

Dear Members of the Selection Committee for the AARMS Postdoctoral Fellowship,

I am currently a PhD student in Mathematics at the University of Wisconsin-Madison, and expect to graduate in the coming spring. My Research Interests lie primarily in harmonic analysis, spectral geometry, geometric measure theory, and probability theory, though I am also beginning to explore problems related to nonlinear wave equations. My thesis problem focuses on studying spectral multipliers on compact manifolds using methods of Fourier integral operators, which I am working on under the supervision of Professor Andreas Seeger.

If awarded the AARMS Fellowship, I want to work with Professor Suresh Eswarathasan at Dalhousie University. Professor Eswarathasan shares my research interests, and in particular I am interested in working with him on nodal sets for sub Laplacians, the use of Fourier integral operators to study eigenfunctions and other problems in spectral geometry, and the relation between Fourier integral operators and geometric measure theory. More details about such projects can be found in my Research Statement.

Thank you for your consideration,

Jacob Denson