

Pere Ridaó Rodríguez

List of Publications by Year in descending order

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Version: 2024-02-01

160
papers

3,977
citations

147786

31
h-index

168376

53
g-index

167
all docs

167
docs citations

167
times ranked

2165
citing authors

#	ARTICLE	IF	CITATIONS
1	Girona 500 AUV: From Survey to Intervention. IEEE/ASME Transactions on Mechatronics, 2012, 17, 46-53.	5.8	222
2	Underwater SLAM in man-made structured environments. Journal of Field Robotics, 2008, 25, 898-921.	6.0	161
3	Challenges and future trends in marine robotics. Annual Reviews in Control, 2018, 46, 350-368.	7.9	130
4	Sparus II AUV – A Hovering Vehicle for Seabed Inspection. IEEE Journal of Oceanic Engineering, 2018, 43, 344-355.	3.8	127
5	Visual inspection of hydroelectric dams using an autonomous underwater vehicle. Journal of Field Robotics, 2010, 27, 759-778.	6.0	111
6	AUV homing and docking for remote operations. Ocean Engineering, 2018, 154, 106-120.	4.3	91
7	On the identification of non-linear models of unmanned underwater vehicles. Control Engineering Practice, 2004, 12, 1483-1499.	5.5	87
8	Coverage Path Planning with Real-time Replanning and Surface Reconstruction for Inspection of Three-dimensional Underwater Structures using Autonomous Underwater Vehicles. Journal of Field Robotics, 2015, 32, 952-983.	6.0	87
9	I-AUV Mechatronics Integration for the TRIDENT FP7 Project. IEEE/ASME Transactions on Mechatronics, 2015, 20, 2583-2592.	5.8	85
10	Intervention AUVs: The next challenge. Annual Reviews in Control, 2015, 40, 227-241.	7.9	84
11	SLAM using an Imaging Sonar for Partially Structured Underwater Environments. , 2006, , .		82
12	Reconfigurable AUV for intervention missions: a case study on underwater object recovery. Intelligent Service Robotics, 2012, 5, 19-31.	2.6	82
13	Grasping for the Seabed: Developing a New Underwater Robot Arm for Shallow-Water Intervention. IEEE Robotics and Automation Magazine, 2013, 20, 121-130.	2.0	81
14	A New FPGA/DSP-Based Parallel Architecture for Real-Time Image Processing. Real Time Imaging, 2002, 8, 345-356.	1.6	77
15	Autonomous underwater panel operation by GIRONA500 UVMS: A practical approach to autonomous underwater manipulation. , 2015, , .		74
16	Toward Autonomous Exploration in Confined Underwater Environments. Journal of Field Robotics, 2016, 33, 994-1012.	6.0	71
17	COLA2: A Control Architecture for AUVs. IEEE Journal of Oceanic Engineering, 2012, 37, 695-716.	3.8	67
18	Scan matching SLAM in underwater environments. Autonomous Robots, 2014, 36, 181-198.	4.8	66

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19	Inspection of an underwater structure using point-cloud SLAM with an AUV and a laser scanner. Journal of Field Robotics, 2019, 36, 1333-1344.	6.0	66
20	A Behavior-Based Scheme Using Reinforcement Learning for Autonomous Underwater Vehicles. IEEE Journal of Oceanic Engineering, 2005, 30, 416-427.	3.8	60
21	Multibeam 3D Underwater SLAM with Probabilistic Registration. Sensors, 2016, 16, 560.	3.8	56
22	Recent trends in control architectures for autonomous underwater vehicles. International Journal of Systems Science, 1999, 30, 1033-1056.	5.5	54
23	Designing a Fuzzy-like PD controller for an underwater robot. Control Engineering Practice, 2003, 11, 471-480.	5.5	54
24	Intervention AUVs: The Next Challenge. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2014, 47, 12146-12159.	0.4	52
25	Movelt!: Autonomous Underwater Free-Floating Manipulation. IEEE Robotics and Automation Magazine, 2017, 24, 41-51.	2.0	51
26	Underwater Laser Scanner: Ray-Based Model and Calibration. IEEE/ASME Transactions on Mechatronics, 2019, 24, 1986-1997.	5.8	51
27	A survey on Terrain Based Navigation for AUVs. , 2010, , .		46
28	Underwater SLAM for Structured Environments Using an Imaging Sonar. Springer Tracts in Advanced Robotics, 2010, , .	0.4	44
29	EKF-SLAM for AUV navigation under probabilistic sonar scan-matching. , 2010, , .		44
30	Mapping the Moon: Using a lightweight AUV to survey the site of the 17th century ship "La Lune". , 2013, , .		42
31	3D Laser Scanner for Underwater Manipulation. Sensors, 2018, 18, 1086.	3.8	40
32	Motion planning survey for autonomous mobile manipulators underwater manipulator case study. Robotics and Autonomous Systems, 2018, 107, 20-44.	5.1	40
33	State of the Art of Underwater Active Optical 3D Scanners. Sensors, 2019, 19, 5161.	3.8	40
34	Underwater SLAM in a marina environment. , 2007, , .		38
35	I-AUV docking and intervention in a subsea panel. , 2014, , .		37
36	A comparison of homotopic path planning algorithms for robotic applications. Robotics and Autonomous Systems, 2015, 64, 44-58.	5.1	36

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37	Pose-based SLAM with probabilistic scan matching algorithm using a mechanical scanned imaging sonar. , 2009, , .		33
38	Close-Range Tracking of Underwater Vehicles Using Light Beacons. Sensors, 2016, 16, 429.	3.8	33
39	Autonomous Mapping of Underwater 3-D Structures: From View Planning To Execution. IEEE Robotics and Automation Letters, 2018, 3, 1965-1971.	5.1	32
40	TRIDENT: A Framework for Autonomous Underwater Intervention Missions with Dexterous Manipulation Capabilities. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2010, 43, 187-192.	0.4	31
41	Coverage path planning with realtime replanning for inspection of 3D underwater structures. , 2014, , .		31
42	Multirepresentation, Multiheuristic A* searchâ€based motion planning for a freeâ€floating underwater vehicleâ€manipulator system in unknown environment. Journal of Field Robotics, 2020, 37, 925-950.	6.0	30
43	Omnidirectional Underwater Camera Design and Calibration. Sensors, 2015, 15, 6033-6065.	3.8	29
44	Underwater Multi-Vehicle Trajectory Alignment and Mapping Using Acoustic and Optical Constraints. Sensors, 2016, 16, 387.	3.8	29
45	I-AUV Docking and Panel Intervention at Sea. Sensors, 2016, 16, 1673.	3.8	29
46	Multipurpose autonomous underwater intervention: A systems integration perspective. , 2012, , .		27
47	Autonomous homing and docking for AUVs using Range-Only Localization and Light Beacons. IFAC-PapersOnLine, 2016, 49, 54-60.	0.9	27
48	ICTINEUAUV Wins the First SAUC-E Competition. Proceedings - IEEE International Conference on Robotics and Automation, 2007, , .	0.0	26
49	The Girona 500, a multipurpose autonomous underwater vehicle. , 2011, , .		26
50	TWINBOT: Autonomous Underwater Cooperative Transportation. IEEE Access, 2021, 9, 37668-37684.	4.2	26
51	Autonomous I-AUV Docking for Fixed-base Manipulation. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2014, 47, 12160-12165.	0.4	25
52	TRIDENT: Recent Improvements about Autonomous Underwater Intervention Missions. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2012, 45, 355-360.	0.4	24
53	On the Identification of Non Linear Models of Unmanned Underwater Vehicles. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2003, 36, 55-60.	0.4	23
54	H-SLAM: Rao-Blackwellized Particle Filter SLAM Using Hilbert Maps. Sensors, 2018, 18, 1386.	3.8	23

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55	Vision-based localization and mapping system for AUV intervention. , 2013, , .		21
56	Sum of gaussian single beacon range-only localization for AUV homing. Annual Reviews in Control, 2016, 42, 177-187.	7.9	21
57	Active Range-Only beacon localization for AUV homing. , 2014, , .		19
58	The Kallisti Limnes, carbon dioxide-accumulating subsea pools. Scientific Reports, 2015, 5, 12152.	3.3	18
59	The European Project MORPH: Distributed UUV Systems for Multimodal, 3D Underwater Surveys. Marine Technology Society Journal, 2016, 50, 26-41.	0.4	18
60	Mission control system for dam inspection with an AUV. , 2006, , .		17
61	Acoustic-Based Techniques for Autonomous Underwater Vehicle Localization. Proceedings of the Institution of Mechanical Engineers Part M: Journal of Engineering for the Maritime Environment, 2010, 224, 293-307.	0.5	17
62	Navigating and mapping with the SPARUS AUV in a natural and unstructured underwater environment. , 2011, , .		17
63	MSISpIC: a probabilistic scan matching algorithm using a mechanical scanned imaging sonar. Journal of Physical Agents, 2009, 3, 3-11.	0.3	17
64	A topologically guided path planner for an AUV using homotopy classes. , 2011, , .		16
65	USBL/DVL navigation through delayed position fixes. , 2011, , .		16
66	Uncertainty-driven survey path planning for bathymetric mapping. , 2013, , .		16
67	Semantic SLAM for an AUV using object recognition from point clouds. IFAC-PapersOnLine, 2018, 51, 360-365.	0.9	16
68	Vision based localization system for AUV docking on subsea intervention panels. , 2009, , .		15
69	Using petri nets to specify and execute missions for autonomous underwater vehicles. , 2009, , .		15
70	Underwater Telerobotics for Collaborative Research. , 2007, , 347-359.		14
71	Application of SONQL for real-time learning of robot behaviors. Robotics and Autonomous Systems, 2007, 55, 628-642.	5.1	14
72	Delayed state information filter for USBL-Aided AUV navigation. , 2012, , .		14

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73	Underwater Object Recognition Using Point-Features, Bayesian Estimation and Semantic Information. Sensors, 2021, 21, 1807.	3.8	14
74	Underwater 3D Laser Scanners: The Deformation of the Plane. Lecture Notes in Control and Information Sciences, 2017, , 73-88.	1.0	14
75	O2CA2, a new object oriented control architecture for autonomy: the reactive layer. Control Engineering Practice, 2002, 10, 857-873.	5.5	13
76	Probabilistic sonar scan matching for an AUV. , 2009, , .		13
77	Occupancy Grid Mapping in an Underwater Structured Environment. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2009, 42, 286-291.	0.4	13
78	The MORPH concept and its application in marine research. , 2013, , .		13
79	Sonar-based AUV localization using an improved particle filter approach. , 2009, , .		12
80	Multiple vehicles mission coordination using Petri nets. , 2010, , .		12
81	On-line 3D Path Planning for Close-proximity Surveying with AUVs.... IFAC-PapersOnLine, 2015, 48, 50-55.	0.9	12
82	Omnidirectional Multicamera Video Stitching Using Depth Maps. IEEE Journal of Oceanic Engineering, 2020, 45, 1337-1352.	3.8	12
83	Simultaneous Sonar Beacon Localization & AUV Navigation. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2012, 45, 200-205.	0.4	11
84	Underwater 3D Scanner Model Using a Biaxial MEMS Mirror. IEEE Access, 2021, 9, 50231-50243.	4.2	11
85	Line Extraction from Mechanically Scanned Imaging Sonar. Lecture Notes in Computer Science, 2007, , 322-329.	1.3	11
86	Towards Direct Policy Search Reinforcement Learning for Robot Control. , 2006, , .		10
87	A new approach for a Reconfigurable Autonomous Underwater Vehicle for Intervention. , 2009, , .		10
88	Particle Filter Based AUV Localization using Imaging Sonar. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2009, 42, 52-57.	0.4	10
89	Probabilistic sonar scan matching SLAM for underwater environment. , 2010, , .		10
90	Creating 360° underwater virtual tours using an omnidirectional camera integrated in an AUV. , 2015, , .		10

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91	Fault Detection and Accommodation for ROVs. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2003, 36, 127-132.	0.4	9
92	Dam wall detection and tracking using a Mechanically Scanned Imaging Sonar. , 2009, , .		9
93	AUV Single Beacon Range-Only SLAM with a SOG Filterã~.... IFAC-PapersOnLine, 2015, 48, 26-31.	0.9	9
94	Autonomous underwater vehicle control using reinforcement learning policy search methods. , 2005, , .		8
95	A Search-based Path Planning Algorithm with Topological Constraints. Application to an AUV*. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2011, 44, 13654-13659.	0.4	8
96	Attracting talent to increase interest for engineering among secondary school students. , 2011, , .		8
97	Probabilistic surface matching for bathymetry based SLAM. , 2013, , .		8
98	Design and Construction of a Robot Hand Prototype for Underwater Applications. IFAC-PapersOnLine, 2015, 48, 294-299.	0.9	8
99	Adaptive Admittance Control in Task-Priority Framework for Contact Force Control in Autonomous Underwater Floating Manipulation. , 2018, , .		8
100	3D Object Recognition Based on Point Clouds in Underwater Environment with Global Descriptors: A Survey. Sensors, 2019, 19, 4451.	3.8	8
101	Practical formulation of obstacle avoidance in the Task-Priority framework for use in robotic inspection and intervention scenarios. Robotics and Autonomous Systems, 2020, 124, 103396.	5.1	8
102	ATLANTIS - The Atlantic Testing Platform for Maritime Robotics. , 2021, , .		8
103	Underwater 3D Scanner to Counteract Refraction: Calibration and Experimental Results. IEEE/ASME Transactions on Mechatronics, 2022, 27, 4974-4982.	5.8	8
104	A distributed architecture for enabling autonomous underwater Intervention Missions. , 2010, , .		7
105	New approach for a Reconfigurable Autonomous Underwater Vehicle for Intervention. IEEE Aerospace and Electronic Systems Magazine, 2010, 25, 32-36.	1.3	7
106	An Intervention-AUV learns how to perform an underwater valve turning. , 2014, , .		7
107	Global Alignment of a Multiple-Robot Photomosaic using Opto-Acoustic Constraints. IFAC-PapersOnLine, 2015, 48, 20-25.	0.9	7
108	EU project MORPH: Current Status After 3 Years of Cooperation Under and Above Water. IFAC-PapersOnLine, 2015, 48, 119-124.	0.9	7

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109	Online motion planning for underwater inspection. , 2016, , .		7
110	Design of a mission control system for an AUV. International Journal of Control, 2007, 80, 993-1007.	1.9	6
111	Bathymetry-based SLAM with difference of normals point-cloud subsampling and probabilistic ICP registration. , 2013, , .		6
112	A Comparison of G2o Graph SLAM and EKF Pose Based SLAM with Bathymetry Grids. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2013, 46, 286-291.	0.4	6
113	Wireless HROV control with compressed visual feedback over an acoustic link. , 2017, , .		6
114	LOON-DOCK: AUV homing and docking for high-bandwidth data transmission. , 2017, , .		6
115	Object Recognition and Pose Estimation using Laser scans For Advanced Underwater Manipulation. , 2018, , .		6
116	Identification of Non Linear Models of Unmanned Underwater Vehicles: Comparison Between Two Identification Methods. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2003, 36, 13-18.	0.4	5
117	Towards a Mission Control Language for AUVs. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2008, 41, 15028-15033.	0.4	5
118	AUV Based Multi-vehicle Collaboration: Salinity Studies in Mar Menor Coastal Lagoon. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2012, 45, 287-292.	0.4	5
119	The European R&D-Project MORPH: Marine robotic systems of self-organizing, logically linked physical nodes. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2012, 45, 226-231.	0.4	5
120	Immersive Touring for Marine Archaeology. Application of a New Compact Omnidirectional Camera to Mapping the GnaliÅ± shipwreck withÅ±an AUV. Advances in Intelligent Systems and Computing, 2018, , 183-195.	0.6	5
121	Multi-Representation Multi-Heuristic A* Motion Planning for a Dual-Arm Underwater Vehicle Manipulation System. IFAC-PapersOnLine, 2019, 52, 205-210.	0.9	5
122	Implementation of Nonlinear Adaptive U-Model Control Synthesis Using a Robot Operating System for an Unmanned Underwater Vehicle. IEEE Access, 2020, 8, 205685-205695.	4.2	5
123	Docking of Non-Holonomic AUVs in Presence of Ocean Currents: A Comparative Survey. IEEE Access, 2021, 9, 86607-86631.	4.2	5
124	Extrinsic VisualÅ±Inertial Calibration for Motion Distortion Correction of Underwater 3D Scans. IEEE Access, 2021, 9, 93384-93398.	4.2	5
125	Sparus II AUV as a Sensor Suite for Underwater Archaeology: Falconera Cave Experiments. , 2020, , .		5
126	Speeding-up Particle Convergence with Probabilistic Active Localisation for AUV. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2010, 43, 521-526.	0.4	4

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127	Path planning with homotopy class constraints on bathymetric maps. , 2011, , .		4
128	Motion Planning for an Underwater Mobile Manipulator by Exploiting Loose Coupling. , 2018, , .		4
129	IMPACT: a strategic partnership for sustainable development in marine systems and robotics. , 2020, , .		4
130	Sensorial and Navigation Systems for a Mobile Robot (Roger). IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 1998, 31, 279-284.	0.4	3
131	Kornati bathymetry survey data-set for navigation and mapping. , 2011, , .		3
132	MBpIC-SLAM: Probabilistic Surface Matching for Bathymetry Based SLAM. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2012, 45, 126-131.	0.4	3
133	Behavior Adaptation by Means of Reinforcement Learning. , 2013, , 287-328.		3
134	Realtime AUV Terrain Based Navigation with Octomap in a Natural Environment. Advances in Intelligent Systems and Computing, 2014, , 41-53.	0.6	3
135	The MORPH project: Actual results. , 2015, , .		3
136	A novel approach to obstacle avoidance for an I-AUV. , 2018, , .		3
137	Direct Gradient-Based Reinforcement Learning for Robot Behavior Learning. , 2007, , 175-182.		3
138	Evaluation of computer networking methods for interaction with remote robotic systems. , 2021, , .		3
139	An EKF vision-based navigation of an UUV in a structured environment. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2003, 36, 287-292.	0.4	2
140	Mission Control System for an Autonomous Vehicle: Application Study of a Dam Inspection using an AUV. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2009, 42, 66-71.	0.4	2
141	Template Tracking and Visual Servoing for Alignment Tasks with Autonomous Underwater Vehicles. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2012, 45, 256-261.	0.4	2
142	Homotopic Path Planning for an AUV on Maps Improved with Scan Matching. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2012, 45, 204-209.	0.4	2
143	Multi-beam terrain/object classification for underwater navigation correction. , 2015, , .		2
144	Design and kinematic analysis of a 6-DOF foldable/deployable Delta parallel manipulator with spherical wrist for an I-AUV. , 2019, , .		2

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145	High-Accuracy Localization of an Underwater Robot in a-Structured Environment Using Computer Vision. Lecture Notes in Computer Science, 2003, , 150-157.	1.3	2
146	Understanding Mechanically Scanned Imaging Sonars. Springer Tracts in Advanced Robotics, 2010, , 37-46.	0.4	2
147	Semantic Mapping for Autonomous Subsea Intervention. Sensors, 2021, 21, 6740.	3.8	2
148	Simultaneous Localization and Mapping. Springer Tracts in Advanced Robotics, 2010, , 77-112.	0.4	2
149	Model-Validation and Implementation of a Path-Following Algorithm in an Autonomous Underwater Vehicle. Applied Sciences (Switzerland), 2021, 11, 11891.	2.5	2
150	Fault Detection in AUV navigation: a computationally inexpensive approach. , 2022, , .		2
151	A GLOBAL LOCALIZATION SYSTEM FOR STRUCTURED ENVIRONMENTS USING AN IMAGING SONAR. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2007, 40, 187-192.	0.4	1
152	Complex structure profile estimation and following with the GIRONA500 AUV. , 2013, , .		1
153	Localization with an a priori Map. Springer Tracts in Advanced Robotics, 2010, , 47-75.	0.4	1
154	Linewise Non-Rigid Point Cloud Registration. IEEE Robotics and Automation Letters, 2022, 7, 7044-7051.	5.1	1
155	A METHOD FOR EXTRACTING LINES AND THEIR UNCERTAINTY FROM ACOUSTIC UNDERWATER IMAGES FOR SLAM. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2007, 40, 61-66.	0.4	0
156	Towards a Deliberative Mission Control System for an AUV. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2010, 43, 509-514.	0.4	0
157	Vision for the Marine Environment. , 2018, , 1-9.		0
158	Particle Filter Based AUV Localization Using Imaging Sonar. , 2009, , .		0
159	Design and Development of the Ictineu AUV. Springer Tracts in Advanced Robotics, 2010, , 23-35.	0.4	0
160	Model-based Guidance, Navigation and Control architecture for an Autonomous Underwater Vehicle. , 2020, , .		0