

PhD research topic proposal
BME, Doctoral School of Mathematics and Computer Science

Name and degree of supervisor :

Mátyás Domokos, DSc.

Are you willing to supervise Stipendium Hungaricum applicants?

no

Title of the topic:

Moduli spaces of representations

Short description:

The main general aim of representations is to classify matrix representations of groups or algebras up to isomorphism. It can frequently be reformulated as the problem of parametrising the orbits under the action of a group of linear transformations on a vector space. A possible approach to this question is provided by the moduli spaces constructed using polynomial functions on the vector space that are constant along the orbits. These moduli spaces and the related questions in invariant theory form the subject of the planned research.

Requirements:

Sound knowledge of basics of representation theory, ring theory, algebraic geometry, Gröbner basis theory, MSc degree in pure mathematics.

Contact:

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Place of work:

Rényi Institute of Mathematics, BME