

# Stefano Brizzolara

## Education

April 1994

- M.S. “*summa cum laude*” in Naval Architecture and Marine Engineering, University of Genova, with special mention and recommendation for publication of the thesis “Design of a monohull fast ferry able to carry 450 passengers and 120 cars at a speed of 40 knots”, in collaboration with Fincantieri about a new ship that became very popular in the following decade.

April 2000

- PhD in Naval Architecture at the University of Naples Federico II (jointly with the Univ. of Genova) with the thesis “Theory and Application of Numerical Methods for the Hydrodynamic Design of High Speed Ships”.

## Current Position

- Associate professor with tenure in the department of Aerospace and Ocean Engineering of Virginia Tech, Blacksburg, VA.

## Previous Positions

- Assistant Director of Research at MIT Sea Grant, managing a diverse portfolio of research projects about advanced ship design and coastal environment issues.
- Principal research Scientist and Lecturer in MIT Mechanical Engineering Department.
- Founder of the MIT Innovative Ship Design lab, a laboratory dedicated to the development of new design and design tools for innovative ships, with principal support from ONR and DARPA.
- Assistant Professor (with tenure) in the Department of Naval Architecture, Marine and Electrical Engineering of the University of Genova.
- Founder and responsible of the Marine CFD Group (Univ, of Genova), a research group dedicated to the development and application of numerical methods for hydrodynamic in Ship Design, currently involved in several research projects with EU, ONR, Italian Navy and shipbuilding industry.

## Specializations

- Stage (1992) at Danish Hydraulic Institute on numerical modeling of coastal and offshore hydrodynamics, with special lectures of M. Abbot.
- 1993 ➤ WEGEMT course “Numerical Simulation of Hydrodynamics: Ships and Offshore Structures” in Ecole Central de Nantes, hold by M. Visonneau, G. Delhommeau.
- 1994 ➤ Stage at Univ. of Madrid with G. Perez Gomez, inventor of the CLT propellers, on “design methods of unconventional propellers with tip end plates”
- 1999 ➤ Course “Understanding, Modeling and Simulation of Turbulence” in Hamburg, hold by P. Bradshaw, H. Ferziger and M. Peric.
- 2008 ➤ 16<sup>a</sup> Summer School of Scientific Parallel Programming at the inter-university Supercomputing Center CINECA in Bologna.
- 2009 ➤ Course in “Flow Simulation using Particles” at CECAM (Centre Européen di Calcul Atomique and Moléculaire) of Lausanne, hold by Prof. P. Koumoutsakos & G.H. Cottet

## Awards and Recognitions

- Finalist of the Ocean Discovery X-prize (sponsored by Shell) ion the VT Deep-X team, designing and building a system of coordinated AUVs 4000m depth rated.
- 2018 ➤ Calder Prize for best paper on the subject of high speed crafts published in the Transactions of the Royal Institution of Naval Architects in the year 2017-18
- 2015 ➤ Mandel’s Prize for Excellence in Hydrofoil Research, as advisor of the PhD student Luca Bonfiglio

- 2014 ➤ Qualified to Phase two (from 92 contenders to 20) of the Wave Energy Prize, sponsored by the US Department of Energy, as leader of the IOWEC team (MIT+Politecnico of Torino+FAU), proposing a new technology of Wave Energy Converter that uses gyroscopic devices to harvest energy motion of an oscillating floating body in waves and pitch resonance tuning tanks.
  - 2013 ➤ Elected member of the ISSC Special Committee V. ITTC, for the establishing common hydrodynamic analysis and design methods to estimate transient loads and motions in waves among the two institutions, 2015-2017.
  - 2012-present ➤ Honorable Mention (second place) at the Mandel’s Prize for Excellence in Hydrofoil Research, as advisor of the students V. Georgiadis, L. Faison and K. Miller participating with the work “Design and Assessment of a Super-High Speed, Hybrid Hydrofoil/SWATH Crew Boat”.
  - 2011 ➤ Award for the Best Paper of 2011 in the Journal of Ships and Offshore Structure with a paper “Comparison of experimental and numerical sloshing loads in partially filled tanks” which review and validate results of numerical studies made in MARSTRUCT European Network of Excellence dedicated to the analysis of the response of marine structures to violent loads.
  - Dec. 2011 ➤ Invited Seminar at MIT on "*Design and Hydrodynamics of High Speed Ships*", organized by the MIT Center for Ocean Engineering.
  - Feb. 2011 ➤ Invited Seminar at MIT on “*Design and Hydrodynamic Optimization of a New Family of Hybrid-SWATH Unmanned Surface Vehicles*”, organized by the MIT Center for Ocean Engineering and MIT Sea Grant College Program.
  - 2010 ➤ Visiting Professor at NURC (NATO Undersea Research Center) of La Spezia, summer/autumn 2010, for developing the design of an innovative Unmanned Surface Vehicle for persistent sea monitoring and UUV management.
  - Feb. 2010 ➤ Invited Seminar on “*Prediction of slamming load by SPH method*” at the California Institute of Technology (Pasadena, CA) for an ONR sponsored seminar about Slamming loads on High Speed Ships, organized by Prof. G. Ravichandran (Aerospace Lab).
  - 2003 ➤ Grant from the University of Genova for the Best Research Proposal of Young Researchers in Engineering disciplines, about the design and testing in cavitation tunnel of an unconventional stabilizer fins
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- Professional Societies** ➤ Royal Institution of Naval Architect, elected member since 2008
  - Society of Naval Architects and Marine Engineers, elected member since 1997
  - American Society of Naval Engineers, member since 2012
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- Service** ➤ Member elect (US representative) of the ISSC Committee II.2, Ship Dynamic Response for the triennial 2013-2015.
  - 2014 – 2020 ➤ Member elect (US representative) of the ISSC-ITTC special Committee on Uncertainty Quantification of Waves and Wave Loads.
  - 2019 – present ➤ Chair of SNAME H-10 panel: Computational Fluid Dynamics
  - 2018 – present ➤ Associate Editor of the Journal of Ship Research, edited by Society of Naval Architects and Marine Engineers (US)
  - 2014 – present ➤ In the Editorial Board of the International Journal of Maritime Engineering (IJME) and the International Journal of Small Craft Technology (IJSCT), formerly the Transactions of the Royal Institution of Naval Architects (UK).
  - 2014 - present ➤ In the Editorial board of the Journal of Marine Science and Applications, Transactions of the Chinese Society of Naval Architects and Marine Engineers. Edited by Elsevier.

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| <b>Service (cont.d)</b>                                   | <ul style="list-style-type: none"> <li>➤ Academic advisor of the VT-SailBot team, that designs builds and competes with an autonomous sailing boat. Arrived 2<sup>nd</sup> in 2019.</li> <li>➤ Academic advisor of the multidisciplinary inter-university (VT-MIT-UWI) team selected for the final of the U.S. Department of Energy Marine Energy Collegiate Competition (MECC)</li> </ul>  |
| <b>Sabbaticals</b>  | <ul style="list-style-type: none"> <li>➤ Visiting Peabody Associate Professor at MIT Mechanical Engineering department, from September 2011 to September 2012.</li> </ul>   |
| <b>Professional Experience</b>                            | <ul style="list-style-type: none"> <li>➤ After graduation, I collaborated with Mario Caponnetto, at the time assistant professor at the Univ. of Genova, head of the CFD simulations team for the BMW Oracle team of the last two America's Cup editions, now in the Luna-Rossa syndicate. I specialized with him on the theory of panel methods for lifting bodies, developing a method for propellers analysis in cavitating conditions, referenced by ITTC as one of the first numerical methods in the field.</li> </ul>  |
| <i>Experimental research at Cavitation Tunnel</i>         | <ul style="list-style-type: none"> <li>➤ Immediately later, as duty officer of Italian Navy (1994-1996), I was assigned to the center of experimental hydrodynamics of the Italian Navy (C.E.I.M.M.) in Rome. I was responsible for running experimental tests on hydrofoils and propellers for Navy ships at the cavitation tunnel and participated to other civilian research, such as for instance bulbous keels for racing sailboats or fin stabilizers for fast ferries;</li> </ul>  |
| <i>Fincantieri Hydrodynamic Design Office (1996-2000)</i> | <ul style="list-style-type: none"> <li>➤ Designer in the hydrodynamic design and research office of Fincantieri Naval Ship Division in Genova. Designs include: Fast Deep-V monohull ferries class (40 knots, 80-145m in length), SES ships, fast Corvettes (Comandanti class), Frigates (FREMM class), fast patrol boats (new Saettia class) as well as submarines (U-212 with fuel cells, in collaboration with HDW in Germany); hull appendages (rudders, fin stabilizers, interceptors) and naval ships propellers, following Fincantieri legacy of sophisticated propeller designs, with attention to cavitation and noise.</li> </ul>   |
| <i>EU Research in Fincantieri</i>                         | <ul style="list-style-type: none"> <li>➤ Technical Responsible for Fincantieri of several research projects funded by European Community or NATO (CEPA10): design of SES large passenger ferries (HYDROSES), study of hydro-elastic coupling in the slamming phenomena (SEAWORTH), automatic optimization of ship hull forms with respect to resistance and seakeeping (HULLOPT, FANTASTIC), human factor in ship design (PERFAST).</li> </ul>  |
| <i>Rolls-Royce Syncrolift</i>                             | <ul style="list-style-type: none"> <li>➤ Technical advisor for Rolls Royce Syncrolift (USA), for the whole design and installation of the biggest ever built Syncrolift plant in Venice (Italy). The 28,000t lift rated plant was successfully used to launch concrete-caissons from land to the sea. The floating caissons were towed and sunk in place form the foundations of the movable tilting doors of the <i>Mose</i> barrier system that protects the Venice lagoon against high tides. One of the most significant maritime works ever done worldwide.</li> </ul>   |
| <i>Schottel Ship Propulsion</i>                           | <ul style="list-style-type: none"> <li>➤ Technical advisor for Schottel (Germany) in Italy, for design and analysis of azimuthal propulsion units (mechanical thrusters or electrical podded propellers) and CP propellers. I developed one of the first method to calculate the indirect towing capability of tugs with azimuthal thrusters (ship classification society approved).</li> </ul>   |
| <i>Consulting</i>   | <ul style="list-style-type: none"> <li>➤ Design and technical advisory for shipyards, marine propulsors manufacturer and ship and yacht design firms in Italy and worldwide.</li> </ul>   |
| <b>Academic experience</b>                                | <ul style="list-style-type: none"> <li>➤ My PhD was on the numerical methods for ship design and in particular on the development of a <i>panel method for the prediction of wave resistance of mono and multihull fast ships</i>. The method, continuously updated, is among the few able to predict the far field wave wash of fast ships in shallow waters. Its robustness and accuracy was proven in many validation studies and recently in two projects for Italian Navy dedicated to the parametric optimization three frigate hull forms for wave resistance and seakeeping. Results were validated by dedicated tests at towing tank. Studies and results obtained are cited in several ITTC proceedings.</li> </ul> |
| <i>PhD</i>  |   |

*Assistant Professor* ➤ After the period in Fincantieri, in 2000, I rejoined the University of Genova, department of Naval Architecture and Marine Engineering, as Assistant Professor, contributing to expand the research activities of the department in the field of numerical hydrodynamics for ship design. I was confirmed with tenure in 2003 and assigned the new course “Numerical Hydrodynamics in Ship Design”.

*Marine CFD Group* ➤ Few years later I founded the Marine CFD Group with a small group of my PhDs students and post-Docs involved in different projects dealing with development and application of numerical methods for ship hydrodynamics.

*MIT-MechE* ➤ Visiting Peabody Associate Professor at MIT MechE (2012-2013), leading the ONR sponsored research project “CFD methods for seakeeping and propeller analysis of SWATH vessels” at the AUV Design Lab of MIT Sea Grant. The research activity continued for another 4 years as reach scientist and associate director for research at MIT Seagrant

### Teaching Experience

*At Virginia Tech 2016 – present*

- Instructor of “Ship Dynamics” (AOE-4334) for the BS in Ocean Engineering
- Instructor of “Dynamics of High Speed Ocean Vehicles” (AOE-5444G) for the MS in Aerospace and Ocean Engineering

- Instructor of “Advanced Ship Dynamics” (AOE-5334) for the MS in Aerospace and Ocean Engineering

- Instructor of “Advanced Naval Architecture” (AOE-5304) for the MS in Aerospace and Ocean Engineering

*At MIT 2012-2016*

- Instructor (lectures and labs) “Design of Ocean Systems” (MIT 2.019) for the undergraduate degree in Naval Architecture and Ocean Engineering.

- Co-instructor (lectures and labs) “Marine Power and Propulsion” (MIT 2.611) for the Master degree in Naval Architecture, Ocean and Naval Engineering.

- Co-instructor (lectures) “Design Principles of Naval Vessels” (MIT 2.703) for the Master degree in Naval Architecture, Ocean and Naval Engineering

2015 ➤ Co-instructor of (lectures and labs) “Design Principles of Ocean Vessels” (MIT 2.22) for the Master degree in Naval Architecture, Ocean and Naval Engineering.

*At U. Genova (IT)* In 2003, I created the course “Numerical Hydrodynamics for Ship Design”, first of its kind in Italy. In 2009, I introduced the new subject Numerical Hydrodynamics for Yacht Design for the Master in Yacht Design in La Spezia, now taught by a former advisee of mine (now ass. prof.).

2000 -2011 ➤ Instructor “Hull Geometry, Hydrostatic and Stability” for the BSc degree in Naval Architecture in Genova. About 100 students per year.

2000-2003 ➤ TA of “Ship Resistance and Propulsion” and “Ship Dynamics” for the BS and MS in Naval Architecture, respectively. About 60 students per year.

2003-2011 ➤ Instructor of “Numerical Hydrodynamics for Ship Design”, newly developed course for the MS in Naval Architecture. About 20 students per year.

2009-2011 ➤ Instructor of “Numerical Hydrodynamics for Yacht Design”, for the MS in Yacht Design and Engineering of La Spezia Campus. About 35 students per year.

### Publications

The list of more than 250 publications and 6 patents is attached in the appendix.

### Research Projects

PI of more than 55 projects funded by EU Commission, Italian Ministry of research, Italian Ministry of Industry, Italian Navy, European Defense Agency, Office of Naval Research (ONR), Defense Advanced Research Projects Agency (DARPA) and National Oceanic and Atmospheric Administration (NOAA). Detailed list is attached.

## **Patents Grants and Pending Applications**

1. S. Brizzolara (2005) “Stabiliser Fin”, European Patent #120138.3-2312, issued March 28, 2001. It is about a new type of fin stabilizer with particular devices able to increase the lift force and the hydrodynamic efficiency at high angle of attack. The new fins have been installed on a series of corvettes of the Italian Navy (NUPA) with positive results.
2. S. Brizzolara “Watercraft Device”. Italian Patent # GE2011A000011 (2011), US patent US8763546 B2 (2014). It is about an innovative Autonomous Surface Vehicle with unconventional SWATH hull form, optimized for minimum drag and motions in waves, for launching and recovering of Autonomous Underwater Vehicles.
3. S. Brizzolara “Watercraft Device”. Italian Patent # GE2011A000012 (2011), US patent US8820260 B2 (2014). It regards the design of a special hybrid HYSWATH Autonomous Surface Vehicle, with wing in ground effect, capable of reaching a max speed of 120knots in Sea State 3, flying on two pairs of negative dihedral super-cavitating surface piercing hydrofoils. The patent includes the new design of the special dual-operating-mode, super-cavitating hydrofoil section.
4. E. B. Brizzolara, S. Brizzolara “Marine Tunnel Thruster”. US patent US9376186 B2 (2016). International EP 2 694 361 B1 patent grant (2017). A special design of the stepped tunnel geometry configuration and additional devices to improve the thrust efficiency of long tunnel thrusters (high length/diameter ratios). Applications include auxiliary thrusters for maneuvering at zero speed (including station keeping, dynamic positioning) as well as ducted thrusters for main propulsion.
5. S. Brizzolara, C. Gray, L. Faison, M. Williams (2019). Stepped Cambered Planing Hull with Hydrofoils SCPH2 for lower drag and superior seakeeping in waves. US 10,189,544B2, patent grant. A technology for high speed planing crafts, consisting of a variable cambered bottom with a step a particular shape after-body and a stern hydrofoil stabilizer. The new technology has been proven to cut the drag of conventional deep-V planing hulls by as much as 30% at high speed
6. G. Bracco, S. Brizzolara, Gulisano A., Mattiazzo G., Passione B., Pozzi N., Sirigu S.A., Vissio G. (2019) System for Generating Electrical Energy from the Wave Motion of the Sea. Patent grant, WO2019111040A1. It regards a system for generating electrical energy from the wave motion of the sea, which consists of a pitch resonant floating body, spread mooring arrangement, internal gyroscopic motion energy converters and pitch resonance tuning tanks. The proper coupling of these devices, allows the fine regulation of the pitch motion resonance frequency on the prevalent incident wave frequency, hence maximizing the efficiency of harvesting energy from in a wide range of open ocean sea state conditions.
7. J. Benedik, S. Brizzolara (2019) Water scooping apparatus for forestfire suppressant in non-amphibious airtankers. New WO patent application, filed April 15<sup>th</sup> 2019.
8. T. Njaka, S. Brizzolara, P. Ben Tzvi (2020). Provisional patent application. Omni-directional thruster for high-disturbance rejection underwater vehicles.

### Books Sections/Chapters

1. Vernengo G., Apollonio C.M., Bruzzone D., Bonfiglio L., Brizzolara S. (2017). Hydrodynamics performance of high speed multi-hulls in waves. *Maritime Transportation and Harvesting of Sea Resources* – Guedes Soares & Teixeira (Eds), 2018 Taylor & Francis Group, London, ISBN 978-0-8153-7993-5
2. Brizzolara S., Brizzolara R. (2016) *Handbook of Ocean Engineering*. Part B: Autonomous Ocean Vehicles, Subsystems and Controls. Chapter 13. Autonomous Sea Surface Vehicles. Dhanak, M. R., Xiros, N. I. (Eds.), Springer. DOI: 10.1007/978-3-319-16649-0. ISBN: 978-3-319-16648-3.
3. Brizzolara S. et al. (2015). Report of Committee II.2 – Ship Dynamic Response. *Volume 1 of the 19th International Ship and Offshore Structure Congress*, ISSC 2015, G. Soares, Y. Garbatov, editors, Taylor & Francis, ISBN 978-1-138-02895-1
4. Brizzolara S., Villa D., Gazzola T., Tryaskin N., Moirod N., de Lauzon N., Diebold L. (2011). Influence of Raised Invar Edges on Sloshing Impact Pressures - Numerical Investigations. *Advances in Marine Structures* Guedes Soares & Fricke (eds), vol.1, pp. 3-8. Taylor & Francis. ISBN 978-0-415-67771-4.
5. Masi M, Brizzolara S., Vignolo S (2011). Chapter 28, Offshore Wind Generators Dynamics. In: Rizzuto, Guedes Soares Eds. *Sustainable Maritime Transportation and Exploitation of Sea Resources*. Vol. 1, p. 221-228, Taylor & Francis Group, ISBN/ISSN: 978-0-415-62081-9
6. Gaggero S, Brizzolara S. (2011). Chapter 7, Endplate Effect Propellers: A Numerical Overview. In: Rizzuto, Guedes Soares Eds. *Sustainable Maritime Transportation and Exploitation of Sea Resources*. vol. 1, p. 55-62, Taylor & Francis Group, ISBN/ISSN: 978-0-415-62081-9
7. Bertetta D, Brizzolara S., Gaggero S, Viviani M (2011). Chapter 5, Numerical and Experimental Optimization of a CP Propeller at Different Pitch Settings. In: Rizzuto, Guedes Soares Eds. *Sustainable Maritime Transportation and Exploitation of Sea Resources*. vol. 1, p. 37-46, Taylor & Francis Group, ISBN/ISSN: 978-0-415-62081-9.

### Articles in Peer reviewed Journals

1. Mascia D., Brizzolara S. (2005). Technological Aspects in the Design of Modern River-Sea Barges. *HYDROGEO*, vol. 1; p. 42-47
2. Brizzolara S., Tincani E, Grassi D (2007). Design of Contra Rotating Propellers for High Speed Stern Thrusters. *Ships and Offshore Structures*, vol. 2; p. 169-182, ISSN: 1744-5302, doi: 10.1080/17445300701430515
3. Brizzolara S., Couty N, Hermundstad O, Ioan A, Kukkanen T, Viviani M, Temarel P (2008). Comparison of Experimental and Numerical Loads on an Impacting Bow Section. *Ships and Offshore Structures*, vol. 3; p. 305-324, ISSN: 1744-5302, doi: 10.1080/17445300802371162
4. Viviani M, Brizzolara S., Savio L (2009). Evaluation of Slamming Loads Using Smoothed Particle Hydrodynamics and Reynolds-Averaged Navier–Stokes Methods. *Journal of Engineering for the Maritime Environment*, vol. 223; p. 17-31, ISSN: 1475-0902, doi: 10.1243/14750902

5. Grasso A, Villa D, Brizzolara S., Bruzzone D (2010). Nonlinear Motions in Head Waves with a RANS and a Potential Code. *Journal of Hydrodynamics*, vol. 22-5; p. 172-177, ISSN: 1001-6058, doi: 10.1016/S1001-6058(09)60189-X
6. Grassi D, Brizzolara S., Viviani M, Savio L, Caviglia S (2010). Design and Analysis of Counter-Rotating Propellers. Comparison of Numerical and Experimental Results. *Journal of Hydrodynamics*, vol. 22-5; p. 570-576, ISSN: 1001-6058, doi: 10.1016/S1001-6058(09)60254-7
7. Gaggero S, Villa D, Brizzolara S. (2010). RANS and Panel Methods for Unsteady Flow Propeller Analysis. *Journal of Hydrodynamics*, vol. 22-5; p. 564-569, ISSN: 1001-6058, doi: 10.1016/S1001-6058(09)60253-5
8. Brizzolara S., Vernengo G. (2011). Automatic Optimization Computational Method for Unconventional S.W.A.T.H. Ships Resistance. *International Journal of Mathematical Models and Methods in Applied Sciences*, vol. 5; pp. 882-889, ISSN: 1998-0140.
9. Brizzolara S., Savio L., Viviani M., Chen Y., Temarel P., Couty N., Hoflack S., Diebold L., Moirod N., Souto Iglesias A. (2011). Comparison of Experimental and Numerical Sloshing Loads in Partially Filled Tanks. *Ships and Offshore Structures*, vol. 6, pp. 15-43, ISSN: 1744-5302, doi: 10.1080/17445302.2010.522372
10. Brizzolara S., Curtin T, Bovio M, Vernengo G (2011). Concept Design and Hydrodynamic Optimization of an Innovative SWATH USV by CFD Methods. *Ocean Dynamics*, vol. 61, ISSN: 1616-7341, doi: 10.1007/s10236-011-0471-y.
11. Bertetta D., Brizzolara S., Canepa E., Gaggero S., Viviani M. (2012) EFD and CFD Characterization of a CLT Propeller. *International Journal of Rotating Machinery*, Volume 2012 (2012), Article ID 348939, 22 pages, doi:10.1155/2012/348939.
12. Bertetta D., Brizzolara S., Gaggero S., Viviani M., Savio L. (2012). CPP propeller cavitation and noise optimization at different pitches with panel code and validation by cavitation tunnel measurements. *Ocean Engineering*, Volume 53, 15, pp:177-195, ISSN 0029-8018, doi: 10.1016/j.oceaneng.2012.06.026.
13. Brizzolara S., Grassi D., Tincani E.P. (2012). Design Method for Contra-Rotating Propellers for High-Speed Crafts: Revising the Original Lerbs Theory in a Modern Perspective. *International Journal of Rotating Machinery*, Volume 2012, Article ID 408135, 18 pages. doi:10.1155/2012/408135.
14. Altosole, M., Boote, D., Brizzolara, S., Viviani, M. (2013) Integration of numerical modeling and simulation techniques for the analysis of towing operations of cargo ships. *International Review of Mechanical Engineering*, Vol. 7, issue 7, Nov. 2013, pp.1236-1245. ISSN: 19708734.
15. Brizzolara S., Bonfiglio L., Seixas de Medeiros J. (2013). Influence of viscous effects on numerical prediction of motions of SWATH vessels in waves. *Ocean Systems Engineering Int. Journal*, Vol. 3, No. 3 (2013) 219-236. ISSN: 2093-6702 DOI: <http://dx.doi.org/10.12989/ose.2013.3.3.219>.
16. Bonfiglio L., Brizzolara S. (2014). Unsteady viscous flow with non-linear free surface around oscillating SWATH ship sections. *WSEAS Transactions on Fluid Mechanics*. Vol. 9, pp. 49-57. E-ISSN: 2224-347X.

17. Vernengo G., Brizzolara S., Bruzzone D. (2015). Resistance and seakeeping optimization of a Fast Multi-Hull Passenger Ferry. *International Journal of Offshore and Polar Engineering*. Vol. 25, No. 1, pp. 26–34. ISSN 1053-5381.
18. Brizzolara S., Bonfiglio L. (2015). Comparative CFD Investigation of the Performance of a New Family of Super-Cavitating Hydrofoils. *Journal of Physics: Conference Series (JPCS)*, 656,1:12147-12150. DOI: 10.1088/1742-6596/656/1/012147.
19. White J.K., Brizzolara S., Beaver B. (2015). Effect of Inverted Bow on the Hydrodynamic Performance of Navy Combatant Hull Forms. *SNAME Transactions*, Volume 123, 2015, pages 2-16, ISBN 978-0-939773-17-6, ISSN 0081-1661.
20. Brizzolara S., Vernengo G., Bonfiglio L., Bruzzone D. (2015) Comparative Performance of Optimum High Speed SWATH and Semi-SWATH in Calm Water and in Waves. *SNAME Transactions*, 123:273-286, ISBN 978-0-939773-17-6, ISSN 0081-1661.
21. Brizzolara S. Vernengo G. (2016). A Three-Dimensional Vortex Method for the Hydrodynamic Solution of Planing Cambered Dihedral Surfaces. *Engineering Analysis with Boundary Elements*, Vol. 63, Feb. 2016, pp. 15-29. DOI: 10.1016/j.enganabound.2015.10.008
22. Bonfiglio L., Brizzolara S. (2016) A Multiphase RANSE-based Computational Tool for the Analysis of Super-Cavitating Hydrofoils. *Naval Engineers Journal*, 128(1):47-64
23. Vernengo G., Bonfiglio L., Gaggero S., Brizzolara S. (2016). Physics-Based Design by Optimization of Unconventional Supercavitating Hydrofoils. *Journal of Ship Research*, 60(4):1–16. <http://dx.doi.org/10.5957/JOSR.60.4.150074>
24. Brizzolara S., Judge C., Beaver W. (2016). High Deadrise Stepped Cambered Planing Hulls with Hydrofoils: SCPH2. A Proof of Concept. *SNAME Transactions*, Vol. 124, 2016: 312-321. ISSN 0081-1661.
25. Vernengo G., Brizzolara S. (2017). Numerical investigation on the Hydrodynamic Performance of Fast SWATHs with Optimum Canted Struts Arrangements. *Journal of Applied Ocean Research*, Vol. 63: 76–89. <https://doi.org/10.1016/j.apor.2017.01.009>
26. Royset J, Bonfiglio L, Vernengo G, Brizzolara S. (2017). Risk-Adaptive Set-Based Design and Applications to Shaping a Hydrofoil. *ASME J. Mechanical Design* 139(10):101403-101403-8. [doi:10.1115/1.4037623](https://doi.org/10.1115/1.4037623).
27. Vernengo G., Bonfiglio L., Brizzolara S. (2017). Super-Cavitating 3D Hydrofoil Analysis by Viscous Lifting Line Approach. *AIAA Journal*, 55(12): 4127-4141, Dec. 2017, [doi: 10.2514/1.J055504](https://doi.org/10.2514/1.J055504)
28. Williams S., Brizzolara S. (2017). Dynamic Stability of Foilborne Hydrofoil/SWATH with Anhedral Foil Configuration. *Transactions RINA*, Vol 159, Part B2, *Intl J Small Craft Technology*, pp.65-80, July-Dec. 2017. [doi: 10.3940/rina.ijst.2017.b2.202](https://doi.org/10.3940/rina.ijst.2017.b2.202)
29. Bonfiglio L., Perdikaris P., Brizzolara S., Karniadakis G.E. (2018). Multi-fidelity optimization of super-cavitating hydrofoils. *Computational Methods in Applied Mechanical Engrg*. Vol. 332 (2018) 63–85. <https://doi.org/10.1016/j.cma.2017.12.009>
30. Seixas de Medeiros J., Brizzolara S. (2018). Mathematical Framework for Hydromechanical Time-Domain Simulation of Wave Energy Converters. *J. of Mathematical Problems in Engineering*, Volume 2018, Article ID 1710253, 15 pages, <https://doi.org/10.1155/2018/1710253>



31. Angelini Rota R., Vernengo, G., Altomare, C., Brizzolara, S., Bonfiglio, L., Guercio, R., (2018). Ensuring numerical stability of wave propagation by tuning model parameters using genetic algorithms and response surface methods. *Environmental Modelling & Software*, 103 (2018) 62-73 <https://doi.org/10.1016/j.envsoft.2018.02.003>
32. Bonfiglio L., Brizzolara S. (2018). Amplitude Induced Nonlinearity in Piston Mode Resonant Flow: A Fully Viscous Numerical Analysis. *Journal of Offshore Mechanics and Arctic Engineering*, 140(1), 11 pp. [doi:10.1115/1.4037487](https://doi.org/10.1115/1.4037487)
33. Xu L., Baglietto E., Brizzolara S. (2018). Extending the Applicability of RANS Turbulence Closures to the Simulation of Transitional Flow around Hydrofoils at Low Reynolds Number. *Ocean Engineering* 164 (2018) 1–12. <https://doi.org/10.1016/j.oceaneng.2018.06.031>
34. Águila Ferrandis J., Brizzolara S., Chrysosostomidis C. (2018). Influence of large hull deformations on the motion response of a fast catamaran craft with varying stiffness. *Ocean Engineering* 163: 207–222. <https://doi.org/10.1016/j.oceaneng.2018.05.038>
35. Brizzolara S., Salian R. (2018) Adjustable Energy Saving Device for Transom Stern Hulls. *SNAME Transactions*, vol. 126, pp.1-13. ISSN 0081-1661.
36. Bansal P., Brizzolara S. (2018) Application Perspectives of Magneto-Hydro-Dynamics to Propel Autonomous Underwater Vehicles. *SNAME Transactions*, vol. 126, pp.8. ISSN 0081-1661.
37. Angelini Rota R. R., Vernengo, G., Brizzolara, S., Guercio, R. (2019). SPH simulation of periodic wave breaking in the surf zone - A detailed fluid dynamic validation. *Ocean Engineering* 176: 20–30. <https://doi.org/10.1016/j.oceaneng.2019.02.013>
38. Pawar, S., Brizzolara, S. (2019) Relevance of transition turbulent model for hydrodynamic characteristics of low Reynolds number propellers. *Applied Ocean Research* 87: 165–178. <https://doi.org/10.1016/j.apor.2019.02.018>
39. Bonfiglio L., Perdikaris P., Brizzolara S. (2019) Multi-Fidelity Bayesian Optimization of SWATH Hull Forms. *Journal of Ship Research*, 63(3):1-17. <https://doi.org/10.5957/JOSR.11180102>

### **Proceedings of Refereed International Conferences** (based on final paper review)

1. Caponnetto M., Brizzolara S. (1995). Theory and Experimental Validation of a Surface Panel Method for the Analysis of Cavitating Propellers in Steady Flow. Intl Conf. on Propeller Cavitation Research, 16-18 May, Newcastle upon Tyne, UK. Publ. by Penschaw Press, Sunderland, UK, pp.239-253. ISBN 0-9518806-4
2. Lauro G., Brizzolara S. (1997). Full Scale Trials and Performance Analysis of a SES. In: High Speed Marine Vehicles HSMV'97 International Conference, Sorrento, vol. 1
3. Brizzolara S., L. Grossi (1997). Design Aspects and Applications of Deep-V Hull Forms to High Speed Crafts. In: Proceedings of IMDEX '97, International Maritime Defense Conference, Greenwich-London, October 1997, vol. 1, pp.1-8.
4. Brizzolara S., D. Bruzzone (1997). Wave Resistance Evaluation for High Speed Marine Vehicles. In: High Speed Marine Vehicles Int. Conference HSMV'97, vol. 1
5. Grossi, L., Brizzolara, S., Caprino G. and Sebastiani, L. (1998) Seakeeping Design of Fast Monohull Ferries, Proc. 7th Intl. Symp. On Practical Design of Ships and Mobile Units PRADS '98, The Hague,

- The Netherlands, September 1998, ed. by M.C.W. Oosterveld and S.G. Tan, Elsevier Science B.V, pp.613-624.
6. Brizzolara S., S. Chislett, L. Grossi (1998). Course Keeping Aspects in the Design of Fast Deep-V Monohull. In: High Speed Crafts Motions and Maneuverability RINA Conference, vol. 1, ISBN 9780903055376.
  7. Svensson R., Brizzolara S., L. Grossi, (1998). Trial Result Including Wake Measurements from the World's Largest Waterjet Installation. International Conference on Waterjet Propulsion Latest Developments. Amsterdam (NL). Editor: Royal Institution of Naval Architects, London, UK.
  8. Brizzolara S., D. Bruzzone, P. Cassella, A. Scamardella, I. Zotti (1998). Wave Resistance and Wave Patterns for High Speed Crafts. Validation of Numerical Results by Model Tests. In: Naval Hydrodynamics Symposium. ONR'98, Washington DC. USA. National Academy Press. vol. 1, pp.69-83.
  9. Kapsemberg G., Brizzolara S. (1999). Hydro-Elastic Effects of Bow Flare Slamming on a Fast Monohull. In: International Fast Ship Conference FAST '99, vol. 1
  10. Brizzolara S., D. Bruzzone (2000). Numerical Wave Resistance and Dynamic Trim of High Speed Crafts. In: NAV 2000 International Conference On Ship and Shipping Research, vol. 1, p. 4.2.1-4.2.13, ISBN/ISSN: 88-900487-0-0
  11. Brizzolara S., A. Calcagno (2000). New Types of Roll Fin Stabilisers with Increased Maximum Lift. In: Proc. of NAV 2000 International Conference on Ship and Shipping Research, vol. 1, p. 9.2.1-9.2.11, ISBN/ISSN: 88-900487-0-0
  12. Benvenuto G., Brizzolara S., M. Figari, C. Podenzana-Bonvino (2001). Fast Trimaran Ships: Some Examples for Commercial Applications. In: 2nd International Euroconference on High-Performance Marine Vehicles HIPER '01, p. 64-78
  13. Benvenuto G., Brizzolara S., M. Figari, C. M. Bartolini, L. Pelagalli (2001). Feasibility Study of the Propulsion System of a Trimaran Ship for Fast Transportation. In: International Conference on Maritime Transport, vol. 1, p. 129-141, ISBN/ISSN: 84-7653-796-4
  14. Benvenuto G., Brizzolara S., M. Figari (2001). Simulation of the Propulsion System Behavior during Ship Standard Maneuvers. In: 8th International Symposium on Practical Design of Ships and other Floating Structures PRADS 2001, vol. 1, p. 657-663, ISBN/ISSN: ISBN 0-08-043950-0
  15. Brizzolara S., E. Rizzuto (2001). Global Wave Loads for a Trimaran Ship. In: 6th International Conference on Fast Sea Transportation, FAST 2001, vol. 2, p. 191-202, ISBN/ISSN: ISBN 0 903055 70 8
  16. Brizzolara S., D. Bruzzone (2002). Nearfield Waves of Fast Ships at Different Bottom Depths. In: 10th International Congress of the International Maritime Association of the Mediterranean, Creta, Greece.
  17. Brizzolara S. (2002). Hydrodynamic Design and Analysis of Unconventional Fin Stabilisers. In: 3rd International Conference on High-Performance Marine Vehicles HIPER '02, vol. 1, p. 87-103
  18. Benvenuto G., Brizzolara S., Carrera G. (2003). Ship Propulsion Numerical Simulator: Validation of the Maneuverability Module. In: NAV 2003, Int. Conference on Ships and Shipping Research. Palermo, June 2003, Genoa: CETENA, vol. 2, p. 4.7.1-4.7.15, ISBN/ISSN: 88-900487-1-9

19. Bertorello C., Brizzolara S., D. Bruzzone, P. Cassella, I. Zotti (2003). On the Hydrodynamic Performance of High Speed Crafts. In: FAST 2003, 7th Int. Conference on Fast Sea Transportation, vol. 1, p. A.1.101-A.1.108, ISBN/ISSN: 88-901174-0-0
20. Brizzolara S., M. Capasso, M. Ferrando, C. Podenzana-Bonvino (2003). Trimaran Hull Design for Fast Ferry Applications. In: NAV 2003, International Conference on Ships and Shipping Research, vol. 2, p. 10.1.1-10.1.13
21. Brizzolara S., M. Capasso, A. Francescutto (2003). Effect of Hull Form Variations on the Hydrodynamic Performance in Waves of a Trimaran Ship. In: FAST 2003, 7th International Conference on Fast Sea Transportation, vol. 3, p. D.2.7-D.2.14, ISBN/ISSN: 88-901174-0-0
22. Brizzolara S., D. Bruzzone (2003). Near and Distant Waves of Fast Ships in Limited and Unlimited Bottom Depths. In: FAST 2003, 7th International Conference on Fast Sea Transportation, vol. 3, p. H1-H13, ISBN/ISSN: ISBN 88-901174-0-0
23. Brizzolara S. (2003). Parametric Optimisation of SWATH Hull Forms by Systematic Use of CFD Methods. In: 13th International Offshore and Polar Engineering Conference ISOPE 2003. Honolulu (Hawaii), May 2003, ISOPE, vol. 1, p. 344-356, ISBN/ISSN: 1-880653-60-5 / 1098-6189
24. Brizzolara S. (2003). Hydrodynamic Analysis of Interceptors with CFD Methods. In: 7th Int. Conference on Fast Sea Transportation FAST 2003, vol. 3, p. E.49-E.56, ISBN: 88-901174-0-0
25. Brizzolara S. (2003). The Maneuvering Simulation of Surface Ships: Theoretical Overview and Application Examples of the DINAV Simulator. In: 3° Convegno Tecnico Scientifico MIMOS, Movimento Italiano Modellazione e Simulazione, (in Italian).
26. Moggia Cappelletti, E. Pino, L. Sebastiani, C. Boccalatte, M. Viviani, D. Bruzzone, Brizzolara S. (2003). Experience on the Application and Validation of Theoretical Methods for the Seakeeping Prediction of Fast Ships. In: FAST 2003, 7th International Conference on Fast Sea Transportation, vol. 1, p. A.1-A.13, ISBN/ISSN: 88-901174-0-0
27. Brizzolara S., D. Bruzzone (2004). Automatic Optimisation of a New Fast Catamaran with Bulbous Bow. International Conference on High-Performance Marine Vehicles, HIPER'04, vol. 1, p. 116-128, ISBN/ISSN: 88-7617-001-4
28. Brizzolara S. (2004). Parametric Optimization of SWAT-Hull Forms by a Viscous-Inviscid Free Surface Method Driven by a Differential Evolution Algorithm. In: 25th Symposium on Naval Hydrodynamics. Saint John's (CA), August 2004, National Academies Press, vol. 5, p. 1-18.
29. Brizzolara S., M. Capasso, M. Ferrando, C. Podenzana-Bonvino, E. Tincani (2005). Towing Tank Tests of Equivalent Trimaran and Pentamaran Hulls. In: International Conf. on Maritime Research and Transportation, ICMRT'05. Ischia (Italy), 2005, Univ. Federico II ed., vol. 1, ISBN/ISSN: 88-901174-5-1
30. Brizzolara S., M. Capasso, M. Ferrando, C. Podenzana-Bonvino (2005). Effect of Hull Form Variation on Hydrodynamic Performance of a Trimaran Ship for Fast Transportation. In: 8th International Conference on Fast Sea Transportation, FAST 2005. St. Petersburg, June 2005, Marine Technical University, vol. 1, ISBN/ISSN: 5-88303-045-9
31. Brizzolara S., Bruzzone D., Tincani E. (2005). Automatic Optimisation of a Trimaran Hull Form Configuration. In: 8th International Conference on Fast Sea Transportation, FAST 2005. St. Petersburg, June 2005, Marine Technical University ed., vol. 1, ISBN/ISSN: 5-88303-045-9

32. Molini A., Brizzolara S. (2005). Hydrodynamics of Interceptors: A Fundamental Study. In: International Conference on Maritime Research and Transportation, ICMRT 2005. Ischia (Italy), 2005, Univ. Federico II ed., vol. 1, ISBN/ISSN: 88-901174-5-1
33. Viviani M, Savio L, Brizzolara S. (2006). Evaluation of Slamming Loads on V-shape Ship Sections with Different Numerical Methods. In: NUTTS 06 - 9th Numerical Towing Tank Symposium. Le Croisic - Nantes, 1-3 Oct. 2006, G. Delhommeau, M. Visonneau, ed. vol. 1, p. 153-160
34. Gaggero S, Brizzolara S. (2006). An Integrated Tool for Concept and Final Design of Optimum SWAT-Hull Forms. In: NAV 2006 – International Conference on Ship and Shipping Research. Genoa - Italy, 21-23 June 2006, vol. 1, p. 3.5.1-3.5.15, ISBN/ISSN: 88-900487-2-7
35. Brizzolara S., Tincani E. P, Grassi D (2006). Design of Contra Rotating Propellers for High Speed Stern Thrusters. In: HIPER 2006 – International Conference on High Performance Marine Vehicles. Launceston - Tasmania (Australia), 8-10 Nov. 2006, Australian Maritime College, ed., vol. 1, ISBN/ISSN: 0-646-46617-8
36. Brizzolara S., Rizzuto E (2006). Wind Heeling Moments on Very Large Ships. Some Insights through CFD Results. In: STAB 2006 - 9th International Conference on Stability of Ships and Ocean Vehicles. Rio de Janeiro, Brazil., 25-29 Sept. 2006, Prof. Marcelo A.S. Neves, ed., vol. 2, p. 781-793, ISBN/ISSN: 85-285-0107-8
37. Brizzolara S., Bruzzone D (2006). Optimising the Steady Hydrodynamic Performance of Two High-Speed Trimaran Hull Forms. In: NAV2006 - International Conference on Ship and Shipping Research. Genoa - Italy, 21-23 June 2006, vol. 1, p. 3.1.1-3.1.12, ISBN/ISSN: 88-900487-2-7
38. Brizzolara S. (2006). Maneuvering Simulation of Ships with Azimuthal Propulsion Units. In: NAV 2006 - International Conference on Ship and Shipping Research. Genoa, 21-23 June 2006, vol. 1, p. 1.3.1-1.3.20, ISBN/ISSN: 88-900487-2-7
39. Viviani M, Savio L, Brizzolara S. (2007). Evaluation of Slamming Loads on Ship Bow Sections Adopting SPH and RANSE Methods. In: Proceedings of 32nd IAHR Congress, Special Session on Smoothed Particles Hydrodynamics. Venice, 2-6 July 2007.
40. Viviani M, Brizzolara S., Savio L (2007). Evaluation of Slamming Loads on a Wedge-Shaped Section at Different Heel Angles adopting SPH and RANSE Methods. In: 12th International Congress of the International Maritime Association of the Varna, 3-6 September, London: Taylor & Francis Group, vol. 1, p. 107-115, ISBN/ISSN: 978-0-415-45523-7
41. Savio L, Brizzolara S., Viviani M (2007). SPH Analysis of a Planing Surface. In: 2nd SPHERIC Conference (Smoothed Particle Hydrodynamics European Research Interest Community). Madrid, May 2007
42. Grassi D, Brizzolara S. (2007). Numerical Analysis of Propeller Performance by Lifting Surface Theory. In: Proceedings of 2nd International Conference on Marine Research and Transportation. Ischia, 28-30 June, Univ. Federico II, ed., p. F-1-F-8, ISBN/ISSN: 88-901174-3-5
43. Gaggero S, Brizzolara S. (2007). Exact Modeling of Trailing Vorticity in Panel Method for Marine Propeller. In: Proceedings of 2nd International Conference on Marine Research and Transportation. Ischia, 28-30 June, Univ. Federico II, ed., p. D-1-D-9, ISBN/ISSN: 88-901174-3-5
44. Brizzolara S., Serra F (2007). Accuracy of CFD Codes in the Prediction of Planning Surfaces Hydrodynamic Characteristics. In: 2nd International Conference on Marine Research and

- Transportation, ICMRT'07. Ischia (Italy), 28-30 June, Univ. Napoli Federico II, ed., vol. 1, p. A-1-A-12, ISBN/ISSN: 88-901174-3-5
45. Brizzolara S., Munari D. (2007). Propeller Blade Optimization for Maximum Cavitation Margin Using a Viscous-Inviscid Panel Method and a Differential Evolution Algorithm. In: Computer and IT Application in the Marine Industries. Cortona, 23-25- April, Volker Bertram, ed., vol. 1, p. 249-259, ISBN/ISSN: 88-7617-002-2
  46. Brizzolara S., Bruzzone D. (2007). Hydrodynamic Assessment and Optimization of New Fast Foil Assisted SWAMH. In Proceedings of the 11th International Symposium on Practical Design of Ships and Other Floating Structures, PRADS 2007. Houston, Oct 2007, vol. 1, p. 205-211, ISBN/ISSN: 0-943870-04-6
  47. Alexandriu I, Brizzolara S., Viviani M, Couty N, Donner R, Hermundstad O, Kukkanen T, Malenica S, Temarel P (2007). Comparison of Experimental and Numerical Impact Loads on Ship-like Sections. In: Advancements in Marine Structures, Proceedings of the 1st MARSTRUCT International Conference. March 2007, University di Glasgow (UK), ISBN/ISSN: 978-0415437257
  48. Tincani E, Grassi D, Brizzolara S. (2008). A Design Method for Contrarotating Propellers Based on Exact Lifting Surface Corrections. In: 6th International Conference on High Performance Marine Vehicles, HIPER 08. Napoli, Sept. 2008, vol. 1, p. 201-214, ISBN/ISSN: 88-901174-9-4
  49. Tincani E, Brizzolara S. (2008). A Design Method for Contra-Rotating Propellers with Non-optimum Radial Loading Distribution. In: III Simposio Internacional de Disegno y Produccion de Yates de Motor y Vela. Madrid, June 2008, ETSIN, ed., vol. 1, p. 5-20
  50. Grassi D, Brizzolara S. (2008). Numerical Analysis of CR Propeller Performance by Lifting Surface Theory. In: 8th International Symposium on High Speed Marine Vehicles. Napoli, May 2008, London: Royal Institution of Naval Architects, vol. 1, p. 125-131, ISBN/ISSN: 88-88987-04-5
  51. Gaggero S, Brizzolara S. (2008). An Integral Boundary Element Method to Predict Hydrodynamic Characteristics of Cavitating Marine Propellers. In: ICNPAA 2008: Mathematical Problems in Engineering, Aerospace and Sciences. Genoa, June 2008, London: Cambridge Scientific publishers, vol. 1, ISBN/ISSN: 978-1-904868-70-5
  52. Gaggero S, Brizzolara S. (2008). A Potential Panel Method for the Analysis of Propellers in Unsteady Flow. In: 8th international Symposium on High Speed Marine Vehicles. Napoli, May 2008, London: Royal Institution of Naval Architects, vol. 1, p. 115-123, ISBN/ISSN: 88-88987-04-5
  53. Gaggero S, Brizzolara S. (2008). A Potential Panel Method for the Prediction of Midchord Face and Back Cavitation. In: 6th International Conference on High Performance Marine Vehicles. Napoli, Sept. 2008, vol. 1, p. 33-46, ISBN/ISSN: 88-901174-9-4
  54. Brizzolara S., Bruzzone D. (2008). Hydrodynamic Optimisation of High-Speed Trimaran Hull Forms. 18th International Offshore and Polar Engineering Conference, ISOPE 2008; Vancouver, BC; Canada; 6 July, pp.547-54. ISSN: 10986189 ISBN: 978-188065370-8
  55. Brizzolara S., Villa D, Gaggero S (2008). A Systematic Comparison between RANSE and Panel Method for Propeller Analysis. In: Hydrodynamics VIII, 8th International Conference on Hydrodynamics, ICHD 2008. Nantes, Oct. 2008, vol. 1, p. 289-302

56. Villa D, Brizzolara S. (2009). A Systematic Analysis of Flaps/Interceptors Hydrodynamic Performance. In: 10th International Conference on Fast Sea Transportation, FAST2009. Athens (GR), Oct. 2009, Univ. of Athens, vol. 1, ISBN/ISSN: 9789602546864
57. Villa D, Brizzolara S. (2009). CFD Calculation on a Cavitating Hydrofoil with OpenFoam. In: Proceedings 12th Numerical Towing Tank Symposium, NUTTS 09. Cortona (IT), 4-6 Oct, 2009, HAMBURG: V. Bertram, ed., vol. 1, p. 191-196
58. Vernengo G, Brizzolara S. (2009). Application of a Vortex Lattice Method to the Analysis of Sail Plans in Upwind Condition. In: Proc. of 13th Congress of Intl. Maritime Assoc. of Mediterranean, IMAM 2009. Istanbul, 12-15 Oct. 2009, Istanbul Technical University, vol. 1, p. 283-290, ISBN/ISSN: 978-975-5610-356-7
59. Vernengo G, Biliotti I, Brizzolara S., Viviani M, Ruscelli D, Bonvicini A, Galliussi M, Manfredini A (2009). Influence of Form Parameters Selection on the Hull Surface Shape Control for Hydrodynamic Design. In: 16th International Conference on Ship and Shipping Research NAV2009. Messina, 25-27 Nov. 2009. Editor: Atena. vol. I. ISBN: 9788890439407
60. Gaggero S, Savio L, Brizzolara S., Viviani M, Conti F, Ferrando M (2009). Comparison of Experimental Measurements and Numerical Calculations for a Propeller in Axial Cylinder. In: Proc. of First International Symposium on Marine Propulsors SMP'09. Trondheim, June 2009, Univ. of Trondheim, vol. 1
61. Gaggero S, Brizzolara S. (2009). A Panel Method for Trans-Cavitating Marine Propellers. In: Proc. of 7th International Symposium on Cavitation, CAV2009. Ann Arbor (MI), August 2009, vol: 12-27, ISBN: 978-1-61782-642-9
62. Gaggero S, Brizzolara S. (2009). Hull Pressure Fluctuation: A Potential Panel Method Approach. In: 16th International Conference on Ship and Shipping Research, NAV 2009. Messina, Genoa: Atena, vol. 1, ISBN/ISSN: 978-88-904394-0-7
63. Gaggero S, Brizzolara S. (2009). Parametric CFD Optimization of Fast Marine Propellers. In: 10th International Conference on Fast Sea Transportation, FAST2009. Athens (GR), Oct. 2009, Athens: Univ. of Athens, vol. 1, p. 769-784, ISBN/ISSN: 9789602546864
64. Brizzolara S., Villa D (2009). Numerical and Experimental Hydrodynamic Performance of Slice Hull Forms. In: 16th International Conference on Ship and Shipping Research, NAV 2009. Messina, 26-27 Nov, Genoa: Athena, vol. 1, ISBN/ISSN: 978-88-904394-0-7.
65. Brizzolara S., Villa D (2009). Hydrodynamic Assessment and Optimization of SLICE Hull Forms. In: 4th Maritime Systems and Technology International Conference, MAST 2009. Stockholm, 21-23 Oct.
66. Brizzolara S., Gaggero S, Grasso A (2009). Parametric Optimization of Open and Ducted Propellers. In: Proceedings of Propeller/Shafting 2009 Symposium. Williamsburg (VA), Sept. 2009, Jersey City: SNAME, vol. 1, p. 2-1-2-14
67. Brizzolara S., Gaggero S, Grassi D, Villa D (2009). CFD Modeling for Powering and Propulsion of Motor Yachts. Recent Developments and Applications of the Marine CFD Group. In: Design, Construction and Operation of Super and Mega Yachts. Genoa (IT), April 2009, London: RINA, vol. 1, p. 21-34, ISBN/ISSN: 978-1-905040-56-8.

68. Brizzolara S., Gaggero S (2009). Silent Propellers with Unconventional Profile Shapes. Examples Obtained with a New Automatic Optimization Method. In: 4th Annual Conference on Maritime Systems and Technology, MAST2009. Stockholm, 21-23 Oct.
69. Grasso A, Villa D, Brizzolara S., Bruzzone D (2010). Nonlinear Motions in Head Waves with a RANS and a Potential Code. In: Ninth International Conference on Hydrodynamics, ICHD 2010. Shanghai, 11-15 October 2010, Elsevier
70. Grassi D, Brizzolara S., Viviani M, Savio L, Caviglia S (2010). Design and Analysis of Counter-Rotating Propellers – Comparison of Numerical and Experimental Results. In: 9th International Conference on Hydrodynamics, ICHD 2010. Shanghai, 11-15 Oct. 2010, Elsevier
71. Brizzolara S., Villa D. (2010) Multiphase URANS Simulations of Surface Combatant using Star-CCM+ Proceeding of Workshop on CFD in Ship Hydrodynamics G2010, Department of Shipping and Marine Technology, Chalmers University of Technology, Göteborg, Sweden, 8-11 Dec. 2010. ISSN 1652-9189.
72. Gaggero S, Villa D, Brizzolara S. (2010). RANS and Panel Methods for Unsteady Flow Propeller Analysis. In: Ninth International Conference on Hydrodynamics, ICHD 2010. Shanghai, Oct. 2010, Shanghai, vol. 1
73. Brizzolara S., Villa D (2010). CFD Simulations of Planing Hulls. In: Seventh International Conference on High-Performance Marine Vehicles, HIPER 2010. Melbourne, Florida, USA, 11-15 Oct. 2010. ISBN: 9781450732314.
74. Brizzolara S., Federici A (2010). CFD Modeling of Planning Hulls with Partially Ventilated Bottom. In: The William Froude Conference: Advances in Theoretical and Applied Hydrodynamics – Past and Future. Portsmouth, 24-25 Nov. 2010, Royal Institution of Naval Architects, vol. 1, ISBN/ISSN: 978-1-905040-77-3.
75. Biliotti I., Brizzolara S., Galliussi M., Manfredini A., Ruscelli D., Vernengo G., Viviani M. (2010). Automatic Parametric Hull Form Optimization of Fast Naval Vessels. In: Seventh International Conference on High-Performance Marine Vehicles - HIPER 2010. Melbourne, Florida, USA. ISBN: 9781450732314.
76. Villa D, Gaggero S, Brizzolara S. (2011). Simulation of Ship in Self Propulsion with Different CFD Methods: from Actuator Disk to Potential Flow / RANSE Coupled Solvers. In: RINA Conference on Developments in Marine CFD. London (UK), Royal Institution of Naval Architects, vol.1, pp.1-12.
77. Gaggero S, Villa D, Brizzolara S. (2011). SMP Workshop on Cavitation and Propeller Performances: The Experience of the University of Genoa on the Potsdam Propeller Test Case. In: Proceedings of the Workshop on Cavitation and Propeller Performance. Second International Symposium on Marine Propulsors - smp'11. Hamburg, 17 June 2011, vol. 1, p. 92-105, ISBN/ISSN: 978-3-86342-238-7
78. Gaggero S, Grassi D, Brizzolara S. (2011). From Single to Multistage Marine Propulsor: A Fully Numerical Design Approach. In: Proceedings of the Second International Symposium on Marine Propulsors - smp'11. Hamburg, 15 – 17 June 2011, vol. 1, p. 409-419, ISBN/ISSN: 978-3-86342-236-3
79. Bertetta D, Brizzolara S., Gaggero S, Savio S, Viviani M (2011). Numerical and Experimental Characterization of a CP Propeller Unsteady Cavitation at Different Pitch Settings. In: Proceedings of

- the Second International Symposium on Marine Propulsors - smp'11. Hamburg, 15-17 June 2011, vol. 1, p. 106-115, ISBN/ISSN: 978-3-86342-236-3
80. Biliotti I., Brizzolara S., Viviani M., Vernengo G., Ruscelli D., Galliussi M., Manfredini M. (2011) Automatic Parametric Hull Form Optimization of Fast Naval Vessels. In: 11th International Conference on Fast Sea Transportation. Honolulu, Hawaii (USA), 26-29 Sept. 2011, vol. 1.
  81. Brizzolara S., Federici A (2011). Super-Cavitating Profiles for Ultra High Speed Hydrofoils: a Hybrid CFD Design Approach. In: 9th Symposium on High Speed Marine Vehicles, HSMV 2011. Naples, March 2011, vol. 1, p. 1-13, ISBN/ISSN: 978-1-88906-112-0
  82. Brizzolara S., Bovio M, Federici A, Vernengo G (2011). Hydrodynamic Design of a Family of Hybrid SWATH Unmanned Surface Vehicles. In: 11th International Conference on Fast Sea Transportation. Honolulu, Hawaii (USA), 26-29 Sept. 2011, vol. 1.
  83. Moirod N., Diebold L., Gazzola T., de Lauzon G., Brizzolara S., Villa D. (2011) Influence of Raised Invar Edges on Sloshing Impact Pressures Numerical Investigations. Proceedings of the Twenty-first International Offshore and Polar Engineering Conference. Maui, Hawaii, USA, June 19-24. ISSN 1098-6189.
  84. Bonfiglio L. Brizzolara S., Chrysosostomidis C. (2012). Added Mass and Damping of Oscillating Bodies: A Fully Viscous Numerical Approach. Proceedings of the 9th WSEAS International Conference on Fluid Mechanics (FLUIDS '12), Harvard, Cambridge, USA, January 25-27, 2012, pp. 210-215. ISBN: 978-1-61804-065-7
  85. Brizzolara S., Young Y.L. (2012). Physical and Theoretical Modeling of Surface-Piercing Hydrofoils for a High-Speed Unmanned Surface Vessel. Proceedings of the ASME 2012 31st International Conference on Ocean, Offshore and Arctic Engineering. OMAE2012. Rio de Janeiro, Brazil. June 10-15, 2012
  86. Brizzolara S., Prempraneerach P., Karniadakis G., Chrysosostomidis C. (2012). Integrated Simulation Framework For Crash Back Operation. 2012 Grand Challenges on Modeling and Simulation GCMS 2012, Genoa, Italy, July 8-11, 2012. ISBN: 978-1-61839-983-0.
  87. Vernengo G., Brizzolara S. (2012). A Reformulated Lifting Line Theory for Supercavitating Hydrofoil Design. Proceedings of the Eighth International Symposium on Cavitation (CAV 2012), Edited by Claus-Dieter OHL, Evert KLASEBOER, Siew Wan OHL, Shi Wei GONG and Boo Cheong KHOO, Research Publishing Services. ISBN: 978-981-07-2826-7, doi:10.3850/978-981-07-2826-7 281
  88. Brizzolara S., Villa D. (2012). Three Phase RANSE Calculation for a Surface Piercing Supercavitating Hydrofoil. Proceedings of the Eighth International Symposium on Cavitation (CAV 2012), Edited by Claus-Dieter OHL, Evert KLASEBOER, Siew Wan OHL, Shi Wei GONG and Boo Cheong KHOO, Research Publishing Services. ISBN: 978-981-07-2826-7, doi:10.3850/978-981-07-2826-7 084
  89. Gattoronchieri A., Brizzolara S., Viviani M. (2012). CFD Analysis of a Zero Speed Active Fin. In: 15th Numerical Towing Tank Symposium, Cortona, Italy, October 7-9., October 2012. Cortona (Italy).
  90. Villa D., Gaggero S., Brizzolara S. (2012). Ship Self Propulsion with Different CFD Methods: from Actuator Disk to Viscous-Inviscid Unsteady Coupled Solvers. 10th International Conference on Hydrodynamics ICHD'12, October 1-4, 2012 St. Petersburg, Russia.
  91. Gaggero S., Villa D., Brizzolara S. (2012). Design and Analysis of Conventional and Ducted Propellers: a Numerical Approach. In: 17th International Conference on Ships And Shipping



- Research. Atena, Italian Association of Naval Architects, ed. Naples, 17-19 October 2012. ISBN: 978-88-904394-4-5.
92. Brizzolara S., Chrysosostomidis C. (2012). Design of an Unconventional ASV for Underwater Vehicles Recovery: Simulation of the motions for operations in rough seas. ASNE International Conference on Launch & Recovery, November 14-15, 2012, Linthicum (MD).
  93. Bonfiglio L. Brizzolara S., Chrysosostomidis C. (2013). Viscous Free Surface Numerical Simulations of Oscillating SWATH Ship Sections. 10th WSEAS International Conference on Fluid Mechanics. FLUIDS'13. 9-11 Jan. Milan, Italy.
  94. Brizzolara S., Chrysosostomidis C. (2013). The Second Generation of Unmanned Surface Vehicles: Design Features and Performance Predictions by Numerical Simulations. ASNE Day 2013, "Engineering America's Maritime Dominance", Feb. 21-22. Arlington, VA.
  95. Young J., Brizzolara S. (2013). Numerical and Physical Investigation of a Surface-Piercing Hydrofoil. Third International Symposium on Marine Propulsors, SMP'13, Launceston, Tasmania, Australia. Vol.1, pp.1-8. ISBN: 978-0-646-90334-7.
  96. Brizzolara S., Gaggero S., Grassi D. (2013). Hub effect in propeller design and analysis. Third International Symposium on Marine Propulsors, SMP'13, Launceston, Tasmania, Australia. Vol.1, pp.110-119. ISBN: 978-0-646-90334-7.
  97. Bonfiglio L., Brizzolara S. (2013). Influence of Viscosity on Radiation Forces: a Comparison between Monohull, Catamaran and SWATH. ISOPE 2013, the 23rd International Ocean and Polar Engineering Conference. July 1-5. Anchorage, Alaska, USA. Vol.III, pp. 718-725. ISBN 978-1-880653-99-9.
  98. Brizzolara, S., Federici, A. (2013). Designing of V-Stepped Planing Hulls: CFD in Support of Traditional Semi-Empirical Methods. Design and Construction of Super & Mega Yachts, Royal Inst. of Naval Architects, 8-9 May 2013, Genoa, Italy.
  99. Prempraneerach P., Brizzolara S., Karniadakis G., Chrysosostomidis C. (2013). Integrated Simulation Framework for Crash Back Operation, Proceedings of 2013 IEEE Electric Ship Technologies Symposium (ESTS), pp.185-191. April 22<sup>nd</sup>. ISBN: 978-1-4673-5245-1, doi: 10.1109/ESTS.2013.6523732.
  100. Vernengo G., Brizzolara S., Bruzzone D. (2014). Hydrodynamic Design of a Fast Semi-SWATH Passenger Ship for Littoral Applications: an Automatic Parametric Optimization Approach. The Twenty-fourth International Ocean and Polar Engineering Conference, 15-20 June, Busan, Korea. ISBN-978-1-880653-91-3.
  101. Angelini Rota R., Brizzolara S., Guercio R., Chrysosostomidis C. (2014). Numerical Modeling of Breaking Periodical Waves on a Sloped Beach Profile by SPH. The Twenty-fourth International Ocean and Polar Engineering Conference, 15-20 June, Busan, Korea. ISBN-978-1-880653-91-3.
  102. Vernengo G., Brizzolara S. (2014). Vortex Lattice Method for Steady Hydrodynamic Analysis of Cambered Planing Surfaces. The Fourth Chesapeake Power Boat Symposium, Annapolis (MD). Society of Naval Architects and Marine Engineers (SNAME) Ed.
  103. Brizzolara S., Chrysosostomidis C. (2014). Numerical Predictions of the relative motion of a SWATH ASV and an AUV in waves. A true step forward towards accurate L&R simulations. In Proceedings of ASNE International Launch & Recovery Symposium, November 19-20, 2014, Linthicum (MD)

104. Brizzolara S. (2015). Second Generation of Autonomous Surface Vessels. Optimized Performance for AUV Assistance at Sea. Proceedings IEEE/MTS Oceans 2015, Genova (IT), May 18-21 2015. DOI: [10.1109/oceans-genova.2015.7271640](https://doi.org/10.1109/oceans-genova.2015.7271640)
105. Brizzolara S., Vernengo G., Pasquinucci C.A., Harries S. (2015). Significance of Parametric Hull Form Definition on Hydrodynamic Performance Optimization. VI International Conference on Computational Methods in Marine Engineering, MARINE 2015, F. Salvatore, R. Broglia and R. Muscari (Eds), Rome (IT).
106. Brizzolara S. (2015). A New Family of Dual-Mode Super-Cavitating Hydrofoils. Proceedings of Fourth International Symposium on Marine Propulsors, smp'15, Austin, Texas, USA, June 2015.
107. Bonfiglio L. Brizzolara S. (2015). Effect of turbulence models on RANSE predictions of transient flow over blade sections. Proceedings of Fourth International Symposium on Marine Propulsors, smp'15, Austin, Texas, USA, June 2015.
108. Diniz G., Brizzolara S. (2015). Fully Numerical Lifting Line Method for Optimum Propeller Design. Proceedings of Fourth International Symposium on Marine Propulsors, smp'15, Austin, Texas, USA, June 2015.
109. White J.K., Brizzolara S., Beaver B. (2015). Effect of Inverted Bow on the Hydrodynamic Performance of Navy Combatant Hull Forms. SNAME World Maritime Technology Conference. Providence (RI), 3-6 November.
110. Brizzolara S., Vernengo G., Bonfiglio L., Bruzzone D. (2015) Comparative Performance of Optimum High Speed SWATH and Semi-SWATH in Calm Water and in Waves. SNAME World Maritime Technology Conference. Providence (RI), 3-6 November.
111. Bonfiglio L., Brizzolara S. (2015). A Numerical Investigation over the Cavitating Flow Regime of a 2D-Hydrofoil. 13th International Conference on Fast Sea Transportation, FAST 2015, 1-4 September 2015, Washington, D.C.
112. Brizzolara S., Judge C., Beaver W. (2016). High Deadrise Stepped Cambered Planing Hulls with Hydrofoils: SCPH2. A Proof of Concept. SNAME Chesapeake Power Boat Symposium. Annapolis, MD, June 2016.
113. Bonfiglio L., Vernengo G., Brizzolara S., Bruzzone D. (2016). A hybrid RANSE – strip theory method for the prediction of ship motions. Proceedings of 3<sup>rd</sup> Int. Conference on Maritime Technology and Engineering, MARTEC, July 2016, Lisbon (P).
114. Bonfiglio L., Perdikaris P., Brizzolara S. (2016). Multi-Fidelity Optimization of high speed SWATHs. Proceedings of SNAME Maritime Technology Conference, Nov. 2016, Bellevue (WA).
115. Olaoye A.T., Brizzolara S. (2016). ASV Operability at Sea: Size Matters as much as Hull Form Design. MTS/IEEE Oceans 2016 Conference, Sept. 19-23, Monterey, CA. DOI: [10.1109/OCEANS.2016.7761336](https://doi.org/10.1109/OCEANS.2016.7761336)
116. Bonfiglio L., Perdikaris P., Brizzolara S., G. E. Karniadakis (2017). A multi-fidelity framework for investigating the performance of super-cavitating hydrofoils under uncertain flow conditions. AIAA Modeling and Simulation Technologies Conference, 9-13 Jan, Grapevine, TX, USA.
117. Brizzolara S. (2017). SCPH2: A New Technology for Lower Resistance Deep-V Planing Hulls. Design and Construction of Super & Mega Yachts, Royal Institution of Naval Architects (ed.), 10-11 May 2017, Genoa, Italy.

118. Brizzolara S., Brizzolara E.B. (2017). Long Tunnel Configurations for High Efficiency Thrusters. Fifth Int. Symposium on Marine Propulsors, smp'17. Vol. 3: 778-785. ISBN:978-951-38-8608-0.
119. Apollonio, C.M., Vernengo G., Bonfiglio L., Brizzolara S., Bruzzone D. (2017). On the Roll Motion Prediction of High Speed Multi-hull Vessels. Proc. of the Twenty-seventh (2017) International Ocean and Polar Engineering Conference. San Francisco, CA, USA, pp.964-969. ISSN 1098-6189
120. Passione B., Pozzi N., Sirigu S.A., Bracco G., Brizzolara S., Mattiazzo G. (2017). Numerical and Experimental Analysis of Oscillating Fluid Tanks. Proc. Twenty-seventh (2017) International Ocean and Polar Engineering Conference. San Francisco, CA, pp.1013-20. ISSN 1098-6189
121. Brown, A., Brizzolara, S., Choi, S., (2017). Set-Based Naval Ship Concept Design Framework with Tight Integration of High-Fidelity Physics-Based Simulations. ASNE Design Sciences Conference Series: Set Based Design. Sept. 2017, Washington DC.
122. Mumtaz M. B., Stark N., Brizzolara S. (2018). Pore pressure measurements using a portable free fall penetrometer. In Cone Penetration Testing 2018: Proceedings of the 4th International Symposium on Cone Penetration Testing (CPT'18), 21-22 June, 2018, Delft, The Netherlands (p. 461). CRC Press.
123. Angelini Roselli R., Vernengo G., Brizzolara S., Guercio R. (2018). Surface Piercing Struts Hydrodynamics by SPH. Proc. 5th IAHR Europe Congress. New Challenges in hydraulic res. And engineering. Trento (IT), June 2018.
124. Jung S., Battista T., Valentinis F., Brizzolara S., Paterson E., Woolsey C. (2018) Identification of a Motion Model for a Prolate Spheroid Moving at a Constant Forward Velocity Parallel to an Otherwise Undisturbed Free Surface. Proceedings of the 13<sup>th</sup> Int. Conference on Hydrodynamics. ICHD-2018 Songdo, Korea. Sept. 2-6. pp.:282-290. ISBN 979-11-89729-08-6
125. Webster J., Stilwell D., Neu W., Brizzolara S. (2018) Hydrodynamic Analysis of an Underwater Vehicle in Free Dive. Proc. IEEE Conference OCEANS 2018, Charleston, Oct. 2018. 8pp. ISBN 978-1-5386-4814-8/18
126. Kepler M.E., Pawar S., Stilwell D., Brizzolara S., Neu W. (2018) Assessment of AUV Hydrodynamic Coefficients from Analytic and Semi-Empirical Methods. Proc. IEEE Conference OCEANS 2018, Charleston, Oct. 2018. 8pp. ISBN 978-1-5386-4814-8/18
127. Pawar S., Brizzolara S., Neu W., Stilwell D. (2018) Design of Ducted Propulsors for Towing Autonomous Underwater Vehicles. Proc. IEEE Conference OCEANS 2018, Charleston, Oct. 2018. 8pp. ISBN 978-1-5386-4814-8/18
128. Sirigu S.A., Brizzolara S., Bonfanti M., Dafnakis P., Bracco G., Mattiazzo G. (2018) Pitch Resonance Tuning Tanks: A novel technology for more efficient wave energy harvesting. OCEANS 2018 MTS/IEEE, Charleston, SC, 2018, pp. 1-8. doi: 10.1109/OCEANS.2018.8604591
129. Brizzolara S., Salian R. (2018) Adjustable Energy Saving Device for Transom Stern Hulls. SNAME Maritime Convention. (Oct.), Providence, RI. 11 pp. <http://onepetro.org/conferences/sname/smc18>
130. Bansal P., Brizzolara S. (2018) Application Perspectives of Magneto-Hydro-Dynamics to Propel Autonomous Underwater Vehicles. SNAME Maritime Convention. (Oct.). Providence, RI. 8 pp. <http://onepetro.org/conferences/sname/smc18>
131. Kepler M.E., Pawar S., Stilwell D.J., Brizzolara S., Neu W.L. (2018) Steering Plane Dynamics of a Small Autonomous Underwater Vehicle that Tows a Large Payload, AUV 2018, Porto, Portugal.

132. Vernengo G., Angelini R.R. R., Brizzolara S., Guercio R. (2019) Unsteady Hydrodynamics of a Vertical Surface-Piercing Strut by SPH. Proc. 29th International Ocean and Polar Engineering Conference, Honolulu, HI, USA, June 16-21. ISSN 1098-6189
133. Pawar S., Brizzolara S. (2019) Hydroelastic Analysis of 3D Printed Marine Propeller Working at Low Reynolds Number. Proc. 6<sup>th</sup> Int. Symposium on Marine Propulsors, SMP'19. Rome. Vol.II, pp.32-39. ISSN 2414-6129.
134. Webster J., Neu W., Brizzolara S. (2019) Reynolds Stress Transition Modeling for Marine Propellers at Low Reynolds Number. Proc. 6<sup>th</sup> Int. Symposium on Marine Propulsors, SMP'19, Rome. Vol.I, pp.352-360. ISSN 2414-6129.
135. Brizzolara S. (2019) CFD Investigation of Ventilation-Cavitation Coupling on Surface-Piercing Super-Cavitating Hydrofoils. VIII International Conference on Computational Methods in Marine Engineering, MARINE'19. Invited Session on Physics and Simulation of Hydrofoils, R. Bensow and J. Ringsberg (Eds). pp: 349-358
136. Li J., Bonfiglio L., Brizzolara S. (2019) Verification and Validation Study of OpenFOAM on the Generic prismatic Planing Hull Form. VIII International Conference on Computational Methods in Marine Engineering, MARINE'19. R. Bensow and J. Ringsberg (Eds). pp: 428-440
137. Njaka T., Brizzolara S., Stilwell D. (2019) CFD Investigation of Hull-Rudder Interaction For Improved Maneuvering Models. SNAME Maritime Convention Nov.19, Tacoma, WA, USA. <https://onepetro.org/conference-paper/SNAME-SMC-2019-069>
138. Miller L., Brizzolara S. (2019) Optimum Propeller Positioning and Sizing for Underwater Vehicles. SNAME Maritime Convention Nov.19, Tacoma, WA, USA. <https://onepetro.org/conference-paper/SNAME-SMC-2019-067>
139. Afonja A.J., Brizzolara S. (2020) Dynamic Response of a Wave Energy Converter with Resonant U-Tank, to be presented at 39th International Conference on Ocean, Offshore & Arctic Engineering, Aug. 3-4.
140. Husser N., Brizzolara S. (2020) An Uncertainty Evaluation of Different Fidelity Methods to Predict Ship Motions and Structural Loading in Waves, to be presented at 39th International Conference on Ocean, Offshore & Arctic Engineering, August.
141. Lambert W., Brizzolara S. (2020) On the Effect Of Non-Linear Boundary Conditions on the Wave Disturbance and Hydrodynamic Forces of Underwater Vehicles Travelling Near the Free-Surface, to be presented at 39th International Conference on Ocean, Offshore & Arctic Engineering, August.
142. Njaka T, Miller L., Brizzolara S., Stilwell D. (2020) Method for Improving Existing Maneuvering Models to Accomodate Large Drift Angles. To be presented at Global OCEANS 2020: Singapore – U.S. Gulf Coast
143. Husser N., Brizzolara S. (2020) An Investigation of Residual Hydroelastic Response of a 3D Printed Propeller at low Reynolds number, to be presented at the Society of Naval Architects and Marine Engineers Maritime Convention 2020.
144. Lambert W., Brizzolara S. (2020) Wave Resistance Reduction for Ships Traveling in Fleet Formation, to be presented at the Society of Naval Architects and Marine Engineers Maritime Convention 2020.

### **Invited Talks / Keynote Lectures**

1. Brizzolara S. (2016) Autonomous Surface Vessels – Invited Keynote Lecture at 3rd International Conference on Maritime Technology and Engineering, 4-6 July, Lisbon (PT)
2. Brizzolara S. (2017) High Speed Planing Craft: The Evolution of a Species. Invited Talk at the SNAME SD-5 panel and HIS meeting, Feb. 9<sup>th</sup> 2017, Army & Navy Country Club, Arlington, VA.
3. Brizzolara S. (2017) Innovative Ship Designs driven by Autonomous Operating Vehicles. Talk given at the special scientific event featuring Italian scientists conducting their R&D activities in the US. Organized by the Italian Embassy in US, hold on board of the Amerigo Vespucci tall ship, in occasion of her return to Boston.
4. Brizzolara S. (2018) Uncertainty in Using Multi-Fidelity CFD for Ship Design. Fourth Joint ISSC/ITTC International Workshop. 14 Sept. Egmond aan Zee (Amsterdam), The Netherlands.
5. Brizzolara S. (2019) Storm Surge Inundation modelling and protected beach replenishment. MIT SeaGrant 4 year review meeting, May 1st 2019, Cambridge, MA.
6. Brizzolara S. (2019) “CFD , UQ , AI ” , “ Sex , Lies and Videotapes ” déjà vu in Ocean Engineering. Invited seminar at University of Genova, Faculty of Engineering, Villa Cambiaso, July 4<sup>th</sup>, 2019.