Canadian Institute for Theoretical Astrophysics (CITA)
Research Associate

Faculty / Division: Faculty of Arts and Science
Department: Canadian Institute for Theoretical Astrophysics
Campus: St. George (downtown Toronto)

Description

The Canadian Institute for Theoretical Astrophysics (CITA) at the University of Toronto invites applications for a Research Associate (limited-term) for a two-year appointment. The anticipated start date is September 1, 2020.

The successful candidate will conduct independent research in theoretical astrophysics and in consultation and collaboration with the Principal Investigator and other collaborators, engage in professional development, compilation of reports, publication of scientific articles and supervise research work of students and trainees.

The successful candidate is expected to work on a wide variety of astrophysical objects and processes, including black holes, neutrons stars, white dwarfs, planets, supernova explosions, tidal disruption events and gamma ray bursts. They are also expected to have a deep understanding of fluid mechanics, radiation processes, plasma phenomena, stellar structure and population, orbital mechanics and equation of state of hot and dense matter. Research in the above mentioned fields will involve both mathematical modelling as well as running state of the art high performance computer simulations. Finally, they must also be able to both lead independent groundbreaking research, as well as be part of a heterogeneous team.

Qualifications

Education:
PhD in Astrophysics, Astronomy or Physics

Experience:

- At least two years of postdoctoral experience and an excellent research record in astrophysics as evidenced by publications and letters of reference.
- Must exhibit a strong publication record, with first-author papers in internationally competitive, peer-reviewed journals.
- Demonstrated ability to supervise students as evidenced by published/submitted papers led by students.
- Demonstrated ability to work effectively with a team as evidenced by published/submitted papers involving both more senior and less senior authors.
- Demonstrated experience presenting research findings at conferences/seminars.
- Demonstrated experience in the field of compact objects (black holes, neutron star and white dwarfs), high energy astrophysics (supernova, tidal disruption events and gamma ray bursts) and exoplanets.
- Experience in developing and maintaining open source scientific software, using python and C++.

Required Skills:

- Strong analytic skills and critical thinking ability.
- Ability to run and analyze the moving mesh numerical hydrodynamics simulation HUJI_RICH, the N-body integrator REBOUND, and the stellar structure code MESA.
- Ability to perform research combining theoretical, numerical, statistical and observational data.
- Ability to perform rate estimation of astronomical transients.
- Ability to generate new research ideas and perform independent research.
- Ability to supervise graduate students and undergraduate students.

Travel: None

Notes: Interested applicants should apply online at the link below. Submission should include a curriculum vitae and statement of research interests. Arrange for three letters of recommendation to be sent to office@cita.utoronto.ca by April 6, 2020.

https://utoronto.taleo.net/careersection/10000/jobdetail.ftl?job=2000431&tz=GMT-05%3A00&tzname=

The University of Toronto is strongly committed to diversity with its community and especially welcomes applications from visible minority group members, women, Aboriginal persons, persons with disabilities, members of sexual minority groups, and others who may contribute to further diversification of ideas.

All qualified incumbents are encouraged to apply; however, Canadians and permanent residents will be given priority.

Employee Group: Research Associate, Limited Term
Appointment Type: Grant – Term
Schedule: Full-time
Pay Scale Group and Hiring Rate: R01 – Research Associates (Limited Term): $45,491-$85,295
Job Field: Research Associate (Limited Term)
Job Posting: Feb 26, 2020
Job Closing: Apr 9, 2020 10:59:00 PM