April 8, 2024

To whom it may concern,

My name is Víctor Ballester and I am currently pursing my master degree M2 in Applied Mathematics at Paris-Dauphine University. For years I have been highly attracted to Applied Mathematics, and in particular, to fluid dynamics and numerical analysis. Thus, willing to start doing mathematical research I am applying to the summer program at Nesin Maths Village.

My past university studies have given me the insights to become familiar with concepts of analysis and theory of differential equations. Here in Paris, I have been able to deepen my knowledge in these subjects, specially in the fields of Partial Differential Equations (PDEs) and Computational Fluid Dynamics. 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, the internship programme in Turkey do have some courses that are related to PDEs and Applied Mathematics. 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, if I am admitted to the program I would like to follow at least the courses of *PDEs on manifolds* (done by Dr. Padi Fuster Aguilera and Dr. Aram Bingham) and *Math for Artificial Intelligence* (done by Özgür Bozkurt). The first one would allow me to deepen my knowledge in PDEs and the second one would give me the opportunity to learn more about the applications of Math in AI. Both of them are subjects that I am really interested in and that I would like to learn more about.

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

Thank you very much for considering my application.

Yours faithfully,

Víctor Ballester