

Stellenbosch University, DEPARTMENT OF PHYSICS
NRF-SARAO Postgraduate Bursaries in Astrophysics
APPLY NOW
Deadline: 30 June 2023

Are you a postgraduate student in physics, electronics, astronomy, astrophysics or computer science and interested in furthering your postgraduate studies as part of the South Africa Radio Astronomy Observatory's work with the SKA? If you, you can apply it through Stellenbosch University.

Professor Yin-Zhe Ma, a specialist in astrophysics and cosmology in SU's Department of Physics, offers **one MSc** and **two PhD** NRF-SARAO bursaries for 2024 on the following topics, revolving around large-scale structure of the Universe, Neutron stars and dark matter search, and the epoch of reionization.

MSc: Photometric galaxies cross-correlation with MeerKAT 21-cm intensity mapping data ([SM10](#))—This project is to cross-correlate the photometric galaxy survey data (e.g. Dark Energy Survey, or Rubin Observatory) with South Africa's MeerKAT 21-cm intensity mapping survey, to extract cosmological information. See the project detailed description: <https://tinyurl.com/wpm8rkck>

PhD1: Neutron Stars Interactions with Axion dark matter seen by MeerKAT telescope ([SM7](#))—This project is to search the signal of a dark matter candidate (named "Axion", predicted from string theory) using South Africa's MeerKAT radio telescope, by observing the radiation coming from neutron stars. See the project detailed description: <https://tinyurl.com/4z99dwya>

PhD2: Cross-correlation technique for HERA 21-cm Intensity field with kinematic Sunyaev-Zeldovich effect ([SM11](#))—This project is to develop new statistical tool to unveil the remaining unexploited territories of the Universe, i.e. the Epoch of Reionization. See the project detailed description: <https://tinyurl.com/2p924phm>

These projects with their IDs are listed on SARAO website
<https://www.sarao.ac.za/students/approved-masters-research-projects-2024/>
<https://www.sarao.ac.za/students/approved-doctoral-research-projects-for-2024/>

The SU's internal closing date for applications is **30th June**. For any interest of the above project, **please contact Professor Yin-Zhe Ma at mayinzhe.pi@gmail.com to discuss your application immediately.**

For more information on NRF-SARAO scholarships for 2024, click here or contact Ms Annah Mashemola at amashemola@sarao.ac.za or 011 268-3420