



KASI-York Fellowship Program (KYFP) 2015

I. Introduction

KASI-York Fellowship Program (KYFP) is one of the joint research projects under a collaboration agreement for achieving shared goals in the field of astronomy, astrophysics and space science between **Korea Astronomy and Space Institute (KASI)**, and **the Centre for Research in Earth and Space Science (CRESS)**, **Lassonde School of Engineering, York University**.

With the support of KASI and Lassonde School of Engineering, York University, the KYFP Program is offered to prominent Korean and/or international scholars at the postdoctoral level. The KYFP Program is in particular aimed at researchers in the areas of (but not limited to) space weather, planetary science, space payload development, and space engineering.

Each candidate is expected to work equal time at each institution with a minimum of one year of his or her tenure at the York University and the remaining period at KASI.

We encourage applications from broad fields of space science and engineering, although preference will be given to researchers with research interests common to those of KASI and CRESS, and particularly relevant to the following areas:

- Space weather
- Planetary science
- Small satellite engineering and payload development

II. Eligibility Requirement

KASI-York Fellowship Program applicants can be of any nationality and must have obtained their PhD in Astronomy, Space Science and Space Engineering, or equivalent an degree in a related field.

Applicants must demonstrate his/her strong publication record in relevant prestigious journals and have sufficient conversational ability in English.

III. Duration of Fellowship

KASI-York Fellowship Program can be on a 1 or 2-year appointment basis, with a possible extension up to a total of 3 years, which shall be determined by an evaluation on his or her research performance before the end of the contracted period.

IV. Application Procedure

Applicants should obtain and read carefully the KASI-York Fellowship Program announcement linked in an e-file at pdf@lassonde.yorku.ca or icapadmin@kasi.re.kr. Applications should be submitted by email. Regarding questions related to potential research projects for KYFP, we encourage applicants to contact principal researchers:

- Dr. Jim Whiteway (whiteway@yorku.ca), Director of CRESS, York University
- Dr. Young-Sil Kwak (yskwak@kasi.re.kr), Science Division (Space Weather) at KASI
- Dr. Young Jun Choi (yjchoi@kasi.re.kr), Space Science Division (Planetary Science) at KASI

All application documents must be submitted by September 15th, 2015.

V. Required Documents for Application

- Curriculum vitae
- Brief summary of past research experience (1 page max)
- Detailed future research plan
- Research schedule and expecting research findings (3 page max)
- Full list of publications
- A minimum of three letters of reference
- List of potential York and KASI supervisors for the fellowship

Note that application documents should be in pdf format, and should be submitted through an email appointed by KASI-York Fellowship Program.

- All documents must be type-written in English. Documents written in any language other than English are not accepted.
- Submitted applications which are not satisfactory due to an omission of any required documents, accidentally or deliberately, will be automatically rejected.
- KASI-York Fellowship Program reserves the right to request additional documents if necessary.
- All documents received will become the property of the KASI-York Fellowship Program and will not be returned to applicants.
- All applications received will be acknowledged by KASI-York University Secretariat Office.

VI. Stipend

Annual stipend will start at \$60,000 Canadian Dollars depending on qualifications and experience.

All applicants should be aware that financial support is solely for individuals and does not cover his/her dependent or family.

Under no circumstances is any part of the fellowships transferable to any other persons.

V. KASI and CRESS

As the national research institute for astronomy since 1974, KASI has carried out research activities, especially by developing, establishing, and operating medium- and large-sized observational facilities and instruments and has laid the foundation for the advance of science. Solidifying scientific capabilities in research and on telescopes, KASI undertakes its efforts toward a higher level of global network of research cooperation. The three research divisions (Optical Astronomy, Radio Astronomy and Space Science) and the three research centers (Center for Large Telescope, Center for Theoretical Astronomy, Center for SMEs Partnership) have been newly set up, securing spontaneous ideas and each research project and enhancing the cooperation and the flexibility of the researchers.

KASI space weather group deals with scientific investigations of the Sun-Earth connection, thus studying the solar activity and the physics of Earth's magnetosphere, ionosphere, and upper atmosphere by applying experimental and theoretical methods and numerical simulations. Especially, the part of ionosphere/upper atmosphere has focused on the ionospheric/thermospheric/mesospheric variations by solar activity and space environment changes and on the ionospheric irregularities.

KASI planetary science group is one of leading research institutes in South Korea for Korean lunar exploration mission. For supporting this challenging space mission, KASI is developing engineering models of cutting-edge space payloads including near-infrared spectrometer, gamma-ray and neutron spectrometer. With these payloads, KASI is investigating the presence of water ice on the Moon and physical properties on the surface of airless body including lunar chronology, space weathering and lunar cratering.

More detailed information on KASI can be found:

- **Korea Astronomy and Space Science Institute:** <http://www.kasi.re.kr/english/index.aspx>
- **Space Science Division at KASI:**
<http://www.kasi.re.kr/english/Research/SpaceScienceDivision.aspx>

The Centre for Research in Earth and Space Science (CRESS) at York University facilitates research activity

within the areas of (a) Planetary Exploration, (b) Climate and Environment, and (c) Space Technology. The ultimate goal of the centre is the contribution of scientific instruments and the advancement of new methods for space missions. One of the areas where CRESS is world leading is laser remote sensing. Prof. James Whiteway was the lead scientist for the LIDAR instrument on the NASA Phoenix Mars lander, which measured atmospheric dust and clouds, and discovered that it snows on Mars. Prof. Michael Daly is leading the contribution of the mapping lidar altimeter for the NASA ORIRIS-REx asteroid mission. A new initiative within CRESS is a facility for planetary science based on an environmental simulation chamber (Profs. Daly, Moores, and Whiteway). This will be used for studying the processes of exchange between planetary surfaces and atmospheres, and for developing new measurement technologies for future space missions. In the area of Climate and Environment, field research is carried to study sea ice and glaciers (Profs. Haas and Colgan), and atmospheric pollution (Profs. Gordon and Whiteway). The research in Space Technology involves the development and application of small satellites (Profs. Lee, Bisnath, Quine, and Zhu), advanced materials (Prof. Shan), and remote sensing of the Earth's surface (Profs. Sohn, and Armenakis) and atmosphere (Profs. McElroy, Quine, and Whiteway).

More detailed information on CRESS can be found:

- **The Centre for Research in Earth and Space Science (CRESS):** <http://www.yorku.ca/>
- **The Lassonde School of Engineering, York University:** <http://lassonde.yorku.ca/>