

## Specific patterns of the photosynthesis within imitated Martian conditions

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Human Mars missions and long-term settlements followed by the Terraformation of the Planet are those of the most important challenges for 21st century scientists. Invention of the practical methods for the possible bioremediation of Martian ground and atmosphere seems prospective and is of great scientific interest.

Functioning of the photosynthesizing organisms is a great deal for the long-term sustainability of human Mars settlements as there are no alternatives for the stable oxygen/food supply for such stations.

We have imitated Martian environmental conditions and studied various adaptations of the optically active organisms to it. Specific biochemical aspects of the Martian photosynthesis have been investigated. Prototype of the experimental photosynthesizing bionic structure has been engineered for the potential oxygen supply within future human Mars settlements.