

SPACE EDUCATION AND OUTREACH SYMPOSIUM (E1)
Calling Planet Earth - Space Outreach to the General Public (6)

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ASTROBIOLOGY AS AN EDUCATIONAL FRAMEWORK FOR THE GENERAL PUBLIC

Abstract

Astrobiology is a field that captures the interest of the general public as well as scientists. The prospect of finding life elsewhere in the universe is a great driving force of interest in space sciences. An astrobiological framework can thus be used to bring public's attention to new insights in many related fields. The interdisciplinary nature of astrobiology is of great benefit, as astrobiology integrates insights from biology, chemistry, astronomy, planetary science and other sciences. It's also relevant to space policy, e.g. planetary protection. Because of its interdisciplinarity, astrobiology can serve as a compelling introduction to the wide range of space-related fields for the general public. We will show an approach demonstrating that.

News related to astrobiology, such as last year's NASA announcement of finding liquid water in the recurring slope lineae, receives a great amount of attention, but it's essential to put the news into context, e.g. in this case how the discovery was made, what is the presumed amount of water, its longevity and salts concentration, what it would mean for putative life and why there are other places on Mars where the chances of finding extant life would be greater. With this more comprehensive approach, the public can in an easily accessible way learn more about the science behind announced discoveries and how the whole picture painted by space exploration fits together.

After teaching an Introduction to Astrobiology course with colleagues Tomas Petrasek and Jan Toman, we had organized a cycle of lectures for the general public, with talks by invited professionals from fields ranging from cryoecology to astrochemistry, geology of Mars or geophysics of icy moons. The lectures were integrated with other educational activities with a large impact: writing articles for popular science magazines and websites, astrobiology-related books, and talking at seminars, science festivals and conventions.

In the popular science magazine "Vesmír", we introduced a series of astrobiology-themed articles focused chiefly on what makes a planet habitable, based also on research we could discuss directly with its authors at conferences. This allows to very accessibly introduce topics such as advances in heliophysics, atmospheric physics, geophysics and other fields that would otherwise likely fall outside the usually popularized ones. Astrobiology can present a fantastic framework for fun and comprehensive space education that can be used anywhere not only for the general public, and we are currently building upon it to extend the range of educational programs.