Postdoc and Ph.D. Positions in Concurrency and Software Security

The Chair Modeling and Analysis of Information Systems at TU Darmstadt is offering multiple positions. We are looking for researchers who are interested in addressing foundational problems that are or will be of practical relevance. The research focus shall be on concurrency, software security, or their combination.

The spectrum of possible research topics includes

- *information-flow analysis of concurrent programs*
- *information-flow security for Android apps*
- *side-channel analysis techniques for crypto implementations*
- *program analyses and transformations suitable for weak memory models*
- *semantics and verification of parallel programs*
- *soundness of program parallelization techniques*

Your research shall be based on solid formal foundations and could result, e.g., in foundational insights, in program analysis and transformation techniques, in tools that are reliable and efficient, or in verified critical software systems.

You should have a solid background in at least one of the following areas:

- *formal methods in Computer Science*
- *information-flow security*
- *program analysis and transformation*
- *semantics of concurrent programs*
- *verification tools*

You should be highly motivated to tackle challenging research projects and be open minded. You need very good language skills in English, both in talking and writing. Prior knowledge of German is not expected, but you should be willing to obtain basic skills within a year. For a Postdoc position, you need to hold a Ph.D. (or to have completed all requirements upon start of appointment), you should aim for scientific leadership, and have organizational skills. For a Ph.D. position, you need to hold a Master's degree in Computer Science or Mathematics (or to have completed all requirements upon start of appointment).

We are offering a productive and collaborative research environment in which you can discuss ideas with team members who are working on interesting research topics. Our international connections and our involvement in leading-edge research projects (like RS^3, CRISP, and CROSSING) provide further opportunities for collaborations.

The positions are available from now and applications will be considered until the positions are taken. These are positions with regular salary and social benefits based on TV-TUD. TU Darmstadt is an equal-opportunities employer and encourages applications from women. In case of equal qualifications, applicants with a degree of disability of at least 50% will be given preference.

TECHNISCHE UNIVERSITÄT DARMSTADT

MAIS Modeling and Analysis of Information Systems

TU Darmstadt is one of Germany's top technical universities with an outstanding reputation in research and education in Computer Science.

The Chair Modeling and Analysis of Information Systems (brief: MAIS) is led by Prof. Dr. Heiko Mantel.

The overall research objective of MAIS is to increase the trustworthiness of software-based systems. The spectrum of research questions ranges from theoretical foundations over methods and tools to applications in the real world.

Current topics include

- concurrency theory,
- implementation-level security for cryptography,
- language-based security,
- parallelization,
- security engineering,
- side-channel analysis and mitigation,
- software re-engineering,
- sound abstractions and modular reasoning,
- static and dynamic program analysis, and
- usage control in distributed systems.

For more information see http://www.mais.informatik.tu-darmstadt.de .

How to Apply?

Please submit your application, including your detailed CV with language skills, complete transcripts with lists of courses and grades, all theses that you have completed so far, a description of your background and research interests, and, if possible, references whom we may contact for letters of recommendation to recruiting@mais.informatik.tu-darmstadt.de .