

Cover Letter

Dear Members of the Search Committee,

I am writing to apply for the position of Postdoctoral Research Scientist in the Climate School Postdoctoral Research program at Columbia University. I am currently completing my Ph.D. in Economics at the University of Chicago, expected to graduate in June 2025, where I work at the intersection of macroeconomics, environmental economics, and international trade under the guidance of Mikhail Golosov, Lars Hansen, Esteban Rossi-Hansberg, and Michael Greenstone.

My research agenda focuses on designing optimal economic policies to address major global challenges, particularly climate change while accounting for inequality across countries. My job market paper, “The Optimal Design of Climate Agreements,” examines how to structure international climate agreements to maximize global welfare while accounting for strategic behavior and free-riding incentives. Using an Integrated Assessment Model with heterogeneous countries and international trade, I show that the optimal climate club consists of all countries except Russia, implementing a \$100 carbon tax with a 50% tariff on non-members. This work demonstrates both my theoretical capabilities and my commitment to policy-relevant research that can help address pressing global challenges.

My broader research portfolio includes work on optimal carbon taxation under inequality, supply chain disruptions, and several methodological contributions regarding solving heterogeneous agent models with aggregate risk. I am currently working on several promising projects examining the dynamics of climate agreements, climate damage uncertainty, fairness in climate policy, and energy market dynamics. My research has benefited from presenting at major conferences, including the NBER Summer Institute, and has attracted funding through competitive awards like the Stevanovich Fellowship.

My research experience mirrors my commitment to excellence in teaching and mentoring. At the University of Chicago, I have taught at the graduate and undergraduate levels for more than fifteen courses across multiple institutions, including Chicago Booth and Sciences Po Paris. I have extensive experience mentoring students, particularly those from underrepresented backgrounds, and I have organized various reading groups and workshops for graduate students, with the goal of fostering academic excellence.

In addition to my dedication to academic life, my record of research and teaching makes me a strong candidate for the position at the Climate School Postdoctoral Research program at Columbia. The school is leading in the fields of climate economics and climate sciences, environmental policy, and the international economics dimension of armed conflicts, among others, which makes it an attractive environment for discussing welfare-enhancing policies. I am convinced that climate policy, such as carbon taxation and international agreements linking trade and environmental regulations, can provide effective tools to shield vulnerable communities that are considerably affected by global warming and provide a pivotal step in the fight against climate change.

I look forward to discussing how my research, teaching, and service experience could contribute to Columbia’s Climate School. Additional information on my academic research is available [on my webpage](#).

Thank you for your consideration.

Sincerely,

Thomas Bourany