



Foreword

Selected Papers from the 2019 Nuclear and Emerging Technologies for Space Topical Meeting (NETS 2019)

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The Nuclear and Emerging Technologies for Space (NETS) topical meeting is a yearly meeting put together by the scientists, engineers, policy makers, hobbyists, and visionaries in the space nuclear field. This special issue of *Nuclear Technology* contains full-length, peer-reviewed papers from the NETS 2019 meeting in Richland, Washington, held February 25–27, 2019, at Pacific Northwest National Laboratory. A total of 87 full-length presentations and 28 shorter-form presentations known as lightning talks were presented in six different technical tracks. The conference proceedings can be found online at <http://anstd.ans.org/nets-2019/>.

Nuclear energy is an enabling technology for space exploration and development. Space nuclear energy technology was pioneered in the 1960s and has since powered devices across the solar system and in orbit of Earth. Today the United States is moving toward missions on the Moon and Mars. The commercial industry is moving out to and beyond Earth orbit. Nuclear energy is now more than ever finding

itself a key technology for robotic and human exploration. The NETS 2019 meeting had six different paper tracks covering the breadth of the recent developments in the space nuclear field. Track one covered emerging technologies for space, track two covered mission concepts and logistics, track three covered space nuclear policy, track four covered space reactors including fission and fusion concepts, track five covered radioisotope power systems, and track six covered energy conversion technology and development.

From the 87 papers presented at the NETS 2019 meeting, track chairs nominated the best papers in each track to be featured in this special issue. Eleven papers were selected and underwent extension followed by a full peer-review process. Of these, nine were accepted as full-length journal papers, one was accepted as a technical note, and one was accepted as a critical review. We hope you find this collection interesting and enjoy this special issue of *Nuclear Technology*!