

Bridging inclusiveness and diversity on Earth: Study of Space Agencies

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Project Description:

For the first time in the history of humans in space, the European Space Agency (ESA) recently made a call for more women astronauts and for applicants with disabilities to join the astronaut core (UK Space Agency & Office of the Secretary of State for Scotland, 2021). The call for more women astronauts reflects the reality that only two women from the European Union have flown in space (ABC News, 2021). Furthermore, ESA's "special call for candidates with physical disabilities" (UK Space Agency & Office of the Secretary of State for Scotland, 2021, para. 3), or the Parastronaut Feasibility Project (ESA, 2021a), is the first time in the global history of space exploration that such a call has been made. This call resulted in over 23,000 applicants and ESA is hoping to reduce this to 26 applicants, before selecting the final two (ESA, 2021b; The Guardian, 2021).

Such an initiative is supported by international Human Rights Laws and Right to Equal Access to Space, building on the 1967 Outer Space Treaty, which talks to States' obligation to "respect, protect, and fulfil human rights as it applies across their outer space activities" (Andrews & Lim, 2021, p. 10). While the astronaut call is exciting in and of itself, another important 'giant leap for humankind', these future astronauts will be joining not only a historically cismen-dominated and able-bodied astronaut core but also Earth-bound organizations that have struggled with diversity and inclusion for dis/abled people, women, women of colour, LGBTQ+ individuals, etc. We are asking what kind of efforts has ESA undertaken to embrace diversity and inclusion for the people working on the ground, who support these astronauts? Similarly, what of the UK Space Agency or the other global space agencies – how are they creating an inclusive culture? What measures are they implementing to attract applicants from groups that have historically been excluded? The many aspects of dis/ability (Bend & Priola, 2021; Warner & Brown, 2011), race (Prasad & Prasad, 2002), gender and of sexuality (Butler, 1990, 2004; Priola et al., 2014, 2018) in such a science, technology, engineering, and mathematics (STEM) workforce must not be ignored as there are some cultural and team composition issues that research highlights are impacting our ability to reach for the stars (e.g. Bell et al., 2015; Ruel, 2018; Sandal, 2001).

The PhD research project, starting October 1st, 2022, proposes to study space agency efforts with respect to diversity and inclusion. This study proposes to follow historical and/or

contemporary concerns with respect to diversity and inclusion along with materiality and identity concerns. The space industry has been chosen for empirical exploration for this studentship because it represents a significantly under-studied context in organization studies. It is also one with fascinating implications for increasing inclusivity efforts. However, applicants are welcome to propose a similar sort of study in a different STEM occupational sector, as long as this sector is also significantly under-explored, has equivalent implications around widening inclusivity and is one to which they are confident they would be able to gain research access.

Project Aim:

The aim of this project is to invite students who are interested in adding to our knowledge of and to engage with personnel in the space industry or equivalent STEM occupational sector. Within critical management studies (CMS), knowledge and engagement means to develop awareness in doing anti-oppressive work. This implies a need for incorporating intentionality, reflexivity and an attention to the order that marginalizes the *Other* (Butler, 1990; Prasad & Prasad, 2002). By engaging with critical theoretical frameworks and by acknowledging a need to adopt anti-oppressive practices, the epistemological focus of this project is to emphasize the importance of questioning our self-knowledge in order to re-articulate our praxis. As history shows us, we must be prepared to learn and to incite change, to work towards many possible futures that value equality, equity and inclusion in work/jobs/occupations.

Theoretical perspective:

To achieve this goal, we are inviting students interested in studying inclusivity and diversity in space agencies, or in an equivalent sector, to build on previously published theoretical and empirical work. The goal being to explore models and concepts that can be developed or that can be layered into said models. This can include theoretical and empirical research focused on how gender, sex and sexual orientation, race, ethnicity, class, dis/ability, and so on, intersect in lived space work experiences, resulting in an order that can marginalize and oppress (Collins & Bilge, 2016; Crenshaw, 1989, 1991). In using such frameworks, the student will be invited to make not only a theoretical contribution but a practical contribution to the inclusion of oppressed individuals in significantly understudied contexts.

Proposed methodology:

The preference for the proposed methodology is for qualitative work, but mixed methods will also be accepted. This can include ethnographies, autoethnography, interview-based studies, case-based studies, archival analysis, etc. (see for example: Bryman & Bell, 2011; Eriksson & Kovalainen, 2016; Mills & Helms Mills, 2018). Access to ESA, the UK Space Agency, or any other space agency is an advantage but can also be initiated earlier on in the project.

Some possible areas of inquiry could include but are not limited to:

- How is the selected space agency creating and then nurturing an inclusive culture? And how are these efforts impacting the day-to-day work of diverse individuals?

- What measures is the selected space agency implementing to attract applicants from groups that have historically been excluded?
- How have historical concerns with respect to diversity and inclusion impacted space agency employees? In other words, how has materiality and identity concerns impacted individuals who have worked over 15 years in the space industry versus those that are just starting their careers?
- Gather and share experiences of marginalized individuals throughout their ESA selection process, or the selection process in place for a similar and significantly under-studied context;
- Cross-disciplinary study of various space or similar under-studied organizations (e.g. the UK Space Agency, ESA or private contractors) involved in trying to achieve an inclusive space workforce; or,
- Archival study of historical bodies (e.g. gender, dis/ability, sex and sexual orientation, etc.) attempting to work in space or in a similar and significantly under-studied context.

About the Supervisors:

Dr. Stefanie Ruel, a former Life Sciences Mission Manager in the Canadian space industry, investigates and addresses the exclusion of individuals in various STEM contexts. Her growing body of research is recognized via a number of awards including the Emerald Literati 2020 Outstanding Paper award.

Dr. Cinzia Priola is an expert in diversity and inclusion in organisations. Her work focuses on gender in the workplace but has also explored the work and social inclusion of LGBTQ, disability and migrants. She has supervised and examined several PhD projects and is currently supervising three students.

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