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Department of Mathematics   November 15, 2019
Brandeis University

Dear Selection Committee,

I am writing because I would like to be considered for your advertised postdoctoral position, to begin in the academic year 2020-21.

I am a PhD student at the Massachusetts Institute of Technology, graduating in Spring 2020, and my research is on dispersive partial differential equations and harmonic analysis. A project I am currently working on concerns the modeling of rogue ocean waves via the Dysthe equation. Despite the promising physics literature, even basic properties like local and global well-posedness for the two dimensional equation are unknown, among other interesting questions. Some of my past work has to do with the continuum limit of discrete NLS-type equations, as well as developing a local well-posedness theory for dispersive PDEs with a memory effect. Given our common research interests, I am very excited about the possibility to interact with the strong faculty at Brandeis University.

During my years at MIT, I have had some teaching experience as a recitation instructor for multivariable calculus and for differential equations, I have held weekly problem sessions for a variety of other subjects, and I have mentored undergraduate students on intensive summer research projects. I have always received very positive teaching evaluations, and I am looking forward to further improving my teaching as I gain more experience.

A CV, a detailed research statement and a teaching statement are included with this application. Moreover, I have asked the following professors to submit a letter of recommendation:

- Luis Vega, Basque Center for Applied Mathematics.

- David Jerison, Massachusetts Institute of Technology.

- Gigliola Staffilani, Massachusetts Institute of Technology (thesis advisor).

- Jeremy Orloff, Massachusetts Institute of Technology (teaching reference).

Please do not hesitate to contact me should you have any questions. I look forward to hearing from you.

Sincerely,

Ricardo Grande