Programme

ANTS

Advanced Nuclear Technologies in Space

22 - 25 November 2026

Prague, Czech Republic

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Sunday 22 November 2026

6.00pm – 7.00pm Welcome Drink

A registration desk for pre-registration will be open from 5:00 pm.

Monday 23 November 2026

9am – 11.00am Opening Session

Chair: M. Sevecek, Czech Technical University, Czech Republic

Welcome
Michèle Coeck, President of the European Nuclear Society

Welcome Addresses
Ondřej Šváb – Deputy Director, Czech Space Agency
Jana Kalivodová – Head of Department of Research, Development, and Support in Nuclear Energy, Ministry of Industry and Trade of the Czech Republic

Advocating Europe's Path to Independent Nuclear Capabilities for Space Exploration
Eric Proust, Chair of the ENS High Scientific Council

Opening Keynotes

Jamila Mansouri
Head of the Propulsion, Aerothermodynamics and Flight Vehicles Engineering Division, European Space Agency (ESA)

Frederik Reitsma
Head, Nuclear Power Technology Development Section, IAEA

Marion Le Flem
Programme Manager, CEA

11.00am – 11.20 am Coffee Break

11.20am-1.20pm Parallel Session I: Radioisotope Power Systems

Chair: R. Ambrosi, Perpetual Atomics, UK — Room: Venus I+II

Keynote: The ENDURE Project	**Benoit Pouffary, ESA** (tbc)
Separation of Americium for use in Radioisotope Power Systems	Sanderson, R. (1); Maher, C. (1); Whittaker, D. (1); Carrott, M. (1); Colledge, H. (1); Tinsley, T. (1); Barron, S. (2) 1 - United Kingdom National Nuclear Laboratory, United Kingdom 2 - European Space Agency, Netherlands

Overview of the European Radioisotope Power Systems Programme	Ambrosi, R. (1); Mesalam, R. (1); Barco, A. (1); Sargeant, H. (1); Lucas, J. (1); Crawford, T. (1); Bicknell, C. (1); Bouldin, C. (2); Tute, R. (1); Bell, K. (1); Speight, R. (1); Ross, D. (1); Bustin, G. (1); White, A. (2); Fongarland, C. (3); Coquay, P. (3); Lapinskas, J. (4); Zdenkova, L. (5); Cook, M. (6); Augelli, M. (6) 1 - Perpetual Atomics Ltd, United Kingdom 2 - University of Leicester, United Kingdom 3 - European Space Agency, Netherlands 4 - QSA Global, United States 5 - QSA Europe, Czech Republic 6 - UK Space Agency, United Kingdom
Pelleting 241Am Oxide - Challenges and Opportunities	Sanderson, R. (1); Tinsley, T. (1); Barron, S. (2) 1 - United Kingdom National Nuclear Laboratory, United Kingdom 2 - European Space Agency, Netherlands
Stellar Nuclear RHU Development: From Concept to Capsule	Strnad, M. (1); Sabol, J. (2); Schilhart, R. (1); Samalova, E. (1); Sevecek, M. (2); Krepl, O. (1); Sevecek, J. (1) 1 - Stellar Nuclear, Czech Republic 2 - Czech Technical University in Prague, Czech Republic

11.20am-1.20pm Parallel Session II: Heat pipe experiments and the SELENE Project

Chair: F. Lodi, ENEA, Italy — Room: Venus III

The SELENE Project: the Italian vision to bring the Moon Energy Hub to maturity	Lodi, F. (1); Lorenzi, S. (2); Ricotti, M. E. (2); Ferri, A. (3); Perino, M. A. (3); Pergreffi, R. (1); Carrelli, C. (1); Lach hab, M. (1); Di Francesco, A. (1); Mastrovito, K. (1); Occhipinti, S. (1); Da Và, R. (1); Gabriele, M. (4); Angelini, F. (1); Santoro, S. (1); Gandolfo, G. (1); Gagliardi, F. (1); Lepore, L. (1); Cherubini, N. (1); Tutolo, L. (2); Boccelli, R. (2); Gianmoena, D. (2); D'ottavio, A. (3); Peressotti, A. (3); Quaranta, A. (3); Vicenza, F. (3); Gramegna, L. (3); Pepe, R. (5); Amodio, A. (5) 1 - Nuclear Department, ENEA , Italy 2 - Energy Department, Polytechnique of Milan , Italy 3 - Thales Alenia Space Italia S.p.A., Italy 4 - CREATE Consortium, Italy 5 - Agenzia Spaziale Italiana (ASI), Italy
The SNR Core developed within the SELENE project: main design drivers and features	Pergreffi, R. (1); Lodi, F. (1); Lach hab, M. (1); Di Francesco, A. (1); Mastrovito, K. (1); Occhipinti, S. (1); Da và, R. (1); Carrelli, C. (1); Gabriele, M. (2) 1 - Nuclear Department, ENEA, Italy 2 - CREATE Consortium, Italy

A Multilevel Modeling Methodology for the Design of Free-Piston Stirling Converters in Space Nuclear Systems	Gabriele, M. (1); Carrelli, C. (2); Di Gironimo, G. (1); Lodi, F. (2); Pergreffi, R. (2); Mastrovito, K. (2); Lach hab, M. (2); Di Francesco, A. (2); Occhipinti, S. (2); Da Vià, R. (2) 1 - CREATE Consortium, Italy 2 - Nuclear Department, ENEA, Italy
Conceptual Design and Preliminary Characterization of a Modular Lunar Regolith-based Thermal Energy Storage System	Tutolo, L. (1); Pernatsch, T. (1); Lorenzi, S. (1) 1 - Politecnico di Milano, Italy
HPERspace: the heat pipe test section in support of the SELENE project	Lodi, F. (1); Mastrovito, K. (1); Carrelli, C. (1); Pergreffi, R. (1); Lach hab, M. (1); Di Francesco, A. (1); Occhipinti, S. (1); Da Vià, R. (1); Gabriele, M. (2) 1 - Nuclear Department, ENEA, Italy 2 - CREATE Consortium, Italy
HEAPSTER: An Experimental Facility for High-Temperature Heat Pipe Characterization	Tanghetti, A. (1); Ahn, T. (2); Lee, D. H. (1); Bissels, W.-M. (2); Petrov, V. (2); Manera, A. (1) 1 - Nuclear Safety and Experimental and Computational Multiphase Flows Laboratory (NS-ECMFL), ETH Zurich, Switzerland 2 - PSI Center for Nuclear Engineering and Science PSI, Switzerland

1.20pm – 2.10pm Lunch Break

2.10pm -4.10pm Parallel Session I: Neutronics

Chair: B. Winterholer, Framatome, France Room: Venus I+II

Radiation Shielding Pre-Design for a Lunar Surface Micro Modular Reactor: Assessment of Dose-Rate and Mass-Driven Constraints	Boisseau, P. (1); Sgandurra, L. (1); Winterholer, B. (1) 1 - Framatome SAS, France
Evaluation of Space-Radiation-Induced Neutrons for Startup of a Lunar-Base Molten Salt and Metal Reactor (MSMR)	Ryu, J. (1); Kim, Y. (1) 1 - KAIST, Korea, Republic of
Neutronic Feasibility Study of Surface Fission Power Reactor Core Composed of Low-Density UC Blocks	Frybort, J. (1) 1 - Czech Technical University in Prague, Czech Republic
NEUTRONIC ANALYSIS OF A LOW-ENRICHED HEAT-PIPE SPACE MICROREACTOR	Gustavo, H. (1); Hergenreder, D. (1); Mataloni, L. (1); Ricaurte, D. (2); Guttlein, C. (2) 1 - INVAP S.A.U, Argentina 2 - Instituto Balseiro, Argentina
Generational development of nuclear data libraries and their impact on the criticality safety of microreactors for space	Stafie, C. A. (1); Perret, G. (1); Vasiliev, A. (1); Ferroukhi, H. (1) 1 - Paul Scherrer Institute PSI Center for Nuclear Engineering and Sciences, Switzerland
Drums in concert: coupled reactivity control in the NASA fission surface power reactor	Abuzlf, H. (1); Gilad, E. (1) 1 - The Unit of Nuclear Engineering, Ben Gurion University of the Negev, Israel

2.10pm -4.10pm Parallel Session II: Ammonia-based NTP and the BANTER Project

Chair: G. Herdrich, University of Stuttgart, Germany — Room: Venus III

Nuclear Reactor Core Design Activities for the BANTER Project	Mannucci, S. (1); Puccinelli, E. (1); Pasini, A. (1); Giusti, V. (1) 1 - University of Pisa, Italy
Ammonia-based space power for bimodal nuclear propulsion: a comparative assessment of closed Rankine and Brayton cycles	Tacchi, A. (1); Puccinelli, E. (1); Frate, G. F. (1); Pasini, A. (1); Ferrari, L. (1) 1 - University of Pisa, Italy
Time and Propellant Savings from Hybrid Maneuvers in an Ammonia-Fed Bimodal Nuclear Rocket	Giuntini, S. (1); Grill, J. (2); Puccinelli, E. (1); Herdrich, G. (2); Pasini, A. (1) 1 - University of Pisa, Italy 2 - University of Stuttgart, Germany
Preparation of Test Facilities for Nuclear Thermal Propulsion On-ground Testing	Puccinelli, E. (1); Pasini, A. (1); Giusti, V. (1); Mazzini, G. (2); Dambrosio, A. (2); Palazzi, N. (1); Mannucci, S. (1); Giuntini, S. (1); Tacchi, A. (1) 1 - University of Pisa, Italy 2 - Centrum výzkumu Řež, Czech Republic
Ammonia-based NTP: complete in-core dissociation and its spectrum-dependent neutronic effect	Chappuis, A. E. P. (1); Cherezov, A. (1); Vasiliev, A. (1); Ferroukhi, H. (1); Manera, A. (2) 1 - Paul Scherrer Institute PSI, Switzerland 2 - ETH Zürich, Switzerland
Ammonia-based NTP: system-level analysis and European roadmap integration for cis-lunar transport	Chappuis, A. E. P. (1); Truchot, A. (1); Samolada, Y. (1); Arn, B. (1); Cherezov, A. (1); Vasiliev, A. (1); Ferroukhi, H. (1); Manera, A. (2) 1 - Paul Scherrer Institute PSI, Switzerland 2 - ETH Zürich, Switzerland

4.10pm – 4.30pm Coffee Break

4.30pm -6.30pm Parallel Session I: Conceptual Design (1)

Chair: J. Grill, University of Stuttgart, Germany — Room: Venus I+II

A Three-Stage Methodology for the Design of Nuclear Electric Propulsion (NEP) Spacecraft: Application to a Molten Salt Reactor (MSR) Concept	Rubiolo, P. (1); Szmandiuk, F. (1); Capellan, N. (1); Giraud, J. (1); De la Iglesia, G. (1); Winterholer, B. (2) 1 - LPSC, Univ. Grenoble Alpes, Grenoble INP, Grenoble, France, France 2 - FRAMATOME, Lyon, France, France
Space Nuclear Applications: Cross-Fertilisation of Nuclear and Space Engineering Expertise	Lamoine, L. (1); Boyard, M. (1) 1 - TechnicAtome, France
Evaluation of Nuclear Electric Propulsion System Design Options Using PRESTO	Szmandiuk, F. (1); Rubiolo, P. (1); Capellan, N. (1); Castanet, F. (2) 1 - LPSC, Univ. Grenoble Alpes, Grenoble INP, Grenoble, France, France 2 - CNES, Toulouse, France, France

ECSPLORER: A PRELIMINARY CONCEPTUAL DESIGN OF AN ELECTRONUCLEAR SYSTEM FOR SPACE APPLICATIONS AND ITS OPTIMIZATION	Bertrand, F. (1); Charlier, M. (1); Mascaron, M. (1); Sciora, P. (1); Droin, J.-B. (1) 1 - CEA, France
RAVEN – modular nuclear microreactor for space applications	Bromova, E. (1); Dostal, V. (2); Frybort, J. (2); Klesa, J. (2); Sevecek, J. (1); Strnad, M. (1); Krepl, O. (1); Samalova, E. (1); Marcisovsky, M. (1); Sabol, J. (2); Kousal, J. (2); Boucek, V. (3); Krejci, J. (3) 1 - Stellar Nuclear, Czech Republic 2 - Czech Technical University in Prague, Czech Republic 3 - UJP PRAHA, Czech Republic
Preliminary HALEU core design for a 100 Kwe nuclear electric reactor, modeled via full Monte Carlo depletion with integrated control and thermal feedback	Pontier, JB (1); Moulignier, T. (1) 1 - CEA, France

4.30pm -6.30pm Parallel Session II: Technology Research and Development

Chair: V. Girardin, European Space Agency — Room: Venus III

Neutronic Comparison of HEU and HALEU Fuel Options in Heat-Pipe Space Reactors: Mass Penalty and Material Attractiveness	Abuzlf, H. (1); Gilad, E. (1) 1 - The Unit of Nuclear Engineering, Ben Gurion University of the Negev, Israel
Assessment of the Neutronic Impact of HALEU Fuel in a Gas-Cooled Nuclear Electric Propulsion Reactor	Vermeeren, B. (1); Van humbeeck, F. (1); Van Parys, R. (1); Haedens, M. (1) 1 - Tractebel, Belgium
Microstructural Characterization of Pt-Rh Radioisotope Capsules by EBSD: Impact of Welding and High-Temperature Re-Entry Conditions	Guerin, P. (1); Winterholer, B. (1); Lagrange, D. (1); Vilain, A. (1); Le gal la salle, M. (1); Brosse, A. (1); Calonne, O. (1) 1 - Framatome, France
Learning from ELDO: Historical Lessons and Technical Heritage for Europe's Future Space Nuclear Fission Power and Propulsion Systems	Pozo Larrocha, B. (1); Girardin, V. (2); Barron, S. (1); Poullin, G. (2) 1 - European Space Agency (ESA), Netherlands 2 - European Space Agency (ESA), France
Thermoelectric Engineering Framework for Radioisotope Power Generator Design	Ray, A. (1) 1 - Thermagy, Netherlands
Generation IV Reactor Technologies and Their Potential for Space Applications	Tsige-Tamirat, H. (1) 1- European Commission Joint Research Center

7.30pm – 10.30pm Conference Dinner

Tuesday 24 November 2026

8.40am–10.00am Parallel Session I: Coordination and Safety

Chair: J. Handrlica, Charles University, Czech Republic — Room: Venus I+II

Europe autonomous access to Space with its operational capability of launches on-boarding Nuclear Power Sources	Poullin, G. (1); Le falc'her, D. (1) 1 - European Space Agency, France
Launching Internationally Developed Space Nuclear Systems from the United States: A Lifecycle Deployment Framework	Gilbert, A. (1) 1 - Rocinante Fieldworks, United States
Towards a European solution for Space Nuclear Fission Power and Propulsion technologies	Pozo Larrocha, B. (1); Barron, S. (1); Mansouri, J. (1) 1 - European Space Agency (ESA), Netherlands
Evaluation of Dose Versus Distance for Multiple Radioisotopes at Fixed Activity Multipliers	Clayton, D. (1) 1 - Sandia National Laboratories, United States

8.40am–10.20am Parallel Session II: Architectures, Missions, and Use Cases

Chair: B. Spindler, Tractebel, Belgium — Room: Venus III

Design and Analysis of a thermo-mechanical interface between an Am-RTG and a PPT	De Simone, A. (1); Mesalam, R. (2); Barco, A. (2); Bell, K. (3); Tute, R. (3); Bicknell, C. (2); Sargeant, H. (2); Ambrosi, R. (2); Beioley, J. (4); Baker, A. (5); Chandler, A. (5); Salmon, D. (5); Tellet, D. (5); Fernandez Alvares, J. A. (6); Fernandez Miaja, P. (6) 1 - Politecnico di Torino, Turin, Italy 2 - Perpetual Atomics, Space Park Leicester, Leicester, United Kingdom 3 - University of Leicester, Leicester, United Kingdom 4 - Cranfield University, Cranfield, United Kingdom 5 - Magdrive, Harwell Campus, Oxfordshire, United Kingdom 6 - Universidad de Oviedo, Oviedo, Spain
NewTrust NTP engine and application to crewed Mars missions	Bertrand, F. (1); Girardin, V. (2); Sciora, P. (1); Brun-Magaud, V. (1); Matteo, L. (1); Simonnet, A. (1) 1 - CEA, France 2 - ESA, France
A comparison of impulsive propulsion systems and transportation architectures for crewed Earth-Mars roundtrip missions	Barbato, V. (1); Pizzarelli, M. (2); Nasuti, F. (1) 1 - La Sapienza University of Rome, Italy 2 - Italian Space Agency, Italy
Extending SPARTACUS to Cis-Lunar Missions: A Coupled Trajectory and Reactor Physics Tool for Nuclear Propulsion Assessment	Arn, B. (1); Chappuis, A. (2); Cherezov, A. (2); Vasiliev, A. (2); Ferroukhi, H. (2); Manera, A. (2) 1 - ETH Zürich, Switzerland 2 - Paul Scherrer Institut, Switzerland
Modular Deployment Strategies for a 200 kWth HALEU Fission Power System: A Comparative Analysis of European Launch Architectures for Lunar Exploration	Gianmoena, D. (1); Boccelli, R. (1); Tutolo, L. (1); Ricotti, M. E. (1); Lorenzi, S. (1) 1 - Politecnico di Milano, Italy

10.20am-10.50am Poster Session

Nuclear Energy for Lunar Exploration: An Overview of Nuclear4Space Research Activities at Politecnico di Milano	Boccelli, R. (1); Gianmoena, D. (1); Lorenzi, S. (1); Ricotti, M. E. (1); Tutolo, L. (1) 1 - Politecnico di Milano, Italy
Reactivity Control Requirements for a Moderated Surface Nuclear Reactor	Pergreffi, R. (1); Lodi, F. (1); Lach hab, M. (1); Di Francesco, A. (1); Mastrovito, K. (1); Occhipinti, S. (1); Da Vià, R. (1); Carrelli, C. (1); Gabriele, M. (2) 1 - Nuclear Department, ENEA, Italy 2 - CREATE Consortium, Italy
OpenFOAM-Based Multiphysics Simulation and Validation of a Heat Pipe for Advanced Nuclear Microreactors	Carusela, F. (1); Monastra, A. (1); Gaudiani, A. (1); Chej, L. (2); Zurdo, L. (2); Baeza, G. (3); Mataloni, L. (4); Sarabia, G. (4); Hergenreder, D. (4) 1 - Laboratorio de Modelado y Simulación Computacional, Instituto de Ciencias, Universidad Nacional de General Sarmiento, Argentina 2 - CONICET, Argentina 3 - CIC, Buenos Aires , Argentina 4 - Department of Nuclear Engineering, INVAP S.A.U., Argentina
Toward an open-source multiphysics platform for space nuclear systems	Ponce Tovar, M. A. (1); Clifford, I. D. (1); Ferroukhi, H. (1); Manera, A. (2) 1 - Paul Scherrer Institute, Switzerland 2 - ETH Zurich, Switzerland
Manufacturing and qualification framework for highly efficient thermoelectric radioisotope power generators.	Ray, A. (1); Den Heijer, M. (1) 1 - Thermagy, Netherlands
A Review of Repeatability Challenges in Liquid Metal Heat Pipes for Space Power	Lee, D. H. (1); Lee, D. H. (2); Ahn, T. (2); Petrov, V. (1); Manera, A. (2); Tanghetti, A. (2) 1 - PSI Center for Nuclear Engineering and Science, Switzerland 2 - Nuclear Safety and Experimental and Computational Multiphase Flows Laboratory (NS-ECMFL), ETH Zurich, Switzerland
Releasing the Am241 based Radioisotope Power Source production Dreams to a reality at pace.	Richards, P. K. (1) 1 - Institute of Royal Engineers, United Kingdom

Heat Pipe Cooled Microreactor Control Drum Rotation Scheme Implementation	Güttlein, C. C. (1); Cherezov, A. (1); Ferroukhi, H. (1); Pautz, A. (2) 1 - PSI Center for Nuclear Engineering and Science, Switzerland 2 - École Polytechnique Fédérale de Lausanne, Switzerland
Beyond the Fixed-Installation Paradigm: Nuclear Liability and Commercial Space Propulsion	Gavrilou, S. (1) 1 - Self-Employed, Greece
Compatibility of a Zr–Nb alloy matrix with steam propellant for nuclear thermal propulsion	Makurunje, P. (1); Middleburgh, S. (1) 1 - Nuclear Futures Institute, Bangor University, United Kingdom
Preparing Spaceports for International Nuclear Power and Propulsion Missions	Schleeper, D. (1); Gilbert, A. (2) 1 - RS&H, United States 2 - Rocinante Fieldworks, United States
Introducing BANTER: a European Bimodal Nuclear Propulsion System fed by Ammonia	Pasini, A. (1); Puccinelli, E. (1); Giusti, V. (1); Becatti, G. (1); Massucci-templier, C. (2); Dambrosio , A. (3); Herdrich, G. (4); Ferrari, L. (1); Labella, L. (1); Paganucci, F. (1); Samaritani, S. (1); Francesco frate, G. (1); Giuntini, S. (1); Mannucci, S. (1); Palazzi, N. (1); Micciani, A. (1); Tacchi, A. (1); Grill, J. (4); Wanke, D. (4); Sperber, A. (4); Pierrettori, P. (2); Mazzini, G. (3) 1 - University of Pisa, Italy 2 - Novaspace, France 3 - Centrum výzkumu Řež, Czech Republic 4 - University of Stuttgart, Germany
Physics-Based and Reduced-Order Modelling of Sodium–Argon Variable Conductance Heat Pipes for Space Nuclear Systems	Igua, L. (1); Mataloni , L. (2); Sarabia, G. (2) 1 - Instituto Balseiro, Argentina 2 - INVAP S.A.U , Argentina
NEWPUT: Development, Verification and Validation of a 1D C++ Solver for Sodium Heat Pipes	Venturini, D. (1); Ahn, T. (1); Manera, A. (1); Petrov, V. (1) 1 - ETH Zürich, Switzerland
An Optimisation Strategy Based on Genetic Algorithms for the Conceptual Design of Space Heat Pipe Reactor Cores	Boccelli, R. (1); Tutolo, L. (1); Lorenzi, S. (1); Gianmoena, D. (1); Ricotti, M. E. (1) 1 - Politecnico di Milano, Italy
Reduced-gravity effects on layered additive construction: a simulation framework for mass-efficient lunar reactor shielding and support structures	Pal, D. (1); Sully, M. C. (1) 1 - SOCOTEC ENGINEERING, United States
Bridging Africa's Nuclear and Space Governance Gaps: A regional approach	Abang, A. (1); Foy, H. (1) 1 - African Center for Science and International Security, Cameroon
Lunar Reactors as Dual-Use Infrastructure: Legal Classification, Evidence and Proportionate Disclosure	Cardellini Leipertz, R. (1) 1 - School of Advanced Defence Studies (CASD/SSU), Italy

10.50am-11.20am Coffee break

11.20am-12.00pm Panel Discussion: Navigating the legal landscape for safe and sustainable use of nuclear power in Outer Space

With

M. Hofmann, University of Luxembourg, Luxembourg
T. Masson-Zwaan, University of Leiden, the Netherlands
A. Capurso, LUISS University, Italy

Moderated by **J. Handrlica,** Charles University, Czech Republic

12.00pm-12.50pm Lunch break

12.50pm–2.30pm Parallel Session I: Security and Safety

Chair: Frederik Reitsma, IAEA — Room: Venus I+II

Close-Proximity Operations, Nuclear Defunct Satellites and the Emerging Regulatory Gap in Europe	Stessl , M. (1) 1 - DLA Piper Slovakia, Slovakia
REXIS: A Small-Satellite Mission for Inspection of Defunct Nuclear-Powered Spacecraft	Marcisovsky, M. (1); Hlacik, A. (2); Bromova, E. (1); Strnad, M. (1); Sevecek, M. (1); Sevecek, J. (1) 1 - Stellar Nuclear, Czech Republic 2 - Stellar Exploration, Czech Republic
ESTE4Space – a tool for radiological safety analyses of space missions using nuclear power sources.	Liptak, L. (1); Marcisovsky, M. (1); Marcisovska, M. (1); Fojcikova, E. (1); Carny, P. (1); Krpelanova, M. (1); Fabova, V. (1) 1 - ABmerit - nuclear and space, Ltd., Slovakia
Microreactors for Outer Space Applications: Technology Synergies, Deployment Prospects, and International Collaboration	Araujo da Silva, D. (1); Subki, M. H. (1); Reitsma, F. (1) 1 - International Atomic Energy Agency, Austria
Proposition of a preliminary adapted licensing strategy for spatial MMR (Micro-Modular Reactors)	Lansou, S. (1) 1 - Framatome, France

12.50am–2.30pm Parallel Session II: Conceptual Design (2)

Chair: P. Rubiolo, University of Grenoble, France — Room: Venus III

System Modelling of a Fission Powered Lunar Co-Generation Plant Concept	Mercz, J. (1); Reiss, P. (2); Reiter, C. (1) 1 - Professorship of Applied Nuclear Technologies, Technical University of Munich (TUM), Germany 2 - Professorship of Lunar and Planetary Exploration, Technical University of Munich (TUM), Germany
LEU-Fuelled Natural-Circulation Microreactor for Heat & Electricity Supply on the Moon	Takaki, N. (1); Dendou, H. (1); Masumoto, S. (1); Isomoto, T. (1); Ishiyama , A. (1); Urabe , R. (1) 1 - Tokyo City University, Japan

AstroMMR Overview: Safety Analysis of Micro Modular Reactor Concepts for Space Applications	Grill, J. (1); Ehresmann, M. (1); Herdrich, G. (1); Gewehr, M (1); Maurer, L. (1); Klinkner, S. (1); Severini, A (2); Germini, A. (2); König, M.-L (2); Starflinger, J. (2); Gupta, S. (3); Fuchs, T. (3) 1 - Institute of Space Systems, University of Stuttgart, Germany 2 - Institute of Nuclear Technology and Energy Systems, University of Stuttgart, Germany 3 - Framatome GmbH, Germany
Lunar Surface Nuclear Microreactors: Assessment and Concept Development	Gupta, S. (1); Fuchs, T. (1); Ackermann, L. (1); Grill, J. (2); Ehresmann, M. (2); Herdrich, G. (2); Starflinger, J. (2) 1 - Framatome GmbH, Germany 2 - University of Stuttgart, Germany
Power scalability study of the FSP reactor core	Petiteau, V. (1); Sidor, W. (1); Mascaron, M. (1); Bertrand, F. (1) 1 - CEA, France

2.30pm-2.50pm Coffee break

2.50pm–4.30pm Parallel Session I: Nuclear Thermal Propulsion

Chair: H. Tsige-Tamirat, EC Joint Research Center, the Netherlands Room: Venus I+II

Development of a High-Temperature and High-Specific-Impulse Liquid HALEU Nuclear Thermal Rocket	Alnuaimi , R. (1); Kim , Y. (1) 1 - Korea Advanced Institute of Science & Technology (KAIST), Korea, Republic of
Feasibility Study of a Closed-Cycle Gaseous-Core Reactor Nuclear Thermal Propulsion	Piaskowy, J. (1); Cherezov, A. (1); Vasiliev, A. (1); Ferroukhi, H. (1); Manera, A. (2) 1 - Paul Scherrer Institut (PSI), Switzerland 2 - Eidgenoessische Technische Hochschule Zurich (ETHZ), Switzerland
Impact of mass flow distribution on nuclear thermal propulsion reactor cooling	Moulignier, T. (1); Lorenzo, A. (1); Nahed, C. (2); Lenain, R. (1); Bertrand, F. (3); Matteo, L. (3); Bouvard, T. (4); Patricot, C. (1) 1 - Université Paris-Saclay, CEA, Service d'études des réacteurs et de mathématiques appliquées, France 2 - Université Paris-Saclay, CEA, Service d'Etudes Mécaniques et Thermiques, France 3 - CEA, DES, IRESNE, France 4 - Université Paris-Saclay, CEA, Service de Thermo-hydraulique et de Mécanique des Fluides, France
Modeling Space-Based Nuclear Propulsion and Power Systems with the SPECTRA 1D System Thermal-Hydraulic Code	Verdonschot, B. (1); Stempniewicz, M. (1) 1 - NRG PALLAS, Netherlands

2.50pm–4.30pm Parallel Session II: Manufacture and Testing

Chair: E. Proust, CEA, France — Room: Venus III

WWR-K Research Reactor Experimental Infrastructure and Historical Experience in Testing Thermionic Conversion Reactor Components for Space Nuclear Power Applications	Sairanbayev, D. (1); Shaimerdenov, A. (1); Gizatulin, S. (1); Aitkulov, M. (1); Ashibayev, A. (1) 1 - Institute of Nuclear Physics ARKAE, Kazakhstan
Fuel-Agnostic Radioisotope Dynamic Generator	Scepanskis, M. (1) 1 - Deep Space Energy, Latvia
Testing of the Americium-Fuelled Radioisotope Stirling Generator Engineering Model	Tute, R. (1); Bell, K. (1); Wozniak, E. (2); Mesalam, R. (3); Oriti, S. (2); Stang, M. (2); Crawford, T. (1); Sargeant, H. (3); Barco, A. (3); Watkinson, E.-J. (1); Ambrosi, R. (3); Lucas, J. (3) 1 - University of Leicester, United Kingdom 2 - National Aeronautics and Space Administration (NASA), Glenn Research Center (GRC), United States 3 - Perpetual Atomics, United Kingdom
A Preliminary Study on Manufacturing and Performance Evaluation of Rolled Screen-Mesh Wicks for Heat Pipes	Kim, H. (1); Lee, D. (2); Ahn, T. (2); Petrov, V. (3); Manera, A. (2); Kim, H. (1) 1 - Gyeongsang National University, Korea, Republic of 2 - ETH Zurich, Switzerland 3 - Paul Scherrer Institute, Switzerland

4.30pm-5.00pm Closing Session

Wednesday 25 November 2026

Technical Tours

- *UJP Prague*
- *Czech Technical University in Prague (Laboratories of the Department of Nuclear Reactors, Research reactors VR-1 and VR-2); Stellar Exploration*



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