Education, engagement and inclusion in the search for life beyond Earth

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<td><strong>Keywords:</strong></td>
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**Summary:**
This project intends to investigate how academics working in cutting-edge astrobiology research and innovation are responding to the challenges of delivering inclusive education and/or engagement.

**Project Highlights:**
- Exploring inclusive approaches to education and engagement in the search for how and where life might be found beyond Earth
- Developing, delivering and assessing practical interventions that address cutting-edge research in astrobiology and its implications for society.
- Assessing the methodologies and methods used to develop inclusive approaches in education and engagement involving researchers, end-users and members of the public.

**Overview:**
Astrobiology is an emerging scientific field that asks questions around how and where life might be found beyond Earth. Using astrobiology research and innovation as a vehicle to explore issues of education, engagement and inclusion, this PhD project will seek to investigate and increase our understanding of the systems, principles and practices used to co-create, support, and evaluate high-quality education and engagement for diverse citizens.

Much has been written over the past 40 years about the tensions between education and engagement (e.g. Bodmer et al. 1985; Wynne, 1991; Laurillard, 2004; Jenkins, 2006; Weingart and Joubert, 2019). In the main, this literature has focused on the theoretical and practical tensions between the underpinning principles for education and/or engaging various stakeholders, publics and end-users with research and innovation (e.g. Holliman, 2017).

More recently, attempts have been made to promote positive connections between education and engagement, e.g. through the RCUK-funded Schools-University Partnership Initiative (e.g. Holliman et al. 2018). In a similar vein, STFC’s (2016) current, five-year Public Engagement Strategy (2016-2021) emphasises the need to be inclusive in engaging with diverse audiences in educational and other...
settings, drawing on the influential ‘science capital’ approach (Archer et al. 2015).

UKRI (2019) recently published its Delivery Plan for 2019, detailing four goals for cutting-edge research and innovation. Three of these goals have important implications for how researchers approach education and engagement and will form the basis of the research questions for this studentship:

• How are academics responding to the goal that everyone should have the opportunity to participate in cutting-edge astrobiology research and innovation?
• What are the key challenges and opportunities of empowering young people to participate in cutting-edge astrobiology research and innovation?
• What measures need to be in place to ensure that society plays an active role in shaping the direction of cutting-edge astrobiology research and innovation?

Methodology:
The research is likely to be informed by triangulation through mixed methods (e.g. Jensen and Holliman, 2009), and could draw on methodological approaches, such as participatory design or action research. It is therefore likely that the successful candidate will draw on a range of methods to collect data, which could include surveys, self-reporting, semi-structured interviews, focus groups and methods of systematic observation.

It is not expected that applicants would have experience in all of these methods prior to starting the PhD.

Training and skills:
The student will gain training in specific skills required for the project, including research design, methods and analysis. The student will also be offered training in media presentation, engagement and core skills.

Possible timeline:
Year 1: The main activities will include training, pilot study research and write up for assessment in a probation review.
Year 2: You will spend your second year collecting and analysing data for your main study.
Year 3: In your final year you will complete your analysis and produce a thesis for examination.

Further reading:


Further details:
Students should have a strong background in educational research or practice, and enthusiasm for cutting edge science and inclusive approaches.

Applications must include:
- a cover letter outlining why the project is of interest and how your skills are well suited to the project
- an academic CV
- an application form and an Open University application form, downloadable http://www.open.ac.uk/students/research/system/files/documents/Application%20form%20-%20ukeu_0.docx
- contact details of three academic references

Applications should be sent to STEM-EEESPhD@open.ac.uk by 5pm on 30th September 2019

About us:
AstrobiologyOU has recently been awarded a £6.7m ‘Expanding Excellence in England’ award by Research England to grow capacity and capabilities. This will allow us to expand and bring together expertise in technology, international development and governance to address the scientific and governance challenges associated with the advancement of astrobiology and related space exploration missions. As part of this expansion we will be recruiting new PhD students who will span these discipline areas. Each studentship will play an important role in the growth of AstrobiologyOU.

The PhD candidate joining us for this project will be working in a vibrant interdisciplinary environment, alongside PhD students from STEM, Law and Governance, and Social Sciences. They will also be part of the wider OU student community, which is a friendly and supportive cohort, with regular social events organised through groups such as RocSoc, HookeSoc and the OU Club.