Annex 1

Selection based on titles

Title of the research activity: “Prow and stern hull shape optimization by parameterized algorithms in an open source environment”

Fields of the research activity:
Research activity linked to the advanced parametrization and optimization of hull shapes or parts of it through the development of advanced numerical methods which will be tested with fluid dynamics solvers and relevant efficiency indexes.

Scientific Area of SISSA: Mathematics

Company: Fincantieri S.p.A.

Places where the research activity shall be carried out: SISSA, via Bonomea 265, Trieste and Direzione Navi Mercantili di Fincantieri S.p.A., Passeggio Sant’Andrea 6/a, Trieste

Smart specialisation strategy areas (S3) of Friuli Venezia Giulia and their development trajectories: Maritime Technologies: Methodologies for the design and development of new products, processes and services

AREA: Area 01 – Mathematics and information technology sciences
Competition sector: 01/A5 Numerical analysis
Relevant academic scientific sector: MAT/08 Numerical analysis

Scientific tutor: Prof. Gianluigi Rozza
Company tutor: Dr. Gianluca Gustin

Duration of the research fellowship: 12 months

Foreseen starting date of the activity: 01.04.2017

Gross annual fellowship: € 24.336

Requisites:

Degree in Mechanical, Aerospace, Aeronautical, Mathematical, Civil, Nuclear Engineering, Mathematics, Physics, Information technology.
Experience in numerical and mathematical modelling for fluid dynamics, simulation of complex systems and scientific calculus in Multiphysics, numerical fluid dynamics, parametrization and optimization, computational complexity reduction methods, advanced programming, usage of open-source libraries.

A PhD in Applied Mathematics or Engineering will be considered as an asset.

Gross total cost of the research fellowship € 29.690,00: shall be funded by project HEaD – HIGHER EDUCATION AND DEVELOPMENT SISSA OPERATION 2 (FP1619889003), approved with decree of the autonomous region Friuli Venezia Giulia n. 2242 dated 11.04.2016 for the exclusive scope of the project funding the research fellowship.
Evaluation criteria:

PhD (evaluated as an asset): max 8 points

Degree: max 6 points

Published works and other research products: max 20 points

Other postgraduate degrees: 6 points

Other titles: max 20 points