Publish Date	14 Nov 2018
Division	Airbus Defence and Space
Location	**Manching** GER
Reference Code	10432559 NU EN EXT 1
Interest Group	Professional staff - engineer
Functional Area	Structure & dynamic systems analysis
Contract Type	PHD, Research contract
Working Time	Full time
Work Experience	No work experience

Ph.D. student within OptiMACS - Optimizing for manufacturing

Airbus Defence and Space Manching

Airbus is a global leader in aeronautics, space and related services. In 2017, it generated revenues of € 67 billion and employed a workforce of around 130,000. Airbus offers the most comprehensive range of passenger airliners from 100 to more than 600 seats. Airbus is also a European leader providing tanker, combat, transport and mission aircraft, as well as Europe’s number one space enterprise and the world’s second largest space business. In helicopters, Airbus provides the most efficient civil and military rotorcraft solutions worldwide.

Our people work with passion and determination to make the world a more connected, safer and smarter place. Taking pride in our work, we draw on each other's expertise and experience to achieve excellence. Our diversity and teamwork culture propel us to accomplish the extraordinary - on the ground, in the sky and in space.

Description of the job

Are you looking for a Ph. D. job position? Would you like to discover the work within manufacturing? Then apply now! We look forward to you joining us at the Optimisation Department.

Location: Manching
Start: now
Duration: 3 years

OptiMACS project is a European Training Network (ETN) funded by the European Union's Horizon 2020 Marie Skłodowska-Curie Actions Programme.
Successful applicants will register for a PhD programme at the University of Nottingham related to the topic "Optimizing for manufacturing: Implementation of extended models and criteria for design of composites by use of novel manufacturing processes".
Modern aeronautical structures are increasingly made of composite layered materials. The usage of composite structures however implies a radical increase of the structural design parameters that have to be determined and optimized for an aircraft during its design process. There is therefore a genuine industrial need for developing advanced computational schemes and optimization processes, able to reliably provide the optimal design of the composite structure under consideration.
The successful applicant is expected to build on advanced computational models to predict and to optimise the multidisciplinary (static, weight, dynamic etc.) performance of complex aerospace components. These may include the effect of dynamic loading on the response of composite materials, the developments of models across different length and time scales and the study of the effect of triaxiality in fibre-dominated failure modes.
The objective of the candidate will be to implement extended models and criteria for design of

composites in the multidisciplinary optimization process for advanced manufacturing processes such as: tow steering in fibre Placement processes allowing variable fibre orientation within the plies of a Laminate; drape forming processes requiring the modelling of slits/Darts in the plies; 3D weaving.

Tasks & accountabilities

Your exciting topic:

- The successful applicant will work 36 months on the OptiMACS project
- Candidates will spend about half of the time at Airbus Defence and Space GmbH in Manching (Germany) and the other half at the University of Nottingham (United Kingdom) and must be willing to travel within Europe

This job requires an awareness of any potential compliance risks and a commitment to act with integrity, as the foundation for the Company's success, reputation and sustainable growth.

Required skills

You offer:

- Completed studies (m/f) within mechanical/aerospace engineering, mathematics/physics or similar field of study
- Practical experience in software design and development is required
- Programming languages: FORTRAN95/2003, C/C++, Python
- Experience with numerical simulations
- Experience with mathematical optimization
- Experience with Composite materials and structures
- Excellent written and verbal communication skills are also essential
- Fluency in English (written and spoken) is required

You are a good team player, have excellent communication skills, and are able to work independently.

Contact Data

Does this job description fit your objectives and profile? Take the next step in your career and come and join us!

How to apply:
Online via www.jobs.airbusgroup.com
Reference number 10432559
Please provide the following documents: cover letter, C.V., relevant certificates, current certificate of enrolment

You can direct your cover letter to: Mr. Unterreitmeier
Should you have general questions regarding this position you can write an E-Mail to:
students.germany@airbus.com

Airbus is committed to achieving workforce diversity and creating an inclusive working environment. We welcome all applications irrespective of social and cultural background, age, gender, disability, sexual orientation or religious belief.