

Playing Popular Science

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INTRODUCTION

Popular science is a critical form of science communication and dissemination. While scientific journals and detailed textbooks are well suited to dissemination of detailed theories and findings within academic communities, there is a definitive need to inform the general public of key scientific concepts and challenges. Indeed, this is increasingly seen as a central part of any research project or funding bid: in the United Kingdom, the Research Councils stipulate a need to consider public engagement and outreach in research proposals.

For scientists, the popular science book has long been a medium of choice, primarily because they already have a great deal of experience in writing. But in recent years scientific researchers have been increasingly engaged with other forms of popular science communication, including radio and television broadcasting. Early careers researchers are now provided with training in these areas, including guidance on how to develop programme proposals and how to write, present, direct, and edit materials for print, the airwaves, and screen. In effect, today's scientists are expected to engage directly with popular science journalism not merely as scientific advisors, but as the writers, directors, and broadcasters.

With this in mind, the authors have been engaged with a Scottish Crucible-funded project examining the development of popular science videogames. While many serious games or educational games have scientific advisors attached to help inform the factual content of the game design, the aim of our project was to embed scientific experts directly into the development process as co-designers. Four games are currently being designed and

produced by student teams at Abertay University, with each team assigned a scientific co-designer. The game prototypes – which will be complete by May 2016 – are:

- ***Microplastics in the Environment*** by Crowbar Games
Co-designed by Ecotoxicologist Dr Brian Quinn
- ***Shark Life*** by Benthos Games
Co-designed by Immunologist and sharks expert Dr Helen Dooley
- ***Quantum Mechanics*** by Quantessential Games
Co-designed by Quantum Physicist Dr Erik Gauger
- ***The Enemy Within*** by Type 3 Games
Co-designed by Cell Biologist and cancer researcher Dr Adrian Saurin

We propose to stage an event for DiGRA/FDG 2016 that will showcase all four of the above games. The student teams will be on hand throughout the event with demos of the games on tablets, smartphones, and on Windows PCs. Each team will deliver a 15-minute presentation about their project. The presentations will be delivered by the scientific co-designer and development team leader, and will focus on the key challenges each team faced in interpreting the underlying science through game design.

The event will include an initial presentation by Robin Sloan about the project, and close with a Q&A panel chaired by Alasdair Rutherford involving the scientific co-designers and team leaders from each game project team. We anticipate that the overall event can be scheduled to take place in one afternoon or evening, with 90 minutes for the talks and presentations and 1 hour for game demos.

As part of the event we would be open to expanding out to include a showcase of other locally produced and in-development popular science games, including student works. With thanks to Scottish Crucible and the Royal Society of Edinburgh, we already have in place a modest budget to run this event, with money set aside for both poster printing and for purchasing controllers and tablets

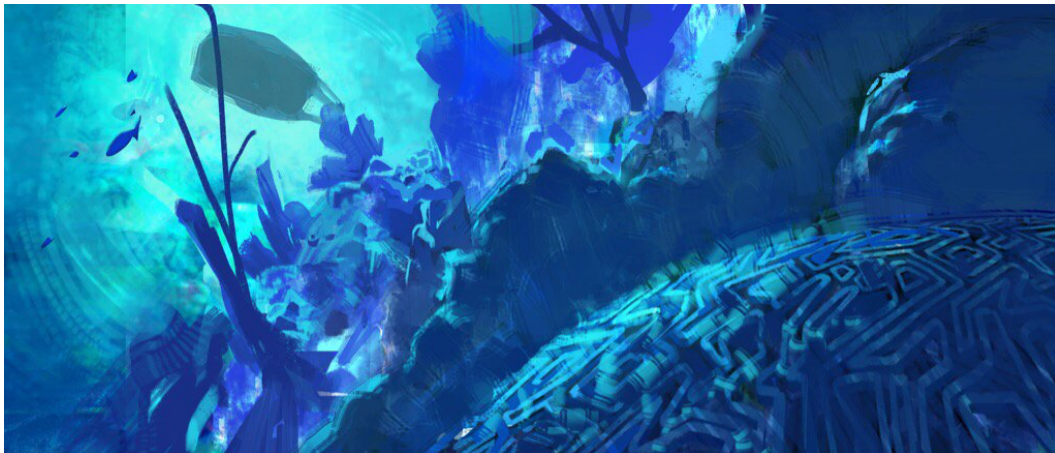


Figure 1: Concept art for *Microplastics in the Environment* by Crowbar Games