TECHNICAL TOPICS

ICES101: TECS

Spacecraft and Instrument Thermal Systems

This session presents thermal design, testing, and on-orbit performance of near-earth and interplanetary unmanned/robotic spacecraft, instruments, and payloads, and the application of key new technologies.

Jose Rodriguez, NASA Jet Propulsion Laboratory,
jose.i.rodriguez@jpl.nasa.gov
Joe Gasbarre, NASA Langley Research Center
Wes Ousley, Genesis Engineering Solutions LLC

ICES102: TECS

Thermal Control for Planetary and Small Body Surface Missions

This session focuses on active and passive thermal control for planetary and small body surface missions utilizing vehicles such as rovers, landers, probes, and rendezvous systems. Also covered is the characterization and modeling of the environment in support of such missions.

Eric Sunada, NASA Jet Propulsion Laboratory,
Eric.T.Sunada@jpl.nasa.gov
Jennifer Miller, NASA Jet Propulsion Laboratory
Gaj Birur, NASA Jet Propulsion Laboratory

ICES103: TECS/INT

Thermal and Environmental Control of Exploration Vehicles and Habitats

This session covers environmental control, thermal control (passive and active), and thermal protection topics for vehicles used to transport crew and cargo to/from cislunar space, the Moon, Mars, and asteroids, including landers, habitats, and crew transport vehicle systems. Papers on related systems within international and U.S. programs, including Gateway, are welcome. Potential topics include encountered space environment, base heat rejection, dust mitigation, thermal and environmental control and life support requirements, design, analysis, verification, and testing.

Rubik Sheth, NASA Johnson Space Center,
rubik.b.sheth@nasa.gov
Andrea Ferrero, Thales Alenia Space,
andrea.ferrero@thalesaleniaspace.com
Jose Roman, NASA Marshall Space Flight Center
Sean Tuttle, Nova Systems / Sigma Space Systems
Tom Leimkuehler, Jacobs

ICES104: TECS/INT

Advances in Thermal Control Technology

This session addresses novel or advanced technologies and development activities pertaining to heat acquisition, transport, rejection, and storage, as well as cryogenic cooling and thermal protection systems not specific to any existing or future scientific instruments, spacecraft, or planetary systems.

Jeff Farmer, NASA Marshall Space Flight Center,
jeffery.t.farmer@nasa.gov
Matthias Holzwarth, ArianeGroup,
matthias.holzwarth@ariane.group
Olivier Pin, European Space Agency
Joël Gayraud, CNES
Angel Alvarez-Hernandez, NASA Johnson Space Center

ICES105: TECS

Thermal Standards and Design/Development Practices

This session focuses on current and future efforts and needs for development of spacecraft thermal control standards and reference documents dealing with such areas as design, analysis, testing, equipment, specifications, and processes. These standards might be dedicated to a specific company or applicable to programs, space centers, or agencies. Also included are lessons learned in developing or applying these standards.

Eric Grob, NASA Goddard Space Flight Center,
eric.w.grob@nasa.gov
Art Avila, NASA Jet Propulsion Laboratory
Joe Gasbarre, NASA Langley Research Center

ICES106: TECS/INT

Thermal Control for Space Launch Vehicles, Propulsion, and Nuclear Power Systems

This session features papers on thermal control design, analysis, testing, and flight performance. Three aspects are addressed in this session: (1) Launch vehicles, both commercial and government, including NASA's Space Launch System (SLS); (2) Propulsion systems for rockets, spacecraft, orbiting platforms, space vehicles, and landers, including advanced propulsion techniques; (3) Nuclear power systems for spacecraft, orbiting platforms, space vehicles, landers, and rovers, including systems for power generation, propulsion, and heating.

Jose Roman, NASA Marshall Space Flight Center,
jose.roman@nasa.gov
Matthias Holzwarth, ArianeGroup,
matthias.holzwarth@ariane.group

ICES107: TECS/INT

Thermal Design of Microsatellites, Nanosatellites, and Picosatellites

Satellites that are smaller than smallsats run into issues with limited radiative surface area and increased power density that make their thermal environment in some ways more challenging than larger satellites. This session presents and discusses the unique thermal concerns pertaining to very small satellites (nanosatellites, cubesats, microsats, etc.). Potential topics include the thermal design, analysis, testing, and on-orbit performance of very small satellites, and the application of relevant key new technologies.

Stephanie Mauro, NASA Marshall Space Flight Center,
stephanie.l.mauro@nasa.gov
Robert Coker, Johns Hopkins University Applied Physics Laboratory,
robert.coker@jhuapl.edu
Brian Briggs, NASA Jet Propulsion Laboratory
Hosei Nagano, Nagoya University

ICES108: TECS/INT

Thermal Control of Cryogenic Instruments and Optical Systems

This session covers cryogenic thermal control as applied in instruments, focal plane assemblies, detectors, and optical systems. This includes relevant passive and active cooling technologies, as well as cryogenic testing facilities, test processes, and lessons learned.

Wes Ousley, Genesis Engineering Solutions LLC,
wes.ousley@nasa.gov
Martin Altenburg, Airbus
Jose Rodriguez, NASA Jet Propulsion Laboratory

ICES201: INT

Two-Phase Thermal Control Technology

This session presents the latest developments and innovations of two-phase heat transport systems, modeling techniques, and on-orbit performances for space applications. It covers all variants of heat pipe technologies, capillary and mechanically pumped loops, and loop heat pipes.

Frank Bodendieck, OHB System AG,
frank.bodendieck@ohb.de
Stéphane Lapensée, European Space Agency
Guanghan Wang, Canadian Space Agency
Alejandro Torres, IberEspacio S.A.
Alain Chaix, Thales Alenia Space

ICES202: INT

Satellite, Payload, and Instrument Thermal Control

This session covers the development and design of thermal control systems for satellites, payloads, and instruments.

Patrick Hugonnot, Thales Alenia Space,
patrick.hugonnot@thalesaleniaspace.com
Marco Molina, Leonardo
Hiroyuki Ogawa, Japan Institute of Space and Astronautical Science
Johannes van Es, NLR

ICES203: INT

Thermal Testing

The thermal testing session focuses on all aspects of thermal tests, test methods, test correlation, and test facilities. Tests for all kinds of spacecraft, instruments, equipment, and materials are of interest. Special attention is given to sharing lessons learned from thermal test and test analysis and correlation activities, and also to innovative test methods, set-ups, and approaches to testing and verification of the hardware and of the analysis.

Gerd Jahn, Airbus,
gerd.jahn@airbus.com
Luke Tamkin, Airbus
Hiroyasu Mizuno, JAXA
Andrea Ferrero, Thales Alenia Space

ICES204: INT/AIAA LS&S

Bioregenerative Life Support

This session focuses on the design, development and operations of ground-based facilities, flight hardware and experiments associated with integrated systems which incorporate biological, physical, and chemical processors for the production, management and regeneration of Life Support resources.

Cesare Lobascio, Thales Alenia Space
cesare.lobascio@thalesaleniaspace.com
Masato Sakurai, JAXA

ICES205: INT/AIChE

Advanced Life Support Sensor and Control Technology

This session includes papers describing approaches to monitoring water and air in enclosed habitats, thermal control of habitats, chemical sensors and sensing devices for detection of chemical constituents in water and air, and systems and system concepts for environmental monitoring and control.

Abhijit V. Shevade, NASA Jet Propulsion Laboratory,
abhijit.v.shevade@jpl.nasa.gov
Darrell L. Jan, NASA Ames Research Center
Timo Stuffler, OHB System AG

ICES206: INT/TECS

Manned Orbiting Infrastructures, Habitats, Space Station and Payload Thermal Control

This session addresses thermal control on board the current Space Station and future long term, manned (or man-tended) orbiting habitats, platforms, or laboratories including their payloads and on-board experimental test prototypes. Topics range from system and component issues with the Space Station, Orbiting Infrastructures and Habitats thermal control systems to thermal aspects of payloads and experiments that utilize the Space Station or other Orbiting Infrastructures and Habitats as a science platform or as a test bed for future exploration applications including advanced thermal control solutions/techniques.

Patrick Oger, Airbus,
patrick.oger@airbus.com
Zoltan Szigetvari, Airbus
Matteo Lamantea, Thales Alenia Space
Diego Mugurusa, UTC Aerospace Systems
Dale Winton, Honeywell International

ICES207: INT/TECS

Thermal and Environmental Control Engineering Analysis and Software

This session addresses thermal and environmental control engineering analysis and software. This may include novel user experiences with existing tools, new tool and utility developments, improvements in existing commercial tools, cross-discipline tool integration and data exchanges, as well as any other software or analysis related topics.

Henri Brouquet, ITP Aero,
henri.brouquet@itp-engines.co.uk
Brian Briggs, NASA Jet Propulsion Laboratory
Olivier Pin, European Space Agency
Hume Peabody, NASA Goddard Space Flight Center

TECHNICAL TOPICS

ICES300: AIChE

ECLSS Modeling and Test Correlations

This session reports on applications and advances in modeling physiochemical and biochemical life support processes, as well as in numerical modeling of atmospheric pressure, cabin ventilation, and composition distributions in closed space habitats, such as the International Space Station, exploration spacecraft, the habitats, and commercial crewed and cargo space transport vehicles.

Chang Hyun Son, The Boeing Company,
chang.h.son@boeing.com
Kevin Braman, The Boeing Company,
kevin.m.braman@boeing.com
Nikolay Ivanov, Peter the Great Saint Petersburg Polytechnic University, Russia

ICES301: AIChE

Advanced Life Support Systems Control

This session reports on advanced life support system control topics, such as controller technology; control theory and application; autonomous control; integrated system control; control software; and modeling, simulation, and emulation for control development.

Chang Hyun Son, The Boeing Company,
chang.h.son@boeing.com
Cliff Martin, The Boeing Company,
cliff.martin@boeing.com
Nikolay Ivanov, Peter the Great Saint Petersburg Polytechnic University, Russia

ICES302: AIChE/ASME/INT

Physio-chemical Life Support- Air Revitalization Systems -Technology and Process Development.

This session addresses research, development, and enhancement of physico-chemical technologies and systems associated with Air Revitalization Systems (ARS). Integration of these systems in closed loop life support applications such as space vehicles and habitats, recent findings and performance of on-orbit systems, cross-cutting applications of ARS technologies, and approaches to reducing mission costs and improving overall mission logistics associated with ARS technologies are also presented.

Morgan Abney, NASA Marshall Space Flight Center,
morgan.b.abney@nasa.gov
Jim Knox, NASA
jim.knox@nasa.gov
Carsten Matthias, Airbus Defence and Space
Darrell Jan, NASA Ames Research Center

ICES303: AIChE/INT

Physio-Chemical Life Support- Water Recovery & Management Systems- Technology and Process Development.

This session addresses research, development, and improvement of physio-chemical technologies and systems associated with Water Recovery & Management (WRM) System. Systems included are water/wastewater recycling/reuse and water quality management and storage. These systems are intended as regenerative life support systems on the International Space Station (ISS), space vehicles and habitats, and ground-based systems that are relevant to space travel. In addition, other advanced technologies (e.g. biological system) that aim to reduce mission costs and improve overall mission logistics associated with water recovery system technologies are also presented.

Justine Richardson, NASA Ames Research Center,
tra-my.j.richardson@nasa.gov
Cesare Lobascio, Thales Alenia Space
Mike Flynn, NASA Ames Research Center
Andrew Jackson, Texas Tech University

ICES304: AIChE/INT

Physio-Chemical Life Support- Waste Management Systems- Technology and Process Development.

This session addresses research, development, and enhancement of physio-chemical technologies and systems associated Waste Management Systems (WMS). Integration of these systems in closed loop life support applications such as space vehicles and habitats, recent findings and performance of on orbit systems, cross cutting applications of WMS technologies, in addition to approaches to reducing mission costs and improving overall mission logistics, associated with WWS technologies are also presented.

Justine Richardson, NASA Ames Research Center,
tra-my.j.richardson@nasa.gov
Jeffrey Lee, NASA Ames Research Center
Mike Flynn, NASA Ames Research Center
Matteo Lamantea, Thales Alenia Space

ICES305: AIChE/ASME/TECS/AAIA LS&S

Environmental and Thermal Control of Commercial and Exploration Spacecraft

This session seeks papers that describe the design, operation, and performance of reliable and cost-efficient thermal and environmental control systems and subsystems for crew and cargo transport, space stations, deep space habitats, other space vehicles, and exploration spacecraft.

Barry Finger, Paragon Space Development Corporation,
bfinger@paragonsdc.com
Chang Hyun Son, The Boeing Company
David Williams, NASA Johnson Space Center
Tom Leimkuehler, Jacobs

ICES307: AIChE

Collaboration, Educational Outreach, and Public Engagement

This session features papers that link human activities in space with human activities on earth and reaches out to educators and students, contractors and researchers, and other innovators to share Science, Technology, Engineering, and Math (STEM) experiences and present new methodologies for linking students, vendors, and the general public to human exploration of space. The session includes innovative collaborations and networks between industries, academia, governments, and the public to address global and local challenges on earth and beyond.

Jean Hunter, Cornell University,
jbh5@cornell.edu
Dean Muirhead, Barrios Technology,
dean.muirhead-1@nasa.gov
Jochen Keppler, University of Stuttgart,
keppler@irs.uni-stuttgart.de

ICES308: AIChE

Advanced Technologies for In-Situ Resource Utilization

This session provides recent technology advancements, analysis, and concepts in the area of In Situ Resource Utilization (ISRU) as they relate to Environmental Control and Life Support, including water and CO2 collection, O2 recovery, and other crew life-support sustainability aspects for Lunar surface missions, Martian surface missions, and asteroid exploratory missions.

Christian Junaedi, Precision Combustion, Inc.,
cjunaedi@precision-combustion.com
Brittany Brown, NASA Marshall Space Flight Center,
Brittany.brown@nasa.gov
Jerry Sanders , NASA Johnson Space Center

ICES400: ASME

Extravehicular Activity: Space Suits

This session covers topics related to space suit pressure garments. It includes advanced development work for the spectrum of missions including micro-gravity EVA operations in low-Earth orbit, cis-lunar space, and deep space Mars transit; long-duration surface campaigns; and launch/entry/abort pressure garments for multiple vehicles, as well as sustaining engineering and lessons learned on the ISS Extravehicular Mobility Unit (EMU) space suit assembly (SSA).

Shane McFarland, Wyle Laboratories,
shane.m.mcfarland@nasa.gov
Lindsay T. Aitchison, NASA Johnson Space Center,
lindsay.t.aitchison@nasa.gov
Jinny Ferl, ILC Dover

ICES401: ASME/AIAA LS&S

Extravehicular Activity: Systems

This session includes topics describing aspects of EVA systems, technologies, and studies that envision the space suit as a system. Concepts and testing of advanced space suit systems are also included.

Robert Trevino, NASA Johnson Space Center,
robert.c.trevino@nasa.gov
Keith Splawn, ILC Dover,
splawk@ILCDover.com

ICES402: ASME

Extravehicular Activity: PLSS Systems

This session covers topics describing design studies and new technology development or significant experience and lessons learned with existing systems in the area of portable life support systems and associated support hardware. Also, this session will deal with emerging technology and concepts for use in and from Orion or other exploration platforms.

Gregory Quinn, UTC Aerospace Systems,
gregory.quinn@utas.utc.com
Bruce Conger, Jacobs Technology,
bruce.conger@jacobs.com

ICES403: ASME

Extravehicular Activity: Operations

This session addresses EVA operational activities and EVA simulations associated with the International Space Station (ISS), analog or field studies, and other future EVA missions. This may also include, but is not limited to, lessons learned during EVA preparations, such as logistics, maintenance, training, and flight controlling.

Cinda Chullen, NASA Johnson Space Center,
cinda.chullen-1@nasa.gov

ICES404: ASME

International Space Station ECLS: Systems

This session addresses ECLS System issues and lessons learned from the International Space Station.

Gregory Gentry, The Boeing Company,
gregory.j.gentry2@boeing.com
David Williams, NASA Johnson Space Center,
dave.e.williams@nasa.gov
Steven Balistreri, The Boeing Company,
steven.balistreri@boeing.com

ICES405: ASME

Human/Robotics System Integration

This session addresses the research, design, development and testing of human-automation and human-robotic integration for space exploration. Specific topics could include wearable robotics, human-robotic teaming, and human-automation interaction and task allocation. Papers including operations to experimental and modeling approaches, both in the laboratory and in spaceflight analog locations are of interest

Amy Ross, NASA Johnson Space Center,
amy.j.ross@nasa.gov
Dr. David Akin, University of Maryland,
dakin@ssl.umd.edu

ICES406: ASME/AIChE

Spacecraft Water/Air Quality: Maintenance and Monitoring

This session focuses on recent results from flight-and ground-based chemical analyses of spacecraft water and air samples along with recent developments in spacecraft water and air quality monitoring technology.

David Zuniga, Danish Aerospace Company,
dz@dac-na.com
Darrel Jan, NASA Ames Research Center

ICES500: AIAA LS&S / AIChE

Life Science/Life Support Research Technologies

This session emphasizes research technologies to support space biology, habitation, and life support system design. Other specific topics of interest include the integration of defined cultures of algae and other micro-organisms -- production, processing, refining, utilization and disposition of algal and microbial biomass including GMOs; novel algal and microbial products and applications; and engineering and control of bioprocess systems for space flight and long term planetary systems. Life sciences related hardware developments, experiment designs, and flight experiment results for manned spaceflight, unmanned systems such as free flying platforms and planetary spacecraft, and terrestrial analogs will be presented.

Bob Morrow, Sierra Nevada Corporation (SNC),
robert.morrow@sncorp.com
John Wetzel, Sierra Nevada Corporation (SNC),
john.wetzel@sncorp.com
Jean Hunter, Cornell University,
jbh5@cornell.edu

ICES501: AIAA LS&S

Life Support Systems Engineering and Analysis

This session addresses all aspects of the systems engineering, analysis, and development of space life support. It includes identifying alternatives, conducting trade studies, and optimizing the mission scenario, management approach, systems architecture, technology selection, detailed design, integration, testing, and operations. The overall objective of systems engineering and analysis is to guide the creation of effective systems that meet the performance, risk, cost, and schedule objectives.

Harry Jones, NASA Ames Research Center,
harry.jones@nasa.gov
John Hogan, NASA Ames Research Center,
john.a.hogan@nasa.gov
Jeffrey Lee, NASA Ames Research Center,
jeffrey.m.lee@nasa.gov
Andrew Owens, Massachusetts Institute of Technology,
acowens@mit.edu

ICES502: AIAA LS&S

Space Architecture

This session focuses on the application of architectural principles to the design of facilities beyond Earth (orbital, lunar, planetary, deep space and interplanetary), to provide supportive and comfortable living and working environments, and enjoyment of life, in full recognition of the technical challenges presented by the environment.

Relevant topics include: Configurations and structures; Construction and robotics; Habitability design, including food and clothing; Human factors integration; Gravity regimes; Integration of life support systems within space habitats; Analogues, mockups, simulators, and field trials; Terrestrial applications to extreme environments and ground-based facilities; Education for space architects; Space Architecture as a discipline; Sustainability from space to Earth.

Georgi Petrov, Synthesis International,
gpetrov@gmail.com
Sandra Haeuplik-Meusburger, Vienna University of Technology,
haeuplik@hb2.tuwien.ac.at
François Lévy, Synthesis International,
info@francoislevy.com

ICES503: AIAA LS&S

Radiation Issues for Space Flight

This session addresses major issues in space radiation and analysis, tools, and research that are being developed and applied to support the space exploration initiative to insure astronaut and avionics radiation protection and safety.

Bill Atwell, The Boeing Company (retired),
bigshot.ba@gmail.com
Lawrence Townsend, University of Tennessee,
ltownsen@tennessee.edu

ICES504: AIAA LS&S

Management of Air Quality in Sealed Environments

This session enables experts who manage submarine, spacecraft, and airliner air quality to share new research findings on the control of air pollutants in these sealed or semi-sealed environments to include air quality standards, hazards associated with specific compounds, and monitoring of those compounds to protect the health of crew and passengers.

Tina Goodall, UK Ministry of Defence,
tina.goodall266@mod.gov.uk
William Wallace, KBRwyle,
william.wallace-1@nasa.gov

ICES506: AIAA LS&S

Human Exploration Beyond Low Earth Orbit: Missions and Technologies

There are many potential destinations for human exploration beyond Low Earth Orbit (LEO), each with specific mission requirements, capabilities, and other attributes that may be common or unique. This session addresses mission designs, technology needs, vehicle systems and analyses for sending humans to destinations beyond LEO and into deep space. Discussions involving Deep Space Gateway and Mars Transport are of great interest, but other missions to cislunar space and surfaces of the Moon and Mars are relevant. Potential subjects include mission requirements, concepts, architectures, technology development needs, technology requirements, challenges, gaps and candidate system designs. Special attention will be given to Environmental Control and Life Support Systems (ECLSS), habitability, architectures, concepts of operation, trade studies, unique environmental considerations and planetary protection.

Dan Barta, NASA Johnson Space Center,
daniel.j.barta@nasa.gov
James Chartres, Millennium Engineering & Integration (MEI),
james.chartres@nasa.gov

ICES508: AIAA LS&S

Cost Considerations for Space Life Support Systems

This session focuses on understanding, estimating, and reducing the cost of human space missions, especially Environmental Control and Life Support Systems (ECLSS). Papers are sought that address cost metrics such as launch mass, Equivalent System Mass (ESM), and Life Cycle Cost (LCC) as well as actual costs of systems. Methodologically oriented papers with improved ways of calculating LCC as a reflection of total space mission cost, as well as specific case studies for costing of future missions in Earth orbit, cis-lunar space, and beyond are encouraged.

Harry Jones, NASA Ames Research Center,
harry.jones@nasa.gov
Andrew Owens, Massachusetts Institute of Technology,
acowens@mit.edu

ICES509: AIAA LS&S

Fire Safety in Spacecraft and Enclosed Habitats

This session covers all aspects of fire safety in closed environments including prevention, ignition, detection, flame spread, and suppression. Relevant subjects include material control for fire prevention; fire suppression; fire detection; fire signatures and toxicity; post-fire cleanup; risk assessment; material selection; fire related combustion research; lessons learned and design status of current systems; and life support and control system designs to enable fire detection and suppression. Applicable environments include EVA suits; past, present, and future space transportation vehicles; different gravitational levels; extra-terrestrial habitats; aircraft; ships; and submarines. The research and development studies can be either theoretical, experimental or numerical. Standardization work and case studies are also welcomed.

Grunde Jomaas, University of Edinburgh,
grunde.jomaas@ed.ac.uk
Gary A. Ruff, NASA Glenn Research Center,
gary.a.ruff@nasa.gov
David Urban, NASA Glenn Research Center,
david.urban@nasa.gov
Stephen Peralta, NASA White Sands Test Facility,
stephen.f.peralta@nasa.gov

ICES510: AIAA LS&S

Planetary and Spacecraft Dust Properties and Mitigation Technologies

This session focuses on the properties of planetary and asteroid surface dust linked to environment description, within vehicles and external to spacecraft in flight or landed and on mitigation technologies for internally generated dust and externally brought from planetary medium. The effects of dust will pose significant challenges to space operations for crewed and robotic missions. Papers are solicited on environmental concerns and on mitigation strategies for life support systems and dust encountered in planetary surface environments. Mitigation strategies may involve cleaning and repelling approaches for the protection and nominal performance of susceptible hardware, and the capture and filtration of airborne dust that may enter the pressurized volumes of spacecraft and habitats. Characterization and measurements of lunar, Martian, asteroid or internally generated dust properties that provide engineering data for the development of mitigation technologies are also of interest.

Marie-Christine Desjean, CNES,
Marie-Christine.Desjean@cnes.fr
Juan H. Agui, NASA Glenn Research Center,
juan.H.Agui@nasa.gov

ICES511: AIAA LS&S

Reliability for Space Based Systems

is session covers testing and analysis for system reliability and maintainability. Relevant subjects include verification and validation, risk assessment, accelerated life testing and aging, environmental screening, acceptance testing, and qualification testing. Special attention is given to failure modes and mechanisms associated with electronic devices, mechanical assemblies, chemical processing, and life sciences.

Todd H. Treichel, Sierra Nevada Corporation
todd.treichel@sncorp.com
Gregory L. Davis, NASA Jet Propulsion Laboratory
gregory.l.davis@jpl.nasa.gov

ICES513: AIAA LS&S

Computational Modeling for Human Health and Performance Analysis

This session covers practical application of computational modeling (deterministic and probabilistic) for analysis of human health and performance risks, and countermeasure development. Discussion areas include modeling and simulation of physiologic, biomechanical and behavioral responses to reduced gravity, radiation, spacecraft environment, planetary environment, extravehicular activity, crew dynamics, ergonomics, work-load, and countermeasure prescriptions (exercise and non-exercise).

Claas Olthoff, Technical University of Munich,
C.Olthoff@tum.de
Jonas Schnaitmann, Technical University of Munich,
j.schnaitmann@tum.de

What if my abstract doesn't seem to fall into any of the above Technical Topics?

ICES600:

Other

If you are not sure of the best placement for your abstract, please submit to ICES600.