

AstroAccess: Creative Approaches to Disability Inclusion in STEM

Anna Voelker¹

¹The Ohio State University, Columbus, OH 43210, USA
Email: voelker.30@osu.edu

Disability-based exclusion is a pervasive issue in the fields of astronomy and STEM as a whole. In the United States, nearly 20% of the population has a disability [1] and yet according to the National Science Foundation, people with disabilities make up only 8.4% of the country's employed scientists and engineers [2]. Furthermore, approximately 1% of U.S. doctorate degrees in science and engineering are held by people with disabilities [3].

From an underrepresentation of researchers with disabilities to a deficit of educational materials available for students with specialized needs, there are a multitude of accessibility barriers that need to be acknowledged and addressed. AstroAccess is a yearlong astronomy outreach initiative designed to tackle this problem.

This project is being supported by The Ohio State University's President's Prize [4]. It began at the International Astronomical Union General Assembly (IAU GA) in Vienna with a presentation on science accessibility during Focus Meeting 15. This overview highlighted Sensory Friendly Day (SFD), an inclusive outreach event that took place at the Center of Science and Industry (COSI), Columbus, Ohio's science centre. SFD was designed to make COSI more accessible for children with developmental disabilities and featured a series of science theatre games that I modeled after Kelly Hunter's Shakespeare and Autism Program [5].

After the IAU GA, the AstroAccess initiative began a two-month collaboration with the IAU Office of Astronomy for Development, in Cape Town, South Africa. I worked with Dr. Wanda Díaz Merced to develop astronomy accessibility guidelines and organize local outreach programming for blind students in the Cape Town community. The AstroAccess project culminated in SciAccess, a science accessibility conference that took place at The Ohio State University in Columbus, Ohio on June 28 and 29, 2019. This interdisciplinary conference drew approximately 250 people from around the world to address barriers to science faced by people with disabilities. It featured over 60 speakers, including keynote presentations by Dr. Temple Grandin, renowned autism advocate, and Anousheh Ansari, the first female private space explorer. To learn more, please visit sciaccess.org or email sciaccess2019@gmail.com.

References

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- [2] "Accountability for Broadening Participation in STEM: CEOSE 2015-2016 Biennial Report to Congress." [NSF.gov](https://www.nsf.gov), Committee on Equal Opportunities in Science and Engineering, 2017
- [3] Sevo, Ruta. "Recommended Reading: Disabilities and Diversity in Science and Engineering" In B. Bogue & E. Cady (Eds.). *Apply Research to Practice (ARP) Resources*, 2012
- [4] The Ohio State University President's Prize: <https://presidentsprize.osu.edu/about/>
- [5] Shakespeare and Autism: <https://shakespeare.osu.edu/autism>