

Sander Stammbach
Rainweg 11
4450 Sissach
Switzerland
Phone: +41 79 589 32 69
E-Mail: sander.stammbach@outlook.com

Institute for Theoretical Physics
Technical University of Vienna (TU Wien)
Wiedner Hauptstraße 8-10/136
1040 Wien, Austria

Dear Prof. Dr. Carlos Gonzalez-Ballester,

My name is Sander Stammbach and as a highly ambitious quantum physicist with a wide range of interests, I am convinced that I can contribute to successful research in the open position you have published on the quantiki page. After I took my master's exam by Dr. James Wooten from IMB Zürich on the topic of quantum computing and proceeded my masters thesis by Professor Potts in quantum thermodynamics, I now wish to further my studies in this particular field in which you are researching. The paper "Quantum theory of light interaction with a Lorenz-Mie particle: Optical detection and three-dimensional ground-state cooling" has fascinated me greatly. The idea that a theoretical description of a dielectric sphere in a quantum electric field could make a significant contribution to important experiments in overlapping research areas would be a fantastic additional incentive to delve further into this field of study.

My objective has always been to become a physicist, which is why I did my bachelor's degree in physics at the University of Basel. Throughout my studies, I learned to code in Python, Fortran, Java, and many other programming languages. During my master's studies, I focused on theoretical quantum physics, as I am especially interested in this field. In addition, I attended lectures about high-energy particle physics as well as quantum field theory which shows my wide range of interests and tireless curiosity. Moreover, I worked in Professor Pott's group on theoretical quantum thermodynamics. Finally, my master's thesis consisted of researching numerical simulations, where I focused on full counting statistics.

Now that I have completed my master's degree, I would like to further my studies in a PhD position. As a PhD. student, I would love to be part of the hybrid quantum system group and to make significant contributions to your work on quantum theory using my expertise in numerical and analytical skills in quantum physics.

I am a strongly resilient researcher with a high-stress tolerance. During the last year of my master's programme, I participated in various humanitarian aid trips to the Ukrainian warzone. This experience taught me how to keep calm in stressful situations and how to look for the best solution while considering all circumstances and to be helpful in this situation.

I would like to thank you in advance for your consideration, and I look forward to meeting you in person to discuss the possibility of further cooperation.

Yours sincerely,
Sander Stammbach