

Call for applications to doctoral program 2019A in UST-KASI

Korea Astronomy and Space Science Institute (KASI) via the University of Science and Technology (UST) is offering doctoral scholarships (direct and integrated) starting from March 2019 (for more info, see https://www.ust.ac.kr/astros_eng.do). PhD scholarships are provided with a competitive salary of about \$1500 per month. KASI is located in Daejeon, a high tech, educational and research oriented city. Convenient accommodation would be provided to students for the first 3 years in the campus.

KASI is actively involved in various fields of astronomy and astrophysics, from astronomical instrumentation to observation and theory, and participates in international collaborative and stand-alone projects including GMT, ALMA, SDSS4, DESI, LSST, KMTNet, and KVN. This semester KASI is accepting applications for the following research areas:

- Cosmology I (supervisor: Prof. Arman Shafieloo, shafieloo@kasi.re.kr)
- Cosmology II (supervisor: Prof. David Parkinson, davidparkinson@kasi.re.kr)

and for the detailed description of the specific research topics, see the list attached or in our major homepage (https://www.ust.ac.kr/astros_eng.do).

We encourage qualified international students to apply. Competent students with BSc degrees can apply for an integrated PhD program. Students with MSc degrees may apply directly to the PhD program.

Questions on each research area should be sent to each assigned professor, while other questions are sent to the Chief Major Professor (Sang-Sung Lee, sslee@kasi.re.kr). For more information of application, also see the UST web page (https://ust.ac.kr/admission_eng.do). Applications are considered only if they are submitted during August 20 to September 21 (17:00 KST).

Best regards,
Sang-Sung Lee
Chief Major Professor

1. Prof. Arman Shafieloo (shafieloo@kasi.re.kr)

In cosmology group we are looking for very strong, competent and enthusiastic PhD candidates in order to train them at a competitive level internationally and making them prepared for the near future and next generation of the cosmological surveys. A successful candidate will become officially involved with SDSS-IV (Sloan Digital Sky Survey, Stage 4), DESI (Dark Energy Spectroscopic Instrument) and LSST (Large Synoptic Survey Telescope) surveys and the project will include studying and performing research on different aspects of physical cosmology and in particular on “dark energy and late Universe by cross correlating between different observations”. Developing advanced statistical methods of data analysis (data mining, machine learning, regression approaches) and preparation to deal with future big data will be a major part of the research during the PhD project or integrated-PhD.

2. Prof. David Parkinson (davidparkinson@kasi.re.kr)

In the cosmology group we are looking for enthusiastic and competent PhD candidates to undertake research in the area of cosmological and theoretical astrophysics. The next generation of large-area astronomical surveys will provide new and accurate data for answering such important questions as “what is the nature of the mysterious dark energy?” and “what were the initial conditions of the Universe?” A successful candidate will have the opportunity to become involved in two of these surveys, DESI (Dark Energy Spectroscopic Instrument) in the optical, and EMU (the Evolutionary Map of the Universe) in the radio. The project will involve analysing data from these surveys and testing these cosmological models (such as dark energy theories and alternative models of gravity) against this data. The project will also involve developing advanced statistical methods of data analysis (such as Bayesian methods, and machine learning approaches), providing training in the area of big data analysis, which will be useful both inside astrophysics and external industrial sectors.