3E - Extra-Terrestrial Permafrost: from Geology to Technology Development for Resource Utilization

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This session aims to foster collaborative discussions among scientists, engineers, and stakeholders, with the goal of advancing our understanding and capabilities in the exploration of extra-terrestrial bodies. The focus will be on various aspects of surface exploration, ranging from the geology of permafrost geomaterials in low and microgravity conditions to cutting-edge science instrument development for prospecting and processing of space resources.

Participants in this session will have the opportunity to share their expertise and insights on a broad range of topics. This includes but is not limited to: including but not limited to the identification and characterization of potential landing sites, the design and testing of specialized robotic vehicles and equipment for surface operations, and the development of innovative instrumentation and techniques for analysing and extracting valuable resources from extra-terrestrial materials; ; and, the possible detection of ground-ice and ice-rich terrain/landscapes on planets, moons and more minor bodies in the solar system.

By bringing together a diverse group of professionals, this session seeks to promote interdisciplinary collaborations, ultimately advancing our collective understanding and capabilities in exploring the cosmos.

Keywords: Extra-Terrestrial Permafrost, In-Situ Resource Utilization, Space Resources, Technology Development

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