

## TP1 Group

August 16, 2021

UNIVERSITÄT SIEGEN  
SIEGEN, GERMANY

### Application for Wissenschaftliche/r Mitarbeiter/in - Theoretische Teilchenphysik (2506)

To whom it may concern,

## About Me

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I began my doctoral project at Siegen in March 2021. Previously, I finished my undergraduate degree August 2020 studying Theoretical Physics (MPhys) at the Durham University in the UK where I achieved a Class I (Honours), which is the highest degree rank possible. Durham University is one of the oldest universities in the UK, and consistently ranks within the top 10 UK universities both overall and specifically for its Physics department. I have spent the previous years focusing on particle physics, through studying several courses on the subjects of quantum mechanics and particle physics. These courses relate closely to the fundamental physics research undertaken at the famous CERN and its Large Hadron Collider, and they have prepared me for theoretical physics studies of the predictions for many of the processes that are observed and measured at the LHC. During my Masters thesis, I worked on a research project within this area and since the completion of my thesis, I continued to work on this project with others to develop a research paper performing statistical analysis of the 2HDM using the program package flavio. I am a very hard-working individual who will bring passion to my work and happily dedicate myself to my studies to the full extent of my abilities.

## Why Universität Siegen?

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I have come to Universität Siegen because I believe it is the ideal place for me to continue my studies. I became aware of Siegen's TP1 research group throughout my Masters thesis through reading many of the group's publications and making use of their results to shape my own research. The close alignment of the group's research and publications with what I myself have so far explored makes Siegen an ideal university for me to continue my studies. The extensive resources of Siegen and its strong focus on international collaboration will provide a great base to develop my skills and work alongside some of the leading experts in the world of particle physics. In addition, the area of focus in my PhD project, lattice QCD, is a new area of research to Siegen under Dr. Oliver Witzel, and we hope that it can become an important tool in the research of the TP1 group.

## Why Me?

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As I learn more and more about the mysteries of physics, there is one thing I can say with certainty: I need to know more. I know that what I have learned so far is just the tip of the iceberg, and I am so eager to continue my learning. I am a hard-working, dedicated student who is ready and willing to begin the intensive study and research of a PhD program. I will bring the strong communication skills and enjoyment of collaborative work that are very important to academic research. Critical thinking is another important aspect which is crucial in performing research and understanding fundamental physics; this is a skill I have used across many disciplines of my life and will apply this skill to all my future pursuits in science. Coming from Scotland, I look forward to the opportunity of studying internationally at Siegen, where I can experience German culture and integrate myself with the international physics community. The opportunity to continue my studies and begin to contribute towards the expansion of scientific knowledge would be something most valuable to me, and I relish the chance to dedicate myself fully to this through my PhD position at Universität Siegen.

Thank you for your time and consideration, I look forward to hearing from you.  
Sincerely,

**Matthew Black**