

European Space Agency
24 Rue du Général Bertrand
Paris, France

May, 2021

Dear Sir or Madam,

I hope to convince you by the present letter of the suitability of my application to fill the Astronaut Vacancy in the Directorate of Human and Robotic Exploration Programmes.

My long and matured motivation to join the ESA's astronaut class is strongly driven by my scientific curiosity. If it is true that being an astronaut has only recently appeared as an exciting career path, unraveling the mysteries of science has been a constant drive throughout my career, and still remains my main source of motivation. After studying three years at a top level engineering school in Paris with a specialization in nuclear physics, I did with 4-year PhD working on high intensity physics and laser-plasma interactions. In this context, I have been working around machinery of all kind, on the automation of various experimental tasks, on the programming of user interfaces, etc.. Thanks to this accumulated experience, I spent 6 months working on the design of SYLOSII European user facility laser system, built in Szeged, Hungary. In 2018, I was recruited as a former young CNRS researcher and have been responsible for experiments on optical and ultrasonic imaging since. I also teach non-linear optics and quantum physics in engineering schools. I believe my experience can be a great asset in space in the manipulation and maintenance of scientific equipment.

My main center of interest is in pure physical science, where space projects in the field have been announced with more or less advancement such as the ICAN project initiated by Gerard Mourou (former 2018 Nobel Prize winner) or already working such as any anti-matter related experiment through the use of the Alpha Magnetic Spectrometer. I am highly motivated by the perspective of working on projects intended to enhance our comprehension of anti-matter, or quantum related experiment such as Bose-Einstein condensation. However, opportunities to contribute to other research area from medicine to biology in such unique conditions motivate me far beyond my own personal scientific preferences. I would certainly take it very seriously and put my experimental experience at the service of all scientific communities.

I am aware that scientific skills alone are not enough to be considered as a serious candidate. Handling pressure, stressful environment and maintaining excellent physical conditions are absolute prerequisites. In this respect, I believe that my regular practice of sports such as running and climbing is a good start to meet with your expectations. In addition, I have often been confronted to stressful situations, whether it be following the French highly elitist educational system, or managing group and social events in other associative work I have done. I am ready to test my handling of stress through the training program you have designed in preparation for space missions.

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An astronaut is also an ambassador of the space ESA program and communication skills are essential for the promotion of Science and forthcoming Space exploration Programs. In this respect, I believe that my intervention in multiple International Scientific conferences have contributed to testing my skill in the matter, at which I can say that I feel at ease. I am strongly opinionated on the matter of (true) environmental transition, reducing of social and educational inequalities, sexual and racial discrimination. These issues have led me to join several active associations on my free time and sometimes interact in public. I believe that being an ESA ambassador is fully compatible with these ideas, and I assure you of my full professionalism in defending and promoting the scientific development performed at the International Space Station and other related space missions.

In great hope of hearing from you,

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