



Guglielmo P. Lockhart

Graduate Institution: Harvard University

Graduate Discipline: Theoretical Physics

Hometown: Lodi, Italy

Relevant SC Research: High Energy Physics

Research Interest:

My research objective is to study the fundamental aspects of string theory. Our understanding of elementary particles is based on quantum field theory, but despite its successes this theory is not capable of consistently accounting for gravity. String theory, which prescribes that fundamental particles are very small vibrating strings, was developed to overcome this issue.

Its study has radically changed our understanding of particle interactions and the nature of spacetime.

Topological string theory is a subsector of string theory that can be analyzed by employing very powerful mathematical techniques, and can be used to address some of the most fundamental aspects of string theory. There are hints that topological string theory may be an approximation to an underlying, more fundamental theory. My research aims at studying the properties of this proposed “nonperturbative” version of the theory and the implications that its existence would have in the context of ordinary string theory.

About Me:

I am a second-year graduate student at Harvard University; my goal once I complete my doctorate is to pursue a career in the academia as a theoretical physicist. In my free time I enjoy playing piano and electric guitar; I am also really interested in photography.



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