

## Planets In Your Hand (2017-2019)

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### Abstract

The *Planets In Your Hand* project was granted by Europlanet in the frame of Public Engagement Funding Scheme in 2017. It consists of a portable interactive exhibition of planetary surface models, embedded in square frames. The project offers the visitors a chance to see, learn and understand the diversity of the planetary surfaces in our Solar System, including the different conditions such as temperature, wind and atmosphere. Since the beginning of the project, the planetary surfaces have been presented to a wide range of audience, including visually impaired people, preliminary school and high school students as well as university researchers.

### 1. Introduction

*Planets In Your Hand* (PIYH) Team, a public outreach team from the Department of Physics of National and Kapodistrian University of Athens, won one of the two funding awards of the competition "Europlanet Funding Scheme 2017", organized by Europlanet. The proposed project consists of an exhibition of eight planetary surfaces, 4 gaseous and 4 terrestrial, giving a visual and tangible representation of the wide range of environments in our Solar System.

### 2. PIYH project

#### 2.1 Construction

The three-dimensional mockup surfaces of the exhibition are displayed in wooden frames. The embossed surface of terrestrial planets are represented with solid materials, colours, various textures and geological formations, offering a multi-sensory experience to the visitors. On the other hand, gaseous planets are equipped with special illumination and proper fans, representing the planetary atmosphere, in combination with dry ice and low temperature. The outcome

is presented in the figures below, where a sample of the constructed models are compared to the actual planetary images (Figures 1-3).



Figure 1: Comparison of Earth's model and an actual planetary image.



Figure 2: Comparison of Jupiter's model and an actual planetary image.

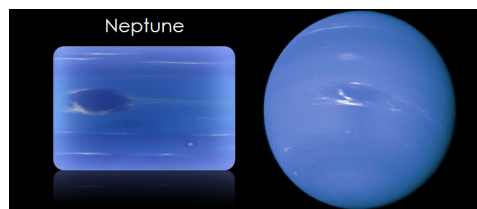


Figure 3: Comparison of Neptune's model and an actual planetary image.

## 2.2 Events

On October 5, 2018, *Planets In Your Hand* exhibition was presented in the "Researcher's Night" at Demokritos NCSR Research Center with the model of Mars. People of all ages visited our exhibit and showed a great interest in our project. On October 7, 2018, the model of Mars was presented in the frame of "World Space Week 2018" event, organized at the University of Athens. Since 2019, the entire exhibition is completed and it has been on tour in the city of Athens. On March 31, 2019, the exhibition was presented to more than 700 visitors during a special day dedicated to Planetary Exploration at the University of Athens. The *Planets In Your Hand* team also participated in the Athens Science Festival between 4th-7th April 2019 with more than 1500 visitors. The visitors had the opportunity to see, learn and understand through the touch and vision the specificities of each planet (Figure 4). A particular emphasis on the visually impaired people was given (Figure 5) who showed enthusiasm and a great interest for *Planets In Your Hand*. In our next steps, the exhibition will be hosted by schools and educational institutions all over Greece.



Figure 4: Visitors, while touching Mercury's surface.

## 2.3 Social media and website

The project is accompanied with social media accounts and a specially developed website, including all information about the Solar System and the exhibited planets. The developed website ([en.planetsinyourhand.phys.uoa.gr](http://en.planetsinyourhand.phys.uoa.gr)) includes a brief description of the project, information about the exhibition and events, as well as information and details about the team members. All information is provided in both Greek and English language, while spe-



Figure 5: Visually impaired people touch the planets and feel the hot surface of Venus and its volcanic features.

cial brochures will be printed in Braille language. Social media pages (*Facebook*, *Twitter*, *Instagram*), as well as an email address have been also created. The response and attraction with the public, is a valuable insight and a quantified measure of our achievement.

## 3. Summary and Conclusions

People who are not very with physics and/or planetary science, usually tend to have a wrong impression about the size, the surface structure and the morphology or other relevant properties of the planetary system. The goal of this project is to clarify the above concepts, eliminate such or similar misunderstandings, and give the chance to all and mainly to people with vision difficulties to understand the surface characteristics of each planet. People showed a great interest and excitement for the *Planets In Your Hand* project and particularly the visually impaired people as not only could they feel the temperature, the wind, the morphology of each planetary surface for the first time but also they could compare the different exhibited environments. It is really worth receiving the feedback from the visitors and making them appreciate planetary science and space exploration. Their enthusiasm is the reward of our work through all those years (2017-2019).

## Acknowledgements

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