PhD Position in Mathematical Physics / Algebraic Geometry

Preamble
The Institut de Mathématiques de Bourgogne at the Université de Bourgogne in Dijon, France, is offering a three-year PhD fellowship in Mathematical Physics / Algebraic Geometry.

The fellowship is in the framework of the project SupToPhAg, funded by EUR-EIPHI, BFC-Region. The research will take place under the supervision of Daniele Faenzi and/or Taro Kimura. Please refer to the web page for more information about the institute: https://math.u-bourgogne.fr/

Description
Recently, there have been a lot of progress concerning the intersection of algebraic geometry and theoretical physics. The successful candidate is supposed to pursue one of the research topics including:

- Algebro-geometric perspective on topological phases of matter, topological field theory, higher-order topological insulators;
- Geometric perspective of quantum field theory in the relation to hyper-Kähler geometry, instantons, quiver varieties;
- Derived categories and moduli spaces in algebraic geometry;
- Applications of algebraic geometry to theoretical physics, in particular, gauge theory, string theory, matrix model, and integrable system.

Application
Candidates must hold a master (or equivalent) degree in mathematics or theoretical physics. It is expected that candidates possess a strong background in one or more of the following topics: algebraic geometry, schemes and sheaves, quantum field theory (preferably its geometric aspects).

The application’s deadline is 30 April 2021.

The applicants should send us:
1. a cover letter with a statement of motivation
2. a CV
3. a summary of master’s thesis
4. a transcript of academic record
5. a contact list of at least two reference persons

We are willing to answer any inquiry from interested candidates. Please write to both addresses below.

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