

## Postdoctoral or Research Associate Position in Instrumental and Application Development for Atmospheric Sciences of HAWC.

**Location:** [Centre ESCER, Department of Earth and atmospheric sciences](#), Université du Québec à Montréal (UQAM), Montréal, Canada. The project is in close collaboration with nearby McGill University, leading the “Developing methods and tools for the science applications of the new Canadian satellite High-altitude Aerosols, Water vapour and Clouds (HAWC)” program.

**Starting date and duration:** as soon as possible for a duration of up to 2 years.

**Background:** This position is part of the Thin Ice Cloud and Far IR Emission (TICFIRE) project funded by the Canadian Space Agency (CSA) and the National Sciences and Engineering Research Council (NSERC) of Canada. The multiband (Thermal to Far Infrared) radiometer TICFIRE is one of the key instruments on the polar spacecraft part of the Canadian HAWC mission<sup>1</sup> to be deployed in 2032. The selected candidate will join the research team for TICFIRE algorithms implementation and application to climate studies through an end-to-end instrument simulator (TICFIREsim) and realistic atmospheres simulated by atmospheric models in an OSSE approach.

This project aims to use the TICFIREsim for detailed instrument simulations on data from ground-based and airborne campaigns or models for validation and development of retrieval algorithms. The use of efficient radiative transfer codes permits to extend analysis and diagnostics on large domains to study aerosol, clouds and radiation interactions as well as the atmospheric response on the atmospheric water cycle and precipitation.

Although the position is addressed to young graduates (less than 5 years from graduation or RA\* beyond 5 years), the intent is to gain experience in the field and eventually, to enlarge our science team in the long run. For excellent candidates, the potential of integrating the mission as a researcher is likely.

Required skills	Postdoctoral position	Research Associate
A PhD in atmospheric sciences or related field.	X	(X)*
M. Sc. Degree in atmospheric sciences or space engineering or related fields.		X
Research experience in the area of interest, radiation or remote sensing.	X	X
A publication record in peer-reviewed, international journals.	X	
Excellent knowledge of the Linux environment and in Python. Experience with Matlab and Fortran programming languages and with high-performance computing systems is also desirable.	X	X
Some experience in radiative transfer calculations.	X	X
Ability to handle large databases, preferably from satellite data. weather or climate prediction models.	X	X
Ability to collaborate and function effectively within a team.	X	X

**How to apply:** Please send your application package to professors Jean-Pierre Blanchet ([blanchet.jean-pierre@uqam.ca](mailto:blanchet.jean-pierre@uqam.ca)) and c. c. to Dr. Yann Blanchard ([Blanchard.yann@uqam.ca](mailto:Blanchard.yann@uqam.ca)). It should include: 1) a cover letter, 2) a complete CV and 3) names and emails of at least 2 references.

<sup>1</sup> <https://www.asc-csa.gc.ca/eng/satellites/hawc/>