

# Haitong Xu

Researcher (PhD)


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 Citations:409; H-index:12

## Summary

My main research fields are marine cybernetics, maritime hydrodynamics, and model tests, focusing on guidance navigation and control system (GNC), nonlinear control theory, hydrodynamic coefficient estimation, mathematical manoeuvring models, machine learning methods, data acquisition (DAQ) and developing demonstrators and prototypes.

- Propose an optimal **Truncated LS-SVM** method for manoeuvring modelling of marine ships, estimation of the hydrodynamic coefficients based on the ship model tests. It has a good robustness and computational efficiency, especially for the big data application.
- Propose a **time-varying nonlinear vector field guidance law** for underactuated marine ships, and prove that it has uniform semi-global exponential stability (USGES) using Lyapunov stability theory.
- Developed a prototype of underactuated marine ships and onboard multi-channel data acquisition (DAQ) and monitoring system. This system has been used to support the experimental tests performed during the 5 European and FCT Projects.

I have published 43 original scientific research papers. That consists of 23 papers published in SCI journals, 7 book chapters and 9 conference papers. Meanwhile, I was involved in 7 EU R&D projects, I also served as supervisor of one master student and guest editor of a special issue (Maritime Autonomous Vessels) in Journal of Marine Science and Engineering(SCI, Q2). I also have rich experiences on sensors, model test and data acquisition and processing. My computer and programming skills include Matlab/Simulink, NI-LabView, Python, ROS, OpenFOAM.

## Education

Sep. 2016 – Jan. 2021

**Ph.D. Instituto Superior Técnico (IST), Universidade de Lisboa, Portugal.** in Naval Architecture and Ocean Engineering. (**Supervisor: Prof. Carlos Guedes Soares**).

Thesis title: *System Identification, Guidance and Control of Marine Surface Vehicles*.  
grade: **"Pass with Distinction and Honour"**

Curriculum Plan:

1. *Uncertainty Modeling* (Prof. Carlos Guedes Soares), ECTS: 6; Grade: 19/20.

2. *Control of Nonlinear Systems*(Prof. Paulo Oliveira), ECTS: 6; Grade: 19/20.

3. *Dynamics and Control of Ocean Vehicles* (Prof. Sergey Sutulo), ECTS: 6; Grade: 17/20.

4. *Advanced Topics in Naval Architecture and Ocean engineering* (Prof. Carlos Guedes Soares), ECTS: 6; Grade: 18/20.

5. *Research Seminars in Naval Architecture and Ocean Engineering*, ECTS: 6; Grade: 19/20.

Nov. 2019

**M.Sc. Universidade de Lisboa, Portugal** in Naval Architecture and Ocean Engineering ( Certificate of Recognition).

## Education (continued)

Aug. 2017 – Dec., 2017	<b>Visiting PhD</b> , Centre for Autonomous Marine Operations and Systems (NTNU AMOS), Trondheim, Norway. (Cooperator: Prof. <b>Thor I. Fossen</b> ; Prof. Vahid Hassani). Courses: 1. <i>TTK4190 - Guidance, Navigation and Control of Vehicles</i> (Prof. Thor I. Fossen), Credits: 7.5 2. <i>TMR4240 - Marine Control Systems</i> (Prof. Asgeir Sørensen), Credits: 7.5
Sep. 2011 – Mar. 2014	<b>M.Sc. Jiangsu University of Science and Technology, China</b> in Naval Architecture and Ocean Engineering.
Sep. 2005 – July 2009	<b>B.Sc. Yantai University, China.</b> in Marine Engineering.

## Employment History

Feb. 2021 – . . . .	<b>Researcher (PhD)</b> Centre for Marine Technology and Ocean Engineering (CENTEC), Instituto Superior Técnico (IST), Universidade de Lisboa, Portugal.
Apr. 2014 – Jan. 2021	<b>Researcher Assistant.</b> Centre for Marine Technology and Ocean Engineering (CENTEC), Instituto Superior Técnico (IST), Universidade de Lisboa, Portugal.
Aug. 2009 – Aug. 2011	<b>Engineer Assistant.</b> Qingdao Beihai Shipbuilding Industry Co., Ltd. (BSIC), Qingdao, China

## Mobility

Feb, 2020	<b>Visiting Researcher</b> , Naval Academy (Escola Naval), Lisbon, Portugal. (Cooperator: Prof. Paulo Pires da Silva).
Mar., 2018–Mar., 2020	<b>Visiting Researcher</b> The Harbours and Maritime Structures Division (NPE), Hydraulics and Environment Department, National Laboratory for Civil Engineering (LNEC), Lisbon, Portugal. (Cooperator: Dr. Conceição Juana Fortes).
June, 2015	<b>Visiting Researcher</b> , TECNALIA Electrical PTO Lab. Bilbao, Spain (Cooperator: Eider Robles SestaepeFrançois-Xavier Fay).

## Awards

Dec. 2019	Winner of the Chinese Government Prize for Outstanding PhD Students Abroad ( <b>Top500</b> ), Lisbon, Portugal.
Dec. 2014	Winner of the National scholarship for Postgraduates, China.
Dec., 2013	Second prize of the 4th National College Student Ship and Ocean Engineering Design Competition, ( <b>Co-supervisor</b> ), China.
Oct., 2013	Bronze Award of the 13th "Challenge Cup" National College Student Curricular Academic Science and Technology Works Competition, China.
July, 2013	Second prize of the 2nd International Marine Vehicle Design and Construction Contest, ( <b>Co-supervisor</b> ), China.

## Graduated Master Students

Jan, 2021	<b>Ana Catarina Costa</b> , Parameter Estimation of an Empirical Manoeuvring Model, Master Thesis, Instituto Superior Técnico (IST), University of Lisbon, Portugal. <b>Supervisor: Prof. Carlos Guedes Soares, Dr. Haitong Xu.</b>
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## Research Publications

### Journal Papers

- [1] **Xu, H.** & Guedes Soares, C. (2022b). Convergence analysis of hydrodynamic coefficients estimation using regularization filter functions on free-running ship model tests with noise. *Ocean Engineering*, 250, 111012. <https://doi.org/10.1016/j.oceaneng.2022.111012>
- [2] Catarina Costa, A., **Xu, H.** & Guedes Soares, C. (2021b). Robust parameter estimation of an empirical manoeuvring model using free-running model tests. *Journal of Marine Science and Engineering*, 9(11), 1302. <https://doi.org/10.3390/jmse9111302>
- [3] Hinostroza, M. A., **Xu, H.** & Guedes Soares, C. (2021). Motion planning, guidance and control system for autonomous surface vessel. *Journal of Offshore Mechanics and Arctic Engineering*, 143(4), 041202. <https://doi.org/10.1115/1.4049118>
- [4] Hinostroza, M., **Xu, H.** & Guedes Soares, C. (2021). Experimental results of the cooperative operation of autonomous surface vehicles navigating in complex marine environment. *Ocean Engineering*, 219, 108256. <https://doi.org/10.1016/j.oceaneng.2020.108256>
- [5] **Xu, H.**, Hinostroza, M. A. & Guedes Soares, C. (2021). Modified vector field path-following control system for an underactuated autonomous surface ship model in the presence of static obstacles. *Journal of Marine Science and Engineering*, 9(6), 652. <https://doi.org/10.3390/jmse9060652>
- [6] **Xu, H.**, Oliveira, P. & Guedes Soares, C. (2021). L1 adaptive backstepping control for path-following of underactuated marine surface ships. *European Journal of Control*, 58, 357–372. <https://doi.org/10.1016/j.ejcon.2020.08.003>
- [7] Wang, Z., **Xu, H.**, Li, X., Zou, Z. & Guedes Soares, C. (2020). Kernel-based support vector regression for nonparametric modeling of ship maneuvering motion. *Ocean Engineering*, 216, 107994. <https://doi.org/10.1016/j.oceaneng.2020.107994>
- [8] **Xu, H.**, Fossen, T. I. & Guedes Soares, C. (2020). Uniformly semiglobally exponential stability of vector field guidance law and autopilot for path-following. *European Journal of Control*, 53, 88–97. <https://doi.org/10.1016/j.ejcon.2019.09.007>
- [9] **Xu, H.** & Guedes Soares, C. (2020a). Manoeuvring modelling of a containership in shallow water based on optimal truncated nonlinear kernel-based least square support vector machine and quantum-inspired evolutionary algorithm. *Ocean Engineering*, 195, 106676. <https://doi.org/10.1016/j.oceaneng.2019.106676>
- [10] **Xu, H.** & Guedes Soares, C. (2020b). Vector field guidance law for curved path following of an underactuated autonomous ship model. *Transactions of the Royal Institution of Naval Architects Part A: International Journal of Maritime Engineering*, 162(A3), A249–A261. <https://doi.org/10.3940/rina.ijme.2020.a3.609>
- [11] **Xu, H.**, Hassani, V. & Guedes Soares, C. (2020a). Comparing generic and vectorial nonlinear manoeuvring models and parameter estimation using optimal truncated least square support vector machine. *Applied Ocean Research*, 97, 102061. <https://doi.org/10.1016/j.apor.2020.102061>
- [12] **Xu, H.**, Hassani, V. & Guedes Soares, C. (2020b). Truncated least square support vector machine for parameter estimation of a nonlinear manoeuvring model based on pmm tests. *Applied Ocean Research*, 97, 102076. <https://doi.org/10.1016/j.apor.2020.102076>
- [13] **Xu, H.**, Hinostroza, M., Wang, Z. & Guedes Soares, C. (2020). Experimental investigation of shallow water effect on vessel steering model using system identification method. *Ocean Engineering*, 199, 106940. <https://doi.org/10.1016/j.oceaneng.2020.106940>
- [14] Hinostroza, M., **Xu, H.** & Guedes Soares, C. (2019b). Cooperative operation of autonomous surface vehicles for maintaining formation in complex marine environment. *Ocean Engineering*, 183, 132–154. <https://doi.org/10.1016/j.oceaneng.2019.04.098>

- [15] **Xu, H.** & Guedes Soares, C. (2019). Hydrodynamic coefficient estimation for ship manoeuvring in shallow water using an optimal truncated ls-svm. *Ocean Engineering*, 191, 106488. <https://doi.org/10.1016/j.oceaneng.2019.106488>
- [16] **Xu, H.**, Hassani, V. & Guedes Soares, C. (2019). Uncertainty analysis of the hydrodynamic coefficients estimation of a nonlinear manoeuvring model based on planar motion mechanism tests. *Ocean Engineering*, 173, 450–459. <https://doi.org/10.1016/j.oceaneng.2018.12.075>
- [17] **Xu, H.**, Hinostroza, M., Hassani, V. & Guedes Soares, C. (2019). Real-time parameter estimation of a nonlinear vessel steering model using a support vector machine. *Journal of Offshore Mechanics and Arctic Engineering*, 141(6). <https://doi.org/10.1115/1.4043806>
- [18] **Xu, H.**, Rong, H. & Guedes Soares, C. (2019). Use of ais data for guidance and control of path-following autonomous vessels. *Ocean Engineering*, 194, 106635. <https://doi.org/10.1016/j.oceaneng.2019.106635>
- [19] **Xu, H.** & Guedes Soares, C. (2018). An optimized energy-efficient path following algorithm for underactuated marine surface ship model. *Transactions of the Royal Institution of Naval Architects Part A: International Journal of Maritime Engineering*, 160(A4), A413–A423. <https://doi.org/10.3940/rina.ijme.2018.a4.505>
- [20] **Xu, H.**, Hinostroza, M. & Guedes Soares, C. (2018). Estimation of hydrodynamic coefficients of a nonlinear manoeuvring mathematical model with free-running ship model tests. *Transactions of the Royal Institution of Naval Architects Part A: International Journal of Maritime Engineering*, 160(A3), A213–A225. <https://doi.org/10.3940/rina.ijme.a3.2018.448>
- [21] Gaspar, J. F., Kamarlouei, M., Sinha, A., **Xu, H.**, Calvário, M., Fay, F.-X., Robles, E. & Guedes Soares, C. (2017). Analysis of electrical drive speed control limitations of a power take-off system for wave energy converters. *Renewable Energy*, 113, 335–346. <https://doi.org/10.1016/j.renene.2017.05.085>
- [22] Gaspar, J. F., Kamarlouei, M., Sinha, A., **Xu, H.**, Calvário, M., Fay, F.-X., Robles, E. & Guedes Soares, C. (2016). Speed control of oil-hydraulic power take-off system for oscillating body type wave energy converters. *Renewable Energy*, 97, 769–783. <https://doi.org/10.1016/j.renene.2016.06.015>
- [23] **Xu, H.** & Guedes Soares, C. (2016b). Vector field path following for surface marine vessel and parameter identification based on ls-svm. *Ocean Engineering*, 113, 151–161. <https://doi.org/10.1016/j.oceaneng.2015.12.037>
- [24] Liu, F., **Xu, H.** & Yang, S. (2014). Preliminary study on the rolling characteristics of an amphibious unmanned vehicle. *Chinese Journal of Ship Research*, (Chinese), 9, 46–51.
- [25] **Xu, H.**, Yang, S., Ma, Q., Wang, B., Ma, T. & Zong, Y. (2014). An experimental research on nonlinear roll hydrodynamic characteristics of a composite trimaran using  $\varepsilon$ -SVR. *International Journal of Mechanics*, 8, 18–29.
- [26] Yang, W., **Xu, H.**, Yang, S. & zhang, S. (2014). Experimental analysis of roll motion mode of unmanned planing boat [j]. *Ship Science and Technology*, (Chinese), 36(4).

## Journal Papers under review

- [1] **Xu, H.** & Guedes Soares, C. (2021a). *Big data-driven parameter estimation of nonlinear ship manoeuvring model in shallow water using truncated ls-svm*, **To be Submitted.**
- [2] **Xu, H.** & Guedes Soares, C. (2021b). *Review on path following control system of marine autonomous surface ships.*, **To be Submitted.**

## Conference Proceedings

- [1] **Xu, H.**, Hinostroza, M. & Guedes Soares, C. (2019). Time-varying vector field guidance law for path following and obstacle avoidance for underactuated autonomous vehicles, In *Asme 2019 38th international conference on ocean, offshore and arctic engineering*. American Society of Mechanical Engineers Digital Collection.
- [2] Hinostroza, M., Soares, C. G. & **Xu, H.** (2018). Motion planning, guidance and control system for autonomous surface vessel, In *Asme 2018 37th international conference on ocean, offshore and arctic engineering*. American Society of Mechanical Engineers.
- [3] **Xu, H.**, Hassani, V. & Guedes Soares, C. (2018). Parameters estimation of nonlinear manoeuvring model for marine surface ship based on pmm tests, In *Asme 2018 37th international conference on ocean, offshore and arctic engineering*. American Society of Mechanical Engineers Digital Collection.
- [4] **Xu, H.**, Hassani, V., Hinostroza, M. & Guedes Soares, C. (2018). Real-time parameter estimation of a nonlinear vessel steering model using a support vector machine, In *Asme 2018 37th international conference on ocean, offshore and arctic engineering*. American Society of Mechanical Engineers Digital Collection.
- [5] Wang, M. Y., **Xu, H.**, Yang, S. L. & Chen, Y. (2015). Contrastive analysis on parameter identification of unmanned gliding-hydrofoil craft's maneuverability based on ga and pso, In *Advanced materials research*. Trans Tech Publications Ltd.
- [6] Cui, J., Yang, S. L. & **Xu, H.** (2013). Preliminary study on maneuvering motion pattern of unmanned composite trimaran ship model, In *Applied mechanics and materials*. Trans Tech Publications Ltd.
- [7] **Xu, H.**, Yang, S., Ma, Q., Wang, B., Ma, T. & Zong, Y. (2013). Experimental research on the characteristics of nonlinear roll hydrodynamic coefficients of a composite trimaran, In *International conference on the 4th european conference of mechanical engineering*.
- [8] **Xu, H.**, Yang, S., Wen, Y., Wang, B. & Zong, Y. (2013). Research on the rolling motion mode of composite trimaran, In *The 23 international offshore and polar engineering conference*. International Society of Offshore and Polar Engineers.
- [9] Yang, W. L., **Xu, H.**, Yang, S. L. & Zhang, S. (2013). System identification of unmanned planning boat rolling motion mode, In *Advanced materials research*. Trans Tech Publications Ltd.

## Book Chapters

- [1] **Xu, H.** & Guedes Soares, C. (2022a). Adaptive nonlinear vessel steering modelling using time-sequence incremental and decremental ls-svm, In *Developments in maritime technology and engineering*. Taylor & Francis Group.
- [2] Catarina Costa, A., **Xu, H.** & Guedes Soares, C. (2021a). Optimal parameter estimation of empirical manoeuvring model using free-running ship tests, In *Developments in maritime technology and engineering*. Taylor & Francis Group.
- [3] Hinostroza, M., **Xu, H.** & Guedes Soares, C. (2019a). Manoeuvring test for a self-running ship model in various water depth conditions, In *Sustainable development and innovations in marine technologies*. Taylor & Francis Group.
- [4] Hinostroza, M., **Xu, H.** & Guedes Soares, C. (2018a). Experimental and numerical simulations of zig-zag manoeuvres of a self-running ship model, In *Maritime transportation and harvesting of sea resources*.
- [5] Hinostroza, M., **Xu, H.** & Guedes Soares, C. (2018b). Path-planning and path-following control system for autonomous surface vessel, maritime transportation and harvesting of sea resources, In *Maritime transportation and harvesting of sea resources*. Taylor & Francis Group, London.
- [6] **Xu, H.**, Hinostroza, M. & Guedes Soares, C. (2017). A hybrid controller design for ship autopilot based on free-running model test, In *Maritime transportation and harvesting of sea resources*. Taylor & Francis Group.

- [7] **Xu, H.** & Guedes Soares, C. (2016a). Waypoint following for a marine surface ship model based on vector field guidance law, In *Maritime technology and engineering*. Taylor & Francis Group.
- [8] **Xu, H.** & Guedes Soares, C. (2015). An optimized path following algorithm for a surface ship model, In *Towards green marine technology and transport*. Taylor & Francis Group.

## Patents

- [1] **Xu, H.** & Yang, S. (2016a). *Framed full-autonomous marine environment monitoring buoy* (CN Patent: CN103,600,814 B).
- [2] **Xu, H.** & Yang, S. (2016b). *Full-independent marine environmental monitoring buoy for deep open seas* (CN Patent: CN103,612,723 B).
- [3] Yang, S., Liu, F., Wu, Y., Wang, B. & **Xu, H.** (2016). *Front slanting surface trisomy amphibious unmanned boat catamaran* (CN Patent: CN103,640,445 B).
- [4] Yang, S., Wang, B. & **Xu, H.** (2016). *Amphibious unmanned surface boat provided with double bodies on inclined sides* (CN Patent: CN103,640,444 B).
- [5] Yang, S., Zhu, R., Cui, J., **Xu, H.** & Chen, P. (2013). *Front split adjustable hydrofoil slide boat* (CN Patent: CN102,849,174 A).

## Participation in Conferences and Workshops

2020-ISSC/ITTC	5th Joint ISSC/ITTC International Workshop - Uncertainty modelling in wave description and wave induced responses, 1 – 3, June, 2021, Lisbon, Portugal.
2020-MARTECH	5th International Conference on Maritime Technology and Engineering, 16 – 19 Nov. 2017, Lisbon, Portugal.
2020-RENEW	4th International Conference on Renewable Energies Offshore, 12 – 15, October 2020, Lisbon, Portugal.
2019-ICCGS	8th International Conference on Collision and Grounding of Ships and Offshore Structures, 21 – 23 October 2019, Lisbon, Portugal ( <b>Invited oral presentation</b> ).
2018-RENEW	3rd International Conference on Renewable Energies Offshore, 8 - 10 October 2018, Lisbon, Portugal.
2018-ARCWIND	ARCWIND project Workshop, International Workshop on Floating Wind Technologies IST Congress Centre – Room 02.1 Lisbon, 10th October 2018
2018-OMAE	37th International Conference on Ocean, Offshore and Arctic Engineering, 17 - 22 June 2018, Madrid, Spain. ( <b>presentation of 2 scientific paper</b> ).
2018-MARTECH	4th International Conference on Maritime Technology and Engineering, 7 – 9 May 2017, Lisbon, Portugal.
2017-MARSTRUCT	6th International Conference on Marine Structures, 8 – 10 May 2017, Lisbon, Portugal.
2017-IMAM	International Maritime Association of the Mediterranean, 9 – 11 October 2017, Lisbon, Portugal. ( <b>presentation of 1 scientific paper</b> ).
2016-RENEW	2nd International Conference on Renewable Energies Offshore, 24 - 26 October 2016, Lisbon, Portugal.
2016-MARTECH	3rd International Conference on Maritime Technology and Engineering, 4-6 July 2016, Lisbon, Portugal. ( <b>presentation of 1 scientific paper</b> ).
2015-SHOPERA	Year-2 Project Workshop and Plenary Meeting, 14-16 October 2015, Lisbon, Portugal.
2014-RENEW	1st International Conference on Renewable Energies Offshore, 24 - 26 November 2014, Lisbon, Portugal.
2014-MARTECH	The 2nd International Conference on Maritime Technology and Engineering, 15-17, October 2014, Lisbon, Portugal.

## Selected Research Projects

Feb. 2021 – . . . ., **Researcher**, The participated projects in CENTEC:

1. 2023-2025, Development of an Artificial Intelligence driven decision-making system for safe navigation of marine autonomous surface ships(AI4SHIPS),Fundação para a Ciência e a Tecnologia (FCT), Project Budget: 250K € **Principal Investigator (PI), (Under review)**.
2. 2023-2027, Big data-driven simulator for marine autonomous surface ships in adverse weather conditions,FCT-Individual Call to Scientific Employment Stimulus -5th Edition, Project Budget: 150K € **Principal Investigator (PI), (Under review)**.

Apr.2014 – Jan. 2021, **Researcher Assistant.**, The participated projects in CENTEC:

1. Aug. 2018-Aug. 2021, Simulation of manoeuvrability of ships in adverse weather conditions (NAVAD)  
Funding Entity: Portuguese Foundation for Science and Technology(02/SAICT/032037/2017)  
Project Budget: 240K €  
Mission:
  - Calibrate and install the sensors on naval ships, design data acquisition system.
  - Carry out sea trials in adverse weather conditions.
2. Sep.2018- Aug. 2021, Autonomous Observing Systems for Fishing Vessels (OBSERVA.FISH)  
Funding Entity: Portuguese Foundation for Science and Technology (02/SAICT/032108/2017)  
Project Budget: 200K €  
Mission:
  - Design the data acquisition system of the multi-sensors on Fishing vessels (LabVIEW).
3. Mar. 2018-Feb. 2021, Ship Routing Accounting for Changeable Sea Conditions (ROUTING)  
Funding Entity: European Horizon 2020, FCT and MarTERA Era-Net CoFund (Id: 1111)  
Project Budget: 400K €  
Mission:
  - Design data acquisition system to measure the ship motions.
4. Nov. 2017-Oct. 2020, Adaptation and Implementation of Floating Wind Energy Conversion Technology for the Atlantic Region (ARCWIND)  
Funding Entity: INTERREG Atlantic Area Programme - ERDF(nº EAPA344/2016)  
Project Budget: 3.92M €
5. June 2016-May. 2019, Manoeuvring Moored Ships in Ports Physical and numerical modelling (MM Ships)  
Funding Entity: Portuguese Foundation for Science and Technology (PTDC/EMSTRA/5628/2014)  
Project Budget: 200K €  
Mission:
  - Develop a free-running ship mode and calibrate the sensors.
  - Program the data acquisition system of the multi-sensors and control system (LabVIEW).
  - Carry out ship manoeuvring tests considering the shallow water effect.
  - Study the shallow water effect on ship's manoeuvrability using machine learning method and publish the results in conference and journals.
6. Oct. 2013-Oct. 2016, Energy Efficient Safe SHip OPERAtion (SHOPERA)  
Funding Entity: European Community – FP7-TRANSPORT (Grant agreement nr. 605221)  
Project Budget: 6.58M €  
Mission:
  - Analyze the Captive Maneuvering Tests of Ship Models.
  - Develop a novel machine-learning algorithm describe the motion of the ship.
  - Prepare a report and publish the results in scientific journals.
7. Aug. 2015 – Aug. 2016 Generic hydraulic power take-off system for wave energy converters (MARINET)  
Funding Entity: European Community – Research Infrastructure Action under the FP7 “Capacities” Specific Programme (Grant agreement nr. 262552)

Project Budget: 200K €

Mission:

- Develop control strategies of power take-off systems for wave energy converters.
- Carry out hardware in the loop test of PTO.

## Service

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1. 2021 – Guest editor of Special Issue on "Maritime Autonomous Vessels" on Journal of Marine Science and Engineering (SCI, Q2, IF:2.033).
2. 2017 – IEEE Membership.
3. Review for Journals .
  - 2021-11, *ISA Transactions*, (2 reviews, SCI, IF:5.468)
  - 2021-08, *Journal of Marine Science and Technology*, (1 reviews, SCI, IF:1.80)
  - 2021-08, *Alexandria Engineering Journal* (2 reviews, SCI, IF:3.732)
  - 2021-05, *Journal of Zhejiang University-SCIENCE A*, (2 reviews, SCI, IF:1.49)
  - 2020-10, *China Ocean Engineering*, (1 reviews)
  - 2020-09, *Transportation Safety and Environment*, (2 reviews)
  - 2020-08, *IEEE Transactions on Vehicular Technology*, (1 reviews, SCI, IF:5.379)
  - 2020-04, *IEEE Transactions on Industrial Electronics*, (1 reviews, SCI, IF:7.515)
  - 2019-11, *Journal of Offshore Mechanics and Arctic Engineering*, (1 reviews, SCI, IF: 1.186)
  - 2019-11, *Ocean Engineering*, (21 reviews, SCI, IF:3.068)
  - 2019-07, *Journal of Marine Science and Application*, (3 reviews)
  - 2018-04, *IEEE Access*, (1 reviews, SCI, IF: 3.745)
  - 2018-04, *Applied Ocean Research*, (1 reviews, SCI, IF: 2.753)
  - 2017-01, *Journal of Navigation*, (1 reviews, SCI, IF: 1.908)
  - 2016-06, *Control Engineering Practice*, (2 reviews, SCI, IF: 3.193)
4. Review for Conferences .
  - 2021-05, *3th IFAC Conference on Control Applications in Marine Systems, Robotics, and Vehicles (CAMS 2021)*, (1 reviews)
  - 2020-12, *IEEE International Conference on Robotics and Automation*, (1 reviews)
  - 2020-01, *International Conference on Maritime Technology and Engineering*, (1 reviews)
  - 2019-11, *International Conference on Ocean, Offshore and Arctic Engineering (OMAE)*, (1 reviews)
  - 2019-05, *International Maritime Association of the Mediterranean (IMAM)*, ( 12 reviews)