

Life at the Limits: Microbes Beyond Earth



Dr. Kristina Beblo-Vranesevic



At the German Aerospace Center (DLR), Dr. Kristina Beblo-Vranesevic works in the interdisciplinary field of Aerospace Microbiology, investigating the emergence, development, and adaptability of microbial life under diverse and extreme environmental conditions. Her work explores the boundaries and requirements of life, including the potential for microbial life to survive and adapt under conditions found on other planets and moons within and beyond our Solar System.

Her research combines laboratory studies, field investigations, and space-based experiments to examine how microorganisms and microbial communities respond to environmental stressors. This includes studying microbial processes under controlled and reproducible laboratory conditions, as well as naturally adapted microbial communities and their interactions with their environment. Space experiments further provide insights into microbial responses to the conditions of space and to simulated planetary environments, including those of Mars and icy moons.

She also investigates microorganisms associated with the human body and their relevance for human life in closed habitats and future long-duration space missions. By integrating laboratory, field, and space-based approaches, Kristina Beblo-Vranesevic contributes to a better understanding of microbial adaptability, the limits of life, and the conditions that may support life beyond Earth.

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