PERSONAL INFORMATION

Francesco Mauro

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Sex M | Date of birth 01/01/1986 | Nationality Italian

WORK EXPERIENCE

From 06/2017
From 12/2015 to 11/2016

Research Fellow

University of Trieste, Department of Engineering and Architecture, 10, Via Valerio, Trieste, 34127, Italy

- Development of thrust allocation algorithms for dynamic positioning, study on thrusters-thrusters interaction.
- Development of new analysis techniques of extreme loads in severe sea state conditions.
- Integrations between station keeping and seakeeping predictions.
- Use of computational fluid dynamics CFD for hull form optimisation and environmental loads determination on floating bodies.
- Development of hydrodynamic metamodels for ship conceptual design stage.
- Supervisor and co-supervisor of master thesis in naval architecture.
- Reviewer for the scientific journal Ocean Engineering.
- Professor of 'Offshore ships hydrodynamics' for the academic years 2015/2016 and 2016/2017 at University of Trieste.

Sector Naval Architecture, Ship's Hydrodynamics, Offshore

From 08/2014 to 12/2015

Free-lance Consultant

- Assessment of propulsive and seakeeping performances of new designed vessels.
- Consultancy on preparation and execution of towing tank and seakeeping experiments and critical analysis on the obtained results.
- Development of dynamic positioning prediction programs.
- PhD fellow at University of Rijeka on topics related to Hydrodynamic Aspects involved in Dynamic Positioning.

Sector Naval Architecture, Ship's Hydrodynamics, Offshore

From 04/2011 to 05/2014

Project Manager

Maritime Research Institute of the Netherlands (MARIN), Ship department, 2, Haagsteeg, 6708PM, Wageningen, The Netherlands. www.marin.nl

- Responsible for the powering aspects of the running projects, from the preliminary power predictions, hull form optimisation, CFD calculations and appendages alignment to the design and the analysis of the tank experiments.
- internal research projects regarding the benchmarking of self propulsion CFD calculations with model test results, model-full scale extrapolation procedures
- Contribution to European projects and cooperative research projects on design for service conditions including Diesel Engine simulations and determination of added resistance in waves.

Sector Naval Architecture, Ship's Hydrodynamics

From 05/2010 to 12/2010

Software Engineer

Altran Italia (www.altran.it), in collaboration with Selex Galileo Avionica (now Leonardo part of Finmeccanica group), 21 Via Mario Stoppani, 34077, Ronchi dei Legionari (Go), Italy.

- Development of navigation models for different military aircraft types.
- Development of graphical interfaces to test the developed models.

Sector Aeronautical modelling, mechanics of flight

EDUCATION AND TRAINING

From 2007 to 10/12/2009

Master Degree in Naval Architecture

Title

University of Trieste, Department of Engineering and Architecture, 10, Via Valerio, Trieste, 34127, Italy

Development of a Procedure for DP System's Dimensioning in an early Design Stage

Abstract

Offshore vessels are now operating in geographic areas with stronger environmental conditions and higher depths. To reducing problems related with position keeping, the recently new build vessels are equipped with dynamic positioning (DP) systems, based on fixed and steerable thrusters. The proper selection of positioning system in the early design stage, leads to the challenge of new hydrodynamic problems as, for example, the optimum thrusters location and the loss of efficiency due both to mutual interaction and interaction with hull's appendages.
Here, an exhaustive and detailed hydrodynamic analysis of thrusters interaction has been carried out to assure proper system's dimensioning, according to the main classification register's rules. The procedure has been implemented in a software package and the results satisfactorily agree with available model scale experiments.

Sector Offshore, Ship's Hydrodynamics

From 06/2009 to 10/2009

Internship

University of Trieste, Department of Engineering and Architecture, 10, Via Valerio, Trieste, 34127, Italy

- Study on Environmental Loads on Ships and statistical analysis on Blendermann wind coefficients under the guidance of prof. Radoslav Nabergoj .

Sector Offshore

From 2004 to 2007

Bachelor Degree in Naval Architecture

University of Trieste, Department of Engineering and Architecture, 10, Via Valerio, Trieste, 34127, Italy

Experimental Investigation of artificial cavity variation on a high Cb hull

Sector Towing Experiments, ACS ships

From 06/2007 to 10/2007

Internship

University of Trieste, Department of Engineering and Architecture, 10, Via Valerio, Trieste, 34127, Italy

- Execution of Towing Tank Experiments on a high Cb Air Cavity Ship model under the guidance of prof.Ing Igor Zotti .

Sector Towing Experiments

TEACHING EXPERIENCE

2015/2016 – 2016/2017

Offshore Ships hydrodynamics

Holding the course at the 2nd year of the Master Degree in Naval Architecture and Marine Engineering at the University of Trieste, Department of Engineering and Architecture, 10, Via Valerio, Trieste, 34127, Italy

Sector Offshore, Ship's Hydrodynamics

2015

Offshore

Holding the course at the Master program NAVTEC at University of Messina, Italy

Sector Offshore

2015

Towing tank experiments and Ship design

Holding the course at the Master program NAVTEC at University of Messina, Italy

Sector Towing Experiments, Ship Design

PERSONAL SKILLS

Mother tongue: Italian

Other language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	B2	C1	B2	B2	B2
German	B2	B2	B1	B1	B1
Dutch	B1	B1	B1	B1	B1
French	B1	B1	A2	A2	A1

Levels: A1/A2: Basic user - B1/B2: Independent user - C1/C2 Proficient user
Common European Framework of Reference for Languages

Digital competence

SELF-ASSESSMENT				
Information processing	Communication	Content creation	Safety	Problem solving
Proficient user	Independent user	Proficient user	Independent user	Proficient user

Levels: Basic user - Independent user - Proficient user
Digital competences - Self-assessment grid

- Good knowledge of Windows and Macintosh operating systems and related software applications
- Good knowledge of the following programming languages:
  - FORTRAN 77
  - FORTRAN 90
  - C
  - C++
  - VISUAL C++
  - VISUAL BASIC

- Good knowledge of the following scripting languages:
  - PYTHON
  - MATLAB

- Good knowledge of the following CFD tools:
  - STAR CCM+
  - ANSYS CFX
  - OPENFOAM

- Good knowledge of the following CAD and 3D modeller:
  - AUTOCAD
  - MICROSTATION
  - RINOCHEROS

- Good knowledge of the following programs for hull modelling:
  - AVEVA VANTAGE MARINE
  - MAXSURF
  - DELFTSHIP
  - FREESHIP
  -

Driving licence: B

ADDITIONAL INFORMATION

Publications:

- Mauro, F. & Nabergoj, R. ***An enhanced method for extreme loads analysis***. Brodogradnja, Vol. 68, Num. 2, pp. 79-92, 2017.
- Mauro, F. & Nabergoj, R. ***Determination of non-linear roll damping coefficients from model decay-test***. In proceeding of 23rd International Conference Engineering Mechanics 2017, Svratka, Czech Republic, 2017.
- Mauro, F., Cerni, P. & Nabergoj, R. ***RANS Calculations on Submerged Bodies***. In proceeding of 23rd International Conference Engineering Mechanics 2017, Svratka, Czech Republic, 2017.
- Bucci, V., Marino', A., Mauro, F., Sandron, C. & Mattiazzo, G. ***Redesign of a wave energy converter in ferrocement***. In proceeding of 23rd International Conference Engineering Mechanics 2017, Svratka, Czech Republic, 2017.
- Bucci, V., Mauro, F., Marino', A., Bosich, D., Vicenzutti, A. & Sulligoi, G., ***Integrated design of a hybrid-electric power system for coastal navigation multipurpose crafts***. in Proceddings of 12th International Conference on Ecological Vehicles and renewable Energies EVER, 2017.
- Mauro, F. & Nabergoj, R. ***Advantages and disadvantages of thrusters allocation procedures in preliminary dynamic positioning predictions***. Ocean Engineering 123 (2016), pp 96-102, 2016.
- Mauro, F. & Nabergoj, R. ***Analysis of extreme loads with generalised Pareto distributions***. Proceedings of XII symposium Sorta, Trogir (Croatia), pp 175-184, 2016.
- Mauro, F., Cerni, P., Zotti, I. & Bucci, V. ***Numerical estimation of bare hull resistance on a sailing yacht***. Proceedings of XII symposium Sorta, Trogir (Croatia), pp 91-102, 2016.
- Bucci, V., Marinò, A., Mauro, F. & Nasso, C. ***Evacuation analysis for passenger ships: a new mandatory step for the early stage design***. Proceedings of XII symposium Sorta, Trogir (Croatia), pp 523-532, 2016.
- Bucci, V., Marinò, A. & Mauro, F. ***Quasi-steady determination of dynamic forces acting on tug during escort operations***. Maritime Technology and Engineering 3, pp 621-626, 2016.
- Bucci, V., Mauro, F. & Marinò, A. ***A new concept design solution for pleasure sailing yachts***. Maritime Technology and Engineering 3, pp 627-634, 2016.
- Bucci, V., Mauro, F., Marinò, A., Bosich, D. & Sulligoi, G. ***An innovative hybrid-electric small passenger craft for sustainable mobility in the Venice Lagoon***. International Symposium on Power Electronics, Electrical Drives, Automation and Motion, pp 1388-1395.
- Bucci,V., Marinò, A., Mauro, F., Nabergoj, R. & Nasso, C. ***On advanced ship evacuation analysis***. XXII International Conference Engineering Mechanics 2016, Svratka (Czech Republic), pp 105-112.
- Mauro, F. & Nabergoj, R. ***Extreme values calculation of multi-modal peak distributions***. XXII International Conference Engineering Mechanics 2016, Svratka (Czech Republic), pp 409-412.
- Bucci, V., Mauro, F. & Marinò, A. ***Performance prediction of a slender half-displacement passenger craft for inland navigation***. Annals of 'Dunarea de Jos' university of Galati, XI, pp 141-152, 2015.
- Mauro, F. & Nabergoj, R. ***Integrated station-keeping and seakeeping predictions***. XVI international congress of the International Maritime Association of the Mediterranean (IMAM 2015), Pula (Croatia), pp 127-134, 2015.
- Mauro, F. & Nabergoj, R. ***Smart thrust allocation procedures in early design stage dynamic positioning predictions***. XVIII International conference on Ships and shipping Research, NAV 2015, Lecco (Italy), pp 1011-1019.
- Dang, J., Chen, D., Dong, G., Ploeg, van der A., Hallmann, R. & Mauro, F. ***An Exploratory study on the working principle of energy saving devices (ESDs)***. Symposium on Green Ship Technology (Greenship 2011), Wuxi (China), 2011.

Supervisor of the following master thesis:

- Gaudiano, F. ***Developement of a time domain dynamic positioning simulation program,*** University of Trieste, academic year 2016/2017.
- Monacolli, M. ***A computational method for hydrodynamic loads estimation on stingers*** University of Trieste, academic year 2015/2016.
- Duranti, E. ***Development of new methods to evaluate energy demand of a supply vessel acting in ECA zones*** (in Italian), University of Trieste, academic year 2015/2016.
- Cerni, P. ***Numerical evaluation of the appendages impact on total resistance for a 54 ft sailing yacht***. (in Italian), University of Trieste, academic year 2015/2016.

Co-supervisor of the following master thesis:

- Lisci, D. ***Feed of a multipurpose passenger craft for coastal navigation*** (in Italian), University of Trieste, academic year 2015/2016.
- Spagnuolo, N. STV ***Hydrodynamic assessment of a trimaran ship.*** (in Italian), University of Trieste, academic year 2014/2015.
- Siragusa, E. G. ***Study for a fast supply vessel operating in the Mozambique area***. (in Italian), University of Trieste, academic year 2014/2015.
- Feruglio, M. ***Innovative solutions for the concept design of a sailing yacht***. (in Italian) University of Trieste, academic year 2014/2015.
  Gobbato, T. ***Study for a low emission small passenger craft operating in the Venice lagoon***. (in Italian) University of Trieste, academic year 2014/2015.

- **Autorizzo il trattamento dei miei dati personali ai sensi del Dlgs 196 del 30 giugno 2003;**