

Joel Wesenberg
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Application as a PhD student at Heidelberg University in the group of Prof. Arthur Hebecker at the Institute for Theoretical Physics

Dear Professor Hebecker and members of the Assessment Committee,

My name is Joel Wesenberg, and I have successfully completed my master's degree in theoretical cosmology at RWTH Aachen University. With this letter, I would like to express my strong interest in the advertised Ph.D. position in string theory, particularly in its connection to cosmology.

During my master's thesis, I focused extensively on cosmic inflation. I simulated two inflationary models using the program CosmoLattice and compared the results with analytical predictions. Through this work, I not only gained in-depth knowledge of various early universe models but also strengthened my skills in numerical simulations and theoretical analysis. These experiences have deepened my passion for exploring the early universe, and I am eager to expand my expertise in this field.

I believe that Professor Hebecker's research group is an ideal environment to advance my understanding of the early universe at a more fundamental level. I have a strong background in theoretical cosmology, particularly in quantum field theory, and have already gained some experience in string theory during my master's research in the context of inflationary models. This work led me to Professor Hebecker's research, which closely aligns with my interests. Additionally, I have a strong ability to grasp new ideas and concepts quickly and build upon them—an essential skill, especially in a complex field like string theory.

Beyond my expertise in general relativity, quantum mechanics, and quantum field theory, I bring strong teamwork and communication skills. I enjoy collaborating with others, value the exchange of ideas, and am always eager to engage with new people. My open and humorous nature has consistently helped me thrive in diverse academic environments.

I would be excited to contribute my skills and enthusiasm to your team. I appreciate your time and consideration and would welcome the opportunity to discuss potential research projects. Please feel free to contact me if you have any questions. I look forward to your response.

Sincerely yours,

Joel Wesenberg