Department of Mathematics
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To the Search Committee
Department of . . .
[address]

Dear Members of the Hiring Committee,

I am writing to apply for a tenure-track assistant professor position at the Department of
. . . [name] as advertised on Mathjobs. Enclosed is my curriculum vitae, my list of publications,
and my research, teaching, and diversity statements. Supporting my application, you are also
receiving letters of recommendation: [letter writers]

Currently, I have a visiting position at the Department of Mathematics at Columbia University.
Before moving to New York City, I worked in Europe. As detailed further in my application
package, during my international career trajectory I obtained an extensive experience in re-
search and teaching, acquiring the ability to interact with students and colleagues from diverse
cultural backgrounds.

Born and raised in Italy, I obtained my PhD at Scuola Normale Superiore in Pisa, an elite
Italian institution that selects and trains the most accomplished scientists in the country.
After my PhD and short postdoc positions, in Fall 2015 I became "Akademischer Rat" at
the University of Heidelberg in Germany. My position was similar in terms of qualifications,
duties, and responsibilities to an Assistant Professor position in the United States; however, it
did not come with a tenure-track, as was the case until a few years ago for every position at the
Assistant Professor level in Germany. In this role, I was a PI of the RTG "Asymptotic Invariants
and Limits of Groups and Spaces", funded by a grant of the German Research Foundation;
I supervised three graduate students who successfully graduated in 2020. However, personal
circumstances motivated my move to the United States in 2019, where I am now seeking a
position at the Assistant or Associate Professor level.

I developed a robust research program in Differential Geometry and Geometric Topology. Specifically, I focus on the theory of Riemann surfaces and hyperbolic surfaces (Teichmüller-Thurston Theory) and on the geometric, dynamical, and analytical properties of representations of surface groups into reductive Lie groups (Higher Teichmüller-Thurston Theory). I integrate tools from Hyperbolic Geometry, Complex Geometry, Geometric Analysis, and Algebraic Geometry, with a particular role played by Higgs Bundles and harmonic maps. My research led to the publication of 21 papers, and I am regularly invited as a speaker to international conferences and seminars.

I have extensive and diverse teaching experience. I was instructor for several courses, both here at Columbia and in Europe, at the undergraduate and graduate level, teaching both Calculus-level courses and advanced courses for mathematics students. In addition, I ran several student seminars and I mentored and advised two undergraduates who wrote senior theses. Here at Columbia, I took on the challenge of teaching large undergraduate courses like Calculus I. This course is extremely heterogeneous and includes students with different preparation levels and disparate ethnic and socio-economic backgrounds. By teaching this and other courses at Columbia, I honed my skills and developed a better understanding of undergraduate education in the United States.

[This part depends on the place where I apply for]

I believe my research interests and experience would strengthen and diversify the research in Geometry at [name of the university]. Moreover, my extensive experience organizing and teaching classes at both the undergraduate and graduate level can be an asset to your Department.

I look forward to the opportunity to discuss with you my application and my research program. Thank you in advance for your time and consideration.

Sincerely,

Daniele Alessandrini