

DOES THE WAY WE COMMUNICATE ASTROBIOLOGY DECREASE PUBLIC UNDERSTANDING OF ASTROBIOLOGY? Isabelle Kingsley¹, Carol Oliver² and Martin Van Kranendonk³, ¹University of New South Wales, Sydney, NSW 2052 Australia, Email: isabelle.kingsley@student.unsw.edu.au, ² University of New South Wales, Sydney, NSW 2052 Australia, Email: carol.oliver@unsw.edu.au, ³University of New South Wales, Sydney, NSW 2052 Australia, Email: martin.vankranendonk@unsw.edu.au.

Introduction: What evidence is there that any public communication of astrobiology is effective in changing or influencing the understanding, attitudes and perceptions of science? In 2001, Sless and Shrensky pointed out that the evidence of the effectiveness of science communication in general is about as “... strong as the evidence linking rainmaking ceremonies to the occurrence of rain”[1]. In 2017, very little has changed and there have been very few attempts to formally measure the success of public engagement activities—such as public talks, science cafes, interactive events and festivals—against clear indicators of success.

We report on a pilot study of four science education and outreach activities held at the Museum of Applied Arts and Science in Sydney, Australia. Pre and post questionnaires containing validated Likert-scale items were used to measure participants’ trust in science and scientists, their understanding of scientific practice, and their opinions on its relevance and value to society. A total of 46 pre and post surveys were matched. The results show that after the event, participants demonstrated more positive attitudes and an increase in trust, but a decrease in understanding of scientific practice.

The results of this pilot study suggest that the way we are communicating science is misleading the public’s perception of science as absolute, instead of the evolving endeavour that it actually is. We argue that we need to change the way we communicate science—including astrobiology—by focussing more on revealing how science is practiced and being more open about the way conclusions are reached, in order to increase the public’s understanding of scientific practice. We also argue that increasing the public’s understanding of scientific practice is key to understanding science itself and to increasing trust in science and scientists.

The results of this pilot study will inform further research into the effectiveness of science education and outreach at achieving objectives, as well as identifying the types of activities and formats that are most effective at achieving these objectives.

References:

[1] D. Sless, and R. Shrensky (2001) *Science Communication in Theory and Practice*, 97–105.