

March 1, 2023

To whom it may concern,

My name is Víctor Ballester and I am currently studying my last course in the Mathematics degree at the Autonomous University of Barcelona. For years I have been highly attracted to Applied Mathematics, and in particular, to dynamical systems and numerical analysis. Thus, willing to start doing mathematical research I am applying to the Barcelona Introduction to Mathematical Research 2023 Summer Program.

My current universities studies have given me the insights to become familiar with concepts of analysis and theory of differential equations. Subjects such as Differential Equations And Modelling (I and II), Numerical Methods and all courses of Analysis have given me the tools to properly understand how to deal with applied complex problems in many branches of science. Because of this, I find the relation that Math has with Physics and Engineering really interesting but without losing the preciseness that makes Math so gorgeous. And as far as I am concerned, your internship programme do have a vast number of applied research projects. And this is something that really appeals to me.

Regarding my performance in science, I would like to mention that I have been improving not only my marks but also my deep knowledge in the subjects during my time at university. This is due to several reasons. First of all, I consider myself a very hard-working person as well as highly competitive in all aspects. These competences have given me the power to become better in many aspects of my life, specially in Math in which the fact of having competent classmates has encouraged me to do better in many subjects. On the other hand, the annual participation in many well-known Math and Physics competitions proves my absolute love for these subjects as well as the passion they transmit to myself.

All things considered, I would like to pursue the project directed by Jezabel Curbelo and Álvaro Meseguer on the “From chaotic dynamical systems to fluid turbulence”. As a second option the some programs on the field of analysis, pde and dynamical systems also appeal to me.

On balance, the acceptance in this internship would allow me to continue expanding my knowledge in science more deeply and summerge myself in the research of Mathematics.

Thank you very much for considering my application.

Yours faithfully,

Víctor Ballester