology successfully. With authors from universities, national laboratories, NASA facilities and industry, NETS-2018 will provide an excellent communication network and forum for information exchange. We are also strongly emphasizing and encouraging international participation. The meeting will also include a visit to the Nevada National Security Site (NNSS) to tour the Rover/NERVA areas of the NNSS and the National Criticality Experiments Research Center (NCERC).

Featured Events

Panel Discussion: Emerging Missions for Nuclear Technologies—Commercial and Governmental

Panel Discussion: Alternative Fission Development Scenarios

Panel Discussion: New Initiatives in Nuclear Technologies

Tour: Nevada National Security Site (NNSS) tour the Rover/NERVA areas of the NNSS and the National Criticality Experiments Research Center (NCERC).

Topics of Interest

Track 1: Fuels and Materials, Special focus on Pu-238 Production Processes

- Radioisotope production and heat source processing
- Radioisotope fuels and fuels development
- Cladding, containment and aeroentry protective materials
- LEU and HEU fuels, fuel forms, and fuels availability
- Radiation shielding materials and methods

Track 2: Surface and Space Fission Power, Special focus on NASA's KiloPower Technology Project

- Fission system concepts
- Fission system development and testing
- Space fission system technologies, including power conversion
- Space fission development lessons learned and best practices

Track 3: Nuclear Propulsion, Special focus on NTP Development Innovation

- Nuclear Thermal Propulsion system development and testing
- NTP system concepts
- NTP development lessons learned and best practices
- NTP system technologies

Track 4: Radioisotope Power Systems, Special focus on Advanced Power Conversion Technology

- Radioisotope system development and testing
- Radioisotope development lessons learned and best practices
- Radioisotope system concepts
- Radioisotope power system technologies, including power conversion

Track 5: Nuclear Missions and Nuclear Mission Support, Special focus on Nuclear Launch Safety Approval Process Innovation

- Space fission, NTP, and RPS mission applications and benefits
- Nuclear mission development, system integration, and support processes
- Nuclear application lessons learned and best practices—overcoming the impediments to using nuclear technologies in space
- Nuclear launch safety and approval processes, including NEPA compliance

Meeting Organizing Committee

General Chair: Steven Clement (*LANL*)
Assistant General Chair: Ron Fraass (*retired*)
Logistics and Registration Co-Chairs: Matthew Griffin (*LANL*) and Valerie Lawdensky (*UNLV*)
Finance Chair: Patrick McDaniel (*U. New Mexico*)
Technical Program Co-Chairs: Jorge Navarro (*ORNL*) and Leonard Dudzinski (*NASA*)
Sponsorship Chair: Markku Koskelo (*Aquila*)
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Publications and Website Chair: Bill Flor (*LANL*)
International Outreach Chair: Susan Voss (*INL*)
Student Program Chair: Monia Kazemeini (*UNLV*)
Student Technical Assistant: Valerie Lawdensky (*UNLV*)
Media Chair: Tracy Bower (*NSTec Public Affairs*)

Fuels and Materials Track Chair: Robert Wham (*ORNL*)
Surface and Space Fission Power Track Chair: Patrick McClure (*LANL*)
Nuclear Propulsion Track Chair: Michael Houts (*NASA MSFC*)
Radioisotope Power Systems Track Chair: Steve Johnson (*INL*)
Nuclear Missions and Nuclear Mission Support Track Chair: Peter McCallum (*NASA GRC*)

Submission Logistics

Summary submissions due: ~~17 November 2017~~ **14 December 2017**
Author notification of acceptance: ~~1 December 2017~~ **5 January 2018**
Final summary revisions due: ~~12 January 2018~~ **19 January 2018**

Format

Summaries should be approximately four pages in length. Authors are required to use the summary template posted on the Topical web site (link below). Summaries must be submitted electronically using Adobe Acrobat (PDF) or original Microsoft Word files via the ANS Electronic Paper Submission and Review System (link below). Summaries not based on the template will be rejected.

Guidelines for Summaries

Submit summaries describing work that is NEW, SIGNIFICANT and RELEVANT to the nuclear industry. All accepted summaries will be published in the Proceedings of the Topical. Papers are presented orally at the meeting, and presenters are expected to register for the meeting. Completed papers may be published elsewhere, but the summaries become the property of ANS. Under no circumstances should a summary or full paper be published in any other publication prior to presentation at the ANS meeting. An ANS copyright form is required for all summaries.

ANS Electronic Paper Submission: http://www.ans.org/meetings/m_274

Contact: nets-2018@lanl.gov

Topical web site: <http://anstd.ans.org/nets-2018/>

