UNIVERSITETET I OSLO

**Jobbnorge ID:** 149440
**Deadline:** 4/15/2018
**Website:** http://www.uio.no/
**Scope:** Fulltime
**Duration:** Temporary

# PhD Research Fellowship in Extragalactic Astrophysics

## Job description

Position as PhD Research Fellow in Extragalactic Astrophysics available at the Institute of Theoretical Astrophysics.

The fellowship period is up to 4 years, with 3 years devoted to research education. The position entails a compulsory work load of 25% that consists of teaching and supervision duties and research assistance.

Starting date no later than 01.10.2018.

The Institute of Theoretical Astrophysics is heavily involved in both observational and theoretical/computational astrophysics. In observational astronomy, the Institute is actively engaged in a large number of international collaborative programs, e.g., through the Norwegian membership in ESA, the balloon-borne CMB polarization experiment Spider and the CO Mapping Array Pathfinder (COMAP) experiment. Space missions with major participation from the Institute include Planck and Euclid within cosmology and extragalactic astrophysics. In theoretical and computational astrophysics, the Institute has built up strong groups in numerical simulations using both national and international high-performance computing (HPC) facilities, and in data analysis using modern computational statistics methods.

The present fellowship is for a PhD student to join the Extragalactic Astrophysics group and do a thesis project supervised by Dr. Sijing Shen. This position is funded by the Research Council of Norway (RCN) under the project entitled “Simulating the circumgalactic medium and the cycle of baryons in and out of galaxies throughout cosmic history”. The research work is focused on galaxy formation and the interactions between galaxies and the intergalactic medium. The successful candidate will design and perform massively parallel cosmological galaxy formation simulations, develop or improve models for important physical processes which impact galaxy evolution, such as star formation, black hole formation and accretion, and radiative/mechanical feedback from stars and active galactic nuclei. The student will also post-process large sets of simulation data and make detailed comparison with multi-wavelength observations of galaxies and their surrounding gas.

## Qualification requirements

The Faculty of Mathematics and Natural Sciences has a strategic ambition of being a leading research faculty. Candidates for these fellowships will be selected in accordance with this, and expected to be in the upper segment of their class with respect to academic credentials.

- Applicants must hold a Master’s degree or equivalent in Astronomy/Astrophysics or a related field. Previous experience on astrophysical hydrodynamic simulations will be considered as an asset, but not required.
    - The average grade point for courses included in the Master’s degree must be B or better in the Norwegian educational system
    - The Master’s thesis must have the grade B or better in the Norwegian educational system
    - The average grade point for courses included in the Bachelor’s degree must be C or better in the Norwegian educational system

All Ph.D. candidates must demonstrate high English language skills. International applicants must document these skills prior to admission to the PhD programme by passing one of the following tests with these or better grades:

- TOEFL - Test of English as Foreign Language, internet based test (IBT). Minimum total score: 80
- IELTS - International English Language Testing Service. Minimum overall band score: 6.5
- Certificate in Advanced English (CAE) and Certificate of Proficiency in English (CPE) from the University of Cambridge
- PTE Academic - Pearson Test of English Academic. Minimum overall score: 62

Please see here for exemptions to the English requirements: http://www.mn.uio.no/english/research/phd/application/application.html

Knowledge of a Scandinavian language is desirable but not mandatory.

Candidates without a Master’s degree have until 30 June, 2018 to complete the final exam.

The purpose of the fellowship is research training leading to the successful completion of a PhD degree.

The fellowship requires admission to the PhD programme at the Faculty of Mathematics and Natural Sciences. The application to the PhD programme must be submitted to the department no later than two months after taking up the position.

## We offer

- Salary NOK 436 900 - 490 900 per annum depending on qualifications and seniority as PhD Research Fellow, (position code 1017)

- Attractive welfare benefits and a generous pension agreement, in addition to Oslo's family-friendly environment with its rich opportunities for culture and outdoor activities

## How to apply

The application must include:

- Cover letter. Statement of motivation and research interests
- CV (summarizing education, positions and academic work - scientific publications)
- Copies of educational certificates and transcript of records (it must be possible from the transcripts to calculate average grade for bachelor and master's degrees)
- Documentation of English proficiency
- List of publications and academic work that the applicant wishes to be considered by the evaluation committee
- Names and contact details of 2-3 references (name, relation to candidate, e-mail and telephone number)
- Letters of reference should be sent to Dr. Sijing Shen, e-mail given below

The application with attachments must be delivered in our electronic recruiting system, please follow the link "apply for this job". Foreign applicants are advised to attach an explanation of their University's grading system. Please note that all documents should be in English (or a Scandinavian language).

Applicants may be called in for an interview.

## Formal regulations

No one can be appointed for more than one PhD Research Fellowship period at the University of Oslo.

Please see the guidelines and regulations for appointments to Research Fellowships at the University of Oslo.

According to the Norwegian Freedom and Information Act (Offentleglova) information about the applicant may be included in the public applicant list, also in cases where the applicant has requested non-disclosure.

The appointment may be shortened/given a more limited scope within the framework of the applicable guidelines on account of any previous employment in academic positions.

The University of Oslo has an agreement for all employees, aiming to secure rights to research results etc.

The University of Oslo aims to achive a balanced gender composition in the workforce and to recruit people with ethnic minorty backgrounds.

## Contact information

Associate Professor Sijing Shen, phone: +47-228 56547, sijing.shen@astro.uio.no

For technical question regarding the recruiment system: Ørjan Pretorius orjan.pretorius@mn.uio.no

# About the University of Oslo

**The University of Oslo** is Norway's oldest and highest rated institution of research and education with 28 000 students and 7000 employees. Its broad range of academic disciplines and internationally esteemed research communities make UiO an important contributor to society.

**The Institute of Theoretical Astrophysics** is part of the Facultyof Mathematics and Natural Sciences. It presently has 11 permanent professors/associate professors. The Institute employs some 15-20 postdoctoral and senior research fellows and has of order 15-20 Ph.D. students. The research activity of the Institute of Theoretical Astrophysics is concentrated around solar physics, cosmology and extragalactic astrophysics.

## Additional information

### Place of service:

Problemveien 7 0313 Oslo (Oslo Municipality)