# 宇宙生命科学の現状と今後

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## Status and Future of Space Life Sciences

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**Abstract**

The life on the earth has been evolving under gravity and has resulted in today although it is still unknown how life has emerged. The gravity is always on our all living organism, and a clarification the fundamental role of gravity on the life phenomena contributes a great deal to the whole understanding about the universal life mechanisms such as development, differentiation, evolution, and so forth. We are acquiring a lot of knowledge about relation of the life and the gravity from experiments in orbit and from ground-based researches using altered gravity as the parameter. Furthermore we have also known that long-term space stay causes bone loss, muscle atrophy, alteration of immunity system, erythrocyte reductions, and so on. However a systematic elucidation of gravity affections on the life has not been achieved. For a promotion and establishment of the space life science, it is important to clarify now both a directional character and a significance of the future space life science researches faced up to utilization of the International Space Station (ISS) on the basis of previous research results and knowledge.

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