

Faces of Physics Presents:

Digital Signal Processing Techniques in Radio Astronomy and Applications in SETI

November 15th at 7pm Eastern Time

https://youtu.be/i2CemJ_RNic



Dr. Mark Ruzindana

Speaker's Bio:

Dr. Mark Ruzindana received his B.S., M.S, and PhD degrees in electrical engineering from Brigham Young University in 2015, 2017, and 2021, respectively. He specializes in research in digital signal processing techniques for radio telescopes and related instruments. Currently, Dr. Ruzindana is a Postdoctoral Scholar in the Search for Extraterrestrial Intelligence (SETI) Institute at the University of California Berkeley, and he is conducting research in digital signal processing techniques as well as software development with the Breakthrough Listen project in the SETI Institute.

Talk Abstract:

Radio telescopes are instruments used to analyze radio sources in deep space. Some examples of these instruments include phased array feeds and interferometers which are currently being used to improve analysis and increase the field of view during observation of radio sources. Various digital signal processing techniques are used to process and analyze the data from these radio telescopes. This talk will provide an overview of radio astronomy, phased arrays, interferometers, and the digital signal processing techniques used to process and analyze the data from these instruments. We will also briefly discuss the methods currently being applied and explored to search for intelligent life in the Universe.