

Subject: Three PhD positions in Mathematics (statistics, cryptography and algebraic graph theory) open at the University of Primorska, Slovenia.

Successful candidates will work on problems in discrete mathematics, algebra, cryptography and statistics. The specific research projects will be defined together with the PhD students based on their interests and skills and on the fit within the research scope of the group.

The PhD positions are fully funded for four years, which includes a monthly net salary starting at 1050 Eur. Starting date is October 1st, 2020 (with some flexibility). The PhD students will also get the opportunity to attend international conferences and to travel and learn from leading experts through our wide network of academic collaborations.

The candidates should have a Master's degree in Mathematics (obtained by September 11th 2020 at the latest), a very good knowledge of the English language, and should be of age up to 28 years (extension of this limit is possible in the case of using parental leave in the past).

Short description of the open PhD positions:

Statistics – Work under supervision of Prof. Dragan Marušič and Assoc. Prof. Lara Lusa

The selected PhD candidate will be included in the ongoing research aimed at enriching classical mathematical modelling using methods combining graph theory and statistics. Due to the current COVID-19 pandemic a special emphasis will be given to mathematical modelling of the dynamics of infectious diseases.

Cryptography – Work under supervision of Prof. Enes Pašalić

The selected PhD candidate will be working on some specific problems related to certain combinatorial properties of discrete structures of importance in cryptography. More precisely, certain polynomials over finite fields fulfil some necessary cryptographic design criteria, thus being suitable to be used in many cryptographic primitives. Though there are several known classes of these perfect combinatorial objects, some generic and efficient construction methods remain to be discovered.

Algebraic Graph Theory – Work under supervision of Assoc. Prof. Ademir Hujdurović

The selected PhD candidate will be working on current open problems in discrete mathematics with emphasis given to open problems about graphs and digraphs possessing a certain degree of symmetry, such as vertex-transitive graphs, Cayley graphs, arc-transitive graphs etc.

Questions and the applications should be sent to: razpis.mr@upr.si More information about this open call can be found under <https://www.upr.si/en/university/open-calls--tenders/research-open-calls/>.