

Outreach activities of Astrobiology Center of Japan

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Abstract. Astrobiology Center of Japan is established in 2015. For public, Life in the Universe is one of the most attractive topic. Many famous science fiction and alien movies are made in some countries. In many case, such movie creators and/or writers would interviewed to real researchers and (at least partly) reflect on their works. However, most public people do not know actual astrobiology research. Therefor, ABC needs to tell scientific astrobiology research.

Keywords. sociology of astronomy, Astrobiology

1. Introduction

As a result of developments in extrasolar planet observations, astrobiology research to explore Life in the Universe and uncover its mysteries has become a pressing subject. Astrobiology Center (ABC) of Japan, established in 2015, advances this field by combining disciplines, promotes research into extrasolar planets and life both outside and within the Solar System, and develops observational instruments for these purposes.

Astrobiology Center activities are below, Grants-in-Aid for astrobiology research, Cooperation with foreign astrobiology institutes, Inter-University cooperation for instrument development, International workshops, Invitation of foreign researchers and Development of young researchers.

For public, Life in the Universe is one of the most attractive topic. Many science fiction movies show various shapes aliens. However, real astrobiology researches are quite far from such aliens shape and most public people do not know such actual astrobiology research. Therefore, ABC needs to tell actual astrobiology research field.

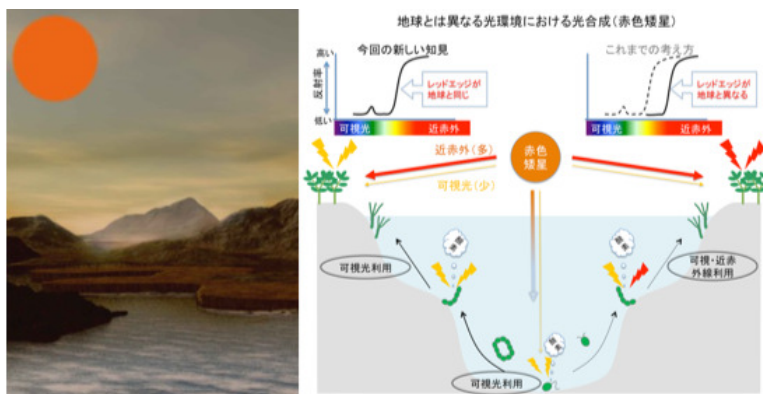


Figure 1. Photosynthesis on a habitable planet around low mass star(right) and their landscape (artist's concept image) (left).

2. ABC Outreach

At first, we have opened the astrobiology center official website since 2015 (<http://abc-nins.jp>). In the website, thirteen topics related astrobiology and exoplanet researches have been released until now. We organized and participated various outreach programs such as visiting lectures, public talk, symposiums and open campus based on some Astrobiology researches. For example, one of a new topic is photosynthesis on a habitable exoplanets (Takizawa et al. 2017). Plants on exoplanets are quite attractive topic(Fig.1). From biology side, we talked about photosynthesis system such as reaction wavelength and efficiency under another Suns spectrum. From astronomy side, we talked about various exoplanets, habitable zone, their assumed environment and climate. We talked about both of these topics on some events.



Figure 2. NAZO-TOKI event: Solve some riddles and open the treasure box (a safe) and get the treasure (ABC sticker).

In an open campus, we held exoplanet and alien drawing events for children. In this event, we explain some exoplanet parameters such as size, temperature, stellar type and gravity. Then children drew freely their own planets and aliens based on scientific exoplanet environment. On the other workshops, we try to Active learning type workshop. Particularly, NAZO-TOKI (solve a riddle) type workshop is a new type science outreach method. Children solve astrobiology related riddle (not only a Quiz) with some hints and get ABC related goods (Fig.2). It feels treasure hunting.

3. Summary

Drawing events are good tool for children. However, it needs to improve. NAZO-TOKI events are new approach for science outreach. This riddles feature is not only scientific information but also experience and thinking. So making riddles are quite hard. But this event can be expected to good tool for Active learning. Our activities would be effective for people who are interested in not only astronomy but also biology.

References

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