

Opportunity: Job Including Study for PhD

Marie Skłodowska-Curie ITN Early Stage Researcher Post in Digitalization of the Design Optimization Process of Aerospace Composite Structures (36 months contract)

Applications are invited to work with DI Roland Landertshamer and the team of RISC Software GmbH as well as Dr. Ender Özcan from the Automated Scheduling, Optimisation and Planning Research Group (ASAP) at the University of Nottingham as part of the H2020-funded Marie Skłodowska-Curie European Industrial Doctorate (EID) Network, "OptiMACS". Successful applicants will also register for a PhD at the University of Nottingham.

The design of new aircraft models is a very complex and time consuming task. Requirements of different disciplines, such as aerodynamics, structural mechanics, flight physics, or fabrication, need to be fulfilled, while finding an optimal design for defined aspects (e.g. minimum weight). Therefore, a multidisciplinary design optimization (MDO) process is used, where the different disciplines are taken into account simultaneously during optimization. RISC Software GmbH is supporting engineers from Airbus Defence and Space for more than 10 years on the development of an MDO software platform to calculate optimum aircraft designs with respect to several design and performance optimization criteria. The MDO platform consists of several discrete software modules for optimization, visualization, post-processing and design verification.

The successful applicant is expected to implement a standardized data interchange format for the discrete software modules of the MDO platform. Additionally the applicant is expected to extend the MDO platform as a part of a team by implementing the components based on the findings of the team members. The PhD work will combine substantial theoretical and computational developments together with solid experimental tasks.

TASKS

- ✓ develop and integrate a standardized data interchange format to support a seamless modular interaction in the MDO platform
- ✓ implement and integrate the components based on the studies of other team members in this program into the MDO platform

QUALIFICATIONS

- ✓ A first class or a 2:1 (MEng or MSc) degree in Computer Science, Civil/Mechanical/Aerospace Engineering, Applied Mathematics/Physics, Material Science, or closely related disciplines
- ✓ Good theoretical knowledge and practical experience in designing, building and deploying complex software systems and software architectures
- ✓ Background in optimization, preferably with some experience
- ✓ Experience in programming in, preferably, Fortran and C++ or similar
- ✓ Knowledge of data formats (e.g. mark up languages) and/or data modelling
- ✓ Excellent analytical and problem solving skills
- ✓ Excellent written and verbal communication skills
- ✓ Able to work independently as well as a part of a team, prioritise tasks and work to tight deadlines

ELIGIBILITY CRITERIA

- ✓ Candidates will also be required to meet the Marie Skłodowska-Curie Early Stage Researcher eligibility criteria: (http://ec.europa.eu/research/participants/data/ref/h2020/wp/2016_2017/main/h2020-wp1617-msca_en.pdf)
- ✓ At the times of appointment candidates must have had less than four years full-time equivalent research experience and must not have already obtained a PhD
- ✓ Additionally, they must not have resided in Austria (host country) for more than 12 months in the three years immediately before the appointment.

This full-time position will be available from February 2019 and is offered on a fixed-term 36 month contract.

The Salary will be in the range of €33.502,- to €39.502,- per year in accordance with the **EU Marie Skłodowska-Curie** financial guidelines. The post benefits from a highly competitive and attractive salary, plus mobility and family allowances as applicable. It is an excellent opportunity to work in an international and multisectoral research environment and you will spend time both at RISC Software GmbH (Austria) as well as at Nottingham University (UK).

Applicants should send a detailed CV to DI Roland Landertshamer (roland.landertshamer@risc-software.at) and Dr. Ender Özcan (Ender.Ozcan@nottingham.ac.uk).