

640 Ferry Street
Lafayette, Indiana 47901
USA

To whom it may concern,

I am writing to apply for the J. L. Doob Research Assistant Professorship at the University of Illinois at Urbana-Champaign (Position ID # 20946).

I am a Ph.D. candidate at Purdue University, under the direction of D.B. McReynolds. I expect to complete my degree by May of 2023. My research interests include geometry and topology, spectral theory, number theory, representation theory, harmonic analysis, and interactions thereof. My thesis work concerns an absolute spectral rigidity result, which applies to a large class of arithmetic hyperbolic 2 and 3 manifolds. One application of this theorem proves that all principal congruence Hurwitz surfaces are spectrally rigid. I have also co-authored a paper in which we construct large collections of algebraic and differential geometric objects which are indistinguishable by means of various invariants.

The geometry and topology department at UIUC is an ideal environment for my development as a mathematician, and I would cherish an opportunity to contribute to this environment. I had the pleasure of eating lunch with Prof. N. Dunfield at the conference in honor of Prof. A. Reid during the summer of 2022 in Austin, Texas. I enjoyed our conversation, especially regarding certain computation aspects of theory of arithmetic hyperbolic 3-manifolds.

I consider teaching to be an essential role of the mathematician, and am committed to fostering a safe, inclusive, and open environment for students.

Please find my curriculum vitae and research and teaching statements attached. Letters in support of my application, written by D.B. McReynolds, M. Stover, J. LaFont, A. Reid, and J. Chen, will be submitted through the forms on math-jobs.com. Please contact me for any further information.

Sincerely,

Justin Katz
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