PhD position (FPI 2017)
Advanced dynamic models and formulations for the computational simulation of fishing gears

The Mechanical Engineering Laboratory at University of A Coruña (Spain) offers a PhD position (FPI 2017) within the framework of the research project “Advanced dynamic models and formulations for the computational simulation of fishing gears”, led by Manuel González and financed by the Spanish Ministry of Economy, Industry and Competitiveness.

Eligibility and qualifications
- Master of Engineering or Science degree (or at least 60 ECTS credits completed before Sep 2017). Preferably in computational solid mechanics, industrial mathematics, mathematical modelling and simulation in engineering, or related areas.
- At least 300 ECTS credits are required between the undergraduate degree and the master degree. Degrees issued by a foreign university shall provide access to doctoral studies in that country.
- Proven track record of academic excellence.
- Experience in numerical methods, solid mechanics and programming.
- No restrictions of citizenship apply to this position.

Terms of employment
Salary: about gross € 1370 (net € 1150) per month, established by the Ministry of Economy.

Duration:
- PhD position: 4 years. Estimated starting date: April 2018.

Location:
- Esteiro University Campus, Ferrol, Spain.
- Short stays (3 months) in European research centres.

Tasks:
- Research: theoretical development and computer implementation of computational methods for the numerical simulation of fishing gears. Validation with experimental tests. Dissemination of results in peer-reviewed journals and international conferences.
- Research training (optional, in Spanish): attend to courses on research methodology and techniques for PhD students at University of A Coruña.
- Teaching (optional): up to 60 teaching hours per year.
Research group

The Mechanical Engineering Laboratory at University of A Coruña is specialized in multibody system dynamics and its applications in various fields: automotive, biomechanics, maritime and machinery. More information in:


Research project

Fishing industry is facing the recent EU discard ban (landing obligation), a challenge which will motivate a major modernization of the fishing gears. The application of computer simulation to the design and optimization of fishing gears is a new field, but it has great potential to speed up and reduce the development of new designs in line with the current needs of the sector.

In 2009 our group started a research line on this subject, and since then we have made important contributions that include several publications and patents.

The project has the support of two private companies -one of them Norwegian- and the collaboration of leading foreign researchers in this field.

The project addresses an emerging technology that will play an important role in the immediate future of fisheries technology in Spain and Europe. It offers an excellent opportunity for a PhD, since there are still many scientific challenges to be addressed: precise characterization and modelling of the mechanical behaviour of the netting material, automatic optimization of the fishing gear, simulation of rigid or flexible selective devices, effect of fluid interaction - structure, etc.

The city and the campus

Esteiro University Campus is very close to the center of Ferrol, about 1 km from the Town Hall. Ferrol is a small walkable city with 70,000 inhabitants. Accommodation is economic: a small apartment close to the campus costs 350 €/month and a room in a flat share costs about 150 €/month. The city is well connected with the airports of A Coruña (50 km), Santiago de Compostela (90 km) and Vigo (170 km).

In addition to teaching and research activities, there are various cultural and sports activities on campus. More information in:

http://campusindustrial.udc.gal/?lang=es

Application procedure and deadline

Please submit applications by e-mail at manuel.gonzalez@udc.es no later than 8 Sep 2017.

Applications must include: motivation letter, CV, degree certificates, academic qualifications, letters of recommendation (optional), abstracts of diploma and master thesis.

Candidates are urged to apply as soon as possible.

Shortlisted candidates may be appointed to a Skype interview.