
Elisabeth A.C. Mills
PhD candidate at the University of Los Angeles-California
Physics and Astronomy Building
430 Portola Plaza, Box 951547
Los Angeles, CA 90095-1547
millsb@astro.ucla.edu

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Professor Peter G. Martin
Acting Director, Dunlap Institute for Astronomy and Astrophysics
University of Toronto
50 St. George Street
Toronto, ON M5S 3H4
Canada

Dear Dr. Martin:

I am applying for the Dunlap Fellowship in Astronomy and Astrophysics. My curriculum vitae, bibliography, and a statement of my research interests are enclosed for your review. I would appreciate your consideration for this job opening. My ongoing research projects to study the Galactic center and my extensive radio and millimeter observing experience are an ideal match for the research environment of the Dunlap Institute, and will allow me to collaborate on many exciting projects within the institute, including studies of the Galactic ISM and star formation with Hershel and the JCMT.

I am currently leading multiple research projects including the detection and characterization of a widespread, hot component of molecular gas in the Galactic center using the Green Bank telescope, and a new high-resolution survey of Galactic center gas using the Very Large Array which is discovering widespread maser activity, and will yield the first resolved temperature maps of Galactic center molecular clouds. I propose to expand on these projects by undertaking complementary surveys with the VLA and the Atacama Large Millimeter Array to study the density structure of Galactic center clouds. Together with my existing work, this will allow me to study the physical processes which cause gas conditions in the Galactic center to be different than those in the Galactic disk, and to constrain the initial conditions of Galactic center star formation. As a Dunlap fellow, I will continue to lead independent research projects using cutting-edge, open-access facilities including the GBT, VLA and ALMA.

Sincerely,

Elisabeth Mills