ASTRO-INSTRUMENT projects
Bursary / Honors Position-6:
Funding Period: (2019)
Funding Amount: NASSP
Requirement: Undergraduate degree (BSc or Diploma in Mechanical Engineering)
Closing Date: 22 February 2019
key words: *mechanical engineering; fibre-optic test facility development*

Description: We seek applicants to undertake a Honors project on critical elements of the design and construction of a fibre-optic test facility for next-generation, high-performance astronomical instruments for the Southern African Large Telescope and other telescopes at the South African Astronomical Observatory in Sutherland. The fibre-optic test facility will be a bench-top optical laboratory instrument assembled and used in Cape Town; portable versions may be developed for use at Sutherland. Topics include: custom-design of lens and fibre optical mounts and motion stages; integration and alignment of commercial and custom-designed mounts and stages into the fibre-optic test facility. The successful applicant will define their program in consultation with Bershady based on their expertise, interests and career goals, and the needs of the project.

The student will work with Prof M Bershady (SAAO SARChI), his research team of observers and instrumentalists (including Masters and Ph.D. students working on the same project), members of the SAAO Machine Shop, as well as other members of the SAAO technical staff.

Requirements: Applicants need to have successfully completed an undergraduate degree (BSc or Diploma) in a related sub-field. Applicants need not have a background in astronomy, optics, or fibre-optics; knowledge of basic geometric optics is preferred but not required; an interest to learn about relevant elements of these disciplines is required.

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