Evaluation Report
Science Communication Training Modules
Europlanet Summer School 2018
1. Introduction

The Europlanet Summer School 2018 took place at the Moletai Astronomical Observatory from 1-10 August 2018. 21 students (9 male, 12 female) from 9 countries (Finland, Greece, Italy, Lithuania, Romania, Spain, Ukraine, UK and USA) took part in the training. The students were from a broad mix of backgrounds and fields, including astronomy, software engineering, mechanical engineering, teaching and amateur astronomy. The Summer School was publicised through the websites, newsletters, and social media channels of Europlanet and the Moletai Astronomical Observatory, the Local Organising Committee’s networks and a variety of relevant mailing-lists, websites and newsletters. More than 40 applications were received for the 20 available places.

Figure 1: Geographic location map showing responses from workshop participants to question “Where do you come from?”

Figure 2: Post-event survey responses from participants about age, gender, current position and how they heard about the summer school
2. Science Communication and Education Training Modules

The science communication and education training comprised 8 modules:
- Introduction to science communication and evaluation
- Writing for the media
- Social media communication I
- Social media communication II
- Engaging with the public I
- Engaging with the public II
- Engaging with schools I
- Engaging with schools II

The students completed the following practical exercises
- Writing a press release
- Creating a 30-second social media story
- Creating social media posts to support a press release
- Mind-mapping a topic for public engagement
- Developing a public engagement activity
- Creating an inquiry-based educational activity

In addition, the students participated in a number of evaluation exercises from the Europlanet Evaluation Toolkit, which has been developed by Europlanet to facilitate evaluation of outreach activities:
- Physical ranking scale
- Geographical location maps
- Three words
- Word clouds
- Thematic coding
- Photo diary
- Post event survey

3. Experience and attitudes of participants to outreach

In the first session, students were asked to position themselves on a physical ranking scale according to their experience of doing outreach activities (figure 1). This demonstrated that the group contained a very broad spectrum of experience ranging from students that had never done any outreach to regular guides at the Moletai Astronomical Observatory and a demonstrator at a large-scale museum.
To gather information on students’ attitudes and interests in outreach, they were asked to write three words or reasons for doing outreach on a “Post-it” note.

During the session, these responses were arranged into rough categories and subsequently entered into a spreadsheet for further analysis.

To give a visual representation of the students’ responses, edited phrases were entered into a word cloud.

Thematic coding showed that the majority of responses could be grouped into general themes around inspiring the next generation into STEM/STEAM and informing citizens about scientific developments. However, there were a number of additional themes raised, including developing social or communication skills, career development, securing funding, changing attitudes, sharing a passion for
science and having fun. Concerns around diversity and widening participation were also raised.

Figure 5: Responses to “3 words” reasons for doing outreach grouped into categories through thematic coding

4. Outcomes

In the final session, students were asked to fill in a post-event survey on Google Forms. The response to the science communication elements of the workshop were very positive:

- 86% of students rated their overall experience of the science communication training as good or very good (4/5 or 5/5).
- 81% of students said that the science communication training was relevant or very relevant (4/5 or 5/5).
- 81% of students rated the quality of the talks as good or very good (4/5 or 5/5).
- 95% said that they would be interested in attending a future workshop.
Suggestions for future workshop topics included:

- How to organise outreach events
- Widening participation and addressing socioeconomic barriers to STEM
- Communication within the research environment (learning how to be a good lecturer and supervisor, submitting work for journals etc)

Responses to a question on what students felt they had learned from the workshop included:

- "I felt pretty familiar with most of the concepts but I liked getting them re-explained and re-explored."
- "I learned how to structure a press-release, and was given a confidence boost about publishing content online, which was excellent."
- "How collective brains work better and more efficiently."
- "I was reminded of the importance of science communication, also learned the main communication channels and ways of such communication."
- "Many amazing things about how we can inspire adults and kids about space."
- "I learned to think more carefully about the way I present information to others. This workshop has taught me about how to make science accessible to different audiences and why it is important for science to be a part of every day education."
- "Loads!"
- "Human psychology."
- "The most valuable thing that I have learned is to be conscious about the difficult concepts that one outside the field may have when trying to understand the goals of a scientific topic. Also the importance of quality outreach and the opportunity to create a very interesting network."
Suggestions for improving the workshop included:

- Asking students to select a topic that they could explore through all the science communication module exercises and activities
- Changing the timeblocks from two 90 minute sessions separated by a 30 minute break to three 50 minute sessions separated by 10 minute breaks to help boost students’ attentiveness
- Allowing more free time for completing the assignment of writing a press release
- Including basic training from amateur astronomers about identifying planets, stars and constellations in the night sky and learning the associated stories
- Creating a more interactive training room by changing the seating from rows of desks to a circle of chairs

The main feedback from the 2017 Summer School, in which the format of combining observational astronomy with the science communication modules was implemented for the first time, was that students felt that the programme was too packed. In response to this, one less module was included in 2018 (a discussion of best practice in outreach was dropped to allow more time for a second social media session). Nonetheless, the feedback from some students attending the 2018 Summer School suggests that there may be a need for still more time to work on assignments. While further cuts in content could be made for future workshops, it should be noted that the weather was very good during most of the 2018 Summer School and the students were able to make observations almost every night. The students, therefore, had new data to analyse each morning; in years where the night skies are overcast, the students have less observations to analyse and thus more free time to complete the other assignments. This means that there is some unpredictability in the amount of time that students have for

Only one student suggested that they were unhappy with the mix of science with science communication, providing the feedback: “I think this content should be organised separately from the scientific part in order to have more time to go deep into the topics and have more time for assignments.”

However, this view contrasted with the majority of responses, including: “Great content and very applicable for the skills required for the science projects. Why isn’t science communication always hand-in-hand with every science course at university?”


5. Photograph diaries

Finally, students presented photograph diaries of their experiences at the Europlanet Summer School 2018. The photos highlighted the camaraderie amongst participants and the beauty of the night sky and environment around the Observatory, as well as the learning environment of the courses.
Alexandra Fratti, a primary school teacher from Greece, has given kind permission for her photo diary of the Summer School to be included in this report.

1. This is the picture I made to explain to the kids I teach what I was doing here. When I started – I didn’t know anything

2. Hans’s lecture [public lecture on exoplanets] made me cry

4. Seeing the galaxy every day. Where I live, we can’t see it.
5. First time of observations in the dome – everyone smiling and not even noticing that I’m taking a picture. We got to open the telescope. This is how I imagine seeing my students when they grow up.

6. Pedro Russo – knows how to be a communicator and what the public wants to hear. Tells you what you want to hear if you are not a scientist.
7. People helping us and helping each other. Thanks to Cristina for explaining again and again.

8. Coffee break – a big part of school is recess. All the adults outside were children again, playing and laughing and talking about what they like. It captures the summer school spirit.
9. I didn’t know what a spectrum is and Arnas explained and explained and explained...
10. These people are so passionate about what they do. Being an astronomer is the ideas that they have about their field and about life.