

A NEW ECOSYSTEM OF ONLINE SCIENCE: ONLINE EVENTS AS A TOOL FOR PUBLIC ENGAGEMENT IN SCIENCE

Olivia McRae^a, Ellie Downing^{a,b}, Alice Motion^a, Chiara O'Reilly^b, Reyne Pullen^a

Presenting author: Olivia McRae (omcr7514@uni.sydney.edu.au)

^aSchool of Chemistry, The University of Sydney, Sydney NSW 2006, Australia

^bFaculty of Arts and Social Sciences, The University of Sydney, Sydney NSW 2006, Australia

KEYWORDS: free-choice learning, online engagement, science communication

Science education is frequently singled out as a priority goal for Australia (Office of the Chief Scientist, 2014). To date, much of the focus has been on formal education (Falk & Needham, 2013), despite the average person spending less than 5% of their life in formal education (Corin et al., 2017). Public science events and festivals are increasingly recognised as crucial avenues for facilitating science engagement, learning, and positive attitudes towards STEM, particularly for low-SES or marginalised populations (Canovan, 2019; Jensen & Buckley, 2014). However, there has been relatively little focus in the literature on online public science events and their impacts.

COVID-19 has prevented public gatherings, but a diverse online ecosystem of free-choice learning avenues, such as online classes, panel discussions, interactive workshops and more, have flourished during this period. Previous research on online science engagement mostly focuses on social media and online platforms such as TED talks (McClain, 2017; Scotto di Carlo, 2014). The current situation provides a new opportunity for online science engagement to expand beyond social media and into the sphere of online events.

This presentation will focus on the shifting directions of free-choice science learning in the online space. It will describe how diversifying future online engagement could positively impact how audiences interact and engage with science online, as well as highlighting some areas for future research.

REFERENCES

- Canovan, C. (2019). "Going to these events truly opens your eyes". Perceptions of science and science careers following a family visit to a science festival. *Journal of Science Communication*, 18(2), A01. <https://doi.org/10.22323/2.18020201>
- Corin, E. N., Jones, M. G., Andre, T., Childers, G. M., & Stevens, V. (2017). Science hobbyists: Active users of the science-learning ecosystem. *International Journal of Science Education, Part B*, 7(2), 161–180. <https://doi.org/10.1080/21548455.2015.1118664>
- Falk, J. H., & Needham, M. D. (2013). Factors Contributing to Adult Knowledge of Science and Technology. *Journal of Research in Science Teaching*, 50(4), 431–452. <https://doi.org/10.1002/tea.21080>
- Jensen, E., & Buckley, N. (2014). Why people attend science festivals: Interests, motivations and self-reported benefits of public engagement with research. *Public Understanding of Science*, 23(5), 557–573. <https://doi.org/10.1177/0963662512458624>
- McClain, C. R. (2017). Practices and promises of Facebook for science outreach: Becoming a "Nerd of Trust." *PLoS Biology*, 15(6). Scopus. <https://doi.org/10.1371/journal.pbio.2002020>
- Office of the Chief Scientist. (2014). Science, Technology, Engineering and Mathematics: Australia's Future. Office of the Chief Scientist, Australian Government.
- Scotto di Carlo, G. (2014). The role of proximity in online popularizations: The case of TED talks. *Discourse Studies*, 16(5), 591–606. <https://doi.org/10.1177/1461445614538565>

Proceedings of the Australian Conference on Science and Mathematics Education, 30 September - 2 October 2020, page 56, ISBN Number 978-0-9871834-9-1.