

## **Assistant Professor, Space Plasma Physics**

### **University of Alberta**

This position is part of the Association of the Academic Staff of the University of Alberta (AASUA).

The successful candidate will be offered a tenured or tenure-track appointment with the rank of Assistant Professor, which is in accordance with the <https://www.ualberta.ca/en/human-resources-health-safety-environment/media-library/my-employment/agreements/schedule-a-academic-faculty-members-2020-2024.pdf>, and offers a comprehensive <https://www.ualberta.ca/en/human-resources-health-safety-environment/benefits-and-pay/benefits-and-pension/benefits-overview/index.html>

**Location** - This role is in-person at North Campus, Edmonton.

### **Working at the University of Alberta**

**The University of Alberta acknowledges that we are located on Treaty 6 territory, and respects the histories, languages and cultures of First Nations, Metis, Inuit and all First Peoples of Canada, whose presence continues to enrich our vibrant community.**

The University of Alberta is a community of knowledge seekers, change makers and world shapers who lead with purpose each and every day. We are home to over 14,000 faculty and staff, more than 40,000 students and a growing community of 300,000 alumni worldwide.

Your work will have a meaningful influence on a fascinating cross-section of people - from our students and community members, to our renowned researchers and innovators, making discoveries and generating solutions that make the world healthier, safer, stronger and more just. <https://www.careers.ualberta.ca/>.

### **Working for the Department of Physics**

The Department of Physics has approximately 48 faculty with research interests in space physics, condensed matter physics, astrophysics, biophysics, geophysics and subatomic physics. Our space plasma physics group has a long history of excellence in the experimental, theoretical, and computational analysis of space plasma environments throughout the heliosphere. A particular focus has been on the dynamics of the geospace system, for example through the exploitation of Canada's geographical advantage as the most accessible landmass in the world from which to remote-sense the solar-terrestrial interaction. Research expertise exists in ground- and space-based magnetometry and instrument development, and space plasma theory and simulations of plasma interactions in geospace and in the heliosphere, contributing to our

international reputation. Extensive involvement in space missions and projects in partnership with national and international space agencies (CSA, NASA, ESA etc) further provides a rich environment for the development of research collaborations and partnerships, including through dedicated funding opportunities afforded through the Canadian Space Agency, and through Canada's Associate Member status within the European Space Agency.

The Department was also at the core of the early development of massively parallel supercomputing, with innovative applications extending to the present day, including in partnerships with IBM and others. Current interests and projects include radiation belt and space radiation dynamics (e.g, as the lead institute for the upcoming Canadian RADICALS micro-satellite mission), space weather, solar-terrestrial and geospace sciences, space radiation in the heliosphere, planetary scale coupling of ionized and neutral atmospheres, and the coupling of space weather and Earth's climate. In addition to in-situ mechanical and electronics shops and related in-house facilities in the physics department and on campus, the National Research Council of Canada Nanotechnology Research Centre (formerly National Institute for Nanotechnology), located next door to the physics building, also includes a number of laboratories housing experiments with applications to space environment and space technology development. Access to high-performance computing resources is available through the <https://www.alliancecan.ca/en>.

Initiatives by the Governments of Alberta and Canada, including the Canadian Space Agency, provide exceptional opportunities for securing dedicated additional funding to establish new space-related research programs at the University of Alberta. Edmonton, Alberta is also the home of the Alberta Machine Intelligence Institute (Amii), offering further opportunities for collaboration with artificial intelligence (AI) and machine intelligence (ML) experts at the forefront of international AI/ML research.

## **Position Summary**

The Department of Physics at the University of Alberta invites applications for a tenure-track faculty position in space plasma physics. We are seeking an emerging scholar to hire at the Assistant Professor level who is committed to excellence in teaching and research, but highly qualified candidates at a more senior level may be considered.

Applicants must possess a PhD in physics or related discipline and have the potential to develop an innovative and externally-funded research program in space plasma physics. The successful applicant will join one of the largest and most active space physics research groups in Canada, with expertise in experimental, theoretical, and computational space plasma physics, solar-terrestrial physics, planetary magnetospheres, space weather, and heliophysics.

We are seeking applicants whose research areas will complement those of the existing programs, and which envisage a multidisciplinary approach to education, training and research for the next generation of space plasma scientists. Applications should

demonstrate research experience in experimental, theoretical, or computational space plasma physics in the heliosphere. Applications focusing on research in geospace, or in planetary magnetospheres, are especially welcome. Applications that include a component of research incorporating student-integrated space instrument development are especially encouraged.

The successful candidate will be expected to build a strong independent research program and to collaborate with researchers in space science, space exploration, space technology, and/or laboratory and fusion plasma research in Physics and in other departments within the College of Natural and Applied Sciences, and in interdisciplinary space research projects across campus. For example, opportunities exist to partner with the student-focused <https://albertasat.ca/>, and with broader aerospace partnerships, including with the Edmonton airport targeting accelerating business by commercializing ideas for local and international markets. The successful candidate will supervise graduate students and teach at the undergraduate and graduate levels.

### **Duties**

- Build a strong independent research program
- Supervise graduate students
- Teach physics at the undergraduate and graduate level

### **Qualifications:**

- PhD in physics or a related discipline
- Applicants should have a strong record of peer-reviewed publications in physics or a related field
- Research in space plasma physics in the Heliosphere

### **Application Instructions**

Candidates must also demonstrate how they will work to expand the diversity of the host department through a statement about equity, diversity, and inclusion (EDI) in line with the university's <https://www.ualberta.ca/en/access-community-belonging/index.html> and <https://www.ualberta.ca/en/indigenous/strategic-plan/index.html> strategic plans. In the EDI statement, candidates should describe how they plan to incorporate these considerations into their teaching, research, and service to the scientific community. Candidates are also encouraged to describe how they will contribute to increasing the diversification of ideas within the Department of Physics and to interdisciplinary space research at the University of Alberta.

A CV, list of publications, statement of research interests, summary of teaching interests and an EDI statement are required. Please combine these into one .pdf document.

At least 3 confidential reference letters should be submitted electronically. Please ask referees to address their letters to:

The Selection Committee

Department of Physics

University of Alberta

Edmonton, Alberta, Canada, T6G 2E1

Referees should email their letters directly to: Suzette Chan mailto:

Subject: Space Plasma Physics Competition #1976

Salary will be commensurate with qualifications and experience. The application deadline is March 18, 2025. The anticipated start date for this position is July 1, 2025.

**To apply, please visit: <https://apptrkr.com/5984512>**

**The University of Alberta is committed to an equitable, diverse, and inclusive workforce. We welcome applications from all qualified persons. We encourage women; First Nations, Métis and Inuit persons; members of visible minority groups; persons with disabilities; persons of any sexual orientation or gender identity and expression; and all those who may contribute to the further diversification of ideas and the University to apply.**

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