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NRAO Headquarters
520 Edgemont Road
Charlottesville, VA 22903-2475

Dear Sir or Madam:

I am applying for the Jansky fellowship program, to be based at the National Radio Astronomy Observatory in Socorro, New Mexico. My curriculum vitae, a list of my publications, a summary of my past and current research, and a proposal for the research I will carry out while a fellow are enclosed for your review. Given my extensive radio and millimeter observing experience and my history of involvement with NRAO, I would appreciate your consideration for this fellowship position. My ongoing research projects to study the Galactic center using NRAO facilities are an ideal match for the resources and research environment of NRAO-Socorro. As a recent participant in the Resident Shared-Risk Observing program in Socorro, I had an opportunity to observe with the cutting-edge capabilities of the Karl G. Jansky Very large Array, and to take advantage of local expertise which greatly increased my productivity and efficiency in analyzing the data. As a Jansky fellow based at the Science Operations Center, I would continue to both assist with the ongoing commissioning activities and to benefit from the opportunities to utilize the latest capabilities of the VLA.

With collaborators at both NRAO and New Mexico Tech, I am leading exciting research projects using NRAO facilities 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 VLA 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 Jansky fellow, I will continue to further my collaborations with NRAO staff and lead independent research projects using the unique capabilities of NRAO facilities including the GBT, VLA and ALMA.

Sincerely,

Elisabeth Mills