

European Space Weather Week 2025 - cloned July 3



Monday, 3 November 2025 - Friday, 7 November 2025

Sessions

Please find below the ESWW2025 sessions and their respective description.

If you would like to download all the session descriptions in a pdf format, click on the pdf icon on the top right corner next to "Programme".

Parallel Space Weather Research (SWR) sessions

Magnetic Sources of Space Weather Across Solar Atmospheric Layers

Conveners: Paolo PAGANO; Clementina SASSO; Ioannis KONTOGIANNIS; Hanna STRECKER

Magnetic Sources of Space Weather Across Solar Atmospheric Layers.

Space weather is largely driven by the drastic and sudden evolution of magnetic structures in the Sun. Sometimes such transients lead to the sudden release of magnetic energy in the form of radiation or mass ejections. In other cases, newly formed or emerging structures alter the equilibrium of a magnetic complex, triggering eruptions. While the study of the magnetic field in the solar atmosphere remains a significant challenge for observations and models, understanding these mechanisms is essential to improve our space weather prediction capabilities. Magnetic structures, such as flux ropes, filaments/prominences and coronal loops form as part of active regions and along polar inversion lines. These structures evolve dynamically across the layers of the solar atmosphere, from the photosphere to the corona, and their evolution can culminate in eruptive events. Many theories based on observations (from new instruments such as PHI, EUI, METIS on-board Solar Orbiter) or numerical simulations have been put forward to explain how they trigger space weather events. Moreover, such mechanisms in the solar corona are the only close and observable examples of several plasma processes (e.g. magnetic reconnection or magnetic confinement) that hold the key to a deeper understanding of plasma physics. In this session, we will host contributions that show the current state of the art of observation and modelling of the solar atmosphere that illustrate the role of these magnetic structures and how their evolution affects space weather and how they can be used to help to improve our forecasts.

SWR2 – Interdisciplinary Insights into Space Weather Events of Solar Cycle 25: From Solar Origins to Planetary Impacts

Conveners: Karmen Martinic; Manuela Temmer; Guram Kervalishvili; Rute Santos

The extreme space weather events of Solar Cycle 25 highlight the urgent need for a comprehensive, interdisciplinary approach to understanding solar-Earth interactions. This session aims to bring together experts from solar and heliospheric physics, as well as magnetospheric, ionospheric, and atmospheric physics to investigate the formation, propagation, and impacts of solar storms. By studying the magnetic connectivity and dynamics of the source regions leading to solar flares, and eruptions accompanied by the solar energetic particle events, we seek to understand how solar activity influences interplanetary space and interacts with the planetary environment. The propagation of coronal mass ejections and their interactions within the heliosphere are crucial for assessing the extent of space weather disturbances. The session will also address the

broader space implications of these extreme events, as the impact of geomagnetically induced currents on engineering infrastructure remains an important topic for space weather mitigation strategies. We encourage you to submit abstracts on events covering all aspects of space weather, from the Sun to the Earth, and their impacts on other planetary environments. We welcome modeling and observational studies. By fostering interdisciplinary collaboration, this session aims to improve our understanding of space weather as a system-wide

phenomenon and strengthen links between research communities.

SWR3 – Inner Magnetospheric Dynamics and Coupling Processes

Conveners: Ravindra DESAI; Sarah Glauert; Adnane Osmane; Alex Lozinski

The inner magnetosphere hosts a dynamic range of plasma populations including the relativistic radiation belts, the ring current and cold plasmaspheric ions. These populations are tightly coupled via a range of micro-, meso- and macro-scale processes, driving a complex interplay of acceleration, transport and loss. For example, chorus waves are generated by injected plasma sheet electrons and then accelerate 100's keV electrons to relativistic energies to form the radiation belts, with this acceleration being most efficient in regions of low plasma density. In turn, precipitation of radiation belt particles into the atmosphere balances ionospheric outflows of cold plasma into the inner magnetosphere. Further research into these and other cross-scale couplings is essential to develop the capability to reliably forecast inner magnetospheric dynamics and associated space weather risks and impacts. This session calls for observational, modelling and theoretical studies related to the inner magnetospheres, as well as review papers and mission concepts as well as comparative studies with other magnetospheres. We invite observational contributions from current missions such as Arase, Themis, MMS and GPS, from ground-based facilities such as EISCAT, SuperDARN and VLF receivers, and from historical datasets such as from the Van Allen Probes, Cluster and climatological studies involving even earlier solar cycles. We invite numerical contributions spanning Fokker Planck simulations, kinetic simulations of wave-particle interactions, and of the global magnetosphere and its couplings to the ionosphere and solar wind, as well as novel machine learning approaches and solutions.

SWR4 – Interactions in the Earth's Magnetosphere-Ionosphere-Thermosphere System and their Space Weather Impact

Conveners: Daria KOTOVA; Lucilla ALFONSI; Guram KERVALISHVILI; Alan WOOD

The session focuses on the state-of-the-art understanding of the complex mechanisms ruling the Magnetosphere-Ionosphere-Thermosphere (M-I-T) coupling and how they translate into space weather impacts. Such an understanding is fundamental for the developing effective countermeasures against disruption, failure and deterioration of vulnerable technologies, including GNSS critical applications, HF/VHF/UHF radio communications and LEO satellite operations. It is essential to improve the prediction of both the underlying physical phenomena and how these are related to space weather impacts. This improved understanding is crucial for better forecasts, warnings, and mitigate measures for adverse space weather effects. Other crucial aspects of M-I-T coupling are the interhemispheric symmetric/asymmetric response to variable drivers, vertical coupling and coupling between different latitudinal regions which, if properly predicted, could support regional space weather modelling. This session seeks to encourage and foster dialogue between researchers studying the underlying physical phenomena and operators seeking to mitigate space weather impacts. As such, contributions are invited which address any aspect of M-I-T coupling and associated threats to systems at regional and global scales.

SWR5 - Space Climate

Conveners: Claudio CORTI; Kalevi MURSULA; Barbara PERRI; Ilya USOSKIN

Space weather and space climate have their origin in the Sun's magnetic field, which forms the

continuously changing plasma environment in the heliosphere. Long-term observations of the Sun over the past few centuries have identified variations of the solar activity on different time scales, the most prominent ones being the 11-year sunspot cycle and the centennial Gleissberg cycle. Understanding and forecasting solar activity and the conditions in the heliosphere, including their effects to the Earth, is a major challenge in the field of heliophysics. The last decade has seen a lot of progress in solar activity modeling and in developing predictive capabilities, and there is a large diversity of forecasts using multiple methodologies. In addition, different communities and end-users have different needs about the cadence, lead time, and accuracy of the forecast parameters. This session aims to discuss the current capabilities and challenges in understanding and forecasting of long-term solar activity and related heliospheric and terrestrial effects for time scales of a few solar rotations onward. Possible forecast parameters include, e.g., sunspot numbers, total and spectral irradiance, open heliospheric flux, radio fluxes, galactic cosmic rays, extreme solar energetic particles, coronal holes, high-speed solar wind streams, coronal mass ejections, geomagnetic activity, GICs, magnetic storms, ionospheric parameters (foF2, etc), polar vortices, sudden stratospheric warmings, etc. We invite talks and posters from all these space weather and space climate domains, from the Sun to geospace, discussing their current understanding and long-term forecasting, new observations, theories and models, forecasting methodologies, and validation efforts.

Parallel 100% Community-Driven (CD)

CD1 - Combination of physics-based and data-driven methods for space weather forecasting

Conveners: Sabrina GUASTAVINO; Dario DEL MORO; Filipa S. BARROS; Kamen KOZAREV

Space weather forecasting can rely on either physics-based or data-driven approaches. On the one hand, physics-based methodologies have deeper historical roots, with physical equations being studied and applied to model solar events and better understand unknown physical processes. On the other hand, data-driven approaches and, specifically, artificial intelligence (AI) algorithms process multi-modal data to identify patterns/correlations with no (or little) reference to physical models.

However, it has been recently explored the possibility to combine both approaches, by leveraging physics to inform the machine learning methods, and applying machine learning to better estimate key parameters in MHD deterministic equations.

This session aims to provide a platform for sharing and discussing research on data-driven and hybrid approaches combining physics-based and AI methodologies in space weather studies, with a focus on forecasting applications. Topics include predicting solar phenomena driving space weather, such as solar flares, coronal mass ejections (CMEs), and Solar Energetic Particles (SEPs), as well as modeling CME and SEP propagation to estimate arrival times at Earth, and predicting geomagnetic disturbances.

Additionally, submissions on space weather-related forecasting applications are encouraged, such as identifying and classifying active regions and detecting solar structures.

As AI techniques have reached a high level of maturity, and recent studies have demonstrated that combining AI with physics-based approaches holds great promise offering reliable tools for space weather forecasting, coupled with the fact that solar activity is currently at its peak (when eruptive phenomena are more frequent and intense) the topic of the proposed session is particularly timely.

CD2 - All about the solar wind

Conveners: Stephan G. HEINEMANN, Eleanna ASVESTARI

The structure of the heliospheric background solar wind is shaped by the interaction between slow and fast wind streams. These interactions give rise to stream interaction regions (SIRs) and co-rotating interaction regions (CIRs), which can lead to shocks, compression- and rarefaction regions—key contributors to minor and moderate geomagnetic activity.

A deep understanding of solar wind dynamics, along with the surrounding magnetic field and their origins, is essential for improving the accuracy of space weather predictions.

This session focuses on current research related to the origin, evolution, and space weather effects of slow and fast solar wind. Observations from recent missions like the Parker Solar Probe (PSP) and Solar Orbiter (SolO), along with long-standing missions such as the Solar Dynamics Observatory (SDO) and the Solar Terrestrial Relations Observatories (STEREO), provide valuable data to refine and expand our knowledge in this field.

We invite contributions exploring various topics, including the sources and acceleration mechanisms of slow and fast solar wind, stream interactions, and the magnetic and plasma structure at the source surface and in the inner heliosphere. Additionally, we welcome studies that integrate observational data with modeling to advance our understanding of solar and heliospheric physics in the context of space weather forecasting.

CD3 - Refining the Sunspot Number Series : challenges and benefits for the Space Climate Community

Conveners: Theodosios Chatzistergos, Laure Lefèvre, Ilya Usoskin

The Sunspot Number (SN; Clette and Lefèvre, 2016) and Group Number (GN; Chatzistergos et al., 2017) series are the only direct time series (1610- present) that trace the long-term variations of solar activity over the past centuries. These records are crucial not only for solar/stellar physics and space weather studies but also for assessing the Sun's influence on Earth's climate.

While modern observations provide better links with space weather effects, SN and GN remain the longest direct observations of solar activity, and thus, are an indispensable bridge linking past and present solar behavior.

In 2016, an international team led a major update of the existing SN/GN series. However, issues remain and a decade after the release of SN version 2.0, efforts to refine sunspot calibrations continue, leading to several new versions of GN (Clette et al., 2023). Current work is focused on updating the GN database (following Vaquero et al., 2016), culminating in the development of a new SN database for historical data and the subsequent reconstruction of GN and SN, paving the way for version 3.0.

This session welcomes presentations on all aspects of historical sunspot observations, including (but not limited to) analyses of characteristics of the sunspot series, performance of cross-calibration techniques, recovery and correction of historical sunspot records, and also comparisons of sunspot series with other solar activity indices. By exchanging ideas, through presentations and discussions, we can strengthen our collective effort to make both time series more accurate, understandable and accessible to the scientific community.

CD4 - Space Weather Impacts on Transportation Systems

Conveners: Cameron PATTERSON; Juliane HÜBERT; David BOTELER; Magnus WIK

The increasing reliance on technology-driven transportation systems makes the sector highly vulnerable to space weather impacts. Intense solar storms can disrupt GNSS-based navigation, degrade HF and satellite communications, interfere with avionics, and even induce currents in railway infrastructure potentially leading to disruption or harm. Historical impacts, such as railway signalling anomalies in Sweden during a storm in July 1982 and the degradation in positional accuracy of GPS farming equipment for precision agriculture during the May 2024 Gannon storm, highlight the real-world impacts of geomagnetic disturbances on transportation systems. With the approaching solar maximum, understanding these vulnerabilities and developing mitigation strategies is more critical than ever.

This session aims to bring together academics and industry stakeholders to showcase the latest research in space weather impacts on transportation. We invite contributions that assess operational risks, historical case studies, forecasting advancements, and resilience strategies. The session will serve as a platform for interdisciplinary discussion and understanding. Many of these systems are interdependent, and disruptions are likely to occur simultaneously across the board, emphasising the need to foster collaborations between sectors.

This is a timely opportunity to highlight regional case studies and global challenges alike. Due to its high latitude, transportation systems in the Arctic, where reliable transport is essential for both local communities and expanding industries, may be more prone to geomagnetic disturbances even during less intense periods of solar activity. Therefore, this session is especially relevant to the theme for this year's ESWW.

CD5 - Open Validation in Space Weather Modeling

Conveners: Martin REISS; Barbara PERRI; Karin MUGLACH; Evangelia SAMARA

Progress in space weather research and forecasting depends on an accurate assessment of our current modeling capabilities. As space weather models become more complex and sophisticated, and play an increasingly important role in operational forecasting, the need for an improved validation infrastructure becomes clear. To enable meaningful model validation, this infrastructure must be based on comprehensive, reproducible, and consistent validation protocols. Developing these protocols requires community-wide initiatives to agree on essential physical properties, events or time periods, and metrics. Therefore, close collaboration between scientists, model developers, forecasters, and software engineers across space weather domains is needed.

In this session, we welcome contributions that highlight:

- 1) Progress in validating and verifying space weather and space science models;
- 2) Use of multi-spacecraft observations for model validation;
- 3) Development of software, tools, and repositories that facilitate open validation;
- 4) Applications of artificial intelligence and machine learning in space weather model validation;
- 5) Strategies for (near) real-time validation of space weather models and forecasts;
- 6) Community challenges and initiatives.

CD6 - Radiation for exploration beyond LEO

Conveners: Giovanni SANTIN; Aiko NAGAMATSU; Thomas BERGER

As agencies and private enterprises around the world look to embark on an era of enhanced exploration beyond low-Earth orbit, so the need to understand better the radiation environment in transit and at the destinations of these missions is likewise enhanced. The near-term target for

many missions is the Moon, the long-term horizon is Mars. Strategies to raise heavy spacecraft (elements) include electric orbit raising, due to the improved fuel efficiency but this can result in components spending time in the heart of the Earth's radiation belts. The accelerated "new space" approach applied to many robotic missions compared with previous exploration and science missions may result in components which may be susceptible to the environment. Humans travelling beyond the magnetically shielded confines of the Earth's magnetosphere will be exposed to a very different radiation field. The combination of risks to humans and to spacecraft components along with the need for very high reliability places stringent requirements on such missions. Requirements include both climatological understanding of the average and extreme environments as well as space weather forecasts for issuing of alerts both prior to launch and during mission operations.

This session welcomes abstracts for future exploration missions including:

- radiation monitoring of exploration mission environments
- radiation environment modelling
- radiation storm forecasting
- simulation of surface radiation fields on the Moon and Mars
- simulation of the radiation inside spacecraft and modules
- effects of radiation on components and biological systems
- systems to support mission operations

CD7 - Space weather at unmagnetized or weakly magnetized solar system objects

Conveners: Gabriella STENBERG WIESER; Sofia BERGMAN; Charlotte GOETZ

Many objects in the solar system lack an intrinsic magnetic field, for example some planets, moons, comets, and other small bodies. The interaction of these objects with the solar wind is fundamentally different to the interaction of the solar wind with magnetized bodies such as the Earth. This session will focus on space weather effects on the surface, atmosphere and space environment of such bodies.

Topics include, but are not limited to, the response to a varying space weather and the effects of extreme solar events on the surface, atmosphere, and plasma environment. We also invite abstracts discussing the influence of the space environment on spacecraft operation and scientific instrument performance close to these bodies.

We welcome abstracts addressing these topics using a variety of methods, including laboratory experiments, numerical modelling and observations.

CD8 - The Vigil Mission: Advancing Space Weather Operations & Science

Conveners: Matthew West; Jeffrey Newmark; Steph Yardley; Hannah Schunker

The ESA Vigil mission will be the first dedicated space weather mission positioned at the L5 Lagrange point, providing a unique vantage point for continuous monitoring of solar activity and interplanetary space. By complementing observations from Earth's perspective, Vigil will enable improved early warning capabilities for space weather forecasting and operational decision-making. The mission's six baseline instruments—four dedicated to remote sensing and two for in-situ measurements—will deliver high-quality, low-latency observations from the solar surface, through the corona and heliosphere, and in situ — to enhance both real-time space weather services and solar physics research.

Although primarily designed as an operational mission, Vigil will provide unprecedented high-cadence science data from a unique perspective that will transform our understanding of space weather, from the Sun's magnetic field evolution at the surface to solar atmosphere processes that drive space weather events.

A critical aspect of mission readiness is engaging with both operational and scientific communities to refine data products, develop new analytical tools, and enhance Vigil's impact. This session focuses on strategies for fully exploiting the unique opportunity that Vigil presents. We welcome contributions incorporating L5-oriented research, especially those that combine multiple datasets with other current and upcoming missions, as well as new models, tools, and analysis techniques.

CD9 - Communicating Science Through Aurora: Engaging the Public in Space Weather

Conveners: Lenka ZYCHOVA; Christine VERBEKE; Laure LEFEVRE

The aurora is one of the most captivating natural phenomena, serving as both a visual spectacle and a powerful tool for engaging the public in space weather science. Its beauty sparks curiosity, providing an accessible entry point for discussions on solar activity, geomagnetic storms, and their broader impacts on Earth. This session will explore how the aurora is used as a bridge between complex scientific concepts and public understanding.

We invite scientists, educators, and outreach professionals to share their projects, experiences, and strategies for using the aurora to communicate space weather. Topics may include innovative educational initiatives, public engagement programs, citizen science projects, and the role of artistic and cultural interpretations in science communication. How can we leverage the public's fascination with the aurora to increase awareness of space weather's relevance to modern society? What methods have been most effective in turning curiosity into deeper understanding? With Sweden offering frequent and spectacular auroral displays, this session provides a unique opportunity to discuss how this natural wonder can be used to inspire and educate diverse audiences. By exchanging ideas, we can strengthen our collective efforts to make space weather more accessible, inspiring, and impactful for diverse audiences.

Parallel Application Pipeline (APL) sessions

APL1 - Space Weather Services and Alerts for End-Users: Bridging Forecasting, Infrastructure, and Communication

Conveners: Judith DE PATOUL; Francois-Xavier BOCQUET; Mpho TSHISAPHUNGO; Kasper VAN DAM

Extreme space weather events can severely impact critical infrastructure, from power grids and pipelines to GNSS, aviation, and satellite systems. To reduce risks, it is essential to establish an effective bridge between operational space weather forecasting centers and end-users, one that relies not only on scientific expertise but also on robust systems, service infrastructure, and clear communication channels. This session invites contributions that explore how space weather services are developed, implemented, and delivered to support real-world decision-making. Topics of interest include the design and operation of systems that link forecasting centers to end-users,

such as data delivery chains, alert mechanisms, and operational resilience protocols. We also welcome insights into how dissemination standards and procedures have evolved, including tailored alert protocols for sectors like civil aviation, satellite operations, energy, and GNSS. Presentations may address user experiences with accessing and applying space weather information via web portals, APIs, or customized platforms, as well as approaches to enable two-way communication: ranging from impact reporting and feedback loops to co-development of tools and services. Case studies are encouraged that show how coordination between forecasters and users has led to timely mitigation actions during major space weather events. We also encourage reflections on lessons learned from past storms, highlighting how experiences have shaped operational workflows, tools, and partnerships. The overarching aim is to understand how space weather services can evolve to be more integrated, interoperable, and responsive, ensuring end-users receive information that is timely, relevant, and actionable in high-impact scenarios.

APL2 - Bridging the Gap: Reproducibility, Deployment, Operation, Updates, and Monitoring of Machine Learning-Based Solar Flare Forecast Models

Conveners: Shane Maloney; Sophie Murray; Paul Wright; Anna Massone

Machine learning (ML) has shown promise in solar flare forecasting, yet major challenges remain in moving beyond single studies often published without the associated code and datasets. Are forecast models truly reproducible, deployable, operable, updatable, and monitorable? It has been nearly a decade since the influential work of Bobra & Couvidat (2015), where Support Vector Machine (SVM) was used to predict solar flares using features derived from solar magnetic field observations, what progress has been made? While the field has made strides in improving flare forecasting, little to no progress has been made in ensuring the reproducibility, deployment, and sustained operation of ML models. As models become increasingly complex, how can we guarantee that their results are reproducible and transparent? How do we ensure that models remain accurate as new data becomes available and do not degrade over time? The traditional approach of publishing research papers—often without the accompanying code, data, or reproducibility frameworks—is no longer sufficient. To truly advance the field, we must move beyond current academic practices and adopt best practices from ML and meteorology, which have well-established methodologies for real-time prediction systems. This includes:

Reproducibility: Establishing standardized benchmarks, dataset and model versioning, and open-source implementations.

Deployment: Models must be easily deployed from zero to a running deployment with as little human intervention as possible.

Operation: Ensuring once deployed models can easily be run in research or operational environments and they are robust to missing data, latency, and changing solar cycle conditions.

Updates: Implementing retraining strategies to include new data and prevent model degradation over time.

Monitoring: Developing frameworks for continuous evaluation, explainability, and reliability of forecasts.

We must leverage platforms like Hugging Face, Kaggle, Comet, Neptune, WandB and open source solutions like MLFlow to facilitate transparent and collaborative development. The space weather community must also engage MLOps, automated retraining pipelines, and robust monitoring tools to transition ML-based forecasting from one off publications to an operational reality.

This session invites submission focusing on the use or implementation of any of the above aspects and interdisciplinary approaches to move ML-based space weather forecasting from promise to practice.

Open parallel session (OPS)

Conveners: Adur Pastor Yabar, Kseniia Golubenko, David Themens, Anna Morozova

This session welcomes submissions on topics not covered under the remaining sessions. These submissions can be on any topic as long as they relate to Space Weather and Space Climate.

Plenaries

P1 - Space Weather Challenges in the Arctic: A Round Table Discussion

Conveners: Magnus Wik; Andrew Dimmock

As the Arctic undergoes technological expansion, it is emerging as a new frontier for space weather challenges. Space weather is becoming increasingly important to society due to many factors that impact technology and human activity. Although the scientific understanding and mitigation of space weather hazards are a global challenge, they are becoming increasingly crucial for end users in the Arctic regions.

Increasing human activity in high-latitude regions—driven by commercial operations, scientific activities, military operations and auroral tourism—has led to growing reliance on critical infrastructure. This makes the Arctic vulnerable to space weather hazards such as geomagnetically induced currents, HF radio disruptions, GPS inaccuracies, and space debris risks during rocket launches.

This round table will bring together key stakeholders to discuss the impacts of space weather in the Arctic and the challenges faced by end users and service providers. Participants will share their perspectives on operational risks, the need for scientific advancements, and the role of service providers in mitigating space weather hazards to ensure the resilience of current and future Arctic infrastructure and operations in this rapidly evolving technological landscape.

P2 - Space Weather at the Moon, Mars, and Beyond: Recent Advancements, Observations, and Future Opportunities for Exploration

Conveners: Gina DIBRACCIO; Beatriz SANCHEZ-CANO; Fabrice CIPRIANI

Understanding space weather at the Moon, Mars, and beyond is essential for future robotic and human exploration. Recent availability of relevant data throughout the inner heliosphere have made it possible to develop new predictive capabilities and assess the impact of solar activity on these planetary environments. New assets and observations on the lunar surface make it possible to understand space weather effects on the local environment and technology. The current fleet of spacecraft at Mars, both on the surface and in orbit, provide opportunities to analyze the evolution of solar transients out

to 1.5 AU and track the impact of these events from the planetary space environment down to the surface. Collaborations across international space agencies and various missions have enabled the exploration of space weather at the Moon and Mars. Research and operational space weather capabilities are rapidly emerging, and future opportunities are being identified. These opportunities include recognizing and filling data, infrastructure, and forecasting needs; developing and validating models; and more. This plenary session will discuss recent advancements in assessing and predicting space weather at the Moon and Mars, as well as other planetary environments, by utilizing available data and simulations. The session will also identify areas where development and growth are needed (e.g., models, observations, technologies) to enhance our understanding of space weather impacts on different planetary environments and improve our forecasting capabilities. The session will particularly highlight the recent May 2024 solar events, which were observed to directly impact the lunar and martian environments by multiple spacecraft at various vantage points.

P3 - Plenary talks

Chairs: Agnieszka Gil-Świdarska, Piers Jiggins

We're delighted to introduce a new feature at this year's ESWW: Plenaries Showcasing Parallel Sessions. These two special plenary sessions will highlight standout contributions from the parallel programme. Each session will feature two distinguished presentations, nominated by the conveners of the originating parallel session. This is an opportunity for selected presentations to gain enhanced visibility and recognition and to promote the originating parallel session to a broader audience.

By highlighting these talks in a plenary setting, we aim to celebrate excellence across the programme and encourage cross-disciplinary engagement. Presenting authors whose contributions are selected will be formally recognised by the Programme Committee and awarded a certificate of distinction.

Each session will include two talks, 25 minutes each including Q&A.

P4 - Plenary talks

Chairs: Monica Laurenza, Jaroslav Urbář

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