

*Laboratorio di monitoraggio e modellistica ambientale per lo sviluppo sostenibile*  
(L.R. n. 39 del 17 luglio 2009)

## **DECRETO**

**n. 113 del 07/11/2018**

Rimborso spese di viaggio, vitto e alloggio del Prof. Gabriele Bulian per seminario  
"Ship dynamics in the framework of safety of navigation"

## L'AMMINISTRATORE UNICO

- Vista la Legge Regionale Toscana n. 39 del 17 luglio 2009 e s.m.i. recante la nuova disciplina del Consorzio LAMMA;
- Vista la Legge Regionale Toscana n. 87/2016 recante l'attribuzione di nuove funzioni istituzionali al Consorzio LaMMA
- Vista la Convenzione e lo Statuto del Consorzio LAMMA approvati con Delibera del Consiglio regionale n. 48/2018
- Visto il verbale dell'Assemblea dei Soci del 26/06/2018 e il Decreto P. G. R. n°. 108 del 20.06.2018 relativi alla nomina in qualità di Amministratore Unico del LaMMA del Dott. Bernardo Gozzini;
- Visto il Progetto PROFUMO Demonstrator Preliminary assessment of Route Optimisation for FUel Minimisation and safety of navigation;

Considerato che PROFUMO Demonstrator è un progetto finalizzato alla realizzazione e dimostrazione di servizi di routing operativi per la comunità marittima mediterranea, in dipendenza dalle condizioni meteomarine esistenti e previste, per il risparmio di carburante, la prevenzione dei danni da condizioni ambientali avverse, la sicurezza di persone e merci, il comfort dei passeggeri

Considerata l'utilità per le attività da porre in essere nell'ambito del suddetto progetto di tenere nelle giornate del 10 e 11 dicembre 2018 un seminario dal tema Ship dynamics in the framework of safety of navigation;

Appurata la competenza e professionalità del Prof. Gabriele Bulian dell'Università di Trieste, esperto nelle seguenti tematiche: Architettura navale, Stabilità della nave, Sicurezza operativa della navigazione, Effetti della modellazione non lineare sui moti nave, Dinamica non lineare, Processi stocastici, Analisi d'incertezza;

Ritenuto di individuare il suddetto Professore quale relatore del suddetto seminario e, conseguentemente, ritenuto di sostenerne le spese di viaggio, vitto e alloggio;

### D E C R E T A

1. di approvare, per le ragioni riportate in premessa che qui si intendono integralmente trascritte, il rimborso delle spese di viaggio, vitto e alloggio al Prof. Gabriele Bulian che terrà il seminario Ship dynamics in the framework of safety of navigation che si terrà nella sede dell'Ente in Sesto Fiorentino nelle giornate del 10 e 11 dicembre 2018;
2. di provvedere a tutti gli atti necessari e conseguenti al presente decreto.

L'Amministratore Unico  
Dott. Bernardo Gozzini

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## 1) Personal information

*Surname:* Bulian

*Name:* Gabriele

*E-Mail:* [gbulian@units.it](mailto:gbulian@units.it)

*Phone (office UNITS):* +39-040-5583444

*Fax (office UNITS):* +39-040-5583443

*Scopus profile:* <https://www.scopus.com/authid/detail.uri?authorId=55907114200>

*Google Scholar profile:* <https://scholar.google.com/citations?user=ycvLo8oAAAAJ>

## 2) Professional information

*Title:* Naval Architect (Ingegnere Navale), Dott. Ing., Ph.D.

*Professional qualification:* Qualified as Engineer (II session, year 2003) with registration to “albo dell’Ordine degli Ingegneri” of Trieste since 9 March 2004 (Section A – Sectors: “civile e ambientale, industriale, dell’informazione”)

## 3) Current position

- Associate Professor (Ricercatore Confermato) at the Department of Engineering and Architecture, University of Trieste. Scientific Sector (SSD – “Settore Scientifico Disciplinare”): ING-IND/01 – Naval Architecture (Architettura Navale). Since 01 November 2018.

## 4) Italian National Scientific Qualification

- Qualified as associate professor (“professore universitario di II fascia”) in scientific sector (“settore concorsuale”): 09/A1 – Aeronautical and aerospace engineering and naval architecture (“Ingegneria Aeronautica, Aereospaziale e Navale”). Validity period: 03 February 2014 – 03 February 2020 (Career progression from Assistant Professor to Associate Professor: 01 November 2018).

## 5) Previous positions

- PhD candidate, Department of Naval Architecture, Ocean and Environmental Engineering, January 2003 – December 2005.

- Research Fellow at the Department of Naval Architecture and Ocean Engineering, Osaka University, Osaka, Japan, under the financial support of an 11 months (December 2005 - November 2006) post-doc scholarship (PE05052) from the Japan Society for the Promotion of Science (JSPS).

- Assistant Professor (Ricercatore confermato) at the Department of Engineering and Architecture, University of Trieste. Scientific Sector (SSD – “Settore Scientifico Disciplinare”): ING-IND/01 – Naval Architecture (Architettura Navale). Period: 15 December 2006 - 31 October 2018.

## 6) Graduation and PhD

- Graduated in Naval Architecture and Marine Engineering (Laurea in Ingegneria Navale) on 16/10/2002 at University of Trieste with final grade 110/110 cum laude. Title of thesis: *"Rollio Parametrico in Mare Regolare e Stocastico (Parametric Rolling in Regular and Irregular Sea)"*. Supervisor: Prof. A. Francescutto, Co-Supervisor: Prof. A. Cardo.

- PhD in Naval Architecture (“Dottore di Ricerca in Ingegneria Navale e Marina”), University of Trieste, 31/03/2006

- Academic Year 2005/2006. Title of the thesis: *“Development of analytical nonlinear models for parametric roll and hydrostatic restoring variations in regular and irregular waves”* (Scientific Sector “ING-IND/01 Architettura Navale” (Naval Architecture) ). Supervisor: Prof. A. Francescutto.

## 7) Attended courses

- "Stability of Ships", DCAMM Ph.D.-Course / Advanced School, held at Danish Center for Applied Mathematics and Mechanics (DCAMM), Technical University of Denmark, Lyngby, 10-18 June 2002.
- Lectures series on "Ship manoeuvring", held by Prof. K.J. Spyrou at the University of Strathclyde, Glasgow, 24-28 February 2003.
- “OPTIMISTIC – Optimization in Marine Design”, 39<sup>th</sup> WEGEMT Summer School, Technical University of Berlin, 19-23 May 2003.
- First RISC/SCIence Training School in Symbolic Computation”, 5-16 February 2007, Castle of Hagenberg, Austria, organised by the Research Institute for Symbolic Computation (RISC), Johannes Kepler University, Linz, Austria.
- OPENFOAM Training Course, Politecnico di Milano, Milano, Italy, 9 July 2008

- "SCSM - Scuola di Calcolo Scientifico con Matlab - Modulo 2: Calcolo Parallelo con MATLAB in ambiente HPC e Grid (SCSM - Scientific Calculus with Matlab - Module 2: Parallel Computing with Matlab under HPC and Grid Infrastructures)", Università degli Studi di Palermo, Italy, 5-9 September 2011
- "Analisi Dinamica con Applicazioni agli Elementi Finiti (Dynamical Analysis with Application to Finite Elements)", Consorzio TCN – Tecnologie per il Calcolo Numerico – Centro Superiore di Formazione, Bergamo, Italy, 5-7 February 2014

## 8) Attended conferences and workshops

(in the following list, participation as speaker is explicitly reported with the indication "(S)")

- 5<sup>th</sup> International Workshop on Ship Stability and Operational Safety, Trieste, 11-14 September 2001.
- International Conference on Marine Science and Technology for Environmental Sustainability (ENSUS2002), Newcastle, 16-18 December 2002.
- "Passenger Ship Safety", International Conference organized by RINA, 24-25 March 2003, with a scholarship given by BMT Limited Group.
- International Conference on Ship and Shipping Research - NAV2003, Palermo, 24-27 June 2003. (S)
- 8<sup>th</sup> International Conference on Stability of Ships and Ocean Vehicles – STAB2003, Madrid, 15-19 September 2003. (S)
- 2<sup>nd</sup> International Maritime Conference on Design for Safety, 27-30 October 2004, Sakai, Japan. (S)
- 7<sup>th</sup> International Ship Stability Workshop, 1-3 November 2004, Shanghai, China. (S)
- "High-Speed Craft: Design and Operation", International Conference organised by RINA, 17-18 November 2004, with a scholarship given by RINA.
- International RINA Conference "Fishing Vessels, Fishing Technology & Fisheries", 13-14 April 2005, Newcastle. (S)
- "SIAM Conference on Applications of Dynamical Systems" organised by the Society for Industrial and Applied Mathematics, 22-26 May 2005, Snowbird, Utah. (S)
- Spring Meeting of the Japan Society of Naval Architects and Ocean Engineers (JASNAOE), Osaka, 25-26 May 2006. (S)
- "Design & Operation of Passenger Ships", International Conference organised by RINA, 25-26 April 2007, London, UK. (S)
- IUTAM Symposium on Fluid-Structure Interaction in Ocean Engineering, Hamburg, Germany, July 23-27, 2007. (S)
- 10<sup>th</sup> International Ship Stability Workshop (ISSW2008), 23-25 March 2008, Daejeon, Republic of Korea. (S)
- Osaka Colloquium 2008, 26-29 March 2008, Osaka, Japan. (S)
- 3<sup>rd</sup> OPENFOAM Workshop, Politecnico di Milano, Milano, Italy, 10-11 July 2008
- International Workshop on Dynamic Stability Considerations in Ship Design (DSCSD Workshop), 14-15 September 2009, Hawa, Poland. (S)
- 16<sup>th</sup> International Conference of Ship and Shipping Research (NAV2009), Messina (Italy), 25-27 November 2009. (S)
- 13<sup>th</sup> International Conference On Transport Science (ICTS 2010), 27<sup>th</sup> - 28<sup>th</sup> May 2010, Portoroz, Slovenia. (S)
- 2<sup>nd</sup> International Workshop on Dynamic Stability Considerations in Ship Design, 2-3 September 2010, Windsor, London, UK. (S)
- GOALDS Workshop, 8-9 September 2010, Glasgow, UK. EU-FP7 "GOAL Based Damage Stability" project, 233876. (S)
- 12<sup>th</sup> International Ship Stability Workshop (ISSW2011), 12-15 June 2011, Washington D.C., USA. (S)
- Workshop on Parametric Resonance in Dynamical Systems, 22-26 June 2011, Longyearbyen, Svalbard, Norway - Organised by the Norwegian University of Science and Technology (NTNU). (S)
- International Workshop on Risk-based Design for Maritime Safety and Marine Environment Protection, National Maritime Research Institute (NMRI) & Nippon Kaiji Kyokai (ClassNK), 11-12 October 2011, Tokyo, Japan. (S)
- 11<sup>th</sup> International Conference on the Stability of Ships and Ocean Vehicles (STAB2012), 23-28 September 2012, Athens, Greece. (S)
- GOALDS Final Workshop, 28 September 2012, Athens, Greece. EU-FP7 "GOAL Based Damage Stability" project, 233876.
- Qualitative Theory of Nonlinear Differential Equations 2013 (QTNDE2013), Trieste, Italy, 30 January - 01 February 2013.
- First International Conference "Safety and Energy Efficiency in River Transportation for a Sustainable Development of the Peruvian Amazon Region", 17-19 July 2013, Iquitos, Peru. (S)
- 13<sup>th</sup> International Ship Stability Workshop (ISSW2013), 23-26 September 2013, Brest, Brittany, France

- First Maritime Europe Strategy Action (MESA) Workshop, “Designing Waterborne RDI Strategies”, 5 March 2014, Bruxelles, Belgium. (S)
- Seguridad para la navegación y construcción naval, Universidad Católica Santo Toribio de Mogrovejo (USAT), 9-10 May 2014, Chiclayo, Peru. (S)
- 14<sup>th</sup> International Ship Stability Workshop (ISSW2014), 29 September – 01 October 2014, Kuala Lumpur, Malaysia.
- 12<sup>th</sup> International Conference on the Stability of Ships and Ocean Vehicles (STAB2015), 14th-19th June 2015, Glasgow, Scotland, UK. (S)
- Workshop: "Level 3 of the second generation intact stability criteria and its Operational Guidance – latest developments and outlook", 21<sup>st</sup> January 2016, International Maritime Organization, London, UK. (S)
- 15<sup>th</sup> International Ship Stability Workshop (ISSW2016), 13 – 15 June 2016, Stockholm, Sweden.
- 26<sup>th</sup> European Safety and Reliability Conference (ESREL2016), 25-29 September 2016, Glasgow, Scotland, UK. (S)
  - Mini-Symposium on Ship Design, Ship Hydrodynamics & Maritime Safety, 30 September 2016, Athens, Greece.
  - 16<sup>th</sup> International Ship Stability Workshop (ISSW2017), 5 – 7 June 2017, Belgrade, Serbia.
  - 27<sup>th</sup> European Safety and Reliability Conference (ESREL2017), 18-22 September 2017, Portoroz, Slovenia.
  - Accelerating and Parallelizing MATLAB Code on HPC infrastructure, CINECA, Caselecchio di Reno, Bologna, Italy, 30 May 2018.
- 37<sup>th</sup> International Conference on Ocean, Offshore and Arctic Engineering (OMAE2018), 17-22 June 2018, Madrid, Spain. (S)
- 13<sup>th</sup> International Conference on the Stability of Ships and Ocean Vehicles (STAB2018) & 7<sup>th</sup> International Maritime Conference on Design for Safety (DfS2018), 16-21 September 2018, Kobe, Japan. (S)
- “HOListic optimisation of SHIP design and operation for life cycle (HOLISHIP)” Project - Year 2 Public Workshop, 27 September 2018, Trieste, Italy.

## 9) Attended IMO meetings and sessions

- Meeting of IMO Intersessional Correspondence Group for the revision of the Intact Ship Stability Code, Trieste, February 2004
- SLF47 (13-17 September 2004, IMO, London, UK) as "observer" (technical member) of Italian Delegation.
- MSC79 (December 2004, IMO, London, UK) as "observer" (technical member) of Italian delegation.
- Intersessional meeting of the IMO Working Group on Subdivision and Damage Stability (19-21 January 2005, IMO, London, UK) as "observer" (technical member) of Italian delegation.
- Meeting of IMO Intersessional Correspondence Group for the revision of the Intact Ship Stability Code, Szczecin, 27 February – 2 March 2005.
- SLF48 (12-16 September 2005, IMO, London, UK) as "observer" (technical member) of Italian delegation.
- Meeting of IMO Intersessional Correspondence Group on Intact Stability, Mitaka, Tokyo, 6– 8 March 2006, as member of the Japanese Delegation.
- SLF49 (24-28 July 2006, IMO, London, UK) as "observer" (technical member) of Italian delegation.
- SLF50 (30 April -4 May 2007, IMO, London, UK) as "observer" (technical member) of Italian delegation.
- SLF51 (14-18 July 2008, IMO, London, UK) as "observer" (technical member) of Italian delegation.
- Coordination meeting of the Italian SLF-IMO Group in preparation of SLF52, ("Comando Generale delle Capitanerie di Porto - Ministero dei Trasporti", Roma, Italy, 18 January 2010)
- SLF52 (25-29 January 2010, IMO, London, UK) as "observer" (technical member) of Italian delegation.
- SLF53 (10-14 January 2011, IMO, London, UK) as "adviser" (technical member) of Italian delegation.
- SLF54 (16-20 January 2012, IMO, London, UK) as "adviser" (technical member) of Italian delegation.
- SLF55 (18-22 February 2013, IMO, London, UK) as "adviser" (technical member) of Italian delegation.
- SDC1 (20-24 January 2014, IMO, London, UK) as "adviser" (technical member) of Italian delegation.
- SDC2 (16-20 February 2015, IMO, London, UK) as "adviser" (technical member) of Italian delegation.
- SDC3 (18-22 January 2016, IMO, London, UK) as "adviser" (technical member) of Italian delegation.
- SDC4 (13-17 February 2017, IMO, London, UK) as "adviser" (technical member) of Italian delegation.
- SDC5 (22-26 January 2018, IMO, London, UK) as "adviser" (technical member) of Italian delegation.

## 10) Collaborations & invited visits (most relevant)

- 15 April 2005, Invited visit in Glasgow at the Ship Stability Research Centre in the framework of the European Project SAFEDOR. Topic: SP2.1 – Fast and Accurate Flooding Prediction.
- 2-6 May 2005, Invited visit in Glasgow at the Ship Stability Research Centre in the framework of the European Project SAFEDOR. Topic: SP2.1 – Fast and Accurate Flooding Prediction.

- 25-29 July 2005, Invited visit in Glasgow at the Ship Stability Research Centre in the framework of the European Project SAFEDOR. Topic: SP2.1 – Fast and Accurate Flooding Prediction.
- 21 February - 1 March 2009, Invited visit at Dept. of Naval Architecture and Ocean Engineering, Osaka University (Osaka, Japan) in the framework of the research work on the development of IMO New Generation Intact Stability Criteria and as discussor of the thesis' presentations of MSc candidates.
- 04-21 March 2012, Invited visit at Universidad Politécnica de Madrid (UPM) - Departamento de Ciencias Aplicadas a la Ingeniería Naval (DCAIN) - Escuela Técnica Superior de Ingenieros Navales (ETSIN) in the framework of collaborative researches.
- 03-27 March 2013, Invited visit at Universidad Politécnica de Madrid (UPM) - Departamento de Ciencias Aplicadas a la Ingeniería Naval (DCAIN) - Escuela Técnica Superior de Ingenieros Navales (ETSIN) in the framework of collaborative researches.
- 11-16 May 2014, Invited visit at Escuela Superior Politécnica del Litoral (ESPOL), Facultad de Ingeniería Marítima, Ciencias Biológicas, Oceánicas y Recursos Naturales (FIMCBOR), as lecturer of the seminar "Advanced Dynamics and Safety of Ships" (18h)
- 20-24 April 2015, Invited visit at Integrated Group of Engineering Research, University of Coruna, Spain, in the framework of collaborative researches and seminar lectures activities in the field of ship safety and stability.
- 23-28 June 2016, Invited visit at University of Belgrade, Faculty of Mechanical Engineering, in the framework of collaborative researches on ship stability, dynamics and safety, and to give a lecture at the Society of Naval Architects of Serbia regarding nonlinear ship dynamics and associated intact stability assessment.

## **11) Participation in research projects**

- European Project: "*Design, Operation and Regulation for Safety*" (SAFEDOR), 6th Framework Programme for Research and Technological Development (FP6), Project No. IP-516278. Project duration: February 2005 - January 2009. Participation as sub-contractor.
- "*Studio e validazione sperimentale di criteri alternativi di progettazione per il miglioramento della sicurezza e delle prestazioni idrodinamiche delle navi (Study and experimental validation of alternative design criteria for the improvement of ships safety and hydrodynamic performances)*", Consorzio per l'Alta Ricerca Navale (RINAVE), 01 January 2008 - 31 March 2011.
- "*Determination of Relevant Parameters for the Alternative Assessment of Intact Stability Weather Criterion On Experimental Basis*", Project HYD-III-CEH-5, supported by the European Community's Sixth Framework Programme through the grant to the budget of the Integrated Infrastructure Initiative HYDRALAB III, Contract no. 022441 (RII3). Experimental activity in 2008. Indicative duration of research activity associated with the project: December 2007-November 2009.
- European Project: "*GOAL Based Damage Stability*" (GOALDS), 7th Framework Programme Theme [FP7-SST-2008-RTD-1], Grant agreement no. 233876. Project duration: September 2009 – October 2012.

## **12) Participation in research projects as project responsible**

- "Direct intact stability assessment and operational guidance to the master in the framework of International Maritime Organization Second Generation Intact Stability Criteria: development of tools and procedures for safety assessment with particular attention to cargo securing", Funding Scheme: "Finanziamento per la Ricerca di Ateneo – FRA 2011" (University of Trieste), Project selected on the basis of comparative evaluation with external review, Period: March 2012 - February 2014.

## **13) Activities of type "Conto Terzi (contract research)"**

- "Study on the Application to Superyachts of Proposals for Parametric Roll Level 1 Vulnerability Criteria in the Framework of the Development of IMO Second Generation Intact Stability Criteria". Activity commissioned by: SYBASS (Superyacht Builders Association). Role: responsible of the activity. Period 2011-2012.
- "Attività di supporto nel settore della progettazione navale e simulazione numerica di operazioni di messa a mare e recupero mezzi in condizioni meteomarine avverse" (*Support activity for design and numerical simulation of recovery and launching operations at sea in adverse weather conditions*). Activity commissioned by: Marina Militare Italiana (Italian Navy). Role: technical reference person of activity "A2.6 - Verifica delle variazioni di stabilità allo stato integro in mare ondoso e controllo di possibile insorgenza di rollio parametrico" (*A2.6 - Evaluation of restoring variations in waves in intact condition and checking of possible inception of parametric roll*) and participant to the activity "A2.7 - Determinazione dell'operatività del mezzo (moti verticali) sulla base di calcoli di moti nave basati su strip-theory e dati di moto ondoso di alta qualità" (*A2.7 - Determination of operational efficiency (vertical motions) on the basis of strip-theory seakeeping calculations and high-quality wave data*) for the work related to seakeeping calculations. Period: 2011-2012.
- Participation to EMSA (European Maritime Safety Agency) international project "*Study assessing the acceptable and practicable risk level of passenger ships related to damage stability*" (EMSA/OP/10/2013). Financed by: EMSA. Project leader: DNV-GL. Total number of partners: 16. Role:

responsible person from University of Trieste. Participation to Task 3: Evaluation of risk from raking damages due to grounding. Period: 2013 - 2015.

- Research & Development activity supporting design in the field “Intact Stability”. Fincantieri SpA. Period: 2015.
- International Joint Industry Project “eSAFE – enhanced Stability After a Flooding Event – A joint industry project on Damage Stability for Cruise Ships”. Participant and work package leader. Period: 2017 – 2018 (14 months).

#### **14) Most important experimental activities carried out outside University of Trieste**

- INSEAN Towing Tank, Rome, Italy, November 2002: Experiments on parametric roll in regular and irregular sea
- Schiffbautechnische Versuchsanstalt in Wien (Vienna Model Basin), Austria, June 2003: Forced roll experiments in the framework of a collaborative research between DINMA and Fincantieri on Weather Criterion
- Schiffbautechnische Versuchsanstalt in Wien (Vienna Model Basin), Austria, November 2003: Forced roll experiments in the framework of European Project SAFENVSHIP.
- Schiffbautechnische Versuchsanstalt in Wien (Vienna Model Basin), Austria, 20-23 January 2004: Forced roll experiments in the framework of a collaborative research between DINMA and Fincantieri on Weather Criterion
- INSEAN Towing Tank, Rome, Italy, 15 May – 19 June 2004: experiments on parametric roll in regular and irregular sea, analysis of ergodicity and measurement of restoring moment in waves
- Osaka University, Japan, March 2006: experiments on the parametrically excited rolling motion of a post panamax containership in longitudinal regular waves.
- Osaka University, Japan, June 2006: experiments on the parametrically excited rolling motion of a post panamax containership in longitudinal irregular waves.
- CEHIPAR, Madrid, Spain, July/August 2008: experiments related to the project "*Determination of relevant parameters for the alternative assessment of Intact Stability Weather Criterion on experimental basis*" supported by the European Community's Sixth Framework Programme through the grant to the budget of the Integrated Infrastructure Initiative HYDRALAB III, Contract no. 022441 (RII3).

#### **15) Coordination and editorial activities, chairmanships during conferences**

- March/May 2005 – Coordinator of the Splinter Group on the development of experimental guidelines for the alternative assessment of Weather Criterion in the framework of the revision of the IMO Intact Stability Code as per decision of the Intact Stability Correspondence Group taken during the Szczecin Meeting (February/March 2005).
- Co-Organizer of the Session 4 “Probabilistic Assessment of Intact Stability” at the “10th International Ship Stability Workshop”, 23-25 March 2008, Daejeon, Republic of Korea
- Interim coordinator of the international Stability R&D Committee (period: 2011-2012)
- Chairman of the international Stability R&D Committee (period: July 2012-June 2015)
- Co-Organizer of the Session “Risk-Based Assessment of Ship Stability (Intact & Damage)” at the “13th International Ship Stability Workshop”, 23-26 September 2013, in Brest (France)
- Editor, together with Alberto Francescutto and Manuel Arcenio Urcia Larios, of the Proceedings of the First International Conference “Safety and Energy Efficiency in River Transportation for a Sustainable Development of the Peruvian Amazon Region”, 17-19 July 2013, Iquitos, Peru.
- Co-Organizer of the workshop “Ship Stability and Safety through Operational Measures” which was held at the 12th International Conference on the Stability of Ships and Ocean Vehicles (STAB2015), 14-19 June 2015, Glasgow, Scotland, UK
- Chairman of session “Safety & Security (2)” at the 16th International Congress of the International Maritime Association of the Mediterranean (IMAM 2015) - Towards Green Marine Technology and Transport, 21-24 September 2015, Pula, Croatia
- Co-Organizer of the Session “Operational Aspects” at the “15th International Ship Stability Workshop”, 12-15 June 2016, Stockholm, Sweden
- Co-Organizer of the Session “Stability and safety of inland and river-sea ships” at the “16th International Ship Stability Workshop”, 5-7 June 2017, Belgrade, Serbia
- Member of Editorial Board of the Journal “International Shipbuilding Progress (ISP)” (period: since 2017)
- Chairman of session “12-2-2 Floater Dynamics and Hydrodynamics - 2” at 37th International Conference on Ocean, Offshore and Arctic Engineering (OMAE2018), 17-22 June 2018, Madrid, Spain
- Chairman of “S&D 5: Probability (3)”: joint session of 13th International Conference on the Stability of Ships and Ocean Vehicles (STAB2018) & 7th International Maritime Conference on Design for Safety (DfS2018), 16-21 September 2018, Kobe, Japan.

#### **16) Memberships of technical/scientific committees**

- February 2006-February 2007: Member of the Japanese SCAPE Committee (Strategic Research Committee on Estimation Methods of Capsizing Risk for the IMO New Generation Stability) created by the Japan Society of Naval Architects and Ocean Engineers (JASNAOE)

- Member of the international “Stability R&D Committee” (2011- March 2016)
- Member of the scientific committee of "Joint 19th International Conference on HYDrodynamics in Ship Design and 4th International Symposium on Ship MANoeuvring - HYDMAN2012", 19th - 21st September 2012, Iława, Poland
- Member of the scientific committee of the First International Conference “Safety and Energy Efficiency in River Transportation for a Sustainable Development of the Peruvian Amazon Region”, 17-19 July 2013, Iquitos, Peru
- Member of the scientific committee of the "16th International Congress of the International Maritime Association of the Mediterranean (IMAM 2015) - Towards Green Marine Technology and Transport", 21-24 September 2015, Pula, Croatia
- Member of the scientific committee of the "RINA International Conference on Ship & Offshore Technology (ICSOT) – India 2015 – ‘Coastal and Inland Shipping’ ", 10-11 December 2015, Kharagpur, India
- Member of the “STAB International Standing Committee” (since June 2015)
- Member of the scientific committee of the “International Conference on Ships and Offshore Structures (ICSOS 2018)”, to be held on 17-19 September 2018 in Gothenborg, Sweden
- Member of “Gruppo di lavoro permanente sulla sicurezza della navigazione” (permanent working group on safety of navigation) established by “Comando Generale del Corpo delle Capitanerie di Porto” (Italian Coast Guard Headquarters), “Ministero delle Infrastrutture e dei Trasporti” (Ministry of Infrastructures and Transport), Italy. Period: since April 2018.

## **17) Scholarships/Awards/Mobility scholarships**

- PhD scholarship funded by University of Trieste in the frame of the XVIII Doctoral Course at the University of Trieste. One year: 2003.
- PhD scholarship funded by INSEAN (Istituto Nazionale per Studi ed Esperienze di Architettura Navale - Roma) in the frame of the XVIII Doctoral Course at the University of Trieste. Two years: 2004-2005.
- Awarded by "Japan Society for the Promotion of Science (JSPS)" of an 11 months fellowship for conducting research in Japan in collaboration with the University of Osaka, starting on December 2005. Subject of the research: "Analysis of nonlinear parametric roll motion by means of a physically sound and modular approach with a view towards the development of new Performance Based Criteria for Intact Ship Stability in the framework of the long-term approach as requested by the International Maritime Organization".
- Awarded by the Research Institute for Symbolic Computation (Johannes Kepler University, Linz, Austria) of a grant for the participation to the “First RISC/SCIENCE Training School In Symbolic Computation”, 5-16 February 2007, Castle of Hagenberg, Austria. Grant funded by the European Commission Framework 6 Programme for Integrated Infrastructures Initiatives under the project SCIENCE.
- Awarded in 2008 by the Royal Institution of Naval Architects of the “Samuel Baxter Prize” for the paper “*Safety and Operability of Fishing Vessels in Beam and Longitudinal Waves*”, which was adjudged to be the best paper on a safety related topic by an author under the age of 30, published in the 2007 Transactions.
- ERASMUS/LLP Mobility Programme Teaching Staff 2012: financial support for a 6-days (05/03/2012-10/03/2012) teaching period at Universidad Politécnica de Madrid (UPM) - Departamento de Ciencias Aplicadas a la Ingeniería Naval (DCAIN) - Escuela Técnica Superior de Ingenieros Navales (ETSIN)
- ERASMUS/LLP Mobility Programme Teaching Staff 2013: financial support for a 5(+2)-days (04/03/2013 - 09/03/2013) teaching period at Universidad Politécnica de Madrid (UPM) - Departamento de Ciencias Aplicadas a la Ingeniería Naval (DCAIN) - Escuela Técnica Superior de Ingenieros Navales (ETSIN)
- ERASMUS+ Mobility Programme Teaching Staff 2018: financial support for a 5(+2)-days (23/04/2018 - 27/04/2018) teaching period at University of Belgrade – Faculty of Mechanical Engineering – Department of Naval Architecture

## **18) Research interests**

- Ship safety
- Parametric rolling
- Intact ship stability
- Subdivision and damaged ship stability
- Effects of nonlinear modelling of ship motions
- Nonlinear dynamics
- Stochastic processes
- Uncertainty analysis
- Probabilistic approaches in naval architecture
- Sloshing
- Evacuation

- Manoeuvrability

### **19) Lecturer (full courses or co-teaching)**

- Academic Year 2007/08 – University of Trieste – Faculty of Engineering – Course: “*Laboratorio di Progetto delle Navi (Ship Design Laboratory)*” (6 CFU)
- Academic Year 2008/09 – University of Trieste – Faculty of Engineering – Course: “*Laboratorio di Progetto delle Navi (Ship Design Laboratory)*” (6 CFU)
- Academic Year 2009/10 – University of Trieste – Faculty of Engineering – Course: “*Laboratorio di Progetto delle Navi (Ship Design Laboratory)*” (6 CFU)
- Academic Year 2011/12 – University of Trieste – Faculty of Engineering – Course: “*Statica della Nave II (Ship Buoyancy and Stability II)*” (6 CFU)
- Academic Year 2011/12 – Universidad Católica Santo Toribio de Mogrovejo (USAT) – Escuela de Ingegnería Naval – 75h course: “*Fundamentos de Proyectos Navales*” (Basic Ship Design) – In English. In the framework of a collaboration between University of Trieste and USAT.
- Academic Year 2012/13 – University of Trieste – Faculty of Engineering / Department of Engineering and Architecture – Course: “*Statica della Nave II (Ship Buoyancy and Stability II)*” (6 CFU)
- Academic Year 2013/14 – University of Trieste – Department of Engineering and Architecture – Course: “*Statica della Nave II (Ship Buoyancy and Stability II)*” (9 CFU)
- Academic Year 2014/15 – University of Trieste – Department of Engineering and Architecture – Course: “*Statica della Nave II (Ship Buoyancy and Stability II)*” (9 CFU)
- Academic Year 2015/16 – University of Trieste – Department of Engineering and Architecture – Course: “*Statica della Nave II (Ship Buoyancy and Stability II)*” (9 CFU)
- Academic Year 2015/16 – University of Trieste – Department of Engineering and Architecture – Course: “*Laboratorio di strumenti informatici per l'ingegneria navale e offshore (IT Tools Laboratory for Naval Architecture, Marine and Offshore Engineering)*” (Course in co-teaching: total 3 CFU – Lectures given for 1 CFU)
- Academic Year 2016/17 – University of Trieste – Department of Engineering and Architecture – Course: “*Statica della Nave II (Ship Buoyancy and Stability II)*” (9 CFU)
- Academic Year 2016/17 – University of Trieste – Department of Engineering and Architecture – Course: “*Laboratorio di strumenti informatici per l'ingegneria navale e offshore (IT Tools Laboratory for Naval Architecture, Marine and Offshore Engineering)*” (Course in co-teaching: total 3 CFU – Lectures given for 1 CFU)
- Academic Year 2017/18 – University of Trieste – Department of Engineering and Architecture – Course: “*Statica della Nave II (Ship Buoyancy and Stability II)*” (9 CFU)
- Academic Year 2017/18 – University of Trieste – Department of Engineering and Architecture – Course: “*Manovrabilità delle Navi (Ship Manoeuvrability)*” (6 CFU)
- Academic Year 2018/19 – University of Trieste – Department of Engineering and Architecture – Course: “*Statica della Nave II (Ship Buoyancy and Stability II)*” (9 CFU)

### **20) Lectures and exercises given within courses**

- Academic Year 2006/07 – University of Trieste – Faculty of Engineering – Course: “*Manovrabilità delle Navi (Ship Manoeuvring)*”
- Academic Year 2006/07 – University of Trieste – Faculty of Engineering – Course: “*Statica della Nave (Ship Buoyancy and Stability)*”
- Academic Year 2006/07 – University of Trieste – Faculty of Engineering – Course: “*Statica della Nave II (Ship Buoyancy and Stability II)*”
- Academic Year 2007/08 – University of Trieste – Faculty of Engineering – Course: “*Manovrabilità delle Navi (Ship Manoeuvring)*”
- Academic Year 2007/08 – University of Trieste – Faculty of Engineering – Course: “*Statica della Nave II (Ship Buoyancy and Stability II)*”
- Academic Year 2007/08 – University of Trieste – Faculty of Engineering – Course: “*Geometria dei galleggianti (Theory of Floating Bodies)*”
- Academic Year 2013/14 – Universidad Católica Santo Toribio de Mogrovejo (USAT) – Escuela de Ingegnería Naval – 30h lectures in the framework of the course: “*Geometria de Elementos Flotantes*” (Theory of Floating Bodies) – In English. In the framework of a collaboration between University of Trieste and USAT.

## 21) Seminars/Invited lectures

- A.Y. 2011/12 – Universidad Politécnica de Madrid (UPM) – Departamento de Ciencias Aplicadas a la Ingeniería Naval (DCAIN) – Escuela Técnica Superior de Ingenieros Navales (ETSIN) – 12h course/seminar lectures on subject: "*IMO intact stability rules and nonlinear ship dynamics: an ongoing convergence*" (in the framework of an Erasmus Teaching Staff Mobility)
- A.Y. 2012/13 – Universidad Politécnica de Madrid (UPM) – Departamento de Ciencias Aplicadas a la Ingeniería Naval (DCAIN) – Escuela Técnica Superior de Ingenieros Navales (ETSIN) – 12h course/seminar lectures on subject: "*IMO intact stability rules and nonlinear ship dynamics: an ongoing convergence*" (in the framework of an Erasmus Teaching Staff Mobility)
- A.Y. 2013/14 – Virginia Tech (USA) – Invited lecture (2h) in the framework of the course "AOE 5334 - Advanced Ship Dynamics" – Subject of the lecture: "*What can we get from 1-DOF nonlinear roll modelling in case of multihulls?*" (lecture through teleconference)
- A.Y. 2013/14 – Universidad Católica Santo Toribio de Mogrovejo (USAT) – Escuela de Ingegnería Naval – 6h seminar on subject: "*Research activities and tools for students of Naval Architecture*"
- A.Y. 2013/14 – Escuela Superior Politécnica del Litoral (ESPOL), Facultad de Ingeniería Marítima, Ciencias Biológicas, Oceánicas y Recursos Naturales (FIMCBOR) – 18h course/seminar lectures with subject: "*Advanced Dynamics and Safety of Ships*"
- A.Y. 2013/14 – University of Belgrade – Serbia (Универзитет у Београду – Србија) – Invited lecture (2h) in the framework of the course "Ship Buoyancy and Stability II" ("Пловност И Стабилитет Брода 2") – Subject of the lecture: "*Possibly dangerous ship dynamics in waves: real experience, mathematical modelling and regulatory countermeasures*" (lecture through teleconference)
- A.Y. 2014/15 – University of A Coruña – Spain – Invited lecture (2h) in the framework of the courses "Hydrostatics and Stability" and "Hydrostatics and Hydrodynamics" – Subject of the lecture: "*Looking at some nonlinear dynamic stability phenomena in waves in the framework of development of intact stability regulations for ship design and ship-specific operational guidance*"
- A.Y. 2014/15 – University of Belgrade – Serbia (Универзитет у Београду – Србија) – Invited lecture (2h) in the framework of the course "Ship Buoyancy and Stability II" ("Пловност И Стабилитет Брода 2") – Subject of the lecture: "*Possibly dangerous ship dynamics in waves: real experience, mathematical modelling and regulatory countermeasures*" (lecture through teleconference)
- A.Y. 2017/18 – University of Belgrade – Serbia (Универзитет у Београду – Србија) – 10h course/seminar lectures on subject: "*Probabilistic damaged ship stability assessment*" (in the framework of an Erasmus+ Teaching Staff Mobility)

## 22) Supervisor/Co-Supervisor of PhD candidates/thesis

1. PhD Candidate: Marco Sinibaldi. University of Trieste. Topic: safety and dynamics in ship towing operations, "Ciclo XXVII" (Cycle XXVII). Period: January 2012-September 2013. PhD scholarship funded by MIUR. Academic Supervisor.
2. Elkin Mauricio Botia-Vera, 2015, "Experimental and Statistical Investigation of Canonical Problems in Sloshing", PhD thesis, Universidad Politécnica de Madrid (UPM) ("International PhD" Mention and Cum Laude grade). PhD program on Ocean and Marine Engineering, 08D2. PhD obtained after defence on 01 September 2015. Role: Co-supervisor. Supervisor: Prof. Antonio Souto-Iglesias (UPM). This thesis was granted the prize of 2014-2015 best PhD thesis from its program.
3. Fabio Fucile, 2017, "Deterministic sea wave and ship motion forecasting: from remote wave sensing to prediction error assessment", PhD Thesis, University of Trieste, XXIX Cycle, Academic Year 2015/16. Period: January 2014 – May 2017. PhD scholarship funded by CNR-INSEAN (Rome). Research activity in collaboration with CNR-INSEAN (Dr. Claudio Lugni). Role: Supervisor. Co-Supervisor: Dr. Claudio Lugni (CNR-INSEAN). PhD obtained after defence on 25 May 2017.
4. Gabriele Montecchiari, 2018, "Evacuation dynamics in the maritime field: modelling, simulation and real-time human participation", PhD Thesis, University of Trieste, XXX Cycle, Academic Year 2016/17. Period: November 2014-March 2018. PhD scholarship funded by MIUR. Role: Supervisor. Co-supervisor: Prof. Paolo Gallina (UNITS). PhD obtained after defence on 16 March 2018.

## 23) Supervisor of theses

- Laurea Triennale (first level, 3 years, BSc):

1. Murgo, G., "Studio dell'effetto dei 'Second Generation Intact Stability Criteria' per una nave portacontainer (Study of the effect of 'Second Generation Intact stability Criteria' for a containership)" (In Italian), University of Trieste, Academic Year 2013-2014.

- Laurea Magistrale (second level, 2 years, MSc):

1. Sasdelli, M., "IMO Second Generation Intact Stability Criteria: A Case Study on Parametric Roll Assessment for a Containership" (In English), University of Trieste, Academic Year 2014-2015.
2. Marra, A.M.Y.E., "Modellazione ed analisi della dinamica di una turbina eolica galleggiante (Modelling and analysis of the dynamics of a floating offshore wind turbine)" (In Italian), University of Trieste, Academic Year 2015-2016.
3. Todde, A.E., "Modifica delle forme di carena di una nave da crociera per il miglioramento della stabilità (Hull form modification of a cruise vessel for the improvement of ship stability)" (In Italian), University of Trieste, Academic Year 2015-2016.
4. Dalle Vedove, F., "Time domain simulation study of the operability of a ship equipped with an anti-rolling tank by means of a simplified procedure based on non-linear retardation functions" (in English) , University of Trieste, Academic Year 2015-2016.

## 24) Co-supervisor of theses

- Laurea quinquennale vecchio ordinamento (full 5 years cycle):

1. Truja, V., "Studio dello smorzamento di rollio nell'ambito di un miglioramento della Normativa di Stabilità a nave Integra (Study of the roll damping in the framework of an improvement of the present Intact Stability Rules)" (In Italian), University of Trieste, Academic Year 2001-2002.
2. Passarella, V., "Studio sperimentale del rollio parametrico di una fregata in risonanza armonica e sub-armonica (Experimental study of harmonic and sub-harmonic parametric roll for a frigate)" (In Italian), University of Trieste, Academic Year 2002-2003.
3. Dreossi, M., "Analisi critica di un metodo semi-empirico per la previsione dello smorzamento del moto di rollio (Critical analysis of a semi-empirical method for roll damping prediction)" (in Italian), University of Trieste, Academic Year 2004-2005.
4. Nicolosi, R.G., "Sviluppo di un codice di manovrabilità 4-DOF ed effetto, sulle manovre standard, dell'incertezza nelle derivate idrodinamiche (Development of a 4-DOF maneuvering code and influence of the derivatives' uncertainty on the standard maneuvers)" (In Italian), University of Trieste, Academic Year 2005-2006.
5. Turchetto, A., "Caratterizzazione della manovrabilità di una nave attraverso l'utilizzo degli indici di manovrabilità (Characterisation of maneuvering ability of a ship by means of maneuvering indices)" (In Italian), University of Trieste, Academic Year 2008-2009.

- Laurea Triennale (first level, 3 years, BSc):

1. Birsa, M., "Lo sviluppo dei nuovi criteri di stabilità a nave integra (The Development of New Intact Ship Stability Criteria)" (In Italian), University of Trieste, Academic Year 2003-2004.
2. Biselli, G., "Studio della stabilità di un piccolo peschereccio in mare longitudinale (Study of the stability of a small fishing vessel in longitudinal sea)" (In Italian), University of Trieste, Academic Year 2004-2005.
3. Sinibaldi, M., "Studio del rollio parametrico di un trimarano in mare longitudinale (Study of parametric rolling for a trimaran in longitudinal waves)" (In Italian), University of Trieste, Academic Year 2006-2007.
4. Dall'Aglio, G., "Studio dello smorzamento del moto di rollio di un trimarano in funzione della velocità di avанzo (Study of roll damping for a trimaran as a function of the speed of advance)" (In Italian), University of Trieste, Academic Year 2006-2007.
5. Boaro, L., "Ottimizzazione del posizionamento degli outriggers di un trimarano in relazione alla stabilità sull'onda (Optimization of outriggers' position for a trimaran vessel with respect to stability in waves)", (In Italian), University of Trieste, Academic Year 2008-2009.
6. Burattini, D., "Studio delle prestazioni idrodinamiche di uno yacht (Study of hydrodynamic performances of a yacht)" (In Italian), University of Trieste, Academic Year 2009-2010.
7. Lamacchia, L., "Studio di resistenza e stabilità allo stato integro per un piccolo traghetto passeggeri (Study on resistance and intact stability for a small passenger ferry)" (In Italian), University of Trieste, Academic Year 2009-2010.
8. Scalera, L., "Bouncing water device" (In Italian), University of Trieste, Academic Year 2011-2012.

- Laurea Specialistica/Magistrale (second level, 2 years, MSc):

1. Sidari, M., "Il problema del racking: sviluppo di una procedura per la verifica a fatica basata sul calcolo diretto dei moti nave (The problem of racking: development of a procedure for fatigue assessment based on direct evaluation of ship motions)" (In Italian), University of Trieste, Academic Year 2006-2007.

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2. Fucile, F., "Analisi del rollio parametrico per carene di forme atipiche (Analysis of parametric roll for ships with unusual hull forms)" (In Italian), University of Trieste, Academic Year 2007-2008.
  3. Vidali, C., "Effetto dell'incertezza sulle derivate idrodinamiche sulla valutazione della manovrabilità di una nave (Effect of derivatives' uncertainty on ship manoeuvrability assessment)" (In Italian), University of Trieste, Academic Year 2007-2008.
  4. Vettor, R., "Sviluppo di una metodologia di nowcasting del moto ondoso finalizzata all'operatività di mezzi offshore (Development of wave elevation nowcasting methodology for the operability of offshore units)" (In Italian), University of Trieste, Academic Year 2009-2010.
  5. Dall'Aglio, G., "Simulazione del moto di rollio in presenza di casse passive anti-rollio (Simulation of roll motion with passive anti-rolling tanks)" (In Italian), University of Trieste, Academic Year 2009-2010.
  6. Sinibaldi, M., "Dinamica non lineare di rollio in mare al traverso: un confronto tra due modellazioni 1-DOF (Nonlinear roll dynamics in beam waves: a comparison between two 1-DOF modelling)" (In Italian), University of Trieste, Academic Year 2010-2011.
  7. Mocnik, F., "Analisi idrodinamica dell'operatività di una nave oceanografica per il Mar Mediterraneo (Hydrodynamic analysis of operational effectiveness for an oceanographic vessel)" (In Italian), University of Trieste, Academic Year 2010-2011.
  8. Brocco, E., "La risposta strutturale a carichi dinamici di uno stack di container (Structural response of a stack of containers to dynamic loads)" (In Italian), University of Trieste, Academic Year 2011-2012

- Students not from University of Trieste:

1. Tzamtzis, S., "Development and testing of a procedure for the alternative assessment of Weather Criterion on experimental basis" (In English), University of Trieste and National Technical University of Athens (SOCRATES Student), Academic Year 2003-2004.

## **25) Other academic activities (most relevant)**

- Period March 2007, I Level Master "Navy Tech" (organised by the University of Trieste, Fincantieri SpA and Regione Autonoma Friuli Venezia Giulia): lecturer of the subject "Basic ideas on screw propellers".
- Period 2006-2008 I Level Master "Navy Tech" (organised by the University of Trieste, Fincantieri SpA and Regione Autonoma Friuli Venezia Giulia): academic tutor during the whole duration of the Master.
- Member of the Board of the "Scuola di Dottorato in Scienze dell'Ingegneria - Indirizzo Ingegneria Meccanica, Navale, Energetica e della Produzione" (Doctoral School in Engineering Sciences - Curriculum of Mechanical Engineering, Naval Architecture, Energy and Production), University of Trieste, Doctoral Cycle: XXVII (cycle start year: 2011).
- Member of the Board of the "Scuola di Dottorato in Ingegneria e Architettura - Indirizzo Ingegneria Meccanica, Navale, Energetica e della Produzione" (Doctoral School in Engineering and Architecture - Curriculum of Mechanical Engineering, Naval Architecture, Energy and Production), University of Trieste, Doctoral Cycle: XXVIII (cycle start year: 2012).
- Member of the Board of the "Corso di Dottorato in Ingegneria e Architettura - Indirizzo Ingegneria Meccanica, Navale, Energetica e della Produzione" (Doctoral Programme in Engineering and Architecture - Curriculum of Mechanical Engineering, Naval Architecture, Energy and Production), University of Trieste, Doctoral Cycle: XXIX (cycle start year: 2013).
- Member of the Board of the "Corso di Dottorato in Ingegneria e Architettura - Indirizzo Ingegneria Meccanica, Navale, Energetica e della Produzione" (Doctoral Programme in Engineering and Architecture - Curriculum of Mechanical Engineering, Naval Architecture, Energy and Production), University of Trieste, Doctoral Cycle: XXX (cycle start year: 2014).
- ERASMUS+ Exchange Coordinator for the Department of Engineering and Architecture for the agreement between "Università degli Studi di Trieste (I TRIESTE01)" and "Universidad Politécnica de Madrid (E MADRID05)". Since 2014.
- Member of the Board of the "Corso di Dottorato in Ingegneria e Architettura - Indirizzo Ingegneria Meccanica, Navale, Energetica e della Produzione" (Doctoral Programme in Engineering and Architecture - Curriculum of Mechanical Engineering, Naval Architecture, Energy and Production), University of Trieste, Doctoral Cycle: XXXI (cycle start year: 2015).
- ERASMUS+ Exchange Coordinator for the Department of Engineering and Architecture for the agreement between "Università degli Studi di Trieste (I TRIESTE01)" and "Universidade da Coruna (E LACORU01)". Since 2015.
- Entitled to co-supervise PhD candidates within the "PhD program on Ocean and Marine Engineering, 08D2, Universidad Politécnica de Madrid (UPM), Spain" (since 2015).
- Member of the Board of the "Corso di Dottorato in Ingegneria Industriale e dell'Informazione - Curriculum Ingegneria Meccanica, Navale, Energetica e della Produzione" (Doctoral Programme in Industrial and Information

Engineering - Curriculum of Mechanical Engineering, Naval Architecture, Energy and Production), University of Trieste, Doctoral Cycle: XXXII (cycle start year: 2016).

- Member of the Board of the "Corso di Dottorato in Ingegneria Industriale e dell'Informazione - Curriculum Ingegneria Meccanica, Navale, Energetica e della Produzione" (Doctoral Programme in Industrial and Information Engineering - Curriculum of Mechanical Engineering, Naval Architecture, Energy and Production), University of Trieste, Doctoral Cycle(s): XXXIII (cycle start year: 2017).
- ERASMUS+ Exchange Coordinator for the Department of Engineering and Architecture for the agreement between "Università degli Studi di Trieste (I TRIESTE01)" and "Universidade of Strathclyde (UK GLASGOW02)". Since 2017.
- ERASMUS+ Exchange Coordinator for the Department of Engineering and Architecture for the agreement between "Università degli Studi di Trieste (I TRIESTE01)" and "Universidade of Belgrade". Action: KA107. Since 2017.
- Member of the Board of the "Corso di Dottorato in Ingegneria Industriale e dell'Informazione - Curriculum Ingegneria Meccanica, Navale, Energetica e della Produzione" (Doctoral Programme in Industrial and Information Engineering - Curriculum of Mechanical Engineering, Naval Architecture, Energy and Production), University of Trieste, Doctoral Cycle: XXXIV (cycle start year: 2018).

## 26) Evaluation activities

- First opponent member of the committee for evaluation of Dominik Andreas Breu's PhD thesis, public defence and trial lecture, Department of Engineering Cybernetics, Norwegian University of Science and Technology, Trondheim, Norway, 2013.
- Member of the Entry Examination Board of "Corso di Dottorato in Ingegneria e Architettura" (Doctoral Programme in Engineering and Architecture), University of Trieste, XXIX Cycle (2013).
- Member of the evaluation board for the evaluation of research projects submitted within the FRA 2013 funding scheme, Department of Engineering and Architecture, University of Trieste, 2013.
- Member of the committee for the evaluation of Francisco Mata Álvarez-Santullano's PhD thesis and public defence, Escuela Técnica Superior de Ingenieros Navales, Universidad Politécnica de Madrid, Madrid, Spain, 2014.

## 27) Published papers: International Journals, Transactions

1. Francescutto, A., Bulian, G., Lugni, C., "Nonlinear and Stochastic Aspects of Parametric Rolling Modelling", Marine Technology, Vol 41, No. 2, April 2004, pp 74-81.
2. Bulian, G., "Estimation of nonlinear roll decay parameters using an analytical approximate solution of the decay time history", International Shipbuilding Progress, Vol.51, No. 1, 2004, pp. 5-32.
3. Bulian, G., Francescutto, A., Lugni, C., "On the Nonlinear Modeling of Parametric Rolling in Regular and Irregular Waves", International Shipbuilding Progress, Vol. 51, No. 2/3, 2004, pp. 173-203.
4. Bulian, G., "Approximate Analytical Response Curve for a Parametrically Excited Highly Nonlinear 1-DOF System with an Application to Ship Roll Motion Prediction", Nonlinear Analysis: Real World Applications, Vol. 5, No. 4, September 2004, pp. 725-748, doi:10.1016/j.nonrwa.2004.03.002
5. Bulian, G., Francescutto, A., "A simplified modular approach for the prediction of the roll motion due to the combined action of wind and waves", Journal of Engineering for the Maritime Environment, Vol. 218, no. M3, August 2004, pp. 189-212, doi:10.1243/1475090041737958
6. Bulian, G., "Nonlinear parametric rolling in regular waves - a general procedure for the analytical approximation of the GZ curve and its use in time domain simulations", Ocean Engineering, Vol 32, No. 3-4, March 2005, pp. 309-330, doi:10.1016/j.oceaneng.2004.08.008
7. Bulian, G., Francescutto, A., "Some considerations on the probability distributions for the damage length and damage penetration based on a re-analysis of recorded ship collisions data", International Shipbuilding Progress, Vol. 52, No. 4, 2005, pp. 325-356.
8. Bulian, G., "Nonlinear Parametric Rolling in Regular Waves - An Approximate Analytical Solution for the Response Curve in the Region of First Parametric Resonance", Journal of Ship Research, Vol. 50, No. 3, September 2006, pp. 239-249.
9. McCue, L., Alford, L., Belknap, W., Bulian, G., Delorme, L., Francescutto, A., Lugni, C., Troesch, A., Vakakis, A., "An overview of the minisymposium on 'Extreme Ship Dynamics' presented at the 2005 SIAM Conference on Application of Dynamical Systems", Marine Technology, Vol. 43, No. 1, January 2006, pp. 55-61.
10. Bulian, G., Francescutto, A., Lugni, C., "Theoretical, numerical and experimental study on the problem of ergodicity and 'practical ergodicity' with an application to parametric roll in longitudinal long crested irregular sea", Ocean Engineering, Vol. 33, 2006, pp. 1007-1043, doi:10.1016/j.oceaneng.2005.09.004

11. Bulian, G., Francescutto, A., “Safety and Operability of Fishing Vessels in Beam and Longitudinal Waves”, Transactions of the Royal Institution of Naval Architects Part B: International Journal of Small Craft Technology, Vol. 148 (2), 2006, pp. 1-16.
12. McCue, L.S., Bulian, G., “A numerical feasibility study of a parametric roll advance warning system”, Journal of Offshore Mechanics and Arctic Engineering (JOMAE), Vol. 129, Issue 3, August 2007, pp. 165-175.
13. Bulian, G., Francescutto, A., “On the Effect of Stochastic Variations of Restoring Moment in Long-Crested Irregular Longitudinal Sea”, International Shipbuilding Progress - Special issue: Selected Papers from the 9th International Conference on Stability of Ships and Ocean Vehicles (STAB 2006), Vol. 54, No. 4, 2007, pp. 227-248.
14. Bulian, G., Francescutto, A., Zotti, I., “Stability and Roll Motion of Fast Multihull Vessels in Beam Waves”, Ships and Offshore Structures, Vol. 3, No. 3, 2008, pp. 215-228, doi:10.1080/17445300801990913.
15. Bulian, G., “Time-based damaged ship survivability: A quasi-static equivalent method”, International Shipbuilding Progress, Vol.55, No. 3, 2008, pp. 183-226, doi:10.3233/ISP-2008-0047
16. Iqbal, K.S., Bulian, G., Hasegawa, K., Karim, M.M., Awal, Z.I., “A rational analysis of intact stability hazards involving small inland passenger ferries in Bangladesh”, Journal of Marine Science and Technology, Vol. 13, No. 3, 2008, pp. 270-281, doi:10.1007/s00773-008-0016-3
17. Iqbal, K.S., Bulian, G., Hasegawa, K., Karim, M.M., Awal, Z.I., “Possible remedies for intact stability hazards involving contemporary small inland passenger ferries in Bangladesh”, Journal of Marine Science and Technology, Vol. 13, No. 3, 2008, pp. 282-290, doi:10.1007/s00773-008-0023-4
18. Bulian, G., “On an Improved Grim Effective Wave”, Ocean Engineering, Vol. 35, Nos. 17-18, 2008, pp. 1811-1825, doi:10.1016/j.oceaneng.2008.08.016
19. Bulian, G., Francescutto, A., Umeda, N., Hashimoto, H., “Qualitative and quantitative characteristics of parametric ship rolling in random waves in the light of physical model experiments”, Ocean Engineering, Vol. 35, Nos. 17-18, 2008, pp. 1661-1675, doi:10.1016/j.oceaneng.2008.09.002
20. Bulian, G., Francescutto, A., “Experimental results and numerical simulations on strongly non-linear rolling of multihulls in moderate beam seas”, Proceedings of the Institution of Mechanical Engineers - Part M - Journal of Engineering for the Maritime Environment, Vol. 223, 2009, pp. 189-210, doi:10.1243/14750902JEME126
21. Francescutto, A., Bulian, G., Urcia Larios, M., Arroyo Ulloa, M., “Stability and dynamical effects of water on deck on the survivability of small fishing vessels”, Ship Science and Technology / Ciencia & Tecnología de Buques, Vol. 1, No.5 , July 2009, pp. 73-82
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59. Fucile, F., Ludeno, G., Serafino, F., Bulian, G., Soldovieri, F., Lugni, C., “Some Challenges in Recovering Wave Features From a Wave Radar System”, Proceedings of the Twenty-sixth (2016) International Ocean and Polar Engineering Conference (ISOPE2016), Rhodes, Greece, June 26-July 1, 2016, Volume 3, ISBN 978-1-880653-88-3, ISSN 1098-6189, pp. 319-326
60. Fucile, F., Bulian, G., Lugni, C., “*Quantifying error in deterministic predictions based on phase-resolved linear wave models*”, Proc. 26th European Safety and Reliability Conference (ESREL2016), 25-29 September 2016, Glasgow, Scotland, UK, in “Risk, Reliability and Safety: Innovating Theory and Practice”, Walls, Revie & Bedford (Eds), CRC Press/Balkema, Taylor & Francis Group, London, 2017, pp. 355-361, ISBN 978-1-138-02997-2
61. Montecchiari, G., Bulian, G., Gallina, P., “*Development of a new evacuation simulation tool targeting real-time participation*”, Proc. 26th European Safety and Reliability Conference (ESREL2016), 25-29 September 2016, Glasgow, Scotland, UK, in “Risk, Reliability and Safety: Innovating Theory and Practice”, Walls, Revie & Bedford (Eds), CRC Press/Balkema, Taylor & Francis Group, London, 2017, pp. 571-578, ISBN 978-1-138-02997-2
62. Bulian, G., Bresciani, F., Francescutto, A., Fucile, F., “*Effect of large initial ship stability on ship safety: An example study*”, Proc. 26th European Safety and Reliability Conference (ESREL2016), 25-29 September 2016, Glasgow, Scotland, UK, in “Risk, Reliability and Safety: Innovating Theory and Practice”, Walls, Revie & Bedford (Eds), CRC Press/Balkema, Taylor & Francis Group, London, 2017, pp. 2302-2309, ISBN 978-1-138-02997-2
63. Míguez González, M., Bulian, G., Santiago Caamaño, L., Díaz Casás, V., “*Towards real-time identification of initial stability from ship roll motion analysis*”, Proceeding of the 16th International Ship Stability Workshop, 5-7 June 2017, Belgrade, Serbia, pp. 221-229 (ISBN 978-86-7083-935-9)
64. Montecchiari, G., Gallina, P., Bulian, G., “*An experiment using immersive virtual reality and a haptic interface to study human behaviour in evacuation*”, Proceedings of the 27th European Safety and Reliability Conference (ESREL 2017), 18-22 June 2017, Portoroz, Slovenia, in “Safety and Reliability – Theory and Applications”, Marko Cepin and Radim Bris (Eds.), CRC Press/Balkema, Taylor and Francis Group, Leiden, 2017, pp. 1893-1901, ISBN 978-1-138-62937-0
65. Marra, A.M.Y.E., Nicolosi, R.G., Bulian, G., “*Effect of simplification of aerodynamics on the motion of floating offshore wind turbines*”, Proceedings of International Conference on Ships and Offshore Structures (ICSOS 2017), 11-13 September 2017, Shenzhen, China, Paper ICSOS2017-041, 14 p.
66. Fucile, F., Bulian, G., Lugni, C., “*Prediction error statistics in deterministic linear ship motion forecasting*”, Proceedings of the 37th International Conference on Ocean, Offshore and Arctic Engineering (OMA2018), June 17-22, 2018, Madrid, Spain, Paper OMAE2018-77456
67. Bulian, G., Cardinale, M., Francescutto, A., Zaraphonitis, G., “*Complementing SOLAS framework with a probabilistic description for the damage extent below water*”, Proceedings of the 13th International

Conference on the Stability of Ships and Ocean Vehicles (STAB2018), 16-21 September 2018, Kobe, Japan, pp. 638-647. ISBN 978-4-908678-11-0

### **30) Published papers: National Conferences**

1. Bulian, G., Umeda, N., Hashimoto, H., "Some considerations on Grim's effective wave concept for restoring variations and its improvement", Proc. of the Spring Meeting of the Japan Society of Naval Architects and Ocean Engineers, Osaka, May 2006, pp. 13-16.
2. Umeda, N., Ueda, J., Paroka, D., Bulian, G., Hashimoto, H., "Examination of Experiment-Supported Weather Criterion with a RoPax Ferry Model", Proc. of the Spring Meeting of the Japan Society of Naval Architects and Ocean Engineers, Osaka, May 2006, pp. 5-8.
3. Umeda, N., Hashimoto, H., Nakamura, S., Bulian, G., " (Numerical Simulation of Parametric Rolling in Irregular Head Waves)" (In Japanese), Proc. of the Spring Meeting of the Japan Society of Naval Architects and Ocean Engineers, Osaka, May 2006, pp. 19-22.
4. Hashimoto, H., Umeda, N., Sakamoto, G., Bulian, G., "Estimation of Roll Restoring Moment in Long-Crested Irregular Waves", Proc. of the Autumn Meeting of the Japan Society of Naval Architects and Ocean Engineers, Osaka, November 2006, pp. 201-204.
5. Bulian, G., Francescutto, A., Bresciani, F., Fucile, F., "Studio teorico-sperimentale del moto di rollio di trimarani in mare al traverso (Theoretical and experimental study on the roll motion of trimaran ships in beam sea)" (In Italian), Structural Engineering Analysis - Marine dEvelopment Design (SEA-MED) 2008, 4 July 2008, Messina, Italy, ISBN 978-88-96398-06-7, pp. 84-95.

### **31) Abstracts in Journals**

1. Ludeno, G., Soldovieri, F., Serafino, F., Lugni, C., Fucile, F., Bulian, G., "Reconstruction of the sea surface elevation from the analysis of the data collected by a wave radar system", Geophysical Research Abstracts, Vol. 18, EGU2016-17244-2, 2016, European Geosciences Union (EGU) General Assembly 2016.

### **32) Technical reports (most relevant)**

1. Francescutto, A., Bulian, G., "Studio Teorico del Moto di Rollio di una Nave Innescato con Onde Longitudinali Irregolari – Parte I (Theoretical Study of the Roll motion of a Ship in Irregular longitudinal Waves – Part I)", (In Italian), Department of Naval Architecture, Ocean and Environmental Engineering (DINMA), University of Trieste, December 2002.
2. Francescutto, A., Bulian, G., "Studio Teorico del Moto di Rollio di una Nave Innescato con Onde Longitudinali Irregolari – Parte II (Theoretical Study of the Roll motion of a Ship in Irregular longitudinal Waves – PartII)", (In Italian), Department of Naval Architecture, Ocean and Environmental Engineering (DINMA), University of Trieste, February 2003.
3. Bulian, G., Francescutto, A., "Alcune considerazioni sull'opportunità di inserire una dipendenza dalle dimensioni longitudinali della nave dell'entità della raffica prevista dalla IMO Res.A562 (in IMO Res.A749)" (Some considerations on the possibility of introducing a dependence of the gust in IMO Res. A562 on the longitudinal ship dimensions), (In Italian) Quaderno di Dipartimento n° 44, Dept. DINMA, University of Trieste, June 2004.
4. Francescutto, A., Bulian, G., "Relazione sulla ricerca in ambito SAFENVSHIP per definire una nuova procedura per la valutazione del Weather Criterion (Codice CRREIA005)" (Report on the research for the definition of a new procedure for assessment of Weather Criterion in the framework of SAFENVSHIP (Code CRREIA005)), Università degli Studi di Trieste, 2004.
5. Francescutto, A., Bulian, G., "Analisi Critica della Normativa di Compartimentazione e Stabilità a Nave Allagata e Studio di una Possibile Modifica per le Grandi Navi Passeggeri (Codice CRREIA011)" (A critical analysis of the damage stability regulation and evaluation of a possible modification for Large Passenger Ships (Code CRREIA011)), Università degli Studi di Trieste, 2004.
6. Bulian, G., "Comparisons between forces and moments using direct hydrostatic calculations and Grim's effective wave concept in longitudinal long crested irregular waves", Technical Report - JSPS Fellowship PE05052, Dept. of Naval Architecture and Ocean Engineering, Osaka University, 2006.
7. Bulian, G., "Some Statistical Properties of the Improved Grim's Effective Wave", Technical Report - JSPS Fellowship PE05052, Dept. of Naval Architecture and Ocean Engineering, Osaka University, 2006.
8. Bulian, G., "Experimental investigation on parametric roll in longitudinal regular waves for a partially restrained post-panamax containership", Technical Report - JSPS Fellowship PE05052, Dept. of Naval Architecture and Ocean Engineering, Osaka University, 2006.

9. Bulian, G., "Experimental investigation on parametric roll in longitudinal irregular waves for a partially restrained post-panamax containership", Technical Report - JSPS Fellowship PE05052, Dept. of Naval Architecture and Ocean Engineering, Osaka University, 2006.
10. Bulian, G., "Sensitivity analysis and error propagation in linear and linearized systems with application to ship roll and manoeuvring ", Technical Report - JSPS Fellowship PE05052, Dept. of Naval Architecture and Ocean Engineering, Osaka University, 2006.
11. Bulian, G., Francescutto, A., "Water Ingress/Egress, Multiple Decks, Survival Time and Evacuation: some Ideas on a Possible Extension of the SEM Approach (Code CRIESA001/00001)", (In the framework of SAFEDOR-SP2.1), Dept. DINMA, University of Trieste, 2006.
12. Bulian, G., Francescutto, A., "Probabilistic Assessment of Intact Stability (Code CRIESA001/00002)", (In the framework of SAFEDOR-SP2.3), Dept. DINMA, University of Trieste, 2006.
13. Bulian, G., Francescutto, A., "Application of Simplified Analytical Models for Intact Stability Assessment to a Large Passenger Ship (Code CRIESA001/00003)", (In the framework of SAFEDOR-SP6.1), Dept. DINMA, University of Trieste, 2006.
14. Bulian, G., Francescutto, A., Maccari, A., "Water Ingress/Egress, Multiple Decks, Survival Time and Evacuation: some Ideas on a Possible Extension of the SEM Approach – Extended and revised version", Quaderno di Dipartimento n° 45, Dept. DINMA, University of Trieste, August 2007.
15. Bulian, G., Francescutto, A., Maccari, A., "Possible simplified mathematical models for roll motion in the development of performance-based intact stability criteria – Extended and revised version", Quaderno di Dipartimento n° 46, Dept. DINMA, University of Trieste, January 2008.
16. Bulian, G., Francescutto, A., "SAFEDOR benchmark on parametric roll - Brief description of the simulation methodology employed in the code SHIXDOF under development at DINMA", Internal Technical Report, Department DINMA, University of Trieste, Trieste, Italy, 2008.
17. Bulian, G., Francescutto, A., Fucile, F., "Determination of Relevant Parameters for the Alternative Assessment of Intact Stability Weather Criterion On Experimental Basis", EU-funded Project HYD-III-CEH-5 (Integrated Infrastructure Initiative HYDRALAB III, Contract no. 022441 (RII3)), Department DINMA, University of Trieste, Trieste, Italy, 22 November 2009
18. Bulian, G., Francescutto, A., "Exploratory data analysis of ship-ship collision data from the updated GOALDS database", EU-funded Project GOALDS (GOAL based Damage Stability) - Grant Agreement 233876, Year: 2010
19. Bulian, G., Francescutto, A., "Exploratory data analysis of grounding data from the updated GOALDS database and assessment of requirements and assumptions in SOLAS Ch. II-1 Part B-2 Regulation 9", EU-funded Project GOALDS (GOAL based Damage Stability) - Grant Agreement 233876, Year: 2010
20. Bulian, G., Francescutto, A., "Probabilistic modelling of grounding damage characteristics", EU-funded Project GOALDS (GOAL based Damage Stability) - Grant Agreement 233876, Year: 2010
21. Bulian, G., Francescutto, A., "Probability of flooding due to grounding damage using a p-factor formulation", EU-funded Project GOALDS (GOAL based Damage Stability) - Grant Agreement 233876, Year: 2010
22. Bulian G., "Study on the Application to Superyachts of Proposals for Parametric Roll Level 1 Vulnerability Criteria in the Framework of the Development of IMO Second Generation Intact Stability Criteria", Technical Report for the Superyacht Builders Association (SYBAss), Year: 2011
23. Bulian, G., Francescutto, A., "Extended tables for the assessment of requirements and assumptions in SOLAS Ch. II-1 Part B-2 Regulation 9", EU-funded Project GOALDS (GOAL based Damage Stability) - Grant Agreement 233876, Year: 2011
24. Bulian, G., Francescutto, A., "Bottom damages: possible ways to reduce the occurrence and/or influence of non-contact cases in view of practical applications", EU-funded Project GOALDS (GOAL based Damage Stability) - Grant Agreement 233876, Year: 2012
25. Zaraphonitis, G., Bulian, G., Lindroth, D., Papanikolaou, A., Francescutto, A., Ruponen, P., Olufsen, O., "Evaluation of risk from raking damages due to grounding – Interim Report", Project "EMSA 3 - A Study assessing the acceptable and practicable risk level of passenger ships related to damage stability" - EMSA/OP/10/2013 - European Maritime Safety Agency, 2014
26. Zaraphonitis, G., Bulian, G., Lindroth, D., Hamann, R., Luhmann, H., Cardinale, M., Routi, A.-L., Bertin, R., Harper, G., Papanikolaou, A., Francescutto, A., Ruponen, P., Olufsen, O., "Evaluation of risk from raking damages due to grounding – Final Report", Project "EMSA 3 - A Study assessing the acceptable and practicable risk level of passenger ships related to damage stability" - EMSA/OP/10/2013 - European Maritime Safety Agency, 2015
27. Zaraphonitis, G., Bulian, G., Hamman, R., Eliopoulou, E., Cardinale, M., Luhmann, H., "eSAFE Deliverable D2.2.1 - Description of Methodology", Joint Industry Project "eSAFE - enhanced Stability After a Flooding Event – A joint industry project on Damage Stability for Cruise Ships", 29 March 2017 (Revision No. 2), 43p.

28. Bulian, G., Zaraphonitis, G., Francescutto, A., Ruponen, P., “*eSAFE Deliverable D2.1.1 - Description of geometrical and probabilistic model for collision damage*”, Joint Industry Project “eSAFE - enhanced Stability After a Flooding Event – A joint industry project on Damage Stability for Cruise Ships”, 03 May 2017 (Revision No. 1), 70p.

29. Lindroth, D., Bulian, G., Dafermos, G., Zaraphonitis, G., Cardinale, M., Luhmann, H., Ruponen, P., “*eSAFE Deliverable D2.3.1 – Final report of ‘WP2.3 – Development of a software tool for the application of the combined methodology’*”, Joint Industry Project “eSAFE - enhanced Stability After a Flooding Event – A joint industry project on Damage Stability for Cruise Ships”, 09 August 2017 (Revision No. 1), 65p.

### **33) Contributions to IMO (International Maritime Organization) documents**

1. SLF47/6/7, "Preliminary results of the SAFENVSHIP Project – Experimental evaluation of the relevant factors for the calculation of the roll angle ", Submitted by Italy (2004). 19
2. SLF47/6/8, "Guidelines for model testing of intact stability – Experimental approach to evaluate the relevant factors for the calculation of the roll angle ", Submitted by Italy (2004). 19
3. SLF47/6/16, "Proposal on revision of the weather criterion", Submitted by Italy and Japan (2004).
4. SLF47/6/18, "Proposal of Guidelines for a standard model test procedure to determine the steady wind heeling lever", Submitted by Italy and Japan (2004).
5. MSC80/3, "Consideration of the draft revised SOLAS chapter II-1 parts A,B and B-I", Submitted by Italy (2005).
6. MSC80/3/2, "Proposed amendments to the draft revised SOLAS chapter II-1 parts A, B and B-I", Submitted by Italy (2005).
7. SLF48/4/6, "A modular methodology for the estimation of the ship roll safety under the action of stochastic wind and waves", Submitted by Italy, 10 June 2005.
8. SLF48/4/12, "On the development of performance-based criteria for ship stability in longitudinal waves", Submitted by Italy, 11 July 2005.
9. SLF50/4/5, " OSV Criterion vs. ' Criteria regarding righting lever curve properties' - Calculation examples of limiting GM curves", Submitted by Italy, 22 February 2007.
10. SLF50/4/12, "Comments on the development of new generation intact stability criteria", Submitted by Italy, 9 March 2007.
11. Annex 1, "Proposal of vulnerability criterion for dead ship condition", submitted by Italy, in SLF52/INF.2, "Information collected by the intersessional Correspondence Group on Intact Stability", Submitted by Japan, 23 October 2009.
12. Annex 3, "Higher level dynamic stability assessment for dead ship condition", submitted by the Delegation of Italy, in SLF52/INF.2, "Information collected by the intersessional Correspondence Group on Intact Stability", Submitted by Japan, 23 October 2009.
13. SLF53/3/9, "Comments on documents SLF 53/3/1 and SLF 53/INF.10", Submitted by Italy, 19 November 2010
14. SLF53/INF.10-Annex 1, "Proposal Concerning a Level 1 Vulnerability Criterion for Parametric Roll", Submitted by Italy, (SLF53/INF.10 submitted by Japan, 9 November 2010), London, UK
15. SLF53/INF.10-Annex 1, "Comments on the Document Submitted by Germany", Submitted by Italy, (SLF53/INF.10 submitted by Japan, 9 November 2010), London, UK
16. SLF54/INF.12-Annex 20, "Comments on Japan's Submission for Draft Level 2 and 3 Criteria on Stability under Dead Ship Condition", Submitted by Italy, (SLF54/INF.12 submitted by Japan, 11 November 2011), London, UK
17. SLF54/INF.12-Annex 14, "Study on the Application to Superyachts of Proposals for Parametric Roll Level 1 Vulnerability Criteria in the Framework of the Development of IMO Second Generation Intact Stability Criteria", Submitted by SYBAss, (SLF54/INF.12 submitted by Japan, 11 November 2011), London, UK
18. SLF55/INF.15-Annex 1, "Selection of reference environmental conditions for vulnerability criteria for parametric roll and pure loss of stability", Submitted by Italy, (SLF55/INF.15 submitted by Japan, 14 December 2012), London, UK
19. SLF55/INF.15-Annex 18, "Comments on recent developments in the correspondence group and on "Proposal of Revision of Updated Draft Vulnerability Criteria of Levels 1 and 2 for the Failure Modes of Pure Loss of Stability and Parametric Roll – by Japan", Submitted by Italy, (SLF55/INF.15 submitted by Japan, 14 December 2012), London, UK
20. SLF55/3/7, "Comments on present status of development of second generation intact stability criteria", Submitted by Italy, 2 January 2013, London, UK
21. SLF55/3/11, "Comparison study of draft level 2 vulnerability criteria for stability under dead ship condition", Submitted by Italy and Japan, 4 January 2013, London, UK

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- 22. SDC1/INF.6, “*Vulnerability assessment for dead-ship stability failure mode*”, Submitted by Italy and Japan, 15 November 2013, London, UK
  - 23. SDC1/INF.8-Annex 16, “*Proposed amendments to Part B of the 2008 IS Code to assess the vulnerability of ships to the dead ship stability failure mode*”, Submitted by Italy and Japan, (SDC1/INF.8 submitted by Japan, 15 November 2013), London, UK
  - 24. SDC1/INF.8-Annex 19, “*Reply to ‘Comments on the draft criteria of broaching and dead ship – Submitted by China’*”, Submitted by Italy and Japan, (SDC1/INF.8 submitted by Japan, 15 November 2013), London, UK
  - 25. SDC1/INF.8-Annex 28, “*Calculations of restoring and stability in waves for parametric roll and pure loss, level 1 & level 2 vulnerability criteria: pressure under undisturbed wave profile*”, Submitted by Italy, (SDC1/INF.8 submitted by Japan, 15 November 2013), London, UK
  - 26. SDC1/5/6, “*Weighting factors for wave cases in vulnerability assessment criteria for parametric roll and pure loss of stability*”, Submitted by Italy, 29 November 2013, London, UK
  - 27. SDC2/INF.10-Annex 3, “*Comments on Annex 2*”, Submitted by Italy, (SDC2/INF.10 submitted by Japan, 12 December 2014), London, UK
  - 28. SDC3/6/7, “*Notes on operational limitations and operational guidance*”, Submitted by Germany, Italy and Sweden, 13 November 2015, London, UK
  - 29. SDC3/INF.15, “*Material relevant to Operational Guidance and Operational Limitations*”, Submitted by Germany, Italy and Sweden, 13 November 2015, London, UK
  - 30. SDC3/INF.10-Annex 1, “*Proposed amendments to part B of the 2008 IS Code to assess the vulnerability of ships to the dead ship stability failure mode*”, Submitted by Italy, (SDC3/INF.10 submitted by Japan, 13 November 2015), London, UK
  - 31. SDC3/INF.10-Annex 19, “*Draft Explanatory Notes on the vulnerability of ships to the dead ship stability failure mode*”, Submitted by Italy, (SDC3/INF.10 submitted by Japan, 13 November 2015), London, UK

### **34) Talks, Invited Lectures/Keynotes, Workshops, Seminars**

- 1. Bulian, G., Francescutto, A., Lugni, C., "On the Practical Ergodicity of Parametric Rolling", Presentation given at the Mini-Symposium on Extreme Ship Dynamics (MS97) of SIAM (Society for Industrial and Applied Mathematics) conference on Application of Dynamical Systems, May 2005, Snowbird, Utah.
- 2. Bulian, G., "Some ideas on a simplified 1(5)-DOF analytical nonlinear model for parametric rolling in longitudinal irregular long crested waves", Invited Lecture at Osaka Prefecture University, 2 July 2006.
- 3. Bulian, G., Francescutto, A., "Large Amplitude Rolling and Strongly Nonlinear Behaviour of Multihull Ships in Moderate Beam Waves", Lecture presentation given at the IUTAM Symposium on Fluid-Structure Interaction in Ocean Engineering, Hamburg, Germany, July 23-27, 2007
- 4. Bulian, G., Francescutto, A., "The response of the Duffing oscillator for different bandwidths of the Gaussian excitation", Lecture presentation given at the 6th Osaka Colloquium on Seakeeping and Stability of Ships, 26-29 March 2008, Osaka, Japan.
- 5. Bulian, G., Francescutto, A., Fucile, F., "Nonlinear rolling of multihulls in beam and longitudinal regular waves", Invited Lecture at Osaka University, 27 February 2009
- 6. Bulian, G., Francescutto, A., "New Generation Intact Stability Criteria: looking into the future", Presented at the Cooperative Research Ships (CRS) Open Meeting 2010, 17-18 June 2010, FINCANTIERI Trieste, Monfalcone, Italy (Presented by A. Francescutto)
- 7. Bulian, G., Francescutto, A., Fucile, F., "Nonlinear rolling of multi-hulls: experiments and simplified dynamical modelling", Presented at the Cooperative Research Ships (CRS) Open Meeting 2010, 17-18 June 2010, FINCANTIERI Trieste, Monfalcone, Italy
- 8. Bulian, G., Francescutto, A., "Key features of first level vulnerability criteria for dynamic phenomena associated to variations of restoring in waves", 2nd International Workshop on Dynamic Stability Considerations in Ship Design, 2-3 September 2010, Windsor, London, UK
- 9. Bulian, G., Francescutto, A., "Statistical analysis of damage characteristics and assessment of SOLAS assumptions - Tasks 3.1 & 3.2", GOALDS Workshop, 8-9 September 2010, Glasgow, UK.
- 10. Bulian, G., Francescutto, A., "Trimaran Vessels and Parametric Roll", Invited presentation at Workshop on Parametric Resonance in Dynamical Systems, 22-26 June 2011, Longyearbyen, Svalbard, Norway - Organised by the Norwegian University of Science and Technology (NTNU)
- 11. Bulian, G., Francescutto, A., "A probabilistic approach to grounding damages: development, issues and prospects", Invited presentation for the International Workshop on Risk-based Design for Maritime Safety and Marine Environment Protection, National Maritime Research Institute (NMRI) & Nippon Kaiji Kyokai (ClassNK), 11-12 October 2011, Tokyo, Japan
- 12. Bulian, G., van Hooren, C., "2nd Generation Intact Stability Requirements", Invited presentation for the SYBAss Technical Seminar 2011: "Forthcoming IMO legislation", 16 November 2011, Amsterdam, The Netherlands

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- 13. Bulian, G., Francescutto, A., “*Dangerous Phenomena in Adverse Weather and Sea Conditions: when Stability Criteria Need to be Supplemented by Recommendations to the Master*”, COSMEMOS Workshop – Innovation in meteorology for maritime navigation, 23 October 2013, Livorno, Italy (Presented by A. Francescutto)
  - 14. Baćkalov, I., Biot, M., Bresciani, F., Brocco, E., Bulian, G., Francescutto, A., Fucile, F., Hofman, M., Huss, M., Kalajdžić, M., Kuttenkeuler, J., Lugni, C., Maksić, I., Mccue, L., Moro, L., Ovegård, E., Palmquist, M., Rosén, A., Saldovieri, F., Serafino , F., Skoglund, L., Söder, C.-J., “*Ship Safety & Intact Stability: from Design to Operation*”, Presented at First Maritime Europe Strategy Action (MESA) Workshop, “Designing Waterborne RDI Strategies”, 5 March 2014, Bruxelles, Belgium
  - 15. Bulian, G., “*Getting to know some potentially dangerous dynamic stability phenomena in waves and the idea of ‘Second Generation Intact Stability Criteria’*”, Seguridad para la navegación y construcción naval, Universidad Católica Santo Toribio de Mogrovejo (USAT), 9-10 May 2014, Chiclayo, Peru
  - 16. Baćkalov, I., Bulian, G., Cichowicz, J., Eliopoulou, E., Konovessis, D., Leguen, J.-F., Rosén, A., Themelis, N., “*Ship Stability, Dynamics and Safety: Status and Perspectives*”, Invited keynote paper presentation at 12<sup>th</sup> International Conference on the Stability of Ships and Ocean Vehicles (STAB2015), 14-19 June 2015, Glasgow, Scotland, UK
  - 17. Cercos-Pita, J.L., Souto-Iglesias, A., Bulian, G., Bouscasse, B., Colagrossi, A., Colom, J., Servan, B., Garcia-Espinosa, J., “*Coupling between sloshing and ship motions with emphasis on wave-breaking*”, 16th International Workshop on Trends In Numerical and Physical Modeling for Industrial Multiphase Flows, Cargèse, Corsica, September 14th–18th, 2015 (presented by A. Souto-Iglesias)
  - 18. Botia-Vera, E.M., Souto-Iglesias, A., Bulian, G., “*Sensitivity analysis of ISOPE benchmark C15 case (SDOF roll) regarding motion spectrum characteristics*”, 16th International Workshop on Trends In Numerical and Physical Modeling for Industrial Multiphase Flows, Cargèse, Corsica, September 14th–18th, 2015 (presented by A. Souto-Iglesias)
  - 19. Bulian, G., “*Some notes and comments on Direct Stability Assessment (DSA), Operational Limitations (OL) and Operational Guidance (OG)*” – Invited presentation for the Workshop “Level 3 of the second generation intact stability criteria and its Operational Guidance – latest developments and outlook”, 21<sup>st</sup> January 2016, International Maritime Organization, London, UK
  - 20. Bulian, G., “*Nonlinear ship dynamics and intact stability assessment*” – Invited lecture at the Society of Naval Architects of Serbia, University of Belgrade, Belgrade, Serbia, 27 June 2016
  - 21. Bulian, G., “*Direct Stability Assessment (DSA) and Operational Measures (OM): some food for thoughts*”, Presentation during Workshop on Second Generation Intact Stability Criteria within the 13<sup>th</sup> International Conference on the Stability of Ships and Ocean Vehicles (STAB2018), 16-21 September 2018, Kobe, Japan

### **35) Reviewer for international journals**

- International Shipbuilding Progress (2006, 2007, 2008, 2010, 2013, 2014, 2017, 2018)
- Journal of Marine Science and Technology (2006, 2009, 2010, 2011, 2012, 2013, 2016, 2017, 2018)
- ASME Journal of Computational and Nonlinear Dynamics (2009, 2010)
- Ocean Engineering (2009, 2010, 2011, 2013, 2015, 2016, 2017, 2018)
- IEEE Transactions on Control System Technology (2011)
- Marine Systems & Ocean Technology - A Journal of SOBENA (2012)
- Mathematical Problems in Engineering (2012)
- Safety Science (2014, 2016)
- Journal of Hydrodynamics (2014)
- Applied Ocean Research (2014, 2015, 2016)
- Journal of Fluids and Structures (2015, 2016, 2017, 2018)
- Journal of Ocean Engineering and Science (2016)
- Journal of Offshore Mechanics and Arctic Engineering (2016)
- Physics of Fluids (2016)
- Ships and Offshore Structures (2017, 2018)

### **36) Reviewer for international conferences**

- 9th International Conference on Stability of Ships and Ocean Vehicles (STAB2006), Rio de Janeiro, 25-29 September 2006
- ISOPE-2007, The 17th International Offshore (Ocean) and Polar Engineering Conference, Lisbon, Portugal, July 1-6, 2007
- 47th IEEE Conference on Decision and Control, Fiesta Americana Grand Coral Beach, Cancun, Mexico, December 9-11, 2008
- 2011 American Control Conference, San Francisco, California, USA, June 29 - July 1, 2011

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- ISOPE-2011, The 21st International Offshore (Ocean) and Polar Engineering Conference, Maui, Hawaii, USA, June 19-24, 2011
  - 31st International Conference on Ocean, Offshore and Arctic Engineering (OMAE2012), June 10-15, 2012, Rio de Janeiro, Brazil
  - 11th International Conference on the Stability of Ships and Ocean Vehicles (STAB2012), 23-28 September 2012, Athens
  - 32nd International Conference on Ocean, Offshore and Arctic Engineering (OMAE2013), June 9-14, 2013, Nantes, France
  - 33rd International Conference on Ocean, Offshore and Arctic Engineering (OMAE2014), June 8-13, 2014, San Francisco, CA, USA
  - 3rd International Conference on electrical systems for aircraft, railway, ship propulsion and road vehicles (ESARS2015), March 3rd-5th 2015, Aachen – Germany
  - 12th International Conference on the Stability of Ships and Ocean Vehicles (STAB2015), 14-19 June 2015, Glasgow, Scotland, UK
  - 16th International Congress of the International Maritime Association of the Mediterranean (IMAM 2015) - Towards Green Marine Technology and Transport, 21-24 September 2015, Pula, Croatia
  - 35th International Conference on Ocean, Offshore and Arctic Engineering (OMAE2016), June 19-24, 2016, Busan, Korea
  - 36th International Conference on Ocean, Offshore and Arctic Engineering (OMAE2017), June 24-30, 2017, Trondheim, Norway
  - International Conference on Ships and Offshore Structures (ICSOS2017), 11-13 September 2017, South University of Science and Technology of China, Shenzhen, China
  - 37th International Conference on Ocean, Offshore and Arctic Engineering (OMAE2018), June 17-22, 2018, Madrid, Spain
  - 13th International Conference on the Stability of Ships and Ocean Vehicles (STAB2018), 16-21 September 2018, Kobe, Japan
  - 7th International Maritime Conference on Design for Safety (DfS 2018), 16-21 September 2018, Kobe, Japan

### **37) Reviewer for PhD theses**

- Míguez González, M., "*A Study of Ship Parametric Roll Resonance for the Evaluation of Preventive Strategies*", Universidade da Coruña, 2012
- Breu, D.A., "*Frequency Detuning of Parametric Roll Resonance*", Norwegian University of Science and Technology, 2013
- Mata Álvarez-Santullano, F., "*Fishing effort control regulations influence on stability, safety and operability of small fishing vessels: study of a series of stability related accidents occurred in Spain between 2004 and 2007*", Universidad Politécnica de Madrid, 2014

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## **1) Dati personali**

*Cognome:* Bulian

*Nome:* Gabriele

*E-Mail:* **gbulian@units.it**

*Telefono (ufficio UNITS):* +39-040-5583444

*Fax (ufficio UNITS):* +39-040-5583443

*Profilo scopus:* <https://www.scopus.com/authid/detail.uri?authorId=55907114200>

*Profilo Google Scholar:* <https://scholar.google.com/citations?user=ycvLo8oAAAAJ>

## **2) Informazioni professionali**

*Titolo di Laurea:* Dottore in Ingegneria Navale

*Titolo di Dottorato:* Dottore di Ricerca in Ingegneria Navale e Marina

*Abilitazione professionale:* Abilitato all'esercizio della professione di ingegnere (II sessione, anno 2003) con iscrizione all'albo dell'Ordine degli Ingegneri di Trieste dal 9 Marzo 2004 (Sezione A - Settori: civile e ambientale, industriale, dell'informazione).

## **3) Posizione attuale**

- Professore Associato presso il Dipartimento di Ingegneria e Architettura, Università degli Studi di Trieste. Settore Scientifico Disciplinare (SSD): “ING-IND/01 – Architettura Navale”. Dal 01 Novembre 2018.

## **4) Abilitazione Scientifica Nazionale**

- Abilitato per l'accesso al ruolo di professore universitario di II fascia (professore associato) nel settore concorsuale “09/A1 – Ingegneria Aeronautica, Aeroespaziale e Navale”. Periodo di validità dell'abilitazione: 03 Febbraio 2014 – 03 Febbraio 2020 (Progressione di carriera da Ricercatore a Professore Associato: 01 Novembre 2018).

## **5) Posizioni precedenti**

- Dottorando presso il Dipartimento di Ingegneria Navale, del Mare e per l'Ambiente, Università di Trieste, periodo Gennaio 2003-Dicembre 2005.
- Ricercatore presso “Department of Naval Architecture and Ocean Engineering”, Università di Osaka, Osaka, Giappone, grazie ad una borsa di studio post-doc (PE05052) finanziata dalla Japan Society for the Promotion of Science (JSPS) per il periodo Dicembre 2005-Novembre 2006 (11 mesi).
- Ricercatore confermato presso il Dipartimento di Ingegneria e Architettura, Università degli Studi di Trieste. Settore Scientifico Disciplinare (SSD): “ING-IND/01 – Architettura Navale”. Periodo 15 Dicembre 2006 – 31 Ottobre 2018.

## **6) Laurea e Dottorato di Ricerca**

- Conseguimento del titolo di Laurea in Ingegneria Navale il 16/10/2002 presso l'Università degli Studi di Trieste, con voto finale 110/110 e lode. Titolo della tesi: "*Rollio Parametrico in Mare Regolare e Stocastico*". Relatore: Prof. A. Francescutto, Correlatore: Prof. A. Cardo.
- Conseguimento del titolo di Dottore di Ricerca in Ingegneria Navale e Marina, Università degli Studi di Trieste, 31/03/2006 – Anno Accademico 2005/2006. Titolo della tesi: "*Development of analytical nonlinear models for parametric roll and hydrostatic restoring variations in regular and irregular waves*" (Settore Scientifico Disciplinare “ING-IND/01 Architettura Navale”). Relatore: Prof. A. Francescutto.

## **7) Partecipazioni a corsi**

- "Stability of Ships", DCAMM Ph.D.-Course / Advanced School, tenutosi al Danish Center for Applied Mathematics and Mechanics (DCAMM), Technical University of Denmark, Lyngby, 10-18 Giugno 2002.
- Serie di lezioni "Ship manoeuvring", tenute dal Prof. K.J. Spyrou all'Università di Strathclyde, Glasgow, 24-28 Febbraio 2003.
- “OPTIMISTIC – Optimization in Marine Design”, 39<sup>th</sup> WEGEMT Summer School, Technical University of Berlin, 19-23 Maggio 2003.
- “First RISC/SCIENCE Training School in Symbolic Computation”, 5-16 February 2007, Castle of Hagenberg, Austria, organizzata dal Research Institute for Symbolic Computation (RISC), Johannes Kepler University, Linz, Austria.
- OPENFOAM Training Course, Politecnico di Milano, Milano, Italia, 9 Luglio 2008

- "SCSM - Scuola di Calcolo Scientifico con Matlab - Modulo 2: Calcolo Parallelo con MATLAB in ambiente HPC e Grid", Università degli Studi di Palermo, Italia, 5-9 Settembre 2011
- “Analisi Dinamica con Applicazioni agli Elementi Finiti”, Consorzio TCN – Tecnologie per il Calcolo Numerico – Centro Superiore di Formazione, Bergamo, Italia, 5-7 Febbraio 2014

## 8) Partecipazioni a conferenze e workshop

(nell'elenco che segue, la partecipazione come relatore è esplicitamente riportata con l'indicazione "(R)")

- 5<sup>th</sup> International Workshop on Ship Stability and Operational Safety, Trieste, 11-14 Settembre 2001.
- International Conference on Marine Science and Technology for Environmental Sustainability (ENSUS2002), Newcastle, 16-18 Dicembre 2002.
- Conferenza Internazionale “Passenger Ship Safety”, organizzata dalla Royal Institution of Naval Architects (RINA), 24-25 Marzo 2003, con il contributo di una borsa di studio fornita dal BMT Limited Group.
- International Conference on Ship and Shipping Research - NAV2003, Palermo, 24-27 Giugno 2003. (R)
- 8<sup>th</sup> International Conference on Stability of Ships and Ocean Vehicles – STAB2003, Madrid, 15-19 Settembre 2003. (R)
- 2<sup>nd</sup> International Maritime Conference on Design for Safety, 27-30 Ottobre 2004, Sakai, Giappone. (R)
- 7<sup>th</sup> International Ship Stability Workshop, 1-3 Novembre 2004, Shanghai, Cina. (R)
- "High-Speed Craft: Design and Operation", Conferenza Internazionale organizzata dalla Royal Institution of Naval Architects (RINA), 17-18 Novembre 2004, con il contributo di una borsa di studio fornita dal RINA.
- Conferenza Internazionale "Fishing Vessels, Fishing Technology & Fisheries" organizzata dal RINA, 13-14 Aprile 2005, Newcastle, UK. (R)
- Conferenza "Applications of Dynamical Systems" organizzata dalla Society for Industrial and Applied Mathematics (SIAM), 22-26 Maggio 2005, Snowbird, Utah. (R)
- Spring Meeting della Japan Society of Naval Architects and Ocean Engineers (JASNAOE), 25-26 Maggio 2006, Osaka, Giappone. (R)
- Conferenza Internazionale “Design & Operation of Passenger Ships” organizzata dalla Royal Institution of Naval Architects (RINA), 25-26 April 2007, Londra, UK. (R)
- IUTAM Symposium on Fluid-Structure Interaction in Ocean Engineering, 23-27 Luglio 2007, Amburgo, Germania. (R)
- 10<sup>th</sup> International Ship Stability Workshop (ISSW2008), 23-25 Marzo 2008, Daejeon, Corea del Sud. (R)
- Osaka Colloquium 2008, 26-29 Marzo 2008, Osaka, Giappone. (R)
- 3rd OPENFOAM Workshop, Politecnico di Milano, 10-11 Luglio 2008, Milano, Italia
- International Workshop on Dynamic Stability Considerations in Ship Design (DSCSD Workshop), 14-15 Settembre 2009, Hawa, Polonia. (R)
- 16<sup>th</sup> International Conference of Ship and Shipping Research (NAV2009), Messina (Italy), 25-27 Novembre 2009. (R)
- 13<sup>th</sup> International Conference On Transport Science (ICTS 2010), 27<sup>th</sup> - 28<sup>th</sup> May 2010, Portorose, Slovenia. (R)
- 2<sup>nd</sup> International Workshop on Dynamic Stability Considerations in Ship Design, 2-3 September 2010, Windsor, Londra, UK. (R)
- GOALDS Workshop, 8-9 September 2010, Glasgow, UK. EU-FP7 “GOAL Based Damage Stability” project, 233876. (R)
- 12<sup>th</sup> International Ship Stability Workshop (ISSW2011), 12-15 June 2011, Washington D.C., USA. (R)
- Workshop on Parametric Resonance in Dynamical Systems, 22-26 June 2011, Longyearbyen, Svalbard, Norway - Organizzato da “Norwegian University of Science and Technology” (NTNU). (R)
- International Workshop on Risk-based Design for Maritime Safety and Marine Environment Protection, National Maritime Research Institute (NMRI) & Nippon Kaiji Kyokai (ClassNK), 11-12 October 2011, Tokyo, Giappone. (R)
- 11<sup>th</sup> International Conference on the Stability of Ships and Ocean Vehicles (STAB2012), 23-28 Settembre 2012, Athens, Grecia. (R)
- GOALDS Final Workshop, 28 September 2012, Atene, Grecia. EU-FP7 “GOAL Based Damage Stability” project, 233876.
- Qualitative Theory of Nonlinear Differential Equations 2013 (QTNDE2013), Trieste, Italia, 30 Gennaio - 01 Febbraio 2013.
- First International Conference “Safety and Energy Efficiency in River Transportation for a Sustainable Development of the Peruvian Amazon Region”, 17-19 Luglio 2013, Iquitos, Peru. (R)
- 13<sup>th</sup> International Ship Stability Workshop (ISSW2013), 23-26 Settembre 2013, Brest, Bretagna, Francia.

- First Maritime Europe Strategy Action (MESA) Workshop, “Designing Waterborne RDI Strategies”, 5 Marzo 2014, Bruxelles, Belgio. (R)
- Seguridad para la navegación y construcción naval, Universidad Católica Santo Toribio de Mogrovejo (USAT), 9-10 Maggio 2014, Chiclayo, Peru. (R)
- 14<sup>th</sup> International Ship Stability Workshop (ISSW2014), 29 Settembre – 01 Ottobre 2014, Kuala Lumpur, Malesia.
- 12<sup>th</sup> International Conference on the Stability of Ships and Ocean Vehicles (STAB2015), 14-19 Giugno 2015, Glasgow, Scozia, UK. (R)
- Workshop: "Level 3 of the second generation intact stability criteria and its Operational Guidance – latest developments and outlook", 21 Gennaio 2016, International Maritime Organization, London, UK. (R)
- 15<sup>th</sup> International Ship Stability Workshop (ISSW2016), 13 – 15 Giugno 2016, Stoccolma, Svezia.
- 26<sup>th</sup> European Safety and Reliability Conference (ESREL2016), 25-29 September 2016, Glasgow, Scotland, UK. (R)
- Mini-Symposium on Ship Design, Ship Hydrodynamics & Maritime Safety, 30 September 2016, Athens, Greece.
- 16<sup>th</sup> International Ship Stability Workshop (ISSW2017), 5 – 7 Giugno 2017, Belgrado, Serbia.
- 27<sup>th</sup> European Safety and Reliability Conference (ESREL2017), 18-22 September 2017, Portoroz, Slovenia.
- Accelerating and Parallelizing MATLAB Code on HPC infrastructure, CINECA, Caselecchio di Reno, Bologna, Italia, 30 Maggio 2018.
- 37<sup>th</sup> International Conference on Ocean, Offshore and Arctic Engineering (OMAE2018), 17-22 Giugno 2018, Madrid, Spagna. (R)
- 13<sup>th</sup> International Conference on the Stability of Ships and Ocean Vehicles (STAB2018) & 7<sup>th</sup> International Maritime Conference on Design for Safety (DfS2018), 16-21 Settembre 2018, Kobe, Giappone. (R)
- “HOListic optimisation of SHIP design and operation for life cycle (HOLISHIP)” Project - Year 2 Public Workshop, 27 Settembre 2018, Trieste, Italia.

## 9) Partecipazioni a riunioni e sessioni IMO

- Riunione dell' "IMO Intersessional Correspondence Group for the revision of the Intact Ship Stability Code", Trieste, Febbraio 2004
- SLF47 (13-17 Settembre 2004, IMO, Londra, UK) come "observer" (componente tecnico) della Delegazione Italiana.
- MSC79 (Dicembre 2004, IMO, Londra, UK) come "observer" (componente tecnico) della Delegazione Italiana.
- Riunione dell' "Intersessional Working Group on Subdivision and Damage Stability" (19-21 Gennaio 2005, IMO, Londra, UK) come "observer" (componente tecnico) della Delegazione Italiana.
- Riunione dell' "IMO Intersessional Correspondence Group for the revision of the Intact Ship Stability Code ", Stettino, 27 Febbraio – 2 Marzo 2005.
- SLF48 (12-16 Settembre 2005, IMO, Londra, UK) come "observer" (componente tecnico) della Delegazione Italiana.
- Riunione dell' "IMO Intersessional Correspondence Group for the revision of the Intact Ship Stability Code ", Mitaka, Tokyo, 6– 8 Marzo 2006, come membro della delegazione Giapponese.
- SLF49 (24-28 Luglio 2006, IMO, Londra, UK) come "observer" (componente tecnico) della Delegazione Italiana.
- SLF50 (30 Aprile - 4 Maggio 2007, IMO, Londra, UK) come "observer" (componente tecnico) della Delegazione Italiana.
- SLF51 (14-18 Luglio 2008, IMO, Londra, UK) come "observer" (componente tecnico) della Delegazione Italiana.
- Incontro di coordinamento del gruppo italiano SLF-IMO in preparazione della SLF52, ("Comando Generale delle Capitanerie di Porto - Ministero dei Trasporti", Roma, Italia, 18 Gennaio 2010)
- SLF52 (25-29 Gennaio 2010, IMO, Londra, UK) come "observer" (componente tecnico) della Delegazione Italiana.
- SLF53 (10-14 Gennaio 2011, IMO, Londra, UK) come "adviser" (componente tecnico) della Delegazione Italiana.
- SLF54 (16-20 Gennaio 2012, IMO, Londra, UK) come "adviser" (componente tecnico) della Delegazione Italiana.
- SLF55 (18-22 Gennaio 2013, IMO, Londra, UK) come "adviser" (componente tecnico) della Delegazione Italiana.
- SDC1 (20-24 Gennaio 2014, IMO, Londra, UK) come "adviser" (componente tecnico) della Delegazione Italiana.

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- SDC2 (16-20 Febbraio 2015, IMO, Londra, UK) come "adviser" (componente tecnico) della Delegazione Italiana.
  - SDC3 (18-22 Gennaio 2016, IMO, Londra, UK) come "adviser" (componente tecnico) della Delegazione Italiana.
  - SDC4 (13-17 Febbraio 2017, IMO, Londra, UK) come "adviser" (componente tecnico) della Delegazione Italiana.
  - SDC5 (22-26 Gennaio 2018, IMO, Londra, UK) come "adviser" (componente tecnico) della Delegazione Italiana.

## **10) Collaborazioni e visite (più rilevanti)**

- 15 Aprile 2005, visita allo "Ship Stability Research Centre" a Glasgow nell'ambito del progetto europeo "SAFEDOR". Argomento: "SP2.1 – Fast and Accurate Flooding Prediction".
- 2-6 Maggio 2005, visita allo "Ship Stability Research Centre" a Glasgow nell'ambito del progetto europeo "SAFEDOR". Argomento: "SP2.1 – Fast and Accurate Flooding Prediction".
- 25-29 Luglio 2005, visita allo "Ship Stability Research Centre" a Glasgow nell'ambito del progetto europeo "SAFEDOR". Argomento: "SP2.1 – Fast and Accurate Flooding Prediction".
- 21 Febbraio-1 Marzo 2009, visita al "Dept. of Naval Architecture and Ocean Engineering, Osaka University (Osaka, Japan)" nell'ambito del lavoro di ricerca sullo sviluppo degli "IMO New Generation Intact Stability Criteria" e come partecipante alla discussione delle presentazioni di tesi dei laureandi (MSc).
- 04-21 Marzo 2012, visita a Universidad Politécnica de Madrid (UPM) - Departamento de Ciencias Aplicadas a la Ingeniería Naval (DCAIN) - Escuela Técnica Superior de Ingenieros Navales (ETSIN) nell'ambito di collaborazioni di ricerca.
- 03-27 Marzo 2013, visita a Universidad Politécnica de Madrid (UPM) - Departamento de Ciencias Aplicadas a la Ingeniería Naval (DCAIN) - Escuela Técnica Superior de Ingenieros Navales (ETSIN) nell'ambito di collaborazioni di ricerca.
- 11-16 Maggio 2014, invitato da la Escuela Superior Politécnica del Litoral (ESPOL), Facultad de Ingeniería Marítima, Ciencias Biológicas, Oceánicas y Recursos Naturales (FIMCBOR) come docente del seminario “Advanced Dynamics and Safety of Ships” (18h)
- 20-24 Aprile 2015, invitato presso “Integrated Group of Engineering Research, University of Coruna, Spain” nell'ambito di collaborazioni di ricerca e attività seminariali di insegnamento riguardanti la sicurezza e la stabilità delle navi.
- 23-28 June 2016, invitato presso la “University of Belgrade, Faculty of Mechanical Engineering”, nell'ambito di collaborazioni di ricerca riguardanti la stabilità, la dinamica e la sicurezza delle navi, e per tenere una lezione presso la “Society of Naval Architects of Serbia” sul tema della dinamica nave nonlineare e associate verifiche di stabilità a nave integra.

## **11) Partecipazione a progetti di ricerca**

- Progetto Europeo: "*Design, Operation and Regulation for Safety*" (SAFEDOR), 6th Framework Programme for Research and Technological Development (FP6), Project No. IP-516278. Durata del progetto: Febbraio 2005 - Gennaio 2009. Partecipazione come *sub-contractor*.
- "*Studio e validazione sperimentale di criteri alternativi di progettazione per il miglioramento della sicurezza e delle prestazioni idrodinamiche delle navi*", Consorzio per l'Alta Ricerca Navale (RINAVE), 01 Gennaio 2008 - 31 Marzo 2011.
- "*Determination of Relevant Parameters for the Alternative Assessment of Intact Stability Weather Criterion On Experimental Basis*", Project HYD-III-CEH-5, supported by the European Community's Sixth Framework Programme through the grant to the budget of the Integrated Infrastructure Initiative HYDRALAB III, Contract no. 022441 (RII3). Attività sperimentale nel 2008. Durata indicativa dell'attività di ricerca legata al progetto: Dicembre 2007-Novembre 2009.
- Progetto Europeo: "*GOAL Based Damage Stability*" (GOALDS), 7th Framework Programme Theme [FP7-SST-2008-RTD-1], Grant agreement no. 233876. Durata del progetto: Settembre 2009 - Ottobre 2012.

## **12) Partecipazione a progetti di ricerca in qualità di responsabile di progetto**

- "Direct intact stability assessment and operational guidance to the master in the framework of International Maritime Organization Second Generation Intact Stability Criteria: development of tools and procedures for safety assessment with particular attention to cargo securing", Schema di finanziamento: "Finanziamento per la Ricerca di Ateneo – FRA 2011" (Università degli Studi di Trieste), Progetto selezionato sulla base di valutazione comparativa con revisione esterna, Periodo: Marzo 2012 - Febbraio 2014.

### **13) Attività di tipo "Conto Terzi"**

- "Study on the Application to Superyachts of Proposals for Parametric Roll Level 1 Vulnerability Criteria in the Framework of the Development of IMO Second Generation Intact Stability Criteria". Attività commissionata da: SYBASS (Superyacht Builders Association). Ruolo: responsabile dell'attività. Periodo 2011-2012.
- "Attività di supporto nel settore della progettazione navale e simulazione numerica di operazioni di messa a mare e recupero mezzi in condizioni meteomarine avverse". Attività commissionata da: Marina Militare Italiana. Ruolo: referente tecnico dell'attività "A2.6 - Verifica delle variazioni di stabilità allo stato integro in mare ondoso e controllo di possibile insorgenza di rollio parametrico" e partecipante all'attività "A2.7 - Determinazione dell'operatività del mezzo (moti verticali) sulla base di calcoli di moti nave basati su strip-theory e dati di moto ondoso di alta qualità" per la parte riguardante i calcoli di seakeeping. Periodo: 2011-2012.
- Partecipazione al progetto internazionale finanziato da EMSA (European Maritime Safety Agency) "*Study assessing the acceptable and practicable risk level of passenger ships related to damage stability*" (EMSA/OP/10/2013). Project leader: DNV-GL. Numero totale di partners: 16. Ruolo: responsabile per l'Università degli Studi di Trieste. Partecipazione al Task 3: Evaluation of risk from raking damages due to grounding. Period: 2013 - 2015.
- Attività di ricerca e sviluppo in supporto alla progettazione nel campo "Intact Stability". Fincantieri SpA. Periodo: 2015.
- International Joint Industry Project "eSAFE – enhanced Stability After a Flooding Event – A joint industry project on Damage Stability for Cruise Ships". Partecipante e leader di "work package". Periodo: 2017 – 2018 (14 mesi).

### **14) Principali attività sperimentali condotte al di fuori dell'Università di Trieste**

- Laboratorio idrodinamico dell'INSEAN, Roma, Italia, Novembre 2002: Esperimenti sul rollio parametrico in mare regolare e irregolare.
- Schiffbautechnische Versuchsanstalt (Vasca Navale di Vienna), Vienna, Austria, Giugno 2003: Esperimenti di rollio forzato nell'ambito di una ricerca congiunta tra DINMA e Fincantieri riguardante il Criterio Meteorologico.
- Schiffbautechnische Versuchsanstalt (Vasca Navale di Vienna), Vienna, Austria, Novembre 2003: Esperimenti di rollio forzato nell'ambito del Progetto Europeo SAFENVSHIP
- Schiffbautechnische Versuchsanstalt (Vasca Navale di Vienna), Vienna, Austria, 20-23 Gennaio 2004: Esperimenti di rollio forzato nell'ambito di una ricerca congiunta tra DINMA e Fincantieri riguardante il Criterio Meteorologico.
- Laboratorio Idrodinamico dell'INSEAN, Roma, Italia, Maggio/Giugno 2004: esperimenti sul rollio parametrico in mare regolare e irregolare, analisi di ergodicità e misura di momento raddrizzante in onde.
- Università di Osaka, Giappone, Marzo 2006: prove sperimentali di rollio parametrico in mare longitudinale regolare per una porta contenitori post-panamax.
- Università di Osaka, Giappone, Giugno 2006: prove sperimentali di rollio parametrico in mare longitudinale irregolare per una porta contenitori post-panamax.
- CEHIPAR, Madrid, Spagna, Luglio/Agosto 2008: esperimenti collegati al progetto di ricerca "*Determination of relevant parameters for the alternative assessment of Intact Stability Weather Criterion on experimental basis*" finanziato nell'ambito del Sesto Programma Quadro (FP6) della Comunità Europea tramite il Contratto no. 022441 (RII3) all'interno della "Integrated Infrastructure Initiative HYDRALAB III".

### **15) Attività di coordinamento ed editoriali, attività come chairman in occasione di convegni**

- Marzo/Maggio 2005 – Coordinatore dello "Splinter Group" per lo sviluppo delle linee guida per la verifica sperimentale del Criterio Meteorologico, nell'ambito della revisione del Codice di Stabilità a Nave Integra all'IMO, così come deciso durante la riunione dell' "Intact Stability Correspondence Group" tenutasi a Stettino (Febbraio/Marzo 2005).
- Co-Organizzatore della Sessione 4 "Probabilistic Assessment of Intact Stability" del "10th International Ship Stability Workshop", 23-25 Marzo 2008, Daejeon, Corea del Sud
- Interim coordinator del comitato internazionale "Stability R&D Committee" (periodo: 2011-2012)
- Chairman del comitato internazionale "Stability R&D Committee" (periodo: Luglio 2012-Giugno 2015)
- Co-Organizzatore della Sessione "Risk-Based Assessment of Ship Stability (Intact & Damage)" del "13th International Ship Stability Workshop", 23-26 Settembre 2013, Brest (Francia)
- Curatore scientifico, insieme a Alberto Francescutto e Manuel Arcenio Urcia Larios, degli Atti della Prima Conferenza Internazionale "Safety and Energy Efficiency in River Transportation for a Sustainable Development of the Peruvian Amazon Region", 17-19 July 2013, Iquitos, Peru.
- Co-Organizzatore del Workshop "Ship Stability and Safety through Operational Measures", tenutosi durante la "12th International Conference on the Stability of Ships and Ocean Vehicles (STAB2015)", 14-19 Giugno 2015, Glasgow, Scozia, UK

- Chairman della sessione “Safety & Security (2)” durante 16th International Congress of the International Maritime Association of the Mediterranean (IMAM 2015) - Towards Green Marine Technology and Transport, 21-24 September 2015, Pula, Croatia
- Co-Organizzatore della Sessione “Operational Aspects” del “15th International Ship Stability Workshop”, 12-15 Giugno 2016, Stoccolma, Svezia
- Co-Organizzatore della Sessione “Stability and safety of inland and river-sea ships” del “16th International Ship Stability Workshop”, 5-7 Giugno 2017, Belgrado, Serbia
- Membro del Comitato Editoriale della Rivista “International Shipbuilding Progress (ISP)” (periodo: dal 2017)
- Chairman della sessione “12-2-2 Floater Dynamics and Hydrodynamics - 2” durante 37th International Conference on Ocean, Offshore and Arctic Engineering (OMAE2018), 17-22 Giugno 2018, Madrid, Spagna
- Chairman di “S&D 5: Probability (3)”: sessione congiunta di 13<sup>th</sup> International Conference on the Stability of Ships and Ocean Vehicles (STAB2018) & 7<sup>th</sup> International Maritime Conference on Design for Safety (DfS2018), 16-21 Settembre 2018, Kobe, Japan.

## 16) Appartenenza a comitati tecnici/scientifici

- Febbraio 2006-Febbraio 2007: Membro del comitato giapponese SCAPE (Strategic Research Committee on Estimation Methods of Capsizing Risk for the IMO New Generation Stability) creato dalla Japan Society of Naval Architects and Ocean Engineers (JASNAOE).
- Membro del comitato internazionale "Stability R&D Committee" (2011 – Marzo 2016)
- Membro del comitato scientifico dello "Joint 19th International Conference on HYDrodynamics in Ship Design and 4th International Symposium on Ship MANoeuvring - HYDMAN2012", 19-21 Settembre 2012, Ilawa, Polonia
- Membro del comitato scientifico della First International Conference “Safety and Energy Efficiency in River Transportation for a Sustainable Development of the Peruvian Amazon Region”, 17-19 Luglio 2013, Iquitos, Peru.
- Membro del comitato scientifico dello "16th International Congress of the International Maritime Association of the Mediterranean (IMAM 2015) - Towards Green Marine Technology and Transport", 21-24 Settembre 2015, Pola, Croazia
- Membro del comitato scientifico della "RINA International Conference on Ship & Offshore Technology (ICSOT) – India 2015 – ‘Coastal and Inland Shipping’ ", 10-11 Dicembre 2015, Kharagpur, India
- Membro del comitato internazionale "STAB International Standing Committee" (da Giugno 2015)
- Membro del comitato scientifico della “International Conference on Ships and Offshore Structures (ICSOS 2018)”, che si terrà il 17-19 Settembre 2018 a Göteborg, Svezia.
- Membro del “Gruppo di lavoro permanente sulla sicurezza della navigazione”, istituito dal Comando Generale del Corpo delle Capitanerie di Porto, Ministero delle Infrastrutture e dei Trasporti, Italia. Periodo: da Aprile 2018.

## 17) Borse di studio/Premi/Borse di mobilità

- Assegnatario di una borsa di Dottorato in Ingegneria Navale e Marina finanziata dall'Università di Trieste - XVIII Ciclo di Dottorato 2003-2005 (Università di Trieste). Anno: 2003.
- Assegnatario di una borsa di Dottorato in Ingegneria Navale e Marina finanziata dall' INSEAN (Istituto Nazionale per Studi ed Esperienze di Architettura Navale) per il XVIII Ciclo di Dottorato 2003-2005 (Università di Trieste). Anni: 2004-2005.
- Assegnatario di una borsa di studio di 11 mesi fornita dalla "Japan Society for the Promotion of Science (JSPS)" per condurre attività di ricerca in Giappone in collaborazione con l'Università di Osaka, a partire da Dicembre 2005. Argomento della ricerca: "Analisi del rollio parametrico nonlineare tramite un approccio modulare in vista dello sviluppo dei nuovi "Performance Based Criteria" per la verifica di stabilità a nave integra nell'ambito del programma a lungo termine così come deciso dall'International Maritime Organization".
- Assegnatario di una borsa di studio fornita dal Research Institute for Symbolic Computation (Johannes Kepler University, Linz, Austria) per la partecipazione a “First RISC/SCIEnce Training School In Symbolic Computation”, 5-16 February 2007, Castle of Hagenberg, Austria. Borsa di studio finanziata da “European Commission Framework 6 Programme for Integrated Infrastructures Initiatives” nell’ambito del progetto SCIEnce.
- Assegnatario, nel 2008, del “Samuel Baxter Prize” conferito dalla Royal Institution of Naval Architects (RINA) per l’articolo “Safety and Operability of Fishing Vessels in Beam and Longitudinal Waves”, giudicato come il miglior articolo pubblicato da un autore sotto i 30 anni nelle Transactions 2007 e riguardante problemi legati alla sicurezza.
- ERASMUS/LLP Mobility Programme Teaching Staff 2012: supporto finanziario per un periodo di insegnamento di 6 giorni (05/03/2012-10/03/2012) presso Universidad Politécnica de Madrid (UPM) - Departamento de Ciencias Aplicadas a la Ingeniería Naval (DCAIN) - Escuela Técnica Superior de Ingenieros Navales (ETSIN)

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- ERASMUS/LLP Mobility Programme Teaching Staff 2013: supporto finanziario per un periodo di insegnamento di 5(+2) giorni (04/03/2013 - 09/03/2013) presso Universidad Politécnica de Madrid (UPM) - Departamento de Ciencias Aplicadas a la Ingeniería Naval (DCAIN) - Escuela Técnica Superior de Ingenieros Navales (ETSIN)
  - ERASMUS+ Mobility Programme Teaching Staff 2018: supporto finanziario per un periodo di insegnamento di 5(+2) giorni (23/04/2018 - 27/04/2018) presso University of Belgrade – Faculty of Mechanical Engineering – Department of Naval Architecture

## **18) Argomenti di ricerca**

- Sicurezza della nave
- Rollio parametrico
- Stabilità a nave integra
- Compartimentazione e stabilità a nave allagata
- Effetti della modellazione nonlineare sui moti nave
- Dinamica nonlineare
- Processi stocastici
- Analisi d'incertezza
- Approcci probabilistici nel campo dell'ingegneria navale
- Sloshing
- Evacuazione
- Manovrabilità

## **19) Titolarità di insegnamenti (completi o in co-docenza)**

- A.A. 2007/08 – Università degli Studi di Trieste – Facoltà di Ingegneria – Corso: “*Laboratorio di Progetto delle Navi*” (6 CFU)
- A.A. 2008/09 – Università degli Studi di Trieste – Facoltà di Ingegneria – Corso: “*Laboratorio di Progetto delle Navi*” (6 CFU)
- A.A. 2009/10 – Università degli Studi di Trieste – Facoltà di Ingegneria – Corso: “*Laboratorio di Progetto delle Navi*” (6 CFU)
- A.A. 2011/12 – Università degli Studi di Trieste – Facoltà di Ingegneria – Corso: “*Statica della Nave II*” (6 CFU)
- A.A. 2011/12 – Universidad Católica Santo Toribio de Mogrovejo (USAT) – Escuela de Ingegnería Naval – corso di 75h: “*Fundamentos de Proyectos Navales*” (Fondamenti di Progetto delle Navi) – In Inglese. Nell'ambito di una collaborazione tra Università degli Studi di Trieste e USAT.
- A.A. 2012/13 – Università degli Studi di Trieste – Facoltà di Ingegneria / Dipartimento di Ingegneria e Architettura – Corso: “*Statica della Nave II*” (6 CFU)
- A.A. 2013/14 – Università degli Studi di Trieste – Dipartimento di Ingegneria e Architettura – Corso: “*Statica della Nave II*” (9 CFU)
- A.A. 2014/15 – Università degli Studi di Trieste – Dipartimento di Ingegneria e Architettura – Corso: “*Statica della Nave II*” (9 CFU)
- A.A. 2015/16 – Università degli Studi di Trieste – Dipartimento di Ingegneria e Architettura – Corso: “*Statica della Nave II*” (9 CFU)
- A.A. 2015/16 - Università degli Studi di Trieste – Dipartimento di Ingegneria e Architettura – Corso: “*Laboratorio di strumenti informatici per l'ingegneria navale e offshore*” (Corso in co-docenza: 3 CFU totali – Lezioni impartite: 1 CFU)
- A.A. 2016/17 – Università degli Studi di Trieste – Dipartimento di Ingegneria e Architettura – Corso: “*Statica della Nave II*” (9 CFU)
- A.A. 2016/17 - Università degli Studi di Trieste – Dipartimento di Ingegneria e Architettura – Corso: “*Laboratorio di strumenti informatici per l'ingegneria navale e offshore*” (Corso in co-docenza: 3 CFU totali – Lezioni impartite: 1 CFU)
- A.A. 2017/18 – Università degli Studi di Trieste – Dipartimento di Ingegneria e Architettura – Corso: “*Statica della Nave II*” (9 CFU)
- A.A. 2017/18 – Università degli Studi di Trieste – Dipartimento di Ingegneria e Architettura – Corso: “*Manovrabilità delle Navi*” (6 CFU)
- A.A. 2018/19 – Università degli Studi di Trieste – Dipartimento di Ingegneria e Architettura – Corso: “*Statica della Nave II*” (9 CFU)

## **20) Lezioni ed esercitazioni tenute nell'ambito di corsi**

- A.A. 2006/07 – Università degli Studi di Trieste – Facoltà di Ingegneria – Corso: “*Manovrabilità delle Navi*”
- A.A. 2006/07 – Università degli Studi di Trieste – Facoltà di Ingegneria – Corso: “*Statica della Nave*”

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- A.A. 2006/07 – Università degli Studi di Trieste – Facoltà di Ingegneria – Corso: “*Statica della Nave II*”
  - A.A. 2007/08 – Università degli Studi di Trieste – Facoltà di Ingegneria – Corso: “*Manovrabilità delle Navi*”
  - A.A. 2007/08 – Università degli Studi di Trieste – Facoltà di Ingegneria – Corso: “*Statica della Nave II*”
  - A.A. 2007/08 – Università degli Studi di Trieste – Facoltà di Ingegneria – Corso: “*Geometria dei galleggianti*”
  - A.A. 2013/14 – Universidad Católica Santo Toribio de Mogrovejo (USAT) – Escuela de Ingegnería Naval – 30h di lezione nell’ambito del corso: “*Geometria de Elementos Flotantes*” (Geometria dei Galleggianti) – In Inglese. Nell’ambito di una collaborazione tra Università degli Studi di Trieste e USAT.

## 21) Seminari/lezioni su invito

- A.A. 2011/12 – Universidad Politécnica de Madrid (UPM) – Departamento de Ciencias Aplicadas a la Ingeniería Naval (DCAIN) – Escuela Técnica Superior de Ingenieros Navales (ETSIN) – Corso/Seminario di 12ore dal titolo: “*IMO intact stability rules and nonlinear ship dynamics: an ongoing convergence*” (nell’ambito di una Erasmus Teachning Staff Mobility)
- A.A. 2012/13 – Universidad Politécnica de Madrid (UPM) – Departamento de Ciencias Aplicadas a la Ingeniería Naval (DCAIN) – Escuela Técnica Superior de Ingenieros Navales (ETSIN) – Corso/Seminario di 12ore dal titolo: “*IMO intact stability rules and nonlinear ship dynamics: an ongoing convergence*” (nell’ambito di una Erasmus Teachning Staff Mobility)
- A.A. 2013/14 – Virginia Tech (USA) – Lezione su invito (2h) nell’ambito del corso “AOE 5334 - Advanced Ship Dynamics” – Tema della lezione: “*What can we get from 1-DOF nonlinear roll modelling in case of multihulls?*” (lezione tramite teleconferenza)
- A.A. 2013/14 – Universidad Católica Santo Toribio de Mogrovejo (USAT) – Escuela de Ingegnería Naval – Seminario di 6h dal titolo: “*Research activities and tools for students of Naval Architecture*”
- A.A. 2013/14 – Escuela Superior Politécnica del Litoral (ESPOL), Facultad de Ingeniería Marítima, Ciencias Biológicas, Oceánicas y Recursos Naturales (FIMCBOR) – Corso/Seminario di 18 ore dal titolo: “*Advanced Dynamics and Safety of Ships*”
- A.A. 2013/14 – University of Belgrade – Serbia (Универзитет у Београду – Србија) – Lezione su invito (2h) nell’ambito del corso “Ship Buoyancy and Stability II” (“Пловност И Стабилитет Брова 2”) – Tema della lezione: “*Possibly dangerous ship dynamics in waves: real experience, mathematical modelling and regulatory countermeasures*” (lezione tramite teleconferenza)
- A.A. 2014/15 – University of A Coruña – Spain – Lezione su invito (2h) nell’ambito dei corsi “Hydrostatics and Stability” and “Hydrostatics and Hydrodynamics” – Tema della lezione: “*Looking at some nonlinear dynamic stability phenomena in waves in the framework of development of intact stability regulations for ship design and ship-specific operational guidance*”
- A.A. 2014/15 – University of Belgrade – Serbia (Универзитет у Београду – Србија) – Lezione su invito (2h) nell’ambito del corso “Ship Buoyancy and Stability II” (“Пловност И Стабилитет Брова 2”) – Tema della lezione: “*Possibly dangerous ship dynamics in waves: real experience, mathematical modelling and regulatory countermeasures*” (lezione tramite teleconferenza)
- A.A. 2017/18 – University of Belgrade – Serbia (Универзитет у Београду – Србија) – Corso/Seminario di 10ore dal titolo: “*Probabilistic damaged ship stability assessment*” (nell’ambito di una Erasmus+ Teachning Staff Mobility)

## 22) Supervisore/co-supervisore di dottorandi/tesi di Dottorato (PhD)

1. Dottorando: Marco Sinibaldi. Università degli Studi di Trieste. Tema: sicurezza e dinamica nelle operazioni navali di traino, “Ciclo XXVII”. Periodo: Gennaio 2012-Settembre 2013. Borsa di studio finanziata dal MIUR. Supervisore accademico.
2. Elkin Mauricio Botia-Vera, 2015, “Experimental and Statistical Investigation of Canonical Problems in Sloshing”, Tesi di dottorato, Universidad Politécnica de Madrid (UPM) (menzione “International PhD” e dottorato conseguito Cum Laude). Programma di Dottorato in “Ocean and Marine Engineering, 08D2”. Titolo di dottore di ricerca ottenuto dopo l’esame finale di dottorato sostenuto il 01 September 2015. Ruolo: Co-supervisore. Supervisore: Prof. Antonio Souto-Iglesias (UPM). Questa tesi ha conseguito il premio come migliore tesi di dottorato del 2014-2015 nel corrispondente programma.
3. Fabio Fucile, 2017, “Deterministic sea wave and ship motion forecasting: from remote wave sensing to prediction error assessment”, Tesi di dottorato, Università degli Studi di Trieste, XXIX Ciclo, Anno Accademico 2015/16. Periodo: Gennaio 2014 – Maggio 2017. Borsa di studio finanziata da CNR-INSEAN (Roma). Attività di ricerca in collaborazione con CNR-INSEAN (Dr. Claudio Lugni). Ruolo: Supervisore. Co-supervisore: Dr. Claudio Lugni (CNR-INSEAN). Titolo di dottore di ricerca ottenuto a valle dell’esame finale sostenuto il 25 Maggio 2017.
4. Gabriele Montecchiari, 2018, “Evacuation dynamics in the maritime field: modelling, simulation and real-time human participation”, Tesi di dottorato, Università degli Studi di Trieste, XXX Ciclo, Anno Accademico

2016/17. Periodo: Novembre 2014 – Marzo 2018. Borsa di studio finanziata dal MIUR. Ruolo: Supervisore. Co-supervisore: Prof. Paolo Gallina (UNITS). Università degli Studi di Trieste. Titolo di dottore di ricerca ottenuto a valle dell'esame finale sostenuto il 16 Marzo 2018.

## 23) Relatore di tesi di laurea

- Laurea Triennale:

1. Murgo, G., "Studio dell'effetto dei 'Second Generation Intact Stability Criteria' per una nave portacontainer", Università degli Studi di Trieste, Anno Accademico 2013-2014.

- Laurea Magistrale:

1. Sasdelli, M., "IMO Second Generation Intact Stability Criteria: A Case Study on Parametric Roll Assessment for a Containership (Criteri IMO di seconda generazione per la stabilità a nave integra: un caso di studio riguardante il rollio parametrico per una nave portacontenitori)" (In Inglese), Università degli Studi di Trieste, Anno Accademico 2014-2015.
5. Marra, A.M.Y.E., "Modellazione ed analisi della dinamica di una turbina eolica galeggianti", Università degli Studi di Trieste, Anno Accademico 2015-2016.
2. Todde, A.E., "Modifica delle forme di carena di una nave da crociera per il miglioramento della stabilità", Università degli Studi di Trieste, Anno Accademico 2015-2016.
3. Dalle Vedove, F., "Time domain simulation study of the operability of a ship equipped with an anti-rolling tank by means of a simplified procedure based on non-linear retardation functions (Studio basato su simulazioni nel dominio del tempo dell'operatività di una nave equipaggiata con una cassa anti-rollio tramite una procedura semplificata basata su funzioni memoria non-lineari)" (in Inglese), Università degli Studi di Trieste, Anno Accademico 2015-2016.

## 24) Correlatore di tesi di laurea

- Laurea quinquennale vecchio ordinamento:

1. Truja, V., "Studio dello smorzamento di rollio nell'ambito di un miglioramento della Normativa di Stabilità a nave Integra", Università degli Studi di Trieste, Anno Accademico 2001-2002.
2. Passarella, V., "Studio sperimentale del rollio parametrico di una fregata in risonanza armonica e sub-armonica", Università degli Studi di Trieste, Anno Accademico 2002-2003.
3. Dreossi, M., "Analisi critica di un metodo semi-empirico per la previsione dello smorzamento del moto di rollio", Università degli Studi di Trieste, Anno Accademico 2004-2005.
4. Nicolosi, R.G., "Sviluppo di un codice di manovrabilità 4-DOF ed effetto, sulle manovre standard, dell'incertezza nelle derivate idrodinamiche", Università degli Studi di Trieste, Anno Accademico 2005-2006.
5. Turchetto, A., "Caratterizzazione della manovrabilità di una nave attraverso l'utilizzo degli indici di manovrabilità", Università degli Studi di Trieste, Anno Accademico 2008-2009.

- Laurea triennale:

1. Birsa, M., "Lo sviluppo dei nuovi criteri di stabilità a nave integra", Università degli Studi di Trieste, Anno Accademico 2003-2004.
2. Biselli, G., "Studio della stabilità di un piccolo peschereccio in mare longitudinale", Università degli Studi di Trieste, Anno Accademico 2004-2005.
3. Sinibaldi, M., "Studio del rollio parametrico di un trimarano in mare longitudinale", Università degli Studi di Trieste, Anno Accademico 2006-2007.
4. Dall'Aglio, G., "Studio dello smorzamento del moto di rollio di un trimarano in funzione della velocità di avanzo", Università degli Studi di Trieste, Anno Accademico 2006-2007.
5. Boaro, L., "Ottimizzazione del posizionamento degli outriggers di un trimarano in relazione alla stabilità sull'onda", Università degli Studi di Trieste, Anno Accademico 2008-2009.
6. Burattini, D., "Studio delle prestazioni idrodinamiche di uno yacht", Università degli Studi di Trieste, Anno Accademico 2009-2010.
7. Lamacchia, L., "Studio di resistenza e stabilità allo stato integro per un piccolo traghetto passeggeri", Università degli Studi di Trieste, Anno Accademico 2009-2010.
8. Scalera, L., "Bouncing water device", Università degli Studi di Trieste, Anno Accademico 2011-2012.

- Laurea Specialistica/Magistrale:

1. Sidari, M., "Il problema del racking: sviluppo di una procedura per la verifica a fatica basata sul calcolo diretto dei moti nave", Università degli Studi di Trieste, Anno Accademico 2006-2007.
2. Fucile, F., "Analisi del rollio parametrico per carene di forme atipiche", Università degli studi di Trieste, Anno Accademico 2007-2008.

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- 3. Vidali, C., "Effetto dell'incertezza sulle derivative idrodinamiche sulla valutazione della manovrabilità di una nave", Università degli Studi di Trieste, Anno Accademico 2007-2008.
  - 4. Vettor, R., "Sviluppo di una metodologia di nowcasting del moto ondoso finalizzata all'operatività di mezzi offshore" Università degli Studi di Trieste, Anno Accademico 2009-2010.
  - 5. Dall'Aglio, G., "Simulazione del moto di rollio in presenza di casse passive anti-rollio", Università degli Studi di Trieste, Anno Accademico 2009-2010.
  - 6. Sinibaldi, M., "Dinamica non lineare di rollio in mare al traverso: un confronto tra due modellazioni 1-DOF", Università degli Studi di Trieste, Anno Accademico 2010-2011.
  - 7. Mocnik, F., "Analisi idrodinamica dell'operatività di una nave oceanografica per il Mar Mediterraneo", Università degli Studi di Trieste, Anno Accademico 2010-2011.
  - 8. Brocco, E., "La risposta strutturale a carichi dinamici di uno stack di container", Università degli Studi di Trieste, Anno Accademico 2011-2012.

- Studenti non dell'Università degli Studi di Trieste:

- 1. Tzamtzis, S., "Development and testing of a procedure for the alternative assessment of Weather Criterion on experimental basis", Università degli Studi di Trieste e National Technical University di Atene (Studente SOCRATES), Anno Accademico 2003-2004.

## 25) Altre attività accademiche (più rilevanti)

- Periodo Marzo 2007, Master universitario di I Livello "Navy Tech" (organizzato dall'Università degli Studi di Trieste, Fincantieri SpA e Regione Autonoma Friuli Venezia Giulia): insegnante del modulo "Basic ideas on screw propellers" (Concetti di base sulla propulsione ad elica).
- Periodo 2006-2008, Master universitario di I Livello "Navy Tech" (organizzato dall'Università degli Studi di Trieste, Fincantieri SpA e Regione Autonoma Friuli Venezia Giulia): tutore accademico per l'intera durata del Master.
- Membro del Collegio Docenti della "Scuola di Dottorato in Scienze dell'Ingegneria - Indirizzo Ingegneria Meccanica, Navale, Energetica e della Produzione", Università degli Studi di Trieste, Ciclo di Dottorato: XXVII (anno di inizio ciclo: 2011).
- Membro del Collegio Docenti della "Scuola di Dottorato in Ingegneria e Architettura - Indirizzo Ingegneria Meccanica, Navale, Energetica e della Produzione", Università degli Studi di Trieste, Ciclo di Dottorato: XXVIII (anno di inizio ciclo: 2012).
- Membro del Collegio Docenti del "Corso di Dottorato in Ingegneria e Architettura - Indirizzo Ingegneria Meccanica, Navale, Energetica e della Produzione", Università degli Studi di Trieste, Ciclo di Dottorato: XXIX (anno di inizio ciclo: 2013).
- Membro del Collegio Docenti del "Corso di Dottorato in Ingegneria e Architettura - Indirizzo Ingegneria Meccanica, Navale, Energetica e della Produzione", Università degli Studi di Trieste, Ciclo di Dottorato: XXX (anno di inizio ciclo: 2014).
- ERASMUS+ – Responsabile del Dipartimento di Ingegneria e Architettura per l'accordo tra Università degli Studi di Trieste (I TRIESTE01) e Università Politecnica di Madrid (E MADRID05). Dal 2014.
- Membro del Collegio Docenti del "Corso di Dottorato in Ingegneria e Architettura - Indirizzo Ingegneria Meccanica, Navale, Energetica e della Produzione", Università degli Studi di Trieste, Ciclo di Dottorato: XXXI (anno di inizio ciclo: 2015).
- ERASMUS+ – Responsabile del Dipartimento di Ingegneria e Architettura per l'accordo tra Università degli Studi di Trieste (I TRIESTE01) e Università di Coruna (E LACORU01). Dal 2015.
- Titolato alla co-supervisione di dottorandi nel "PhD program on Ocean and Marine Engineering, 08D2, Universidad Politécnica de Madrid (UPM), Spain" (dal 2015).
- Membro del Collegio Docenti del "Corso di Dottorato in Ingegneria Industriale e dell'Informazione - Curriculum Ingegneria Meccanica, Navale, Energetica e della Produzione", Università degli Studi di Trieste, Ciclo di Dottorato: XXXII (anno di inizio ciclo: 2016).
- Membro del Collegio Docenti del "Corso di Dottorato in Ingegneria Industriale e dell'Informazione - Curriculum Ingegneria Meccanica, Navale, Energetica e della Produzione", Università degli Studi di Trieste, Ciclo di Dottorato: XXXIII (anno di inizio ciclo: 2017).
- ERASMUS+ – Responsabile del Dipartimento di Ingegneria e Architettura per l'accordo tra Università degli Studi di Trieste (I TRIESTE01) e Università di Strathclyde (UK GLASGOW02). Dal 2017.
- ERASMUS+ – Responsabile del Dipartimento di Ingegneria e Architettura per l'accordo tra Università degli Studi di Trieste (I TRIESTE01) e Università di Belgrado. Azione: KA107. Dal 2017.
- Membro del Collegio Docenti del "Corso di Dottorato in Ingegneria Industriale e dell'Informazione - Curriculum Ingegneria Meccanica, Navale, Energetica e della Produzione", Università degli Studi di Trieste, Ciclo di Dottorato: XXXIV (anno di inizio ciclo: 2018).

**26) Attività di valutazione**

- Membro (first opponent) della commissione di valutazione della tesi di dottorato, della “lezione di prova” e della presentazione e discussione della tesi di dottorato di Dominik Andreas Breu, Department of Engineering Cybernetics, Norwegian University of Science and Technology, Trondheim, Norvegia, 2013.
- Membro della commissione giudicatrice per l’ammissione al "Corso di Dottorato in Ingegneria e Architettura", Università degli Studi di Trieste, XXIX ciclo (2013).
- Membro della commissione per la valutazione dei progetti di ricerca di ateneo – Bando FRA 2013, Dipartimento di Ingegneria e Architettura, Università degli Studi di Trieste, 2013.
- Membro della commissione di valutazione della tesi di dottorato e della presentazione e discussione della tesi di dottorato di Francisco Mata Álvarez-Santullano, Escuela Técnica Superior de Ingenieros Navales, Universidad Politécnica de Madrid, Madrid, Spagna, 2014.

**27) Pubblicazioni: Riviste Internazionali, Transactions**

1. Francescutto, A., Bulian, G., Lugni, C., "Nonlinear and Stochastic Aspects of Parametric Rolling Modelling", Marine Technology, Vol 41, No. 2, April 2004, pp 74-81.
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13. Bulian, G., Francescutto, A., "Dangerous Phenomena in Adverse Weather and Sea Conditions: when Stability Criteria Need to be Supplemented by Recommendations to the Master", COSMEMOS Workshop – Innovation in meteorology for maritime navigation, 23 October 2013, Livorno, Italy (Presented by A. Francescutto)
14. Baćkalov, I., Biot, M., Bresciani, F., Brocco, E., Bulian, G., Francescutto, A., Fucile, F., Hofman, M., Huss, M., Kalajdžić, M., Kuttenkeuler, J., Lugni, C., Maksić, I., Mccue, L., Moro, L., Ovegård, E., Palmquist, M., Rosén, A., Saldovieri, F., Serafino, F., Skoglund, L., Söder, C.-J., "Ship Safety & Intact Stability: from Design to Operation", Presented at First Maritime Europe Strategy Action (MESA) Workshop, "Designing Waterborne RDI Strategies", 5 March 2014, Bruxelles, Belgium
15. Bulian, G., "Getting to know some potentially dangerous dynamic stability phenomena in waves and the idea of 'Second Generation Intact Stability Criteria'", Seguridad para la navegación y construcción naval, Universidad Católica Santo Toribio de Mogrovejo (USAT), 9-10 May 2014, Chiclayo, Peru
16. Baćkalov, I., Bulian, G., Cichowicz, J., Eliopoulou, E., Konovessis, D., Leguen, J.-F., Rosén, A., Themelis, N., "Ship Stability, Dynamics and Safety: Status and Perspectives", Invited keynote paper presentation at 12<sup>th</sup> International Conference on the Stability of Ships and Ocean Vehicles (STAB2015), 14-19 June 2015, Glasgow, Scotland, UK
17. Cercos-Pita, J.L., Souto-Iglesias, A., Bulian, G., Bouscasse, B., Colagrossi, A., Colom, J., Servan, B., Garcia-Espinosa, J., "Coupling between sloshing and ship motions with emphasis on wave-breaking", 16th International Workshop on Trends In Numerical and Physical Modeling for Industrial Multiphase Flows, Cargèse, Corsica, September 14th–18th, 2015 (presented by A. Souto-Iglesias)
18. Botia-Vera, E.M., Souto-Iglesias, A., Bulian, G., "Sensitivity analysis of ISOPE benchmark C15 case (SDOF roll) regarding motion spectrum characteristics", 16th International Workshop on Trends In Numerical and Physical Modeling for Industrial Multiphase Flows, Cargèse, Corsica, September 14th–18th, 2015 (presented by A. Souto-Iglesias)
19. Bulian, G., "Some notes and comments on Direct Stability Assessment (DSA), Operational Limitations (OL) and Operational Guidance (OG)" – Invited presentation for the Workshop "Level 3 of the second generation

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- intact stability criteria and its Operational Guidance – latest developments and outlook", 21<sup>st</sup> January 2016, International Maritime Organization, London, UK
20. Bulian, G., "Nonlinear ship dynamics and intact stability assessment" – Invited lecture at the Society of Naval Architects of Serbia, University of Belgrade, Belgrade, Serbia, 27 June 2016
21. Bulian, G., "Direct Stability Assessment (DSA) and Operational Measures (OM): some food for thoughts", Presentation during Workshop on Second Generation Intact Stability Criteria within the 13<sup>th</sup> International Conference on the Stability of Ships and Ocean Vehicles (STAB2018), 16-21 September 2018, Kobe, Japan

### **35) Revisore per riviste internazionali**

- International Shipbuilding Progress (2006, 2007, 2008, 2010, 2013, 2014, 2017, 2018)
- Journal of Marine Science and Technology (2006, 2009, 2010, 2011, 2012, 2013, 2016, 2017, 2018)
- ASME Journal of Computational and Nonlinear Dynamics (2009, 2010)
- Ocean Engineering (2009, 2010, 2011, 2013, 2015, 2016, 2017, 2018)
- IEEE Transactions on Control System Technology (2011)
- Marine Systems & Ocean Technology - A Journal of SOBENA (2012)
- Mathematical Problems in Engineering (2012)
- Safety Science (2014, 2016)
- Journal of Hydrodynamics (2014)
- Applied Ocean Research (2014, 2015, 2016)
- Journal of Fluids and Structures (2015, 2016, 2017, 2018)
- Journal of Ocean Engineering and Science (2016)
- Journal of Offshore Mechanics and Arctic Engineering (2016)
- Physics of Fluids (2016)
- Ships and Offshore Structures (2017, 2018)

### **36) Revisore per conferenze internazionali**

- 9th International Conference on Stability of Ships and Ocean Vehicles (STAB2006), Rio de Janeiro, 25-29 September 2006
- ISOPE-2007, The 17th International Offshore (Ocean) and Polar Engineering Conference, Lisbon, Portugal, July 1-6, 2007
- 47th IEEE Conference on Decision and Control, Fiesta Americana Grand Coral Beach, Cancun, Mexico, December 9-11, 2008
- 2011 American Control Conference, San Francisco, California, USA, June 29 - July 1, 2011
- ISOPE-2011, The 21st International Offshore (Ocean) and Polar Engineering Conference, Maui, Hawaii, USA, June 19-24, 2011
- 31st International Conference on Ocean, Offshore and Arctic Engineering (OMAE2012), June 10-15, 2012, Rio de Janeiro, Brazil
- 11th International Conference on the Stability of Ships and Ocean Vehicles (STAB2012), 23-28 September 2012, Athens
- 32nd International Conference on Ocean, Offshore and Arctic Engineering (OMAE2013), June 9-14, 2013, Nantes, France
- 33rd International Conference on Ocean, Offshore and Arctic Engineering (OMAE2014), June 8-13, 2014, San Francisco, CA, USA
- 3rd International Conference on electrical systems for aircraft, railway, ship propulsion and road vehicles (ESARS2015), March 3rd-5th 2015, Aachen – Germany
- 12<sup>th</sup> International Conference on the Stability of Ships and Ocean Vehicles (STAB2015), 14-19 June 2015, Glasgow, Scotland, UK
- 16<sup>th</sup> International Congress of the International Maritime Association of the Mediterranean (IMAM 2015) - Towards Green Marine Technology and Transport, 21-24 September 2015, Pula, Croatia
- 35th International Conference on Ocean, Offshore and Arctic Engineering (OMAE2016), June 19-24, 2016, Busan, Korea
- 36th International Conference on Ocean, Offshore and Arctic Engineering (OMAE2017), June 24-30, 2017, Trondheim, Norway
- International Conference on Ships and Offshore Structures (ICSOS2017), 11-13 September 2017, South University of Science and Technology of China, Shenzhen, China
- 37th International Conference on Ocean, Offshore and Arctic Engineering (OMAE2018), June 17-22, 2018, Madrid, Spain

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- 13th International Conference on the Stability of Ships and Ocean Vehicles (STAB2018), 16-21 September 2018, Kobe, Japan

- 7th International Maritime Conference on Design for Safety (DfS 2018), 16-21 September 2018, Kobe, Japan

**37) Revisore per tesi di dottorato (PhD)**

- Míguez González, M., "A Study of Ship Parametric Roll Resonance for the Evaluation of Preventive Strategies", Universidade da Coruña, 2012

- Breu, D.A., "Frequency Detuning of Parametric Roll Resonance", Norwegian University of Science and Technology, 2013

- Mata Álvarez-Santullano, F., "Fishing effort control regulations influence on stability, safety and operability of small fishing vessels: study of a series of stability related accidents occurred in Spain between 2004 and 2007", Universidad Politécnica de Madrid, 2014