July 19-23, 2026

Symposia list

S1: Advanced techniques for visualizing and characterizing the paleontological heritage

Conveners: Elena Ghezzo[1], Joachim Haug[2]

[1]University of Padua, Italy; [2]LMU Munich, Germany

Textual descriptions of fossil specimens are often insufficient to fully convey the results of scientific research. For this reason, the interpretation of the fossil record through precise visual representation has become increasingly important, especially considering that the paleontological heritage is highly heterogeneous and requires specialized expertise for interpreting it. While in the past documentation relied mainly on drawings and simple two-dimensional light-based photography, researchers today can take advantage of advanced imaging techniques such as photogrammetry, UV-filtered photography, spectral imaging, computed tomography, SEM, profilometry, or confocal microscopy. These advanced imaging approaches frequently guide analyses and scientific interpretations, leading to the development of new standard protocols and deepening our understanding of the fossil record and the complexity of paleontological preservation. They allow scientists not only to document fossils with precision, but also to reveal morphological and structural information that would otherwise remain inaccessible with traditional methods, and eventually share those data interactively. In this session, contributors are invited to present their approaches, results, and any innovative protocols or interdisciplinary methods developed to address their case studies. The focus is on identifying and discussing the most advanced practices for presenting paleontological data in a way that is suitable for scientific publications, while also considering practical aspects such as time and cost efficiency.

S2: AI in paleontology – potential, pitfalls, and recent advances

Conveners: Thomas A. Neubauer[1], Alessandro P. Carniti[2], Andrea Baucon[3]

[1]SNSB - Bavarian State Collection for Palaeontology and Geology, Germany; [2] Nanjing University, China; [3] University of Cagliari, Italy

The integration of artificial intelligence (AI) into paleontology is significantly transforming the field, offering unprecedented opportunities in the study of past life. Recent studies highlight the use of AI in taxonomy, encompassing identification, classification, and trait scoring. Advances in machine learning-driven morphometrics and quantitative analyses are enhancing morphological studies, reconstructions of past biodiversity, and paleoecological interpretations. Furthermore, AI facilitates automated image segmentation, feature extraction, and digital preparation. Generative applications, such as AI-driven paleoart and text generation, are also emerging as powerful tools, offering innovative ways to visualize extinct organisms and synthesize paleontological data. However, key challenges remain limited labeled datasets and benchmarks related to the relatively small size of biological and paleontological datasets, limited accessibility to data behind paywalls, domain shift between modern and fossil material, explainability of black-box models, and reproducibility of workflows.

This session seeks contributions related to all aspects of AI in paleontology: from methodological applications and innovations, dataset processing, benchmark proposals, reproducible pipelines and software, case studies applying AI to novel fossil problems, machine learning-supported quantitative analyses, to best practices for AI in paleontology and discussions of ethics and community standards. Negative results that clarify limitations are equally welcome. Join us to share new results, tools, ideas, and standards that will shape reproducible, interpretable AI workflows for the future of the fossil record.

S3: Big Paleontology: Synthesizing paleontological knowledge with interdisciplinary approaches

Convenors: Wolfgang Kiessling[1], Francesca Bosellini[2], Danijela Dimitrijevic[1], Catalina Pimiento[3], Martin Zuschin[4]

[1] Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany; [2] University of Modena and Reggio Emilia, Italy; [3] University of Zürich, Switzerland; [4]University of Vienna, Austria

Paleontology increasingly addresses complex, multi-scale questions that cannot be resolved within disciplinary boundaries alone. Community-driven initiatives have highlighted a set of Big Questions in Paleontology—including the controls on biodiversity dynamics, ecosystem resilience, and biological responses to environmental change—that require integrative approaches combining fossil data with methods and concepts from ecology, climate science, Earth system science, evolutionary biology, and quantitative modeling.

This symposium aims to showcase and advance interdisciplinary synthesis as a central mode of inquiry in modern paleontology. It is inspired by the Paleosynthesis Project, which promotes international synthesis workshops to overcome fragmentation of data, methods, and theoretical frameworks in the field. PaleoSynthesis has demonstrated that structured synthesis across subdisciplines can generate new insights, research agendas, and collaborative networks that extend beyond individual datasets or case studies.

We welcome contributions that integrate paleontological evidence across temporal, spatial, or organizational scales, or that combine fossil data with independent lines of evidence such as ecological observations, geochemical proxies, climate reconstructions, or computational approaches. We particularly

encourage presentations that engage with Big Questions in paleontology, demonstrate methodological or conceptual synthesis, or reflect on the challenges and opportunities of interdisciplinary research.
By bringing together researchers working at disciplinary interfaces, the symposium seeks to foster dialogue, identify shared conceptual frameworks, and strengthen the role of synthesis in addressing fundamental questions about the history of life and its relevance for understanding present and future biosphere change.

S4: Conservation Paleobiology – The past is key to the present and future

Conveners: Bettina Bachmann[1], Kristína Kocáková[2], Gregor Mathes[3], Lukas Schweigl[1,4]

[1] University of Vienna, Austria, [2] University of Zurich, Switzerland, [3] University of Passau, Germany, [4] University of Bologna, Italy

Earth's biota has been affected by anthropogenic stressors, such as biological invasions, climate change, eutrophication, land-use change, and overexploitation, for centuries to millennia. These pressures have caused major ecological shifts and an accelerating rate of species extinction. Given that scientific surveys and monitoring capture only a short temporal window, they are insufficient to fully assess ecological states before human impacts and predict long-term responses to current and future environmental change. In recent decades, there has been a growing focus on using the (sub-) fossil record to provide historical information and a more holistic framework for biological conservation. This has led to the emergence of conservation paleobiology as a distinct subfield within paleontology.
Conservation paleobiology comprises two complementary approaches. The first, near-time conservation paleobiology, uses the young (sub-) fossil record from the past few million years to understand the long-term responses of extant species and ecosystems to environmental change and to reconstruct historical baselines prior to the onset of anthropogenic impact. The second approach focuses on ecological and evolutionary processes in deep time to explore how Earth's biota responded to environmental conditions not experienced today but predicted for the future and what traits make species more resilient to change or vulnerable to extinction.
This symposium welcomes case studies from both near-time and deep-time perspectives. We aim to foster dialogue across disciplines and timescales, strengthening integration between paleosciences, archaeology, historical ecology, and taphonomy. We are especially interested in studies that link paleo-evidence to contemporary conservation challenges or future ecological projections, using the past to anticipate tipping points, resilience mechanisms, and biodiversity trajectories. By doing so, we highlight how insights from Earth's history can inform more effective responses to ongoing and future biodiversity loss.

S5: Crossing Continents: The Role of Africa–Eurasia Interchanges in Shaping Europe's Vertebrate Record

Conveners: Elpiniki Maria Parparousi[1], Leonardo Sorbelli[2,3], Beatrice Azzarà[1], Marco Cherin[1], Faysal Bibi[2], Johannes Müller[2]

[1]University of Perugia, Italy, [2]Museum of Natural History of Berlin, Germany, [3]Institut Català de Paleontologia Miquel Crusafont, Spain

Africa–Eurasia faunal exchanges were among the most influential processes shaping Europe's vertebrate diversity in the last 25 million years. This symposium aims to stimulate new discussions about the relationships between the two realms through an integrated perspective, combining new fossil evidence, paleogeographic reconstructions, and emerging macroevolutionary approaches. Three well-known major tipping points stand at the center of this reappraisal: the Gomphotherium Landbridge event (20-17 Ma), the rise and fall of the Old-World savanna biome (12-7), and the setup of the Quaternary glacial-interglacial cycle (ca. 2.6 Ma). Each episode reconfigured the European vertebrate communities and shaped the evolutionary and ecological trajectories of many taxa. The symposium will also highlight the importance of relatively minor transitional phases in the history of the European faunas, such as the Miocene Climatic Optimum and the Early-Middle Pleistocene Transition, among others. Understanding events at both global and regional scales is crucial for interpreting long-term patterns of biodiversity, habitat restructuring, and lineage persistence into the Quaternary of the European continent.

New fossil discoveries and refined stratigraphic, paleoclimatic, and paleogeographic frameworks now allow a more comprehensive evaluation of these events. Thanks to the integration of data from a broad spectrum of taxonomic groups, paleontologists can better trace the timing and dynamics of dispersals, identify faunal turnovers across different paleoenvironments, and reconstruct how European ecosystems responded to successive episodes of connectivity and isolation with Asia and Africa.

By bringing together specialists across vertebrate groups and methodological backgrounds, this session aims to foster cross-disciplinary dialogue and start developing a holistic view of how intercontinental dispersal routes shaped both past and present European biodiversity.

S6: Exceptional soft tissue preservation in fossils and the reconstruction thereof based on osteological covariation

Conveners: Christine Böhmer[1]

[1]Kiel University, Germany

Soft tissues are typically lost rapidly post-mortem because of microbial decay and cellular autolysis. Consequently, fossilized soft tissues are extremely rare. Yet, such discoveries provide valuable insights into the biology of extinct organisms, particularly those lacking recent analogues. Fossilized body silhouettes, internal organs, gut contents and even muscle fibers yielded a wealth of information on the anatomy and evolution of diverse taxonomic groups. For example, exceptional specimens of extinct birds preserve ovarian follicles and illuminate the evolution of avian reproductive organs toward a single functional ovary. Virtually complete plesiosaur fossils preserve skin traces, indicating that these extinct animals retained reptilian scaly skin, unlike other Mesozoic marine reptiles, such as ichthyosaurs. A very rare specimen of iconic ammonites revealed three-dimensionally preserved muscles that are not present in Nautilus, suggesting that their swimming technique differed. If soft tissues are not directly preserved, reconstructions based on osteological correlates are possible. Quantitative covariation analyses in extant analogues can then be used to better infer the anatomy of the extinct relatives. Overall, this symposium explores groundbreaking advancements in our understanding of soft tissue anatomy in extinct organisms,

highlighting rare and exceptional fossils as well as cutting-edge methods. Recently discoveries show how they have been transforming our view of ancient life.

S7: Faunal Responses to Late Pleistocene Climate Change in Europe: From Cave Bears to Modern Humans

Conveners: Anneke H. van Heteren[1,2], Doris Nagel[3], Doris Döppes[4], Gernot Rabeder[3]

1 SNSB - Zoologische Staatssammlung München, Germany; 2 Ludwig-Maximilians-Universität München, Germany; [3] University of Vienna, Austria; [4] Reiss-Engelhorn-Museen, Germany

The late Pleistocene has a complex climate history, and recent studies of European sites show local differences in fauna as well as local climatic differences. The radiocarbon method now allows for more detailed analyses of the last 50,000 years, covering MIS 3 to the Holocene.
The alpine cave bears, vegetarians found at an altitude of over 1,500 metres above sea level in MIS 3, when everything should have been covered by glaciers, led to calls for more detailed analyses of ecological changes in the Alpine region. Additionally, the arrival of modern humans falls into the same period.
Faunal finds from the Mediterranean region and Western, Central and Eastern Europe are necessary to compare local differences and identify gaps in our knowledge, especially in the datable period from MIS 3 to the Holocene, in order to better understand these events.
Against this background, the aim of this symposium is to bring together researchers working on Late Pleistocene faunal records across Europe to discuss how climatic variability, ecological change, and human presence shaped mammalian communities from MIS 3 to the Holocene. Particular emphasis will be placed on key taxa such as cave bears and other large mammals, as well as on the interactions between faunal dynamics and the dispersal of modern humans. Through interdisciplinary exchange, the symposium aims to refine our understanding of faunal responses to rapid climate oscillations and to highlight future research directions necessary for reconstructing Late Pleistocene ecosystems in Europe.

S8: Fossil fishes

Conveners: Werner Schwarzhans[1], Giorgio Carnevale[2], Iris Feichtinger[3]

[1]Natural History Museum of Denmark, Denmark; [2]University of Torino, Italy; Natural History Museum Vienna, Austria

Many advances have been achieved in surveying and in the understanding of fossil fishes in recent years. Such advances comprise: i) discoveries of new fossil fish Lagerstätten, and review of legacy collections. New discoveries comprise, for example, an Oligocene reef fish fauna from northern Italy and from the Middle Miocene from Ukraine (the latter otolith-based), or new faunas from the Oligocene to Miocene Serbian Lake System. Reviews of legacy collections comprise the early Eocene Moler fish fauna of Denmark and the Badenian otolith collections from the Central Paratethys. ii) Refinements of the evolution of fishes and their interrelationships, primarily in Chondrichthyes and Osteichthyes. Extinction and survival of fish communities across the end Permian Great Dying or the K/Pg boundary event have been topics of recent studies, as well as the evolution of modern reef biota. iii) Improvements in the understanding of the

evolution of fishes in interactions with the developments of physical, chemical and biological factors surrounding them. Studies have, for example, been undertaken to illuminate effects on fish evolution related to the Eocene-Oligocene Transition that triggered the change of the deep ocean circulation, the early-Middle Miocene reef bloom, or the Late Miocene-Early Pliocene biogenic bloom.

S9: Fossil mollusks

Conveners: Alexander Nützel[1], Baran Karapunar[2], Christian Klug[3], Daniele Scarponi[4], Simon Schneider[5]

[1]LMU Munich, Germany; [2]University of Leeds, UK; [3]Naturhistorisches Museum der UZH, Switzerland; University of Bologna, Italy; University of Oxford, UK

Mollusks constitute one of the most species-rich animal phyla in today's environments, and their contribution to the fossil record is even more significant. The Mollusk Symposium aims to provide insights into the latest research on fossil mollusks with respect to phylogeny, taxonomy, diversity, ecology, and morphology. Hence, we invite contributions on a broad range of topics. These may include reports on newly discovered taxa or faunas just as well as molecular phylogenetic research or studies on the role of molluscs in paleoenvironmental reconstructions. Likewise, presentations on the large proportion of mollusks in natural history collections and related aspects of curation and digitization, or potential applications of AI in collection management and mollusk research are welcome.

S10: Fossil-Lagerstätten – linking ancient records to processes

Conveners: Joachim Reitner[1], Jan-Peter Duda[1], Mike Reich[2], Evelyn Kustatscher[3], Giuseppe Marramà[4]

[1]University of Göttingen & Göttingen Academy of Science and Humanities in Lower Saxony, Germany; [2] 3Landesmuseen Braunschweig, Germany; [3]Tiroler Landesmuseen, Austria; [4] University of Torino, Italy

Fossil-Lagerstätten sensu Seilacher (1970) formed under special preservation conditions and provide valuable insights into former environments and ecosystems. Spectacular examples are Fossil-Lagerstätten with completely preserved specimens (i.e. Konservat-Lagerstätten), such as the Middle Triassic organic-rich deposits of Monte San Giorgio and the Upper Jurassic lithographic limestones of southern Germany, as well as those characterized by extraordinary fossil enrichments (i.e. Konzentrat-Lagerstätten), such as the ammonite-rich Triassic Hallstatt facies and various Jurassic tectonic fissure and cave fillings from the Alpine realm. Because the fossil record is biased toward organisms with mineralized hard parts, which are more resistant to decay than soft-bodied organisms (analyses of modern marine communities have shown that only about 40% or fewer are likely to be preserved as fossils), the investigation of Fossil-Lagerstätten helps to reveal biases in the fossil record. Likewise, understanding the processes that lead to special taphonomic preservation provides valuable paleoenvironmental and paleoecological information.
This session welcomes contributions on all types of Fossil-Lagerstätten, covering topics ranging from sedimentology and diagenesis through taphonomy and (forensic) biogeochemistry to the reconstruction of past organisms and ecosystems. Contributions may also address regional occurrences (e.g. Alpine–Tethyan) or sites characterized by specific preservation styles, such as Weng'an- and Orsten-style phosphatization, Burgess Shale–type deposition, Rhynie Chert–type silicification, and "pickling" in evaporites.

S11: From ultrastructure to molecules: advances in the study of soft tissue: preservation and experimental taphonomy

Convenors: Valentina Rossi[1], Orla Bath Enright[2]

[1]University College Cork, Italy; [2]Naturkundemuseum Stuttgart, Germany

Konservat-Lagerstätten offer high-resolution snapshots into the evolution of life through the preservation of soft tissues and non-biomineralizing organisms. To understand this, the taphonomic pathways that lead to exceptional preservation must be comprehensively assessed, which is often challenging given the inherent complexity of the processes that control preservation.

Experimental taphonomy allows us to probe fossilization processes via a series of hypothesis-driven, laboratory-based experiments. Experimental data, in turn, can be used to build predictive models of pathways that control the preservation of biological structures, ultimately refining their detection in the fossil record. Recent developments in the field have driven significant discoveries in paleontology, ranging from understanding the intricacies of decay to in situ non-destructive molecular analysis of soft tissues and the discovery of novel modes of preservation.

This symposium aims to bring together experts to share new advancements in experimental design and technology, and to discuss the challenges. We propose the following exciting topics: 1) the implementation of laboratory-controlled experiments for understanding soft tissue preservation in diverse organisms; 2) the analysis of ultrastructural preservation of soft tissues in the fossil record; 3) molecular analysis of fossilized soft tissues; and 4) novel approaches in experimental design and data analysis. Priority will be given to presenters who are early-career researchers, to strengthen our network, foster new collaborations, and showcase our highly interdisciplinary field, spanning chemistry, biology, sedimentology, and paleontology.

S12: Microfossils as keys to Earth's past and future — advancements and perspectives in multiproxy studies

Conveners: Anna Pint[1], Ella Quante[2,3], Silvia Kolomaznik[2], Peter Frenzel[2], Luca Pellegrino[4], Annalisa Ferretti[5]

[1] Universität Hamburg, Germany; [2] Friedrich-Schiller-Universität Jena, Germany; [3] Max Planck Institute of Geoanthropology, Germany; [4] University of Torino, Italy; [5] University of Modena and Reggio Emilia, Italy

The use of microfossils has long extended beyond traditional micropalaeontology and is increasingly developing as an integrated tool within multiproxy studies, within e.g., palaeoceanography, palaeoclimatology, geochemistry, applied geology, physical geography and geoarchaeology. Microfossil assemblage compositions, morphological variations, and shell chemistry allow various paleoenvironmental and palaeoecological reconstructions in aquatic or terrestrial environments, and their biostratigraphical ranges are extremely valuable when correlating and assigning relative ages to strata. The small size of microfossils and their high diversity enable studying large associations, often with well preserved and complete individuals even from small samples as typical from sediment cores. However, e.g., preservation-

issues, or sampling- and observer-bias may lead to inaccurate interpretations, and complicate the development and evolution of micropaleontological proxies as integrated applications.
This session aims to bring together researchers working with all groups of microfossils throughout the Phanerozoic, from traditional microfossils such as foraminifers, diatoms, conodonts, ostracods, pollen, and nannofossils, to microremains derived from larger organisms (e.g., plants, vertebrates), to highlight recent advances, innovative methodologies, and emerging multi-proxy applications that extend far beyond classical micropaleontology. Special focus will be reserved to: i) novel methodological approaches, including imaging, geochemical proxies, statistical modelling, and AI-based classification; ii) applications in multiproxy studies, integrating microfossils with sedimentology, geochemistry, stratigraphy, and climate archives; iii) case studies from marine, lacustrine, terrestrial, and extreme environments; iv) interdisciplinary perspectives, including links to ecology, conservation, archaeology, astrobiology and environmental monitoring.

S13: Paleoherpetology of the Alps and peri-Alpine basins

Convenors: Andrea Villa[1], Jordan Bestwick[2]

[1] Institut Català de Paleontologia Miquel Crusafont (ICP-CERCA), Spain; [2] University of Zürich, Switzerland

The Alps can undoubtedly be considered a paleoherpetological treasure trove, offering a plethora of opportunities for scholars studying fossil amphibians and reptiles. From Mesozoic marine and terrestrial reptiles to Cenozoic assemblages, from highly informative articulated body fossils to astounding ichnological records, people interested in all kinds of aspects of paleoherpetology can find significant inspiration for research in the Alpine area and surrounding basins. This symposium aims at gathering scholars working with amphibian and reptile fossils from the Alpine and peri-Alpine geographic domain, covering all groups and stratigraphic ranges, to promote exchange of ideas and knowledge within the community. Research at all scales is welcome, from the level of specific assemblages to macroevolutionary studies, and potential topics might include (but are not limited to) taxonomy, phylogeny, paleobiogeography, macroevolution, paleofaunistics, conservation paleobiology, etc. We invite all to explore together this fascinating component of the Alpine (paleo)faunas.

S14: Plants under pressure in a changing climate

Conveners: Camilla Wellstein[1], Manuel Steinbauer[2], Lutz Kunzmann[3] & Evelyn Kustatscher[4]

[1] Freie Universität Bozen, Italy; [2]Universität Bayreuth, Germany; [3] Senckenberg Naturhistorische Sammlungen Dresden, Germany; [4]Tiroler Landesmuseen, Österreich

Climate change has repeatedly reshaped terrestrial ecosystems throughout Earth's history. Plants, as primary producers and key ecosystem engineers, respond to environmental change through modifications of functional traits, evolutionary adaptation, phenotypic plasticity, and shifts in floristic composition. Understanding these responses is essential both for reconstructing past ecosystems and for placing modern biotic reactions to ongoing climate change into a long-term perspective. This symposium aims to bring together paleontologists and biologists working on fossil and extant plants to explore how plant traits

and floristic composition respond to climate change across different temporal and spatial scales. We explicitly encourage contributions that bridge modern and fossil perspectives, fostering dialogue between researchers studying present-day ecosystems and those investigating deep-time plant responses. We welcome presentations addressing, but not limited to, the following topics: the use of functional plant traits as indicators of climatic and environmental change; morphological, anatomical, physiological, and ecological adaptations of plants to changing climate conditions; shifts in floristic composition, diversity, and dominance patterns during climate transitions; and resilience, vulnerability, and tipping points in plant communities under climatic stress as well as changes in plant-animal interactions. Studies integrating multiple proxies, comparative approaches between past and present systems, and links to ecological or evolutionary modelling are particularly encouraged. By combining evidence from the fossil record with insights from modern biology and ecology, this symposium seeks to highlight the unique role of paleontology in understanding plant–climate interactions and to demonstrate how deep-time perspectives can inform current and future responses of terrestrial ecosystems to climate change.

S15: Reading the past through palynology: multidisciplinary insights into stratigraphy, climate, and environments

Conveners: Amalia Spina[1], Nicoletta Buratti[2], José Bienvenido Diez Ferrer[3], Shao Longyi[4], Evelyn Kustatscher[5,6], Iván Rodríguez-Barreiro[6], Ingrid C. Romero[7], Emanuele Ruiu[1], Haidra Saleh[1]

[1] University of Perugia, Italy; [2]Total Energies, Pau, France; [3] Universidade de Vigo, Spain; [4]China University of Mining and Technology, China; [5] Tiroler Landesmuseen, Austria; [6]Museum of Nature South Tyrol; [7]Smithsonian National Museum of Natural History, USA

This session aims to highlight recent advances in research and to explore the pivotal role of organic matter, palynofacies, and palynological studies in multidisciplinary geoscience applications across the deep time. Particular emphasis is placed on the integration of palynological and organic matter–based approaches into paleoenvironmental and paleoclimatic reconstructions, as well as stratigraphic and basin-scale interpretations.

The session seeks to stimulate discussion and foster collaboration on the following key themes: i) taxonomy, stratigraphy, and evolutionary patterns of palynomorphs across deep time; ii) integrated palynofacies, organic facies, and sedimentological analyses as key tools for paleoenvironmental reconstruction and basin analysis; iii) paleobiogeographic, paleogeographic, paleoclimatic, and paleoenvironmental reconstructions based on organic facies and marine and terrestrial palynomorph assemblages; iv) assessment of the thermal maturity of organic matter using classical and emerging proxies, including spore and pollen color indices, vitrinite reflectance, and geochemical indicators; v) Applications of vibrational spectroscopy (e.g., FTIR, Raman) to investigate chemical composition, preservation state, environmental signals, and thermal maturity of organic materials, alongside complementary techniques.

Participants are invited to present methodological developments and significant case studies addressing depositional environments, paleoclimatic change, and high-resolution stratigraphic frameworks, including chronostratigraphy, cyclostratigraphy, and sequence stratigraphy. Overall, this session aims to emphasize

the growing importance of organic matter and palynology as fundamental components of multidisciplinary geoscience research and Earth system reconstructions through deep time.

S16: Resilience and turnover: Ecosystem change across past environmental crises

Conveners: Silvia Danise[1], William J. Foster[2], Herwig Prinoth[3], Elke Schneebeli-Hermann[4]

[1] University of Florence, Italy; [2]University of Hamburg; [3]Museum Ladin Ciastel de Tor, Italy; [4] University of Zurich, Switzerland.

Environmental crises have played a major role in shaping ecosystems throughout Earth's history. The fossil record documents how episodes of environmental stress affected biodiversity, community structure, and ecological functioning, often in complex and uneven ways. This symposium aims to explore patterns of resilience and turnover in marine and terrestrial ecosystems across deep time, with a focus on paleontological evidence for biological change during and after environmental crises.

We welcome contributions that address extinction, survival, and recovery across different taxonomic groups, environments, and geological intervals. Topics may include changes in biodiversity and community composition, ecological selectivity, body-size trends, functional reorganization, and the dynamics of post-crisis recovery. Comparative approaches that examine similarities and contrasts among different crisis intervals, or across regions and depositional settings, are particularly encouraged.

An important aspect of the symposium is the integration of biological patterns with their environmental and stratigraphic context. Contributions based on well-constrained stratigraphic frameworks, and studies that combine paleobiological data with sedimentological, geochemical, or paleoenvironmental information are especially welcome. Both marine and terrestrial records, and datasets ranging from microfossils to macroscopic organisms, fall within the scope of the session.

The symposium is intended as a forum for exchange among researchers working with different materials, time intervals, and methodological approaches. By bringing together these perspectives, the session aims to improve our understanding of how ecosystems respond to severe environmental change over geological timescales, and how resilience, collapse, and re-organization are recorded in the geological archive.

S17: Student session: building the future of the paleontology community

Conveners: Alessandro P. Carniti[1], Fabio Franceschi[2], Gianmarco Minniti[3], Riccardo Rocchi[4], Dustin Schmidt[5]

[1]Nanjing University, Nanjing, China; [2]University of Torino, Italy; [3]University of Catania, Italy; [4]University of Bologna, Italy; [5]University of Münster, Germany

The session is aimed at creating a supportive, dynamic, and relaxed environment dedicated specifically to bachelor, master, and PhD students at their first conference experiences. Contributions on any topic of paleontology (taxonomy, paleoecology, biostratigraphy, novel methods and applications) and any taxonomic group (microfossils, fossil plants, invertebrate and vertebrate macrofossils) are welcome. Presentations may include original research ideas, preliminary results, or early-stage projects, with the purpose of offering a space to test hypotheses and receive constructive feedback.

A key objective of the session is to provide an inclusive platform where early-career researchers can build confidence in presenting their work in English and develop essential scientific communication skills. Special emphasis will be placed on encouraging interdisciplinary dialogue among students with different academic backgrounds and research perspectives, fostering cross-field understanding and collaboration. The session conveners will actively support participation through guided discussion, interactive Q&A formats, and informal networking opportunities designed to stimulate the exchange of ideas. By promoting open interaction and a sense of community, the session aims to strengthen professional relationships among young paleontologists and contribute to the creation of a collaborative and engaged new generation of researchers.
We specify that students are also welcome to engage in all other sessions of the conference.

S18: Triassic Fossil-Lagerstätten of the Alps and beyond

Conveners: Claudia Dojen[1], Torsten Scheyer[2], Nicole Klein[3]
[1]Landesmuseum Kärnten, Austria; [2]Universität Zürich, Switzerland; [3] Staatliches Museum für Naturkunde, Germany

Following the end-Permian mass extinction, Earth's largest biotic crisis, the Triassic experienced a fluctuation of times of recoveries and turnovers before reaching more stable conditions in the terrestrial and marine realms. The Triassic also saw the emergence of modern ecosystem structures, and many extant organisms and clades have their roots or times of significant diversification within this early Mesozoic time period. Furthermore, many important Fossil-Lagerstätten are situated in the Alpine region, well embedded in the larger European context. The present symposium thus aims to bring together expertise of different fields including, vertebrate and invertebrate paleontology, paleobotany and palynology, to paleoecology and macroevolution.

S19: Vertebrate ichnology, quo vadis? Perspectives of our practice.

Conveners: **Matteo Belvedere**[1], **Michael Buchwitz**[2], **Diego Castanera**[3], **Christian Meyer**[4], **Lara Sciscio**[5]
[1] University of Florence, Italy; [2]Museum für Naturkunde Magdeburg, Germany; [3]Universidad de Zaragoza, Spain; [4] University of Basel, Switzerland and Museo de Historia Natural Alcide d'Orbigny, Bolivia;
[5]Jurassica Museum and University of Fribourg, Switzerland

Progress in fossil vertebrate traces is not only advanced by the discovery and description of new trace occurrences, technological innovations, and increasing data availability, but also by a better understanding of how such traces, especially when ichnotaxonomically well-defined, can be related to extinct and extant producers. As an exemplary case of "reciprocal illumination" in science, the study of these traces may enhance our understanding of the producers' biology and vice versa, facilitating integrated studies on faunal events, paleobiogeography, biostratigraphy, locomotion, soft tissues, fossoriality, as well as social and trophic structures. Trace formation represents a physical and biological process that can be informed by the study of present-day vertebrate taxa and their ecosystems, taking into account the phylogenetic relationships and evolutionary history of a specific trace-maker group. Additionally, the analysis of the sediment and sedimentary environments in which traces occur forms an important component of

understanding trace generation. During the last decade, methodological advances have improved the availability of objective data (i.e., 3D models); however, much still needs to be done in terms of technical access (e.g., online databases), but also philosophical approach (easy data access).

This symposium is created to bring together diverse experiences and viewpoints in vertebrate ichnology. We invite contributions presenting new fossil trace or neoichnological data, experimental and technical approaches, data sharing and ichnotaxonomic perspectives. Altogether, the hope is to assess the current state of vertebrate ichnology, highlight methodological approaches and advances, while discussing, broadly, further research priorities.