Annex 1

Project HEaD – Higher Education and Development
OPERATION 1

Position 1

Scientific Area of SISSA: Mathematics

Smart specialisation strategy areas (S3) of Friuli Venezia Giulia and their development trajectories:
Strategic production chains, industry engineering: technologies for the numerical modelling of processes and
products and/or methods and technologies for integrated design and/or intelligent machines

Area: 01 – Mathematics and information technology sciences
Competition sector: 01/A5 Numerical analysis and 08/B2 Construction sciences
Relevant academic scientific sector: MAT/08 Numerical analysis and ICAR/08 Construction sciences

Scientific responsible: Prof. Antonio De Simone

Duration of the fellowship: 24 months

Foreseen starting date of the activity: 01/12/2016

Gross annual fellowship: € 24.336

Requisites: Degree in Mechanical, Aerospace, Aeronautical, Mathematical, Civil, Materials, Industrial
Engineering, Mathematics, Physics.
PhD in Applied Mathematics or Engineering.
Experience in numerical and mathematical modelling for materials and their interaction, simulation of complex
systems and scientific calculus in Multiphysics, for instance fluid-structure interaction. Programming.
Advanced usage of libraries for calculus and simulation.

Gross total cost of the research fellowship € 59.441: shall be funded by project HEaD – HIGHER EDUCATION
AND DEVELOPMENT SISSA OPERATION 1 (FP1619889002), 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: max 10 points

University degree: max 5 points

Published works and other research products: max 25 points

Other postgraduate degrees: max 5 points

Other titles: max 15 points

Research project: max 40 points

**Posizione 2**

Scientific Area of SISSA: Mathematics

Smart specialisation strategy areas (S3) of Friuli Venezia Giulia and their development trajectories:
Strategic production chains, industry engineering: technologies for the numerical modelling of processes and products and/or methods and technologies for integrated design and/or intelligent machines

Area: 01 – Mathematics and information technology sciences
Competition sector: 01/A5 Numerical analysis and 08/B2 Construction sciences
Relevant academic scientific sector: MAT/08 Numerical analysis and ICAR/08 Construction sciences

Scientific responsible: Prof. Gianluigi Rozza

Duration of the fellowship: 24 months

Foreseen starting date of the activity: 01/12/2016

Gross annual fellowship: € 24.336

Requisites: Degree in Mechanical, Aerospace, Aeronautical, Mathematical, Civil, Nuclear Engineering, Mathematics, Physics.
PhD in Applied Mathematics or Engineering.
Experience in numerical and mathematical modelling for fluid dynamics, simulation of complex systems and scientific calculus in Multiphysics, fluid-structure interaction, numerical fluid dynamics, controlling, parametrization and optimization, computational complexity reduction methods. Advanced programming. Usage of open-source libraries for finite volumes.
Gross total cost of the research fellowship € 59,441: shall be funded by project HEaD – HIGHER EDUCATION AND DEVELOPMENT SISSA OPERATION 1 (FP1619889002), 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: max 10 points

University degree: max 5 points

Published works and other research products: max 25 points

Other postgraduate degrees: max 5 points

Other titles: max 15 points

Research project: max 40 points

**Position 3**

Scientific Area of SISSA: Physics

Smart specialisation strategy areas (S3) of Friuli Venezia Giulia and their development trajectories: Agri-Food: The application of industrial design techniques to the food sector (food-design combination), in particular the sustainable design (eco-design) and the so-called “food design”.

Area: 02 – PHYSICAL SCIENCES
Competition sector: 02/B2 Theoretical physics of matter
Relevant academic scientific sector: FIS/03 Physics of matter

Scientific responsible: Prof. Stefano Baroni

Duration of the fellowship: 22 months

Foreseen starting date of the activity: 01/01/2017

Gross annual fellowship: € 26,547,60

Requisites: degree in Physics, Chemistry or similar subjects or equivalent title obtained abroad;
PhD in Physics, Chemistry or similar subjects or equivalent title obtained abroad

Specific experience in numerical simulation of matter, particularly but not necessarily limited to first principles molecular dynamics techniques.
Excellent knowledge of English.

Gross total cost of the research fellowship € 59,440: shall be funded by project HEaD – HIGHER EDUCATION AND DEVELOPMENT SISSA OPERATION 1 (FP1619889002), 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: max 10 points
University degree: max 5 points
Published works and other research products: max 20 points
Other postgraduate degrees: max 5 points
Other titles: max 5 points
Research project: max 25 points
Interview: max 30 points