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UW Astronomy Department
Street Address Line 1
475 N. Charter St.

Dear Sir or Madam:

I am applying for the Grainger Postdoctoral Fellowship at the University of Wisconsin-Madison. My curriculum vitae, bibliography, and a statement of my research interests, and plans are enclosed for your review. I would appreciate your consideration for this position, as my ongoing research projects to study the properties of the Galactic center ISM and the conditions for star formation in the nucleus of our Galaxy are an ideal match for the research environment at the University of Wisconsin. My proposed research will yield quantitative, high-resolution studies of cloud properties in the unique Galactic center environment which can be compared to studies of the magnetic field properties in this environment, and to studies of the nuclear environment in other galaxies.

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 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 Grainger fellow, I will continue to lead independent research projects using cutting-edge, open-access facilities including the GBT, VLA and ALMA.

Sincerely,

Elisabeth Mills