Job ID: RICAM033DOC223

The Johann Radon Institute for Computational and Applied Mathematics (RICAM) of the Austrian Academy of Sciences (OeAW), Austria's leading non-university research and science institution in Applied Mathematics, focuses on basic research in applied mathematics, and within the institute mathematicians from all around the globe collaborate on common core areas in mathematical modeling, simulation, inverse problems, optimization, and symbolic computation. RICAM has proven to stand for excellence in research, as can be seen from a high level of publications and the popularity of the institute's special semesters within the academic community. The working groups at RICAM provide a broad field of expertise over a whole range of different subjects, and together they create an exciting atmosphere to carry out research in applied mathematics. The institute is offering a

PhD Student Position (f/m/x)

in the Symbolic Computation Group

(part-time, 30h per week)

The position is available from April 01st, 2023 onwards in the frame of the EAGLES project. Place of employment is Linz. The working language is English.

The EAGLES project belongs to the part of computer algebra which is concerned with algorithms for recurrence and differential equations and related topics. These algorithms are regularly applied in areas such as combinatorics, number theory, mathematical physics or experimental mathematics. Computational problems arising from applications are getting larger and more complicated, so that more efficient and more general algorithms are needed in order to solve them. We focus on techniques for guessing or reconstructing multivariate equations from given data, for proving inequalities among D-finite functions, and for creative telescoping. For each of them, our aim is to push forward the state of the art so that it becomes possible to perform computations that are beyond the capabilities of the technology available today, and far beyond the capabilities of any form of paper and pencil reasoning. The project will cover all aspects of the development chain: inventing mathematical theory from algebra to geometry, designing and analyzing new algorithms, implementing and evaluating them in mathematical software, and applying them to highly nontrivial problems arising from other areas. This international project is conducted by Jérémy Berthomieu, Alin Bostan, Frédéric Chyzak, Vincent Neiger and Mohab Safey El Din in France and Manuel Kauers, Christoph Koutschan, Veronika Pillwein, and Carsten Schneider in Austria.

Your profile:

- Master's degree in mathematics or computer science
- Some background in algebra, geometry and symbolic computation

Our offer:

- Cutting-edge research on the themes of the project, and participation in the activities of the international consortium
- An annual gross salary of € 34.507,20, according to the salary scheme of the Austrian Science Fund (FWF)

Applications including a scientific CV, a motivation letter (which should contain a priority list on the Ph.D. topics listed above as well as any other relevant information), a transcript with grades from the master's degree, and the name and email address of two references (including the master's thesis advisor, if applicable) should be uploaded on https://easychair.org/conferences/?conf=eagles23. Preference will be given to applications received before April 01st, 2023.

The Austrian Academy of Sciences (OeAW) pursues a non-discriminatory employment policy and values equal opportunities, as well as diversity. Individuals from underrepresented groups are particularly encouraged to apply.

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