

Dear Search Committee Members,

I am writing to apply for the position of Assistant Professor of Human Genetics. The University of Chicago is a leader in this field, and would be an ideal place to build my research group. Over the course of my scientific career, I have sought to use theoretical models in population and quantitative genetics in order to shed light on fundamental evolutionary processes operating within human populations.

I earned my Ph.D. working with Graham Coop at the University of California, Davis. There, I developed statistical methods to study adaptation of highly polygenic phenotypes in humans by integrating genome wide association study (GWAS) and allele frequency data using insights from population and quantitative genetic theory. While much work in population genetics over the past few decades has focused on identifying individual alleles of large effect, we have known for a century that most phenotypes are highly polygenic, and my work in statistical methods development has laid the groundwork for a new generation of population genetic studies of adaptation. Recently, as a post-doc at Columbia University with Guy Sella, I have opened a new avenue of research into understanding the forces responsible for the persistence of genetic disease and the maintenance of genetic variation for disease risk.

My research program at the University of Chicago would continue to explore both of these avenues, integrating new sources of data with population genetic theory to understand the forces that drive diversity both within and between populations. My students would be encouraged to pursue projects within this remit, or to explore new avenues for integrating insights from population genetic theory with diverse areas of biology, and I would be eager about the opportunity to co-advise students of diverse interests with other members of the department.

As an educator, it would be my aim to facilitate learning through approaches which allow students to take the lead in directing their learning (e.g. through so-called “inverted classroom” or “mastery learning” approaches). I have some teaching experience as a teaching assistant for undergraduate intro genetics at UC Davis, as well as on two separate occasions as an invited lecturer for graduate level summer courses, the first time at Uppsala University when I myself was a graduate student, and the second time more recently at the University of Zurich. I have also begun mentoring an undergraduate student at Columbia University, and look forward to the opportunity to expand my mentorship roles as a faculty member

I am excited to submit this application for the position of Assistant Professor of Human Genetics at the University of Chicago, and look forward to hearing from you soon. Thank you for your consideration.

Sincerely,



Jeremy J Berg
Post-Doctoral Research Fellow
Department of Biological Sciences
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