

EIGHT FUNDED* RESEARCH POSITIONS - 2019

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



SAAO
South African
Astronomical Observatory

ASTRO-OBSERVATION projects

Bursary / Honors Position-1:

Funding Period: 2019

Funding Amount: NASSP

Requirements: Pursuing an undergraduate degree (BSc) in astronomy, astrophysics, or physics

Closing Date: 22 February 2019

key words: *galaxy evolution; extreme star-forming galaxies; co-moving star-formation rate*

Description: We seek applicants to undertake a Honors project to identify a rare and enigmatic class of star-forming galaxies that contribute substantially to the evolution of the moving star-formation rate. These galaxies – called Luminous Compact Blue Galaxies (LCBGs) – will be found based on their colors, luminosity and size in the deep multi-epoch imaging in Stripe 82 of the Sloan Digital Sky Survey. The outcome of the project will be a publishable catalog of targets suitable for future follow-up with the Southern African Large Telescope.

Students wishing to extend their program during their Honors bursary or build on their work the following year in a Masters project can use this sample (a) to estimate the evolution of the LCBG co-moving space-density; and/or (b) co-write and submit a SALT observing proposal on which the student will be a Co-I to follow up these targets with the High Resolution Spectrograph (HRS). Students who wish to go on to do a Masters project and possibly a Ph.D. program may apply in following years to build from this program to reduce and analyze the HRS data to characterize how their mass, stellar winds, and metallicity evolve with cosmic time.

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 be pursuing an undergraduate degree (BSc) in astronomy, astrophysics, or physics. In exceptional cases 3rd year students will be considered.

Application: A statement of interest, curriculum vitae, and name of a professional reference (e.g., current or former instructor) should be sent to mab@sao.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@sao.ac.za.**