



Researcher position – Aerospace Guidance, Navigation, and Control

Expires: 31 December 2020

The SEAL Aeronautica S.L. (SEALA) invites applications for one Research and Innovation position in the framework of a H2020-funded project AURORA (Grant Number 101007134). The successful applicant should have a PhD degree (or close to completion) or Master's degree in aeronautical engineering, aerospace, mathematics, physics, control and systems or a related subject. The applicant will be incorporated in the SEALA RTD department.

The selected candidate will:

- Become a member of the research team of the AURORA project and the SEALA RTD department at RDIT in Parc UPC | BarcelonaTech
- Carry out research activities associated to the SEALA RTD department, e.g. integrated navigation, such as GNSS precise point positioning, "visual-inertial" and "RADAR-inertial" SLAM, Guidance-Navigation-Control (GNC) algorithm design & evaluation for all phases of aircraft flight, autopilot & control system design and analysis, data fusion to combine data from multiple navigation sensors, support to concept & feasibility studies for urban air mobility, implementing intelligent machine learning techniques to help solve a range of complex GNC problems.
- Lead and support the team members in the preparation of the reports of the project
- Lead and support the team members in the preparation of research funding proposals
- Lead, coordinate and participate in dissemination activities of the project, including technical papers to be submitted to international conferences and peer-reviewed journals

QUALIFICATIONS AND EXPERIENCE

We are looking for a highly motivated, enthusiastic, energetic person, aiming at significantly improving his or her career perspectives in both public and private sectors. The successful applicant should have a PhD degree (or close to completion) Master's degree in aeronautical engineering, aerospace, mathematics, physics, control and systems or a related subject. Upon successful completion of the fixed-term contract, a renewal might be considered depending on the achieved performance and the available funding opportunities by that time.



Required skills:

- Outstanding oral and writing English skills
- Good publication record in top scientific peer-reviewed journals
- Good knowledge of nonlinear dynamics, optimization and control, adaptive and reconfigurable flight control, and state estimation & distributed control
- Familiarity with GNC hardware suite for aeronautical applications
- Experience with safety-critical flight software development and autocode to C/C++ for real-time operating system implementations
- Intermediate hands-on experience in open-source flight control software development (e.g. PX4 Flightstack)
- Basic knowledge of using MATLAB/Simulink
- Effective verbal and written communication skills, and ability to work in an international team

Valuable skills:

- Knowledge of analytical skills in the areas of optimization or machine learning are a benefit
- Understanding of a program life cycle encompassing requirements generation, design, analysis, integration, verification, and testing of the GNC subsystem for aeronautical applications
- Designing and implementing test environment with GNC system both as SIL and HIL
- Familiarity with ARINC 429 communication protocol or AFDX (ARINC 664) communication protocol
- Familiarity with Fault Detection, Isolation and Recovery (FDIR) techniques and systems' architecture
- Experience from participating in national and international research projects with partners from academia and industry is also an advantage
- Career distinctions

The successful applicant would have to work autonomously and be an excellent team player.



CONDITIONS

A full-time, fixed term contract is offered, in total duration of 36 months. The starting date is January 2021. The rank and salary will be determined according to qualifications and work experience. The salary will be in the range between 30.000 and 45.000 euro (gross per year).

Applications should include:

- Full CV, including a list of publications.
- Cover letter stating the motivation and suitability of the candidate.

The application documents shall be sent in pdf format to info@sealaeronautica.com, with 'RP-AGNC_Surname-of-the-applicant' in a subject of the email.

SEALA seeks to increase the number of women in those areas where they are underrepresented and therefore explicitly encourages women to apply. SEALA is committed to increasing the number of individuals with disabilities in its workforce and therefore encourages applications from such qualified individuals. SEALA is committed to implement to the maximum possible extent a "Commission Recommendation of 11 March 2005 on the European Charter for Researchers and on a Code of Conduct for the Recruitment of Researchers".