Alcherio Martinoli

List of Publications by Year
in descending order

74 papers	2,358 citations

361413

20 h-index	

315739

38 g-index

| 77 all docs | 77 docs citations | 77 times ranked | 1377 citing authors |

#	Article	IF	Citations
1	Inspiring and Modeling Multi-Robot Search with Particle Swarm Optimization. , 2007, , .		166
2	Title is missing!. Autonomous Robots, 2001, 11, 149-171.	4.8	143
3	A Macroscopic Analytical Model of Collaboration in Distributed Robotic Systems. Artificial Life, 2001, 7, 375-393.	1.3	113
4	SwisTrack - A Flexible Open Source Tracking Software for Multi-Agent Systems. , 2008, , .		108
5	Swarm robotic odor localization: Off-line optimization and validation with real robots. Robotica, 2003, 21, 427-441.	1.9	101
6	A Review of Probabilistic Macroscopic Models for Swarm Robotic Systems. Lecture Notes in Computer Science, 2005, , 143-152.	1.3	86
7	A Fast Onboard Relative Positioning Module for Multirobot Systems. IEEE/ASME Transactions on Mechatronics, 2009, 14, 151-162.	5.8	81
8	Multi-robot learning with particle swarm optimization. , 2006, , .		75
9	Modelling a wireless connected swarm of mobile robots. Swarm Intelligence, 2008, 2, 241-266.	2.2	57
10	Modeling and designing self-organized aggregation in a swarm of miniature robots. International Journal of Robotics Research, 2011, 30, 615-626.	8.5	56
11	Communication in a Swarm of Miniature Robots: The e-Puck as an Educational Tool for Swarm Robotics. , 2006, , 103-115.		51
12	Macroscopic Modeling of Aggregation Experiments using Embodied Agents in Teams of Constant and Time-Varying Sizes. Autonomous Robots, 2004, 17, 163-192.	4.8	50
13	Collaborative coverage using a swarm of networked miniature robots. Robotics and Autonomous Systems, 2009, 57, 517-525.	5.1	49
14	Tracking Odor Plumes in a Laminar Wind Field with Bio-inspired Algorithms. Springer Tracts in Advanced Robotics, 2009, , 473-482.	0.4	46
15	Learning and Measuring Specialization in Collaborative Swarm Systems. Adaptive Behavior, 2004, 12, 199-212.	1.9	45
16	Low-cost collaborative localization for large-scale multi-robot systems. , 2012, , .		44
17	Accurate indoor localization with ultra-wideband using spatial models and collaboration. International Journal of Robotics Research, 2014, 33, 547-568.	8.5	42
18	A comparison of casting and spiraling algorithms for odor source localization in laminar flow. , 2008, , .		40

#	Article	IF	Citations
19	Multirobot inspection of industrial machinery. IEEE Robotics and Automation Magazine, 2009, 16, 103-112.	2.0	34
20	Indoor navigation research with the Khepera III mobile robot: An experimental baseline with a case-study on ultra-wideband positioning. , 2010, , .		34
21	Accommodation of NLOS for ultra-wideband TDOA localization in single- and multi-robot systems. , 2011, , .		33
22	Online model estimation of ultra-wideband TDOA measurements for mobile robot localization. , 2012, , .		32
23	Distributed graph-based convoy control for networked intelligent vehicles. , 2015, , .		32
24	Distributed scalable multi-robot learning using particle swarm optimization. Swarm Intelligence, 2009, 3, 203-222.	2.2	31
25	Multi-level spatial modeling for stochastic distributed robotic systems. International Journal of Robotics Research, 2011, 30, 574-589.	8.5	31
26	The Khepera IV Mobile Robot: Performance Evaluation, Sensory Data and Software Toolbox. Advances in Intelligent Systems and Computing, 2016, , 767-781.	0.6	26
27	A distributed formation-based odor source localization algorithm - design, implementation, and wind tunnel evaluation. , 2015, , .		25
28	A scalable, onâ€board localisation and communication system for indoor multiâ€robot experiments. Sensor Review, 2004, 24, 167-180.	1.8	24
29	Robust Distributed Coverage using a Swarm of Miniature Robots. Proceedings - IEEE International Conference on Robotics and Automation, 2007, , .	0.0	24
30	Distributed Adaptation in Multi-robot Search Using Particle Swarm Optimization. Lecture Notes in Computer Science, 2008, , 393-402.	1.3	24
31	Modeling Swarm Robotic Systems. , 2003, , 297-306.		23
32	Distributed boundary coverage with a team of networked miniature robots using a robust market-based algorithm. Annals of Mathematics and Artificial Intelligence, 2008, 52, 307-333.	1.3	23
33	Distributed Particle Swarm Optimization for limited-time adaptation with real robots. Robotica, 2014, 32, 193-208.	1.9	21
34	Comparing Distributed Exploration Strategies with Simulated and Real Autonomous Robots. , 2000, , 261-270.		21
35	Simulation Experiments with Bio-inspired Algorithms for Odor Source Localization in Laminar Wind Flow. , 2008, , .		18
36	A reciprocal sampling algorithm for lightweight distributed multi-robot localization. , 2011, , .		18

#	Article	IF	Citations
37	Lidar-Based Relative Position Estimation and Tracking for Multi-robot Systems. Advances in Intelligent Systems and Computing, 2016, , 3-16.	0.6	18
38	A comparison of PSO and Reinforcement Learning for multi-robot obstacle avoidance. , 2013, , .		17
39	System Identification of Self-Organizing Robotic Swarms. , 2006, , 31-40.		17
40	Emergent Specialization in Swarm Systems. Lecture Notes in Computer Science, 2002, , 261-266.	1.3	16
41	Parallel learning in heterogeneous multi-robot swarms. , 2007, , .		15
42	A Multi-robot System for Adaptive Exploration of a Fast-changing Environment: Probabilistic Modeling and Experimental Study. Connection Science, 1999, 11, 359-379.	3.0	14
43	Modeling Self-Assembly Across Scales: The Unifying Perspective of Smart Minimal Particles. Micromachines, 2011, 2, 82-115.	2.9	14
44	Fluid-Mediated Stochastic Self-Assembly at Centimetric and Sub-Millimetric Scales: Design, Modeling, and Control. Micromachines, 2016, 7, 138.	2.9	13
45	A Plume Tracking Algorithm Based on Crosswind Formations. Springer Tracts in Advanced Robotics, 2013, , 91-102.	0.4	13
46	Modeling and Optimization of a Swarm-Intelligent Inspection System. , 2007, , 369-378.		12
47	Specialization as an optimal strategy under varying external conditions. , 2009, , .		11
48	A trajectory-based calibration method for stochastic motion models. , 2011, , .		10
49	A distributed noise-resistant Particle Swarm Optimization algorithm for high-dimensional multi-robot learning. , 2015, , .		10
50	Comparing Coordination Schemes for Miniature Robotic Swarms: A Case Study in Boundary Coverage of Regular Structures. , 2008, , 471-480.		10
51	Analysis of fitness noise in particle swarm optimization: From robotic learning to benchmark functions. , 2014, , .		9
52	SwarmViz: An open-source visualization tool for Particle Swarm Optimization. , 2015, , .		9
53	Understanding the Potential Impact of Multiple Robots in Odor Source Localization. , 2009, , 239-250.		9
54	Top-Down vs. Bottom-Up Model-Based Methodologies for Distributed Control: AÂComparative Experimental Study. Springer Tracts in Advanced Robotics, 2014, , 615-629.	0.4	9

#	Article	IF	Citations
55	A Graph-Based Formation Algorithm for Odor Plume Tracing. Springer Tracts in Advanced Robotics, 2016, , 255-269.	0.4	8
56	Formalization, Implementation, and Modeling of Institutional Controllers for Distributed Robotic Systems. Artificial Life, 2014, 20, 127-141.	1.3	7
57	Distributed Particle Swarm Optimization using Optimal Computing Budget Allocation for multi-robot learning. , 2015, , .		7
58	Exploration of an incremental suite of microscopic models for acoustic event monitoring using a robotic sensor network. , 2008, , .		6
59	Two-phase online calibration for infrared-based inter-robot positioning modules. , 2011, , .		6
60	Assembly of configurations in a networked robotic system: A case study on a reconfigurable interactive table lamp. , 2008, , .		5
61	Distributed Learning of Cooperative Robotic Behaviors Using Particle Swarm Optimization. Springer Tracts in Advanced Robotics, 2016, , 591-604.	0.4	5
62	Distributed Particle Swarm Optimization for Limited Time Adaptation in Autonomous Robots. Springer Tracts in Advanced Robotics, 2014, , 383-396.	0.4	5
63	TOWARDS OPTIMAL CONTROL OF SELF-ORGANIZED ROBOTIC INSPECTION SYSTEMS. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2006, 39, 304-309.	0.4	4
64	Bayesian rendezvous for distributed robotic systems. , 2011, , .		4
65	An experimental study in wireless connectivity maintenance using up to 40 robots coordinated by an institutional robotics approach. , 2013, , .		4
66	Evolving Neural Controllers for Collective Robotic Inspection. , 2006, , 717-729.		4
67	The role of environmental and controller complexity in the distributed optimization of multi-robot obstacle avoidance. , 2014, , .		3
68	Low-Cost Multi-robot Localization. Lecture Notes in Electrical Engineering, 2013, , 15-33.	0.4	2
69	Automatic calibration of ultra wide band tracking systems using a mobile robot: A person localization case-study. , 2017, , .		2
70	A modular functional framework for the design and evaluation of multi-robot navigation. Robotics and Autonomous Systems, 2021, 144, 103849.	5.1	2
71	Accurate Localization with Ultra-Wideband: Tessellated Spatial Models and Collaboration. Springer Tracts in Advanced Robotics, 2013, , 321-335.	0.4	2
72	Distributed Particle Swarm Optimization - particle allocation and neighborhood topologies for the learning of cooperative robotic behaviors. , 2015, , .		1

#	Article	IF	Citations
73	Noise-resistant particle swarm optimization for the learning of robust obstacle avoidance controllers using a depth camera. , 2016, , .		1
74	Lightweight physics-based models for the control of fluid-mediated self-assembly of robotic modules. Robotics and Autonomous Systems, 2019, 121, 103241.	5.1	1