

Schedule



EANA 2024 Tuesday, September 3, 2024 TALKS



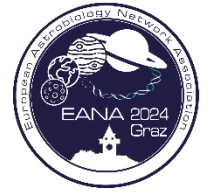
Opening ceremony	
09:30 – 09:35	Welcome Words, EANA 2024 LOC Chair (<i>Ruth-Sophie Taubner</i>)
09:35 – 09:40	Representative of Styria (<i>Sandra Holasek</i>)
09:40 – 09:45	Representative of TU Graz (<i>Werner Lienhart</i>)
09:45 – 09:50	Director of IWF (<i>Christiane Helling</i>)
09:50 – 09:55	President of EANA (<i>Jean-Pierre de Vera</i>)
09:55 – 10:00	Introduction EANA Poster contest and EANA MEME contest (<i>Lena Noack and Sven Kiefer</i>)
10:00 – 10:45	Coffee Break
Session: Prebiotic Chemistry, Origin of Life and the Early Life	
10:45 – 11:15	KEYNOTE Reviewing the limits of life on the early Earth (<i>Eva Stueeken</i>)
Contributed Talks	
11:15 – 11:30	On biosignatures and tracers of life (<i>Nozair Khawaja</i> on behalf of <i>Inge Loes ten Kate</i>)
11:30 – 11:45	Insights into the Liberation of Organic Matter and the Aqueous Alteration of Carbonaceous Chondrites Exposed to Prebiotic Ponds (<i>Alexandra Zetterlind</i>)
11:45 – 12:00	Interstitial water in dynamic nanogeochemical environments allow fully abiotic synthesis of large, complex RNA (<i>Frank Trixler</i>)
12:00 – 12:15	Spontaneous structural development of a peptide-vesicle system towards possible protocells (<i>Christian Mayer</i>)
12:15 – 12:30	Titan: a pre-biological world? (<i>Conor A. Nixon</i>)
12:30 – 12:45	Impact of Space- and Mars simulation tests before exposure of the BIOSIGN-ESA (Bio-Signature and habitable Niches) experiment on the ISS: resistance mechanisms of lichens and bacteria of Mars analog areas (<i>Rosa de la Torre Noetzel</i>)
12:45 – 14:30	Lunch Break
Session: Space Missions and Space Instrumentation	
Contributed Talks	
14:30 – 14:45	Using microorganisms to extract and cycle elemental resources in space (<i>Charles Cockell</i>)
14:45 – 15:00	BioSigN: Using an Exposure Lab on the ISS for Preparation of In Situ Life Detection Missions and Habitability Studies (<i>Jean-Pierre de Vera</i>)
15:00 – 15:15	Enabling future experiments on desert cyanobacteria beyond low Earth Orbit (<i>Daniela Billi</i>)
15:15 – 15:30	Biological experiments in Tanpopo-5 and Tanpopo-6 (Space exposure experiments for microbes and organic compounds at the Exposure Facility of the Japanese Module of the International Space Station) (<i>Shin-ichi Yokobori</i>)
15:30 – 15:45	ExoMars/Rosalind Franklin Mission Update (<i>Jorge L. Vago</i>)
15:45 – 16:30	Coffee Break
Session: Space Missions and Space Instrumentation (feat. ESA)	
Contributed Talks	
16:30 – 16:45	Introductory talk and ESA Exoplanet missions (<i>Theresa Lüftinger</i>)
16:45 – 17:00	ESA Exoplanet missions: Focus on PLATO and Ariel (<i>Salma Fahmy</i>)
17:00 – 17:15	Solar system Astrobiology – Mars and outer planet moons (<i>Jorge L. Vago</i>)
17:15 – 17:30	Exposure biology at ESA - past, present and future (<i>Theresa Lüftinger</i> (on behalf of <i>Nicol Caplin</i>))
17:30 – 19:30	Poster Session 1



EANA 2024

Wednesday, September 4, 2024

TALKS



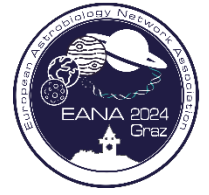
Session: Space Factor (Part 1)	
09:00 – 09:30	KEYNOTE Science outcomes of the report of the Expert Committee for the Large-class mission in ESA's Voyage 2050 plan covering the science theme "Moons of the Giant Planets" (<i>Olga Prieto Ballesteros</i>)
<i>Contributed Talks</i>	
09:30 – 09:40	Intro Space Factor (<i>Stella Timofeev & Carolin Krämer</i>)
09:40 – 09:52	Evaporated atmosphere in the interplanetary medium of early-type stars (<i>Alexandra Lehtmetts</i>)
09:52 – 10:04	Design of Synthetic Insoluble Organic Matter (IOM) Samples via a Systems Chemistry Approach: Towards Disentangling Spectroscopic Features of Planetary Soils and Meteorites (<i>Sathesh Raj V Periasamey</i>)
10:04 – 10:16	Multispecies approach to evaluate protocell membrane evolution among coexisting protocellular populations in a prebiotic niche (<i>Souradeep Das</i>)
10:16 – 10:28	Viability tests on Antarctic cryptoendolithic communities to evaluate their survival to extreme stresses (<i>Carmen Del Franco</i>)
10:30 – 11:15	Coffee Break
Session: Space Factor (Part 2)	
<i>Contributed Talks</i>	
11:15 – 11:27	Preparations for the RayPairNyx experiment; Characterisation of <i>Aspergillus carbonarius</i> in simulated space conditions (<i>Alessa Schiele</i>)
11:27 – 11:39	Unveiling <i>Entamoeba histolytica</i> 's Anti-Biofilm Arsenal: A Potential Solution for Microbial Threats in Space (<i>Eva Zanditenas</i>)
11:39 – 11:51	Simulated microgravity effects on <i>Enterococcus faecium</i> : modifications in antibiotic resistance, biofilm formation, and desiccation tolerance (<i>Franca Arndt</i>)
11:51 – 12:15	Closing (<i>Stella Timofeev & Carolin Krämer</i>)
12:15 – 14:15	ESA Brainstorming on Astrobiology Lunch Break (incl. Open Discussion & Round Table)
Session: Exoplanets	
<i>Contributed Talks</i>	
14:15 – 14:30	The role of giant flares for the habitability of planets (<i>Eike W. Guenther</i>)
14:30 – 14:45	Reducing vs. oxidizing atmospheres during the long-term evolution of rocky planets and implications for later habitability (<i>Lena Noack</i>)
14:45 – 15:00	Impact of CO ₂ on water outgassing on rocky planets around TRAPPIST-1 – VPLANET/MagmOcV2.0 (<i>Ludmila Carone</i>)
15:00 – 15:15	Habitability constraints by nutrient availability in atmospheres of rocky exoplanets (<i>Oliver Herbort</i>)
15:15 – 15:30	The catalytic potential of cloud particle surfaces: Impact on CH ₄ abundances in hot gas-giants (<i>Sven Kiefer</i>)
15:30 – 15:35	Overview about the EANA 2024 Special Issue in IJA (<i>Rocco Mancinelli</i>)
15:35 – 16:15	Coffee Break
Session: Exoplanets	
<i>Contributed Talks</i>	
16:15 – 16:30	Biodiversity of oxygenic photosynthesis in exoplanets light analogues: implication for searching life around M-dwarfs (<i>Nicoletta La Rocca</i>)
16:30 – 16:45	Implications of cyanobacterial photosynthetic diversity for oxygenic photosynthesis on exoplanets orbiting M-dwarf stars (<i>Mariano Battistuzzi</i>)
16:45 – 17:00	Detectability of Vegetation Red Edge (VRE) in Aquatic Plants: Implications for Biosignature Detection on Water-Covered Exoplanets (<i>Aoi Murakami</i>)
17:00 – 17:15	SenseLife: remote detection of living organisms with full Stokes spectro-polarimetry (<i>Brice-Olivier Demory</i>)
17:15 – 17:30	Detectability of biosignatures in warm, water-rich atmospheres (<i>Benjamin Taysum</i>)
17:30 – 17:45	Impact of biological feedbacks on the habitability of rocky exoplanets (<i>Erica Bisesi</i>)
18:30 – 23:00	Conference Gala Dinner



EANA 2024

Thursday, September 5, 2024

TALKS



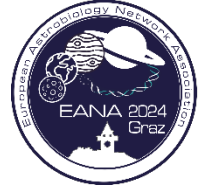
Session: Planetary Habitability	
09:00 – 09:30	KEYNOTE The emergence and prevalence of Earth-like Habitats in the Galaxy (Manuel Scherf)
<i>Contributed Talks</i>	
09:30 – 09:45	Astrobiology of Venus: Historical Overview and Basic Concepts (<i>O. R. Kotsyurbenko</i>)
09:45 – 10:00	Thermodynamic Constrains on the Evolution of Ocean-Ice Shell Interactions at the South Pole of Enceladus. (<i>Katherine Villavicencio Valero</i>)
10:00 – 10:15	Latest on Enceladus Organic Inventory: Implications for Extraterrestrial Hydrothermal Chemistry (<i>Nozair Khawaja</i>)
10:15 – 10:30	Insights into the habitability of martian crater lakes through experimental simulation of Gale Crater sedimentary environment (<i>Ben Tatton</i>)
10:30 – 10:45	Unearthing microbial diversity, environmental and ecological aspects of global cave ecosystems as proxy for hypogean Martian environments (<i>Federico Biagioli</i>)
10:45 – 11:30	Coffee Break
Session: Biogeology (MARS SESSION) 1	
<i>Contributed Talks</i>	
11:30 – 11:45	Enhanced Microbial Survival in Chlorate Brines in a Simulated Mars-like Shallow Subsurface Environment (<i>Florian Carlo Fischer</i>)
11:45 – 12:00	Adaptation Mechanisms of Microorganisms to Martian Salts (<i>Jacob Heinz</i>)
12:00 – 12:15	Mars-analogue filamentous pseudofossils in agate (<i>Sean McMahon</i>)
12:15 – 12:30	The role of sulfates in the organic preservation on Mars: UV irradiation of carboxylic acids and PAHs in hydrated magnesium sulfate. (<i>Andrew Alberini</i>)
12:30 – 14:30	Lunch Break
Session: Biogeology (MARS SESSION) 2	
<i>Contributed Talks</i>	
14:30 – 14:45	Survival and physiological adaptations of the brine shrimp <i>Artemia salina</i> to simulated Mars environment. (<i>Maria Teresa Muscari Tomajoli</i>)
14:45 – 15:00	Stability of amino acids and fatty acids under UV radiation in Marian simulated environment. (<i>John Robert Brucato</i>)
15:00 – 15:15	Biosignatures from Modern Extreme Terrestrial Lacustrine Deposits - Implications for Astrobiology (<i>Keyron Hickman-Lewis</i>)
15:15 – 15:30	Geochemical environment and organics in micro-habitants inside Martian meteorites dictate a methodology to study samples from Mars Sample Return (MSR) missions (<i>Elias Chatzitheodoridis</i>)
15:30 – 15:45	Development of a gas chromatography mass spectrometry method for assembly theory measurements. (<i>Silke Asche</i>)
15:45 – 16:30	Coffee Break
Session: Biosignatures	
<i>Contributed Talks</i>	
16:30 – 16:45	Modeling Circular Polarization in Enceladus; Plumes: Implications for Ground-Based Detection of Solar System Biosignatures (<i>Jonathan Grone</i>)
16:45 – 17:00	UV photo-degradation of the secondary lichen substance parietin: a spectroscopy analysis (<i>Christian Lorenz</i>)
17:00 – 17:15	The Role of Clay Structure and Ions in Amino Acid Preservation on Nontronite Clays (<i>Hannah Pollak</i>)
17:15 – 17:30	Metabolic profiling of aerobiomes in the Earth's troposphere (<i>Anna Lewkowicz</i>)
17:30 – 17:45	Mini Fluorescence Microscope: Enabling Real-Time Live Cell Imaging in Space (<i>Kiira Tiensuu</i>)
17:45 – 18:00	Metagenomics untangles potential adaptations of Antarctic cryptoendolithic microorganisms at the fringe of habitability (<i>Laura Selbmann</i>)
18:00 – 20:00	Poster Session 2



EANA 2024

Friday, September 6, 2024

TALKS



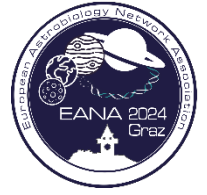
Session: Planetary Protection – BioTechMed-Graz Session	
09:00 – 09:30	KEYNOTE Planetary protection and the search for extraterrestrial life (<i>Petra Rettberg</i>)
<i>Contributed Talks</i>	
09:30 – 09:45	Predicting the survivability of microbial contaminants on an icy moon by assessing Planetary Protection relevant phenotypes from genomic sequences (<i>Alexander Mahnert</i>)
09:45 – 10:00	Applied testing of antibacterial surfaces for spaceflight and confined habitats (<i>Carolin L. Krämer</i>)
10:00 – 10:15	Detection and preservation of FTIR biosignatures in the microbialites of Lake Salda, a Jezero Crater analogue (<i>Connor Ballard</i>)
10:15 – 11:00	Coffee Break
Session: EANA Info for all members (Updates from the network)	
<i>Contributed Talks</i>	
11:00 – 11:15	Insights into the Network (<i>Lena Noack & Ruth-Sophie Taubner</i>)
11:15 – 11:30	What happened the past 4 years? (<i>J. P. De Vera</i>)
11:30 – 11:45	10 years of AbGradE (<i>AbGradE representative</i>)
Award and Closing ceremony	
11:45 – 12:30	Award and Closing ceremony
15:00 – 17:00	After conference activity: City Tour

Posters

EANA 2024

Tuesday, September 3, 17:30 – 19:30

POSTER SESSION 1



Session: Planetary Missions		
P1-57	<i>Hector-Andreas Stavrakakis</i>	Assessing electrokinetics in simulated planetary surface materials
P1-68	<i>Lena Noack</i>	Characterization of Exoplanets with LIFE (Large Interferometer For Exoplanets)
Session: Astrochemistry		
P1-84	<i>Nidhi Bangera</i>	Photochemical production of pre-biotic molecule C ₂ H ₂ in gaseous exoplanet atmospheres
P1-106	<i>Mylaine Holin</i>	Demystifying the Viking Labeled Release experiment
Session: Prebiotic Chemistry and the Origin of Life		
P1-9	<i>Sarah Stewart</i>	The role of layered double hydroxide minerals in the origin of prebiotic peptides
P1-19	<i>Kensei Kobayashi</i>	Formation and Alteration of Macromolecular Extraterrestrial Amino Acid Precursors: Comparison with Free Amino Acids
P1-33	<i>Yoshiki Banzono</i>	Dipeptides formation by VUV irradiation to amino acid thin films
P1-34	<i>Ai Miyamoto</i>	In situ Analytical Methods for Amino Acids and Dipeptides in Space Exposure Experiment
P1-44	<i>Antonio López-García</i>	Cyanide-mineral interactions. Preparing a multi-technique analysis for the MSR mission.
P1-48	<i>Rodrigo Zamudio Ramírez</i>	Atmospheric chemistry driven by cosmic rays on a simulated atmosphere of Titan
P1-54	<i>Orr Rose Bezaly</i>	Interaction of clay and amino acid mixtures on rocky (exo)planets
P1-89	<i>Hajime Mita</i>	The interaction of several organic compounds on proteinoid microspheres
P1-108	<i>Frank Trixler</i>	Water-based abiotic synthesis of long RNA strands with sequence complexity: linking aqueous nanogeochemistry with biochemistry
P1-119	<i>Sohan Jheeta</i>	ROS: Possible Implications for the Emergence of Life
P1-128	<i>Marzena Krzek</i>	Microgravity and DNA presence as factors in aggregation pathway selection toward peptides fibrilization
Session: Space Missions and Space Instrumentation		
P1-16	<i>Stella Marie Timofeev</i>	Countering Fungal Threats in Space: Advanced Surface Functionalization and <i>Aspergillus niger</i> Stress Responses
P1-25	<i>Anna-Maria Wirth</i>	Closing the Loop: Composting Strategies for Nutrient Recycling in Lunar and Mars Agriculture
P1-27	<i>Costanza Maria Martella</i>	Development of bacterial and cyanobacterial biosensors for real-time monitoring of space radiation response in microgravity conditions
P1-80	<i>Rosa Santomartino</i>	Biotechnologies for space sustainability: a tool to close the loop in space and on Earth
P1-88	<i>John R. Brucato</i>	Investigating the responses of terrestrial EXTREMophiles and their molecules in MOON environment – EXTREMOON
Session: Biosignatures and Biogeology		
P1-8	<i>Michaela Leung</i>	Methylated Biosignatures: Mid-Infrared Signs of Life with Low False Positive Potential
P1-78	<i>Sylwia Olewinski</i>	Non-destructive 3D analyses of sedimentary samples in preparation for Mars Sample Return
P1-181	<i>Günter Kargl</i>	The SISS (Salts In the Solar System) program: Studies on laboratory simulations with brines and NaCl crystals
Session: Exoplanets		
P1-61	<i>Stefano Fiscale</i>	DART-Vetter: A Deep LeARning Tool for automatic vetting of candidates detected in transiting surveys
P1-75	<i>Tamara Janz</i>	Global cloud structure of tidally locked gaseous exoplanets
P1-94	<i>Nanna Bach-Møller</i>	Stellar Storms and Cosmic Rays: Exploring Exoplanet Chemistry in Extreme Environments
P1-115	<i>Alexander Thamm</i>	Compositional variations within the TRAPPIST-1 planets

Session: Other		
P1-11	Pauli Laine	Astrobiology as a teaching tool for natural sciences
P1-63	Barbara Cavalazzi	TAneZrouft sALt flat dEposits (SAhara Desert): a priority target for a Mars Sample Return mission (AZALEA)
P1-66	Štěpán Krejčí	Effects of lunar regolith simulant on the initial stages of plant growth and primary photosynthesis parameters studied by chlorophyll fluorescence
P1-120	Sohan Jheeta	Astroscience Education: The Way Forward on the African Continent
P1-121	Lena Noack	Exploring the diversity within EANA and AbGradE as mirror of the European astrobiology community
P1-182	Stephan Zivithal	The AstroLab facility of the Space Research Institute in Graz



EANA 2024

Thursday, September 5, 18:00 – 20:00

POSTER SESSION 2



Session: Planetary Missions		
P2-113	Andrew Alberini (on behalf of Giovanni Poggiali)	Phobos and Deimos astrobiology: preliminary studies on organic survival under UV irradiation. Implication for astrobiology and future investigation of MIRS instrument on board the JAXA Martian Moon eXploration sample return mission.
Session: Astrochemistry		
P2-93	Helena Lecoq Molinos	From Molecules to Clouds: Quantum Chemical Analysis of Metal Oxide Nucleation in Exoplanet Atmospheres
Session: Planetary Habitability		
P2-91	Amelia Hankinson-Wake	Bioavailability of Titan-related organics under a red Sun.
P2-124	Helmut Lammer	Earth-mass planets with primordial atmospheres in the habitable zone of Sun-like stars
P2-126	Enes Yoldaş	Goldilocks Zone: the Search for Life-Supporting Worlds
P2-183	Imre Kisvárdai	Porosity of the interior of Enceladus and its relation to habitability potential
Session: Prebiotic Chemistry and the Origin of Life		
P2-105	A.H. Corrigan	Exploring the Prebiotic Chemistry of Europa
Session: Life Sciences and Extremophiles		
P2-13	Shrushti S. Patil	Cell Banking in Space: Cultivating Stem Cells for Future Frontiers in Astrobiology and Human Space Exploration
P2-20	Gerardo Antonio Stoppello	Microbial Diversity in Antarctic Granite: Insights into Endolithic and Epilithic Communities and Their Implications for Mars Analog Studies
P2-23	Katharina Runzheimer	Hidden Life in Salt City: Astrobiological Studies of Lüneburg's Halophilic Microorganisms
P2-31	Stewart Gault	The limits to life in multi-extreme environments investigated through high-pressure differential scanning calorimetry.
P2-40	Antonio Chirico	Unlocking desert cyanobacteria as chassis for space synthetic biology
P2-55	Cintia Cabada	Progress in the Culture of Marine Tardigrades: Astrobiological Model for Studying Life in Extraterrestrial Oceanic Environments
P2-60	Elisabetta Liistro	Cyanobacteria growing far-red light enriched spectra: a powerful platform for astrobiological studies
P2-74	Stefan Leuko	From the Salar the Uyuni in Bolivia to outer spaces: Halophilic archaea and their potential to thrive on other planets
P2-96	Krzysztof Rychert	Importance of temperature during the Viking life-detection experiments
Session: Space Missions and Space Instrumentation		
P2-118	Elias Chatzitheodoridis	Microfluidic instruments to assess biotoxicity from Reactive Oxygen Species (ROS) of planetary regoliths tested on high-fidelity simulants
P2-180	Anirban Jana	From Oceans to Icy Moons: Utilizing Advanced Imaging Flow Cytometry for Life and Chemical Biosignature Detection

Session: Biosignatures and Biogeology		
P2-5	<i>Pamela Knoll</i>	Crystal Growth in Far-from-equilibrium Abiotic Systems
P2-36	<i>Jaroslav Kačina</i>	Abiotic synthesis of potential biosignatures on terrestrial planets
P2-42	<i>Sole Biancalani</i>	Exploring Martian soil on Earth: characterizing Icelandic potential regolith analogs
P2-49	<i>Nina Kopacz</i>	Volcanic lakes as extreme habitats for astrobiological exploration: the HELENA project
P2-56	<i>Francesco Renzi</i>	Preservation of organic matter on Mars: a study of sulfate minerals' protective properties
P2-58	<i>Ilaria Bergamo</i>	Infrared characterization and stability studies under UV radiation of L-histidine in Nontronite to assist Mars missions in biosignature detection.
P2-76	<i>Lisa Brandenburg</i>	Light-Adapted Photosynthesis: How to Detect Cyanobacteria Grown Under the Light of Another Sun
P2-90	<i>Mickael Baqué</i>	Raman Signatures in Salt Nodules from the Atacama Desert along an Aridity Gradient
P2-98	<i>Sean McMahon</i>	Progress towards a universal tracers portal
P2-104	<i>Nozair Khawaja</i>	Cosmic Dust – Potential Seeds of Life across the Universe
P2-111	<i>Claire Batty</i>	Exploring the volatilomic and metabolomic signatures of the Makgadikgadi salt pans (Botswana) - Implications for Astrobiology
P2-129	<i>Sebastian V. Gfellner</i>	Metabolomic investigation of thiophene-bearing quinones of the extremely thermoacidophilic archaeon <i>Acidianus manzaensis</i> after exposure to extreme conditions
Session: Other		
P2-102	<i>Ruth-Sophie Taubner</i>	The Young Researcher Program in Interdisciplinary Space Science and Planetary Research (YRP@Graz)
P2-130	<i>Christiane Helling</i>	CHAMELEON: Virtual Laboratories for Exoplanets and Planet-Forming Disks.

