

# Alessandro Ridolfi

## List of Publications by Year in descending order

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Version: 2024-02-01

130  
papers

1,962  
citations

279487

23  
h-index

344852

36  
g-index

135  
all docs

135  
docs citations

135  
times ranked

1480  
citing authors

#	ARTICLE	IF	CITATIONS
1	A new AUV navigation system exploiting unscented Kalman filter. Ocean Engineering, 2016, 113, 121-132.	1.9	177
2	An Attitude Estimation Algorithm for Mobile Robots Under Unknown Magnetic Disturbances. IEEE/ASME Transactions on Mechatronics, 2016, 21, 1900-1911.	3.7	93
3	An unscented Kalman filter based navigation algorithm for autonomous underwater vehicles. Mechatronics, 2016, 39, 185-195.	2.0	70
4	Identification of the main hydrodynamic parameters of Typhoon AUV from a reduced experimental dataset. Ocean Engineering, 2018, 147, 77-88.	1.9	54
5	Cooperative localization of a team of AUVs by a tetrahedral configuration. Robotics and Autonomous Systems, 2014, 62, 1228-1237.	3.0	51
6	Development of an innovative wheel-rail contact model for the analysis of degraded adhesion in railway systems. Tribology International, 2014, 69, 128-140.	3.0	47
7	The ARROWS project: adapting and developing robotics technologies for underwater archaeology. IFAC-PapersOnLine, 2015, 48, 194-199.	0.5	46
8	A novel kinematic architecture for portable hand exoskeletons. Mechatronics, 2016, 35, 192-207.	2.0	44
9	Preliminary design and fast prototyping of an Autonomous Underwater Vehicle propulsion system. Proceedings of the Institution of Mechanical Engineers Part M: Journal of Engineering for the Maritime Environment, 2015, 229, 248-272.	0.3	42
10	AirExGlove – A novel pneumatic exoskeleton glove for adaptive hand rehabilitation in post-stroke patients. , 2018, , .		41
11	An innovative decentralized strategy for I-AUVs cooperative manipulation tasks. Robotics and Autonomous Systems, 2015, 72, 261-276.	3.0	40
12	Single axis FOG aided attitude estimation algorithm for mobile robots. Mechatronics, 2015, 30, 158-173.	2.0	37
13	UKF-Based Navigation System for AUVs: Online Experimental Validation. IEEE Journal of Oceanic Engineering, 2019, 44, 633-641.	2.1	37
14	A comparison between EKF-based and UKF-based navigation algorithms for AUVs localization. , 2015, , .		34
15	Sea currents estimation during AUV navigation using Unscented Kalman Filter. IFAC-PapersOnLine, 2017, 50, 13668-13673.	0.5	34
16	Design of a Series Elastic Transmission for hand exoskeletons. Mechatronics, 2018, 51, 8-18.	2.0	34
17	An innovative degraded adhesion model for multibody applications in the railway field. Multibody System Dynamics, 2014, 32, 133-157.	1.7	33
18	An innovative wheel-rail contact model for railway vehicles under degraded adhesion conditions. Multibody System Dynamics, 2015, 33, 285-313.	1.7	32

#	ARTICLE	IF	CITATIONS
19	Cooperative navigation of AUVs via acoustic communication networking: field experience with the Typhoon vehicles. <i>Autonomous Robots</i> , 2016, 40, 1229-1244.	3.2	31
20	Evaluation of odometry algorithm performances using a railway vehicle dynamic model. <i>Vehicle System Dynamics</i> , 2012, 50, 699-724.	2.2	30
21	A localization algorithm for railway vehicles based on sensor fusion between tachometers and inertial measurement units. <i>Proceedings of the Institution of Mechanical Engineers, Part F: Journal of Rail and Rapid Transit</i> , 2014, 228, 431-448.	1.3	29
22	A forward-looking SONAR and dynamic model-based AUV navigation strategy: Preliminary validation with FeelHippo AUV. <i>Ocean Engineering</i> , 2020, 196, 106770.	1.9	29
23	Kinematic synthesis and testing of a new portable hand exoskeleton. <i>Meccanica</i> , 2017, 52, 2873-2897.	1.2	28
24	A low cost autonomous underwater vehicle for patrolling and monitoring. <i>Proceedings of the Institution of Mechanical Engineers Part M: Journal of Engineering for the Maritime Environment</i> , 2017, 231, 740-749.	0.3	27
25	Experimental results with a mixed USBL/LBL system for AUV navigation. , 2014, , .		26
26	Typhoon at CommsNet13: Experimental experience on AUV navigation and localization. <i>Annual Reviews in Control</i> , 2015, 40, 157-171.	4.4	26
27	Development and Design of a Compact Autonomous Underwater Vehicle: Zeno AUV. <i>IFAC-PapersOnLine</i> , 2018, 51, 20-25.	0.5	26
28	A novel application of a surface ElectroMyoGraphy-based control strategy for a hand exoskeleton system: A single-case study. <i>International Journal of Advanced Robotic Systems</i> , 2019, 16, 172988141982819.	1.3	24
29	Needs and Gaps in Optical Underwater Technologies and Methods for the Investigation of Marine Animal Forest 3D-Structural Complexity. <i>Frontiers in Marine Science</i> , 2021, 8, .	1.2	24
30	An innovative hardware in the loop architecture for the analysis of railway braking under degraded adhesion conditions through roller-rigs. <i>Mechatronics</i> , 2014, 24, 139-150.	2.0	21
31	Design of a modular Autonomous Underwater Vehicle for archaeological investigations. , 2015, , .		19
32	Development, design and validation of an assistive device for hand disabilities based on an innovative mechanism. <i>Robotica</i> , 2017, 35, 892-906.	1.3	19
33	Tailor-Made Hand Exoskeletons at the University of Florence: From Kinematics to Mechatronic Design. <i>Machines</i> , 2019, 7, 22.	1.2	19
34	Underwater navigation with 2D forward looking SONAR: An adaptive unscented Kalman filter-based strategy for AUVs. <i>Journal of Field Robotics</i> , 2021, 38, 355-385.	3.2	19
35	A Forward-Looking Sonar-Based System for Underwater Mosaicing and Acoustic Odometry. , 2018, , .		18
36	Sensor-driven autonomous underwater inspections: A receding-horizon RRT-based view planning solution for AUVs. <i>Journal of Field Robotics</i> , 2022, 39, 499-527.	3.2	18

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37	Novel Noncontinuous Carouseling Approaches for MEMS-Based North Seeking Using Kalman Filter: Theory, Simulations, and Preliminary Experimental Evaluation. IEEE/ASME Transactions on Mechatronics, 2020, 25, 2437-2448.	3.7	17
38	Variable Admittance Control of a Hand Exoskeleton for Virtual Reality-Based Rehabilitation Tasks. Frontiers in Neurobotics, 2021, 15, 789743.	1.6	17
39	Development and experimental testing of a portable hand exoskeleton. , 2015, , .		16
40	Modeling and Control of a Full-Scale Roller-Rig for the Analysis of Railway Braking Under Degraded Adhesion Conditions. IEEE Transactions on Control Systems Technology, 2015, 23, 186-196.	3.2	16
41	Optimization-based scaling procedure for the design of fully portable hand exoskeletons. Meccanica, 2018, 53, 3157-3175.	1.2	16
42	LSTM-based Dead Reckoning Navigation for Autonomous Underwater Vehicles. , 2020, , .		16
43	A localization algorithm for railway vehicles. , 2015, , .		15
44	On field experience on underwater acoustic localization through USBL modems. , 2017, , .		15
45	Development and Online Validation of an UKF-based Navigation Algorithm for AUVs. IFAC-PapersOnLine, 2016, 49, 69-74.	0.5	14
46	Toward the integration of lattice structure-based topology optimization and additive manufacturing for the design of turbomachinery components. Advances in Mechanical Engineering, 2019, 11, 168781401985978.	0.8	14
47	Model-based mechanical design of a passive lower-limb exoskeleton for assisting workers in shotcrete projection. Meccanica, 2021, 56, 195-210.	1.2	14
48	Wearable Robots: An Original Mechatronic Design of a Hand Exoskeleton for Assistive and Rehabilitative Purposes. Frontiers in Neurobotics, 2021, 15, 750385.	1.6	13
49	A Novel Point-in-Polygon-Based sEMG Classifier for Hand Exoskeleton Systems. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2020, 28, 3158-3166.	2.7	13
50	Deep Learning for on-board AUV Automatic Target Recognition for Optical and Acoustic imagery. IFAC-PapersOnLine, 2020, 53, 14589-14594.	0.5	13
51	Development of a HIL railway roller rig model for the traction and braking testing activities under degraded adhesion conditions. International Journal of Non-Linear Mechanics, 2013, 57, 50-64.	1.4	12
52	Development of a Navigation Algorithm for Autonomous Underwater Vehicles. IFAC-PapersOnLine, 2015, 48, 64-69.	0.5	12
53	Generic Path Planning Algorithm for Mobile Robots Based on BÄ©zier Curves. IFAC-PapersOnLine, 2016, 49, 145-150.	0.5	12
54	A free floating manipulation strategy for Autonomous Underwater Vehicles. Robotics and Autonomous Systems, 2017, 87, 133-146.	3.0	12

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55	Design and Production of Innovative Turbomachinery Components via Topology Optimization and Additive Manufacturing. International Journal of Rotating Machinery, 2019, 2019, 1-12.	0.8	12
56	Forward-Looking Sonar CNN-based Automatic Target Recognition: an experimental campaign with FeelHippo AUV. , 2020, , .		12
57	A General Framework for Designing 3D Impellers Using Topology Optimization and Additive Manufacturing. IEEE Access, 2020, 8, 60259-60269.	2.6	12
58	Comparison of feature detection and outlier removal strategies in a mono visual odometry algorithm for underwater navigation. Applied Ocean Research, 2022, 118, 102961.	1.8	12
59	Design of a modular propulsion system for MARTA AUV. , 2015, , .		11
60	Pressure Hull Design Methods for Unmanned Underwater Vehicles. Journal of Marine Science and Engineering, 2019, 7, 382.	1.2	11
61	An innovative degraded adhesion model for railway vehicles: development and experimental validation. Meccanica, 2014, 49, 919-937.	1.2	10
62	Optimization of potential field method parameters through networks for swarm cooperative manipulation tasks. International Journal of Advanced Robotic Systems, 2016, 13, 172988141665793.	1.3	10
63	Typhoon at CommsNet 2013: experimental experience on AUV navigation and localization. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2014, 47, 3370-3375.	0.4	9
64	An automatic scaling procedure for a wearable and portable hand exoskeleton. , 2016, , .		9
65	Underwater Vehicles attitude estimation in presence of magnetic disturbances. , 2016, , .		9
66	The ARROWS Project: robotic technologies for underwater archaeology. IOP Conference Series: Materials Science and Engineering, 2018, 364, 012088.	0.3	9
67	Mono visual odometry for Autonomous Underwater Vehicles navigation. , 2019, , .		9
68	Receding-horizon sampling-based sensor-driven coverage planning strategy for AUV seabed inspections. , 2020, , .		9
69	Kinematics-Based Strategy for the Design of a Pediatric Hand Exoskeleton Prototype. Mechanisms and Machine Science, 2019, , 501-508.	0.3	8
70	Fusing acoustic ranges and inertial measurements in AUV navigation: The Typhoon AUV at CommsNet13 sea trial. , 2014, , .		7
71	A full-scale roller-rig for railway vehicles: multibody modelling and Hardware In the Loop architecture. Multibody System Dynamics, 2016, 37, 69-93.	1.7	7
72	Toward underwater acoustic-based simultaneous localization and mapping. Experimental results with the Typhoon AUV at CommsNet13 sea trial. , 2014, , .		6

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73	An innovative localisation algorithm for railway vehicles. <i>Vehicle System Dynamics</i> , 2014, 52, 1443-1469.	2.2	6
74	Assistive Hand Exoskeletons: The Prototypes Evolution at the University of Florence. <i>Mechanisms and Machine Science</i> , 2019, , 307-315.	0.3	6
75	Thesaurus: AUV teams for archaeological search. Field results on acoustic communication and localization with the Typhoon. , 2014, , .		5
76	Design and Testing of a Compact Autonomous Underwater Vehicle for Archaeological Surveying and Monitoring. , 2018, , .		5
77	An autonomous underwater vehicle and SUNSET to bridge underwater networks composed of multi-vendor modems. <i>Annual Reviews in Control</i> , 2018, 46, 295-303.	4.4	5
78	Experimental Evaluation of a Forward-Looking Sonar-Based System for Acoustic Odometry. , 2019, , .		5
79	Development and Experimental Validation of Auxiliary Rolling Bearing Models for Active Magnetic Bearings (AMBs) Applications. <i>International Journal of Rotating Machinery</i> , 2019, 2019, 1-19.	0.8	5
80	A Probabilistic 3D Map Representation for Forward-Looking SONAR Reconstructions. , 2020, , .		5
81	Performance and robustness analysis of a Hardware In the Loop full-scale roller-rig for railway braking and traction testing. <i>Meccanica</i> , 2014, 49, 615-644.	1.2	4
82	Acoustic data analysis for underwater archaeological sites detection and mapping by means of autonomous underwater vehicles. , 2015, , .		4
83	An innovative cleaning tool for underwater soft cleaning operations. , 2015, , .		4
84	Archaeology oriented optical acquisitions through MARTA AUV during ARROWS European project demonstration. , 2016, , .		4
85	Simultaneous navigation state and sea current estimation through augmented state Unscented Kalman Filter. , 2016, , .		4
86	FeelHippo: A low-cost autonomous underwater vehicle for subsea monitoring and inspection. , 2016, , .		4
87	Development of Nemo remotely operated underwater vehicle for the inspection of the Costa Concordia wreck. <i>Proceedings of the Institution of Mechanical Engineers Part M: Journal of Engineering for the Maritime Environment</i> , 2017, 231, 3-18.	0.3	4
88	Design of a Reconfigurable Autonomous Underwater Vehicle for Offshore Platform Monitoring and Intervention. , 2018, , .		4
89	Low-cost solution in international robotic challenge: Lessons learned by Tuscany Robotics Team at ERL Emergency Robots 2017. <i>Journal of Field Robotics</i> , 2019, 36, 587-601.	3.2	4
90	Underwater Robotics Competitions: The European Robotics League Emergency Robots Experience With FeelHippo AUV. <i>Frontiers in Robotics and AI</i> , 2020, 7, 3.	2.0	4

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91	Development of a full-scale roller-rig to test high speed trains under degraded adhesion conditions. , 2014, , .		3
92	Employment of an Autonomous Underwater Vehicle as mobile bridge among heterogeneous acoustic nodes. IFAC-PapersOnLine, 2017, 50, 12380-12385.	0.5	3
93	Enabling cooperation and networking in heterogeneous underwater networks composed of multi-vendor vehicles and modems. , 2017, , .		3
94	Development of an ultra short baselineâ€aided buoy for underwater targets localization. Proceedings of the Institution of Mechanical Engineers Part M: Journal of Engineering for the Maritime Environment, 2019, 233, 1212-1225.	0.3	3
95	Modeling and experimental study of power losses in a rolling bearing. Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology, 2020, 234, 1332-1351.	1.0	3
96	DEVELOPING AFFORDABLE BATHYMETRIC ANALYSIS TECHNIQUES USING NON-CONVENTIONAL PAYLOAD FOR CULTURAL HERITAGE INSPECTIONS. International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences - ISPRS Archives, 0, XLII-2/W15, 807-811.	0.2	3
97	2D Forward Looking SONAR in Underwater Navigation Aiding: an AUKF-based strategy for AUVs. IFAC-PapersOnLine, 2020, 53, 14570-14575.	0.5	3
98	Design and implementation of dynamic simulators for the testing of inertial sensors. , 2012, , .		2
99	Development and Testing of a Low Cost Wearable and Portable Hand Exoskeleton Based on a Parallel Mechanism. , 2015, , .		2
100	An Efficient Iterative Approach for the Analysis of Thermal Instabilities in Rotating Machines. Journal of Vibration and Acoustics, Transactions of the ASME, 2017, 139, .	1.0	2
101	Design of a Self-moving Autonomous Buoy for the Localization of Underwater Targets. , 2019, , .		2
102	An Efficient Iterative Coupled Model for the Study of the Insurgence of the Morton Effect in Tilting Pad Journal Bearings. Journal of Engineering for Gas Turbines and Power, 2019, 141, .	0.5	2
103	Marine Robotics for Recurrent Morphological Investigations of Micro-Tidal Marine-Coastal Environments. A Point of View. Journal of Marine Science and Engineering, 2021, 9, 1111.	1.2	2
104	Model-Based Approach in Developing a Hand Exoskeleton for Children: A Preliminary Study. Biosystems and Biorobotics, 2019, , 490-494.	0.2	2
105	Underwater Acoustic Image Enhancement by Using Fast Super-Resolution with Generative Adversarial Networks. , 2020, , .		2
106	3D-Printing-Oriented Mechanical Redesign of a Hand Exoskeleton System for Rehabilitative Tasks. , 2021, , .		2
107	Localisation Approaches for Underwater Autonomy within the EUMarineRobots H2020 project: experimental activity at SEALab. , 2021, , .		2
108	An anti-capsize strategy for industrial vehicles: Preliminary testing on a scaled AGV. , 2014, , .		1

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109	Fast prototyping of a scaled AGV for the testing of stability control for industrial vehicles. , 2014, , .		1
110	An Innovative Navigation Strategy for Autonomous Underwater Vehicles: An Unscented Kalman Filter Based Approach. , 2015, , .		1
111	Piecewise planar underwater mosaicing. , 2015, , .		1
112	Towards a Robust System Helping Underwater Archaeologists Through the Acquisition of Geo-referenced Optical and Acoustic Data. Lecture Notes in Computer Science, 2015, , 253-262.	1.0	1
113	Development of new HIL architecture to study high speed trains dynamics on full-scale test-rigs. , 2015, , .		1
114	Kinematic Constraints and ns-3 Mobility Models. , 2017, , .		1
115	Magnetometers independent heading estimation strategy for UUV based on position and speed observations. , 2017, , .		1
116	Marine Robots in Environmental Surveys: "Current Developments at SIME" Localisation and Navigation. Ocean Engineering & Oceanography, 2018, , 69-86.	0.1	1
117	Development and testing of an efficient and cost-effective underwater propulsion system. Proceedings of the Institution of Mechanical Engineers Part I: Journal of Systems and Control Engineering, 2019, 233, 1309-1328.	0.7	1
118	A Portable Tailor-Made Exoskeleton for Hand Disabilities. , 2020, , 177-191.		1
119	SEARCH & INSPECTION ARCHAEOLOGICAL UNDERWATER CAMPAIGNS IN THE FRAMEWORK OF THE EUROPEAN ARROWS PROJECT. International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences - ISPRS Archives, 0, XLII-2/W15, 63-70.	0.2	1
120	Maximum A Posteriori estimation for AUV localization with USBL measurements. IFAC-PapersOnLine, 2021, 54, 307-313.	0.5	1
121	Underwater acoustic source localization using a multi-robot system: the DAMPS project. , 2021, , .		1
122	Covariance and Gain-based Federated Unscented Kalman Filter for Acoustic-Visual-Inertial Underwater Navigation. , 2021, , .		1
123	Randomized MPC for view planning in AUV seabed inspections. , 2021, , .		1
124	Intervention-Autonomous Underwater Vehicle Multibody Models for Dynamic Manipulation Tasks. Computational Methods in Applied Sciences (Springer), 2016, , 193-211.	0.1	0
125	Design and testing of an innovative cleaning tool for underwater applications. Proceedings of the Institution of Mechanical Engineers Part M: Journal of Engineering for the Maritime Environment, 2016, 230, 579-590.	0.3	0
126	Design of an automatic optical system to measure anthropometric hand parameters. International Journal on Interactive Design and Manufacturing, 2021, 15, 73-75.	1.3	0



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127	A Topology-Optimization-Based Design Methodology for Wearable Robots: Implementation and Application. Biosystems and Biorobotics, 2022, , 493-497.	0.2	0
128	sEMG-Based Classification Strategy of Hand Gestures for Wearable Robotics in Clinical Practice. Biosystems and Biorobotics, 2022, , 183-187.	0.2	0
129	Simultaneous and Proportional Myocontrol of a Hand Exoskeleton for Spinal Muscular Atrophy: A Preliminary Evaluation. Biosystems and Biorobotics, 2022, , 655-659.	0.2	0
130	Rehabilitative Hand Exoskeleton System: A New Modular Mechanical Design for a Remote Actuated Device. Mechanisms and Machine Science, 2021, , 128-136.	0.3	0