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J. L. Doob Search  
Department of Mathematics  
University of Illinois, Urbana-Champaign  
1409 West Green Street  
Urbana, IL 61801

To the J. L. Doob Search Committee:

I am a Ph.D. student in algebraic number theory at UCLA studying with Haruzo Hida. I will be graduating in June 2016 and would like to apply for the J. L. Doob Research Assistant Professorship beginning in the Fall of 2016, as posted on the MathJobs website.

In my thesis, I study images of Galois representation associated to Hida families of modular forms. I prove that, in the non-CM case, the images of such Galois representations are appropriately large, an analogue of a classical theorem by Ribet and Momose. One of the key steps is a lifting theorem, which I prove using a combination of deformation theory and automorphic techniques. For more detailed information, please see my research statement. I would be excited to work with the number theorists at UIUC, particularly Patrick Allen and Martin Luu.

My application consists of the AMS cover sheet, my curriculum vitae, a list of publications, and my research and teaching statements. In addition, it includes letters of reference from Haruzo Hida (my advisor), Jacques Tilouine, and Chandrashekhar Khare. Please let me know if any of these items is not accessible or if I can provide any further information. Thank you for your consideration.

Sincerely,

A handwritten signature in cursive script that reads "Jaclyn Lang". The signature is written in dark ink and is positioned below the word "Sincerely,".

Jaclyn Lang