

EIGHT FUNDED* RESEARCH POSITIONS - 2019

<http://www.saa.ac.za/~matthew/>



SAAO
South African
Astronomical Observatory

ASTRO-OBSERVATION projects

Masters Position-3:

Funding Period: 2019

Funding Amount: R120 000pa

Requirement: Degree (BSc) in astronomy, astrophysics, or physics.

Closing Date: 22 February 2019

key words: *galaxy evolution; extreme star-forming galaxies; neutral hydrogen mass*

Description: We seek applicants to undertake a one-year Masters program to stack radio data-cubes from the CHILES eVLA deep-field to detect neutral hydrogen (HI) emission from a rare, but enigmatic sample of star-forming galaxies. These galaxies – called Luminous Compact Blue Galaxies (LCBGs) – contribute substantially to the evolution of the co-moving star-formation rate. This project will be the first attempt to measure their neutral hydrogen mass at intermediate redshifts.

Students who wish to go on to do a Ph.D. program may apply in following years to build from this program (a) to identify and stack HI data-cubes in the MeerKAT/LADUMA survey to extend the HI mass measurement to higher redshifts; and/or (b) to stack edge-on galaxies in either CHILES or LADUMA surveys to estimate neutral-hydrogen and dynamical masses.

The student will work with Prof M Bershady (SAAO SARChI), his research team of observers and instrumentalists, and collaborators around the world.

Requirements: Applicants need to have successfully completed an undergraduate degree (BSc) in astronomy, astrophysics, or physics.

Application: A statement of interest, curriculum vitae, and at least one letter of recommendation from a professional engineer, Ph.D. research scientist or faculty should be sent to mab@saa.ac.za (Matthew Bershady).

***Professor Bershady** is a South African Research Chair (**SARChI**) located at SAAO, and cross-appointed at the University of Cape Town and the University of Wisconsin-Madison. **Inquiries and applications should be sent to mab@saa.ac.za.**