Giovanni Stabile

Curriculum Vitae

Date of Birth: 03 October 1987
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giovanni.stabile87@gmail.com

Experience

Vocational

Apr 2013-May 2016 **PhD Candidate**, Centre for Scientific Computing, University of Braunschweig - Germany.

Detailed activities:
- Research activity on offshore platforms
- Participation to lectures and seminars
- CFD simulation of slender structures for offshore applications (Mooring lines, Risers)
- Development of a Fluid Structure Interaction Solver: Coupling of a structural finite element solver (FEAP) with a computational fluid dynamic solver (OpenFOAM)
- System and Parameter identification in a Deterministic and Probabilistic setting
- Model Reduction

Nov 2012-May 2016 **PhD Candidate**, Dep. of Civil and Env. Engineering, University of Florence.

Detailed activities:
- Research activity on offshore wind turbines
- Participation to lectures and seminars
- Tutoring of students for university courses (Computational Mechanics)

Sep 2011-Mar 2012 **Trainee**, Niemann und Partner Ingenieurgesellschaft, Bochum - Germany.

Detailed activities:
- Experimental activities consisting in wind tunnel tests
- Computational analysis with Ansys and Infograph
- Design of wind tunnel models through rapid prototyping using Solidworks
- Routines programming with Matlab
- Design of structures

Oct 2008-Dec 2008 **Trainee**, Engineering Office Bertagni e Baragli, Forence.

Detailed activities:
- Metric surveys
- CAD technical drawing with Autocad

Miscellaneous

Oct 2005-Dec 2009 **Lecturer**, Russel-Newton Institute, Scandicci - Florence.

Detailed activities:
- Presentation of the engineering faculty of Florence to high school students

Oct 2008-Dec 2008 **Attendant**, Warner Village cinemas, Florence.

Detailed activities:
- Bartender
- Cash desk Supervisor
- Usherette

Apr 2011-Dec 2012 **Volunteer**, Civil Protection Humanitas, Scandicci - Florence.

Detailed activities:
- Public Events Organization

Education

Nov 2012-May 2016 **Joint PhD Degree in Civil and Environmental Engineering**, *DICEA/Institute of Scientific Computing*, University of Florence/Technical University Braunschweig (Germany).

Sep 2013-Jun 2014 **Post-Graduate course: "Workplace Safety Management"**, *Dep. of Civil and Environmental Engineering*, University of Florence.
Certificate of "Health and safety Manager" (Italian RSPP)
Certificate of "Safety coordinator" (Italian CSE and CSP)

Apr 2010-Jul 2012 **Masters Degree in Structural Civil Engineering**, *University of Florence*, Florence, *Final Degree Mark 110/110 with honours*.

Sep 2006-Apr 2010 **Bachelor Degree in Civil Engineering**, *University of Florence*, Florence, *Final Degree Mark 109/110*.

Sep 2001-Jul 2006 **Senior High school specializing in science education**, *Technical and Scientific State Secondary School Russel-Newton*, Scandicci - Florence, *100-100*.

Computer skills

Basic Adobe Photoshop, SolidWorks.

Intermediate C ++, FORTRAN, Ansys (Mechanical ADPL, AQWA, Fluent, Designmodeler), LaTeX.

Advanced Matlab, Microsoft Office, Linux, Microsoft Windows, FEAP, OpenFOAM, SAP 2000, Autocad

Languages

Italian **Mothertongue**

English **Advanced - C1** *TOEFL IBT - score 98*

German **Upper-Intermediate - B2** *I lived for more than two years in Germany*

Interests

- Waterpolo
- Reading
- Cycling
- Guitar

Thesis

Title ***PhD Thesis - A Reduced Order Model for the Dynamic Simulation of Long Flexible Cylinders in an Offshore Environment: A System and Parameter Identification Approach.***

Supervisors Prof. C. Borri & Prof. H. G. Matthies

Description Work conducted at DICEA of the University of Florence and at the Institute of Scientific Computing of the University of Braunschweig and focused on the development of a reduced order model for the dynamic simulation of long flexible cylinders in an offshore environment (Risers and Mooring Lines). An high fidelity fluid structure interaction solver has been developed and used to understand which are the main physical aspects of the problem and to study locally which are the hydrodynamic forces acting on the cable. The high fidelity model has been developed coupling a CFD solver (OpenFOAM) with a FEM solver (FEAP). The results of this solver are used to create a ROM suitable for design purposes and for long term simulations.

Title ***Master Thesis - Wind effects on circular membrane roof structures***.

Supervisors Prof. C. Borri & Prof. G. Bartoli & Prof. Prof. H. J. Niemann

Description Master Thesis - Work mainly prepared under the supervision of Prof. Niemann from the Ruhr University of Bochum (Germany). The thesis is focused on the evaluation of the aerodynamic forces acting on a flexible membrane structure. During the thesis I have been involved in experimental activities inside a Boundary Layer wind tunnel and I analysed the response of the structure using a finite element solver (Ansys)

Title ***Bachelor Thesis - Study of stability of a clay slope and retaining wall design***.

Supervisor Prof. A. Ghinelli

Description Thesis focused on the stability analysis of a clay slope located in Tuscany and on the design of the retaining wall. The clay slope has been modelled using the general limit equilibrium method.

Publications and Presentations

2016 **Reduced order modelling of vortex-induced vibrations for long slender structures in an offshore environment**. Presentation at the **87th GAMM** meeting, the 87th meeting of the international association of applied mathematics and mechanics organized in Braunschweig.

2015 **A numerical approach to the dynamic analysis of mooring lines**. Presentation at the **86th GAMM** meeting, the 86th meeting of the international association of applied mathematics and mechanics organized in Lecce.

2015 **A reduced order model for the simulation of mooring cable dynamics**. In: Proceedings of the 6th International Conference on Computational Methods in Marine Engineering, **MARINE2015**, Rome, F. Salvatore, R. Broglia and R. Muscari, pp. 389-400

2015 **A Reduced order model for long flexible cylinders in offshore environment**. Presentation at **SCACR 2015** the International Short Course and Conference on Applied Coastal Research organized in Florence.

2015 **A numerical approach to dynamic analysis of marine cables** - Presentation at **AIMETA 2015** the biannual meeting of the Italian Society of Theoretical and Applied Mechanics organized in Genoa.

2015 **Dynamic Modelling of Mooring Lines Using a FSI Solver Based on OpenFOAM** - Presentation at **NOFUN 2015** - the 3rd Northern Germany User Meeting, organized by the institute of computing science of the TU Braunschweig.

2014 **Coupled dynamic simulations of offshore wind turbines using linear, weakly and fully nonlinear wave models: the limitations of the second-order wave theory** - In: 9th International Conference on Structural Dynamics, **EURODYN 2014**, pp. 1-8.

2014 **Fluid Structure Interaction with OpenFOAM using the Component Template Library** - Presentation at **NOFUN 2014**, the 2nd Northern Germany User Meeting, organized by the institute of computing science of the TU Braunschweig.

2014 **Coupled dynamic simulations of offshore wind turbines: influence of wave modeling on the fatigue load assessment**. In: XIII Conference of the Italian Association for Wind Engineering - **InVento 2014**, Carassale, Luigi; Repetto, Maria Pia, pp. 1-4.

2013 **A comparative study about the effects of linear, weakly and fully nonlinear wave models on the dynamic response of offshore wind turbines**. In: Research and Applications in Structural Engineering, Mechanics and Computation, **SEMC 2013**, Cape Town, 1-4/9/2013, Alphose Zingoni.

Training Courses

2014 **OpenFOAM Introduction (16 hours)** - at Centre for Scientific Computing, TU Braunschweig

2014 **OpenFOAM advanced (16 hours)** - at Centre for Scientific Computing, TU Braunschweig

Grants

2015 Research Grant for Doctoral Candidates and Young Academics and Scientists - DAAD German Academic Exchange Service

2015 Short Term Research Grant - DAAD German Academic Exchange Service

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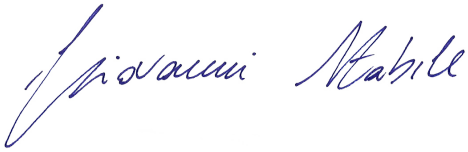
Florence, 3rd June 2016



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