



## Cesare Mario Rizzo

Associate professor

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### *Education and training*

2004

**PhD**

University of Genova - Genova - IT

### *Academic experience*

2004 - 2014

**Ricercatore Universitario**

Università degli Studi di Genova - Genova - IT

2014 - ONGOING

**Professore Associato**

Università degli Studi di Genova - Genova

### *Language skills*

**English**

Proficient

**German**

Basic

### *Teaching activity*

Since many years 3 modules (180 ECTS) plus a PhD course offered every 2nd year. See [www.unige.it](http://www.unige.it) staff member page.

### *Postgraduate research and teaching activity*

**Supervision of PhD students, residents and post-doctoral fellows**

See relevant information on official web sites.

**PhD committees membership**

See relevant information on official web sites.

**Postgraduate (PhD) teaching activity**

One PhD course on Fatigue of structures every 2nd year.

## **Research interests**

Naval architecture and marine engineering in general, ship and offshore structures including pleasure crafts, shipping rules and regulations, condition assessment and maintenance of ships and marine structures with focus on fatigue and fracture of welded structures, structural analysis, experimental testing and sea trials.

Research activities related mainly to ship structures, shipbuilding and marine technology, documented by several publications as well as research reports in the framework of national and international projects funded by: Italian Government, European Union, private organizations, shipyards, engineering companies, etc. Focus is on analytical, numerical and experimental analysis of ship structures, condition assessment of ageing structures and maintenance, ship management, rules and regulations development. Large efforts are devoted to the management of experimental testing and sea trials at the Marine Structures Testing Lab of the University of Genova.

Teaching activities in the framework of BSc, MSc and PhD courses in 'Naval Architecture and Marine Engineering' and in 'Yacht Design' of the University of Genova, supervision of BSc, MSc and PhD candidates (>150 educated students under direct supervision). Appointed professor for the shipbuilding courses at the Italian Naval Academy, Livorno, since the academic year 2010/11. Erasmus contact point for the Universities of Hamburg (DE), Cranfield, Southampton (UK), Zagreb (HR). Contact point for academic cooperation with Flinders University, Adelaide (Australia) and promoter of agreement with Osaka University (Japan). Department delegated person for International activities. Member of the Naval Architecture and Marine Engineering PhD steering committee since 2004. In addition, courses for graduated people organized by companies and other universities.

## **Grants**

**2018 - ONGOING**

### **EU Horizon 2020 Robotic Technology for Inspection of Ships (ROBINS)**

European Union

403750 - Principal investigator

The ROBINS project aims at filling the technology and regulatory gaps that today still represent a barrier to the adoption of Robotics and Autonomous Systems (RAS) in activities related to inspection of ships, starting from understanding end user's actual needs and expectations and analyzing how existing or near-future technology can meet them.

#### **Robotics technology:**

- Improve the ability of RAS in sensing and probing;
- Improve capabilities in navigation and localization in confined spaces, access to and mobility within the environment;
- Improve safety and dependability of RAS in hazardous, harsh and

- dirty environments;
- Provide new tools for image and data processing (3D models, VR/AR environments);
- Provide the same level of information as obtained by direct human observation for the assessment of inspected structures.

#### **Rules and Regulations:**

- Provide a framework for the assessment of equivalence between the outcomes of RAS-assisted inspections and traditional inspection procedures;
- Define criteria, testing procedures and metrics for the evaluation of RAS performance;
- Design, implement and assess a testing environment where repeatable tests and measurements of RAS performance can be carried out;
- Improve confidence in technology capabilities by means of test campaigns to be performed both in the testing facilities and onboard.

#### **Expected impact**

- **Wide scale adoption of RAS technology in marine industry**
- **Improved safety in ship surveys**
- **Economic advantages**
- new supply chain and new potential markets particularly beneficial for SMEs;
- new services and products for data processing and knowledge management;
- reduction of costs related to inspection activities;
- improvement in the quality and variety of inspection services;
- new certification schemes for equipment, operators and procedures.

### ***Editorial activity***

Editorial board member of three international reputed journals

### ***Assignments abroad***

Fellowships in Germany and Japan

### ***Other professional activities***

Testing and trials in the Marine Structures Testing Lab (see relevant web site) and consultancy for several shipyards and companies like Fincantieri CNI S.p.A., CETENA S.p.A., Oto Melara (ora divisione di Leonardo S.p.A.), Azimut-Benetti S.p.A., Perini Navi S.p.A., RINA Registro Italiano Navale (ora RINA Services S.p.A.), American Bureau of Shipping (Corporate), Fisia Italmobiliari, Cranfield University (UK), Marina Militare Italiana, Armare Ropes, Consorzio Venezia Nuova (Progetto MOSE), Active Innovation Management, Marinoni S.p.A., IIS Service srl, IIS Progress srl, Steelyacht srl, and others.