

NETS 2019

NUCLEAR AND EMERGING TECHNOLOGIES FOR SPACE

FEBRUARY 25-28 | DISCOVERY HALL | RICHLAND, WA, USA

CALL FOR PAPERS SUMMARY PAPERS DUE OCTOBER 15, 2018

To advance our exploration and development of space, the invention and exploitation of new technologies is essential. NETS is the premier annual gathering of individuals from NASA, national laboratories, industry, and academia for discussions on space nuclear power and propulsion as well as new and emerging technologies to further space exploration capabilities. NETS is a topical meeting of the American Nuclear Society (ANS) and is hosted by the Aerospace Nuclear Science and Technology Division and the ANS Eastern Washington Section. The 2019 meeting will be held at the Pacific Northwest National Laboratory in the heart of the Columbia Valley wine region. Technical sessions will be held Monday - Wednesday with tours of the LIGO Gravitation Wave Observatory and other facilities planned for Thursday.

STANDARD TALKS

Traditional technical paper and podium presentation.

SUBMISSIONS DUE OCTOBER 15

THREE TO FIVE PAGE TECHNICAL PAPER
FIFTEEN MINUTE PRESENTATION, FIVE MINUTES OF QUESTIONS

TRACK 1: EMERGING TECHNOLOGIES IN SPACE

- Data Analytics
- Machine Learning and Artificial Intelligence
- Additive Manufacturing
- New Launch Opportunities for Small Payloads
- CubeSat and SmallSat Exploration Vehicles and Mission Concepts
- Constellations and Distributed Systems
- In-Situ Resource Utilization

TRACK 2: MISSION CONCEPTS AND LOGISTICS

- Spacecraft Concepts and Designs
- Launch Opportunities and Logistics
- Future Mission Concepts and Tech Development Needs
- Infrastructure and Capabilities
- Lessons Learned

TRACK 3: SPACE NUCLEAR POLICY

- Commercial Use of Space Nuclear Systems
- Legal, Regulatory, and Political Environments
- Public-Private Partnerships
- International and Public Considerations

TRACK 4: SPACE REACTORS

- Nuclear Thermal Propulsion
- Mars and Lunar Power
- Space Vehicle Power
- Fuel Production and Processing
- High-Temperature Materials and Alloys
- Systems Design and Testing
- Modeling and Simulation
- Fusion

TRACK 5: RADIOISOTOPE POWER SYSTEMS

- Isotope Production and Processing
- Component and System Testing
- R&D Using Surrogate Materials
- Advanced Design Concepts and Development
- High-Temperature Materials
- Radiation Tolerance and Materials Testing

TRACK 6: ENERGY CONVERSION TECHNOLOGY DEVELOPMENT

- Radiation Effects and Impacts
- Thermal Management
- Power Management and Distribution
- Radiator Concepts, Design, and Testing
- Static Conversion Devices
- Dynamic Conversion Devices
- Advanced Energy Conversion Materials

NEW OPPORTUNITY: LIGHTNING TALKS

Brief summary talks to introduce interesting ideas and share progress on exciting developments.

SUBMISSIONS DUE NOVEMBER 19

ONE PARAGRAPH SUMMARY ABSTRACT
FIVE MINUTE PRESENTATION