

Fumin Zhang

List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

170 papers	2,588 citations	23 h-index	46 g-index
229 ext. papers	3,426 ext. citations	4 avg, IF	5.55 L-index

#	Paper	IF	Citations
170	Strategies for improving the photocatalytic performance of metal-organic frameworks for CO ₂ reduction: A review. <i>Journal of Environmental Sciences</i> , 2023 , 125, 290-308	6.4	5
169	Bayesian Learning Model Predictive Control for Process-Aware Source Seeking 2022 , 6, 692-697		0
168	Kinematic Control for Crossed-Fiber-Reinforced Soft Manipulator Using Sparse Bayesian Learning. <i>IEEE/ASME Transactions on Mechatronics</i> , 2022 , 611-622	5.5	1
167	Mechanism of Selective Hydrogenation of 4-Nitrophenylacetylene Using Pt ₂ Zn Intermetallic Nanoparticles: The Role of Hydrogen Coverage. <i>Journal of Physical Chemistry C</i> , 2021 , 125, 23803-23812 ^{3.8}		
166	Self-triggered three-dimensional coordinated path following of disk-type autonomous underwater gliders based on low-frequency learning fuzzy predictors. <i>Ocean Engineering</i> , 2021 , 242, 110104	3.9	1
165	Single non-noble metal atom doped CN catalysts for chemoselective hydrogenation of 3-nitrostyrene. <i>Physical Chemistry Chemical Physics</i> , 2021 , 23, 25761-25768	3.6	0
164	Learning and detecting abnormal speed of marine robots. <i>International Journal of Advanced Robotic Systems</i> , 2021 , 18, 172988142199926	1.4	2
163	Atomically Dispersed Vanadium Sites Anchored on N-Doped Porous Carbon for the Efficient Oxidative Coupling of Amines to Imines. <i>ACS Applied Materials & Interfaces</i> , 2021 , 13, 15168-15177 ^{9.5}		6
162	Biomolecular Systems Engineering: Unlocking the Potential of Engineered Allostery via the Lactose Repressor Topology. <i>Annual Review of Biophysics</i> , 2021 , 50, 303-321	21.1	1
161	A bio-inspired localization-free stochastic coverage algorithm with verified reachability. <i>Bioinspiration and Biomimetics</i> , 2021 , 16,	2.6	2
160	A Krige Compressive Sensing Approach to Reconstruct Acoustic Fields From Measurements Collected by Underwater Vehicles. <i>IEEE Journal of Oceanic Engineering</i> , 2021 , 46, 294-306	3.3	2
159	A Derivative-Free Optimization Method With Application to Functions With Exploding and Vanishing Gradients 2021 , 5, 587-592		3
158	Modeling and Control of Swing Oscillation of Underactuated Indoor Miniature Autonomous Blimps. <i>Unmanned Systems</i> , 2021 , 09, 73-86	3	3
157	Path-Guided Containment Maneuvering of Mobile Robots: Theory and Experiments. <i>IEEE Transactions on Industrial Electronics</i> , 2021 , 68, 7178-7187	8.9	9
156	Adaptiveness and consistency of a class of online ensemble learning algorithms. <i>International Journal of Robust and Nonlinear Control</i> , 2021 , 31, 2018-2043	3.6	
155	A Distributed Active Perception Strategy for Source Seeking and Level Curve Tracking. <i>IEEE Transactions on Automatic Control</i> , 2021 , 1-1	5.9	1
154	Boosted Catalytic Hydrogenation Performance Using Isolated Co Sites Anchored on Nitrogen-Incorporated Hollow Porous Carbon. <i>Journal of Physical Chemistry C</i> , 2021 , 125, 5088-5098	3.8	3

153	Contention-resolving model predictive control for an intelligent intersection traffic model. <i>Discrete Event Dynamic Systems: Theory and Applications</i> , 2021 , 31, 407-437	1	2
152	Bounded Cost Path Planning for Underwater Vehicles Assisted by a Time-Invariant Partitioned Flow Field Model. <i>Frontiers in Robotics and AI</i> , 2021 , 8, 575267	2.8	0
151	Swing-Reducing Flight Control System for an Underactuated Indoor Miniature Autonomous Blimp. <i>IEEE/ASME Transactions on Mechatronics</i> , 2021 , 26, 1895-1904	5.5	2
150	Tracking moving mesoscale eddies with underwater gliders under autonomous prediction and control. <i>Control Engineering Practice</i> , 2021 , 113, 104839	3.9	2
149	Visible-light-driven photocatalytic CO ₂ reduction over ketoenamine-based covalent organic frameworks: role of the host functional groups. <i>Catalysis Science and Technology</i> , 2021 , 11, 1717-1724	5.5	15
148	Fe/Fe ₃ C@N-doped porous carbon microspindles templated from a metal-organic framework as highly selective and stable catalysts for the catalytic oxidation of sulfides to sulfoxides. <i>Molecular Catalysis</i> , 2020 , 486, 110863	3.3	4
147	Synthesis, characterization, and CO ₂ adsorption properties of metal-organic framework NH ₂ MIL-101(V). <i>Materials Letters</i> , 2020 , 264, 127402	3.3	11
146	Constructing the three-dimensional structure of an anticyclonic eddy with the optimal configuration of an underwater glider network. <i>Applied Ocean Research</i> , 2020 , 95, 101893	3.4	12
145	Contention-resolving model predictive control for coupled control systems with a shared resource. <i>Automatica</i> , 2020 , 122, 109219	5.7	2
144	An algorithm for computing robust forward invariant sets of two dimensional nonlinear systems. <i>Asian Journal of Control</i> , 2020 , 23, 2403	1.7	
143	Constructing the Three-Dimensional Structure of an Anticyclonic Eddy in the South China Sea Using Multiple Underwater Gliders. <i>Journal of Atmospheric and Oceanic Technology</i> , 2019 , 36, 2449-2470	2	4
142	A data assimilation framework for data-driven flow models enabled by motion tomography. <i>International Journal of Intelligent Robotics and Applications</i> , 2019 , 3, 158-177	1.7	3
141	Ru nanoclusters supported on HfO ₂ @CN derived from NH ₂ -UiO-66(Hf) as stable catalysts for the hydrogenation of levulinic acid to Valerolactone. <i>Catalysis Communications</i> , 2019 , 128, 105710	3.2	11
140	Autonomous flying blimp interaction with human in an indoor space. <i>Frontiers of Information Technology and Electronic Engineering</i> , 2019 , 20, 45-59	2.2	7
139	Distributed Traversability Analysis of Flow Field Under Communication Constraints. <i>IEEE Journal of Oceanic Engineering</i> , 2019 , 44, 683-692	3.3	1
138	Design and Evaluation of an Acoustic Modem for a Small Autonomous Unmanned Vehicle. <i>Sensors</i> , 2019 , 19,	3.8	3
137	Metal-organic framework derived Pd/ZrO ₂ @CN as a stable catalyst for the catalytic hydrogenation of 2,3,5-trimethylbenzoquinone. <i>Applied Organometallic Chemistry</i> , 2019 , 33, e5233	3.1	6
136	An LSTM based Kalman Filter for Spatio-temporal Ocean Currents Assimilation 2019 ,		1

135	A Multi-Layer Swarm Control Model for Information Propagation and Multi-Tasking 2019 ,		1
134	Contention-Resolving Model Predictive Control for Coordinating Automated Vehicles at a Traffic Intersection 2019 ,		1
133	A Gradient-Free Three-Dimensional Source Seeking Strategy With Robustness Analysis. <i>IEEE Transactions on Automatic Control</i> , 2019 , 64, 3439-3446	5.9	11
132	Controlled Lagrangian Particle Tracking: Error Growth Under Feedback Control. <i>IEEE Transactions on Control Systems Technology</i> , 2018 , 26, 874-889	4.8	5
131	Integrating a PCA Learning Algorithm with the SUSP Strategy for a Collective Source Seeking Behavior 2018 ,		4
130	Computing Largest Tolerable Disturbance Sets 2018 ,		1
129	Parameter Identification of Blimp Dynamics through Swinging Motion 2018 ,		6
128	Underwater acoustic intensity field reconstruction by kriged compressive sensing 2018 ,		1
127	Evaluating Acoustic Communication Performance of Micro AUV in Confined Space 2018 ,		1
126	A Distributed Level Curve Tracking Control Law for Multi-Agent Systems 2018 ,		2
125	Evaluating acousticcommunication performance of micro autonomous underwater vehicles in confined spaces. <i>Frontiers of Information Technology and Electronic Engineering</i> , 2018 , 19, 1013-1023	2.2	4
124	Resolving Contentions for Intelligent Traffic Intersections Using Optimal Priority Assignment and Model Predictive Control 2018 ,		5
123	Observing an anticyclonic eddy in the South China Sea using multiple underwater gliders 2018 ,		1
122	A Combined Path Planning and Path Following Method for Underwater Glider Navigation in a Strong, Dynamic Flow Field 2018 ,		0
121	An Improved Algorithm for Motion Tomography by Incorporating Vehicle Travel Time 2018 ,		2
120	Pd/UiO-66(Hf): A highly efficient heterogeneous catalyst for the hydrogenation of 2,3,5-trimethylbenzoquinone. <i>Catalysis Communications</i> , 2018 , 113, 23-26	3.2	14
119	Coupling Ru nanoparticles and sulfonic acid moieties on single MIL-101 microcrystals for upgrading methyl levulinate into Valerolactone. <i>Applied Catalysis A: General</i> , 2018 , 563, 54-63	5.1	20
118	Model predictive control under timing constraints induced by controller area networks. <i>Real-Time Systems</i> , 2017 , 53, 196-227	1.3	3

117	Stability and robustness analysis for human pointing motions with acceleration under feedback delays. <i>International Journal of Robust and Nonlinear Control</i> , 2017 , 27, 703-721	3.6	0
116	Motion tomography: Mapping flow fields using autonomous underwater vehicles. <i>International Journal of Robotics Research</i> , 2017 , 36, 320-336	5.7	18
115	Adaptiveness and consistency of expert based learning algorithms selecting reactions to human movements 2017 ,		1
114	Autopilot design for A class of miniature autonomous blimps 2017 ,		12
113	Scheduling Feasibility of Energy Management in Micro-Grids Based on Significant Moment Analysis 2017 , 431-449		4
112	Cascade catalytic hydrogenation/cyclization of methyl levulinate to form γ -valerolactone over Ru nanoparticles supported on a sulfonic acid-functionalized UiO-66 catalyst. <i>RSC Advances</i> , 2017 , 7, 44082-44088 ³¹	3.7	31
111	Pd nanoparticles encaged within amine-functionalized metal-organic frameworks: Catalytic activity and reaction mechanism in the hydrogenation of 2,3,5-trimethylbenzoquinone. <i>Chemical Engineering Journal</i> , 2017 , 328, 977-987	14.7	27
110	Monocular vision-based human following on miniature robotic blimp 2017 ,		17
109	Contention resolving optimal priority assignment for event-triggered model predictive controllers 2017 ,		3
108	Cooperative parameter identification of advection-diffusion processes using a mobile sensor network 2017 ,		1
107	Adaptive planar curve tracking control and robustness analysis under state constraints and unknown curvature. <i>Automatica</i> , 2017 , 75, 133-143	5.7	9
106	Using recurrent neural networks (RNNs) as planners for bio-inspired robotic motion 2017 ,		3
105	Extending a routing protocol for mobile robot mesh networking 2017 ,		1
104	Consensus on a sphere for a 3-dimensional speeding up and slowing down strategy 2017 ,		3
103	Trends in Control and Decision-Making for HumanRobot Collaboration Systems 2017 ,		13
102	A Learning Algorithm to Select Consistent Reactions to Human Movements 2017 , 111-130		
101	A Speeding-Up and Slowing-Down Strategy for Distributed Source Seeking With Robustness Analysis. <i>IEEE Transactions on Control of Network Systems</i> , 2016 , 3, 231-240	4	12
100	Tidal Variability of Acoustic Detection 2016 ,		2

99	Visible-light-induced aerobic photocatalytic oxidation of aromatic alcohols to aldehydes over Ni-doped NH ₂ -MIL-125(Ti). <i>Applied Catalysis B: Environmental</i> , 2016 , 187, 212-217	21.8	107
98	Glider CT: Analysis and Experimental Validation. <i>Springer Tracts in Advanced Robotics</i> , 2016 , 285-298	0.5	4
97	2016 ,		2
96	Discretized boundary methods for computing smallest forward invariant sets 2016 ,		3
95	Cooperative filtering for parameter identification of diffusion processes 2016 ,		3
94	Modeling the effect of nanoparticles & the bistability of transmembrane potential in non-excitable cells 2016 ,		2
93	Cyber-Maritime Cycle: Autonomy of Marine Robots for Ocean Sensing. <i>Foundations and Trends in Robotics</i> , 2016 , 5, 1-115	11	10
92	A learning algorithm to select consistent reactions to human movements 2016 ,		3
91	Adaptive planar curve tracking control with unknown curvature 2016 ,		1
90	Bio inspired source seeking: a Hybrid Speeding Up and Slowing Down Algorithm 2016 ,		2
89	Resolving Temporal Variations in Data-Driven Flow Models Constructed by Motion Tomography**The research work is supported by ONR grants N00014-10-10712 (YIP) and N00014-14-1-0635; and NSF grants OCE-1032285, IIS-1319874, and CMMI-1436284.. <i>IFAC-PapersOnLine</i> , 2016 , 49, 182-187	0.7	2
88	Design and analysis of folding propulsion mechanism for hybrid-driven underwater gliders. <i>Ocean Engineering</i> , 2016 , 119, 125-134	3.9	23
87	Tunable catalytic properties of multi-metal ^{organic} frameworks for aerobic styrene oxidation. <i>Chemical Engineering Journal</i> , 2016 , 299, 135-141	14.7	67
86	Localization of underwater gliders with acoustic travel-time in an observation network 2016 ,		4
85	2016 ,		9
84	Robustness of Adaptive Control under Time Delays for Three-Dimensional Curve Tracking. <i>SIAM Journal on Control and Optimization</i> , 2015 , 53, 2203-2236	1.9	19
83	Real-Time Guidance of Underwater Gliders Assisted by Predictive Ocean Models. <i>Journal of Atmospheric and Oceanic Technology</i> , 2015 , 32, 562-578	2	26
82	Future Trends in Marine Robotics [TC Spotlight]. <i>IEEE Robotics and Automation Magazine</i> , 2015 , 22, 14-24	3.4	78

81	Facile synthesis of MIL-100(Fe) under HF-free conditions and its application in the acetalization of aldehydes with diols. <i>Chemical Engineering Journal</i> , 2015 , 259, 183-190	14.7	173
80	Dynamic modeling of an autonomous underwater vehicle. <i>Journal of Marine Science and Technology</i> , 2015 , 20, 199-212	1.7	24
79	Dynamic real-time scheduling for human-agent collaboration systems based on mutual trust. <i>Cyber-Physical Systems</i> , 2015 , 1, 76-90	1.1	7
78	Moth-inspired plume tracing via autonomous underwater vehicle with only a pair of separated chemical sensors 2015 ,		1
77	Inaugural issue of Cyber-physical systems <i>Cyber-Physical Systems</i> , 2015 , 1, 1-4	1.1	8
76	Characteristics of human pointing motions with acceleration 2015 ,		5
75	Mutual trust based scheduling for (semi)autonomous multi-agent systems 2015 ,		3
74	A model for controlling the resting membrane potential of cells using nanoparticles 2014 ,		1
73	A path planning approach to compute the smallest robust forward invariant sets 2014 ,		3
72	A speed-up and speed-down strategy for swarm optimization 2014 ,		8
71	Fabrication of Fe ₂ O ₃ Nanoparticles by Solid-State Thermolysis of a Metal-Organic Framework, MIL-100(Fe), for Heavy Metal Ions Removal. <i>Journal of Chemistry</i> , 2014 , 2014, 1-6	2.3	18
70	Tail-Enabled Spiraling Maneuver for Gliding Robotic Fish. <i>Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME</i> , 2014 , 136,	1.6	19
69	Dynamics analysis of wave-driven unmanned surface vehicle in longitudinal profile 2014 ,		8
68	Target localization: Energy-information trade-offs using mobile sensor networks 2014 ,		2
67	Cooperatively Mapping of the Underwater Acoustic Channel by Robot Swarms 2014 ,		3
66	Trend and Bounds for Error Growth in Controlled Lagrangian Particle Tracking. <i>IEEE Journal of Oceanic Engineering</i> , 2014 , 39, 10-25	3.3	10
65	A high-gain adaptive observer for detecting Li-ion battery terminal voltage collapse. <i>Automatica</i> , 2014 , 50, 896-902	5.7	16
64	Real-Time Modeling of Ocean Currents for Navigating Underwater Glider Sensing Networks. <i>Studies in Computational Intelligence</i> , 2014 , 61-75	0.8	10

63	Collaborative Autonomous Surveys in Marine Environments Affected by Oil Spills. <i>Studies in Computational Intelligence</i> , 2014 , 87-113	0.8	9
62	Human-Robot Mutual Trust in (Semi)autonomous Underwater Robots. <i>Studies in Computational Intelligence</i> , 2014 , 115-137	0.8	11
61	Spiraling motion of underwater gliders: Modeling, analysis, and experimental results. <i>Ocean Engineering</i> , 2013 , 60, 1-13	3.9	113
60	A bio-inspired plume tracking algorithm for mobile sensing swarms in turbulent flow 2013 ,		2
59	Adaptive control for planar curve tracking under controller uncertainty. <i>Automatica</i> , 2013 , 49, 1411-1418	5.7	18
58	Motion Parameter Optimization and Sensor Scheduling for the Sea-Wing Underwater Glider. <i>IEEE Journal of Oceanic Engineering</i> , 2013 , 38, 243-254	3.3	59
57	Robustness analysis for battery-supported cyber-physical systems. <i>Transactions on Embedded Computing Systems</i> , 2013 , 12, 1-27	1.8	20
56	A decoupled controller design approach for formation control of autonomous underwater vehicles with time delays. <i>IET Control Theory and Applications</i> , 2013 , 7, 1950-1958	2.5	35
55	Synthesis of MIL-100(Fe) at Low Temperature and Atmospheric Pressure. <i>Journal of Chemistry</i> , 2013 , 2013, 1-4	2.3	15
54	An adaptive control design for 3D curve tracking based on robust forward invariance 2013 ,		1
53	Robustness of a class of three-dimensional curve tracking control laws under time delays and polygonal state constraints 2013 ,		4
52	Robust geometric formation control of multiple autonomous underwater vehicles with time delays 2013 ,		2
51	Controlled Lagrangian particle tracking error under biased flow prediction 2013 ,		1
50	Glider CT 2013 ,		8
49	A bio-inspired robust 3D plume tracking strategy using mobile sensor networks 2013 ,		1
48	Dissipativity-Based Teleoperation with Time-Varying Communication Delays*. <i>IFAC Postprint Volumes IPPV / International Federation of Automatic Control</i> , 2013 , 46, 369-376		7
47	A Switching Strategy for Target Tracking by Mobile Sensing Agents. <i>Journal of Communications</i> , 2013 , 8, 47-54	0.5	6
46	Boundary Tracking and Obstacle Avoidance Using Gyroscopic Control. <i>Springer Proceedings in Mathematics and Statistics</i> , 2013 , 417-446	0.2	2

45	Robust Cooperative Exploration With a Switching Strategy. <i>IEEE Transactions on Robotics</i> , 2012 , 28, 828-839	50
44	Steady spiraling motion of gliding robotic fish 2012 ,	11
43	Real-time Modelling of Tidal Current for Navigating Underwater Glider Sensing Networks. <i>Procedia Computer Science</i> , 2012 , 10, 1121-1126	1.6 8
42	Stability and Robustness Analysis for Curve Tracking Control using Input-to-State Stability. <i>IEEE Transactions on Automatic Control</i> , 2012 , 57, 1320-1326	5.9 24
41	Adaptive detection of terminal voltage collapses for Li-ion batteries 2012 ,	8
40	Robust Control of Formation Dynamics for Autonomous Underwater Vehicles in Horizontal Plane. <i>Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME</i> , 2012 , 134,	1.6 17
39	Controller performance of marine robots in reminiscent oil surveys 2012 ,	9
38	Bio-inspired Source Seeking with no Explicit Gradient Estimation*. <i>IFAC Postprint Volumes IPPV / International Federation of Automatic Control</i> , 2012 , 45, 240-245	11
37	Robust control of horizontal formation dynamics for autonomous underwater vehicles 2011 ,	4
36	Cooperative exploration of level surfaces of three dimensional scalar fields. <i>Automatica</i> , 2011 , 47, 2044-2051	3.7 39
35	Input-to-state stability for curve tracking control: A constructive approach 2011 ,	2
34	Intruder capturing game on a topological map assisted by information networks 2011 ,	6
33	Steady three dimensional gliding motion of an underwater glider 2011 ,	3
32	A lower bound on navigation error for marine robots guided by ocean circulation models 2011 ,	8
31	Experimental validation of source seeking with a switching strategy 2011 ,	3
30	Curvature based cooperative exploration of three dimensional scalar fields 2010 ,	1
29	A Switching strategy for robust cooperative exploration 2010 ,	4
28	A lower bound for controlled Lagrangian particle tracking error 2010 ,	5

27	Geometric formation control for autonomous underwater vehicles 2010 ,		6
26	Cooperative Filters and Control for Cooperative Exploration. <i>IEEE Transactions on Automatic Control</i> , 2010 , 55, 650-663	5.9	156
25	Geometric Cooperative Control of Particle Formations. <i>IEEE Transactions on Automatic Control</i> , 2010 , 55, 800-803	5.9	31
24	A provably complete exploration strategy by constructing Voronoi diagrams. <i>Autonomous Robots</i> , 2010 , 29, 367-380	3	24
23	Coordinated control of an underwater glider fleet in an adaptive ocean sampling field experiment in Monterey Bay. <i>Journal of Field Robotics</i> , 2010 , 27, 718-740	6.7	199
22	Tracking performance under time delay and asynchronicity in distributed camera systems 2009 ,		1
21	An exploration strategy by constructing Voronoi diagrams with provable completeness 2009 ,		2
20	Optimal and adaptive battery discharge strategies for Cyber-Physical Systems 2009 ,		20
19	Curve Tracking Control for Autonomous Vehicles with Rigidly Mounted Range Sensors. <i>Journal of Intelligent and Robotic Systems: Theory and Applications</i> , 2009 , 56, 177-197	2.9	23
18	A Dynamic Battery Model for Co-design in Cyber-Physical Systems 2009 ,		23
17	Cooperative Kalman filters for cooperative exploration 2008 ,		2
16	Task Scheduling for Control Oriented Requirements for Cyber-Physical Systems 2008 ,		72
15	Cooperative Control for Ocean Sampling: The Glider Coordinated Control System. <i>IEEE Transactions on Control Systems Technology</i> , 2008 , 16, 735-744	4.8	143
14	Boundary following by robot formations without GPS 2008 ,		2
13	Coordinated patterns of unit speed particles on a closed curve. <i>Systems and Control Letters</i> , 2007 , 56, 397-407	2.4	81
12	Curve Tracking Control for Legged Locomotion. <i>Proceedings of the American Control Conference</i> , 2007 ,	1.2	2
11	Control of coordinated patterns for ocean sampling. <i>International Journal of Control</i> , 2007 , 80, 1186-1199	2.5	127
10	2007 ,		8

9	Cooperative shape control of particle formations 2007 ,		2
8	Coordinated orbit transfer for satellite clusters. <i>Annals of the New York Academy of Sciences</i> , 2004 , 1017, 112-37	6.5	6
7	Experimental study of curvature-based control laws for obstacle avoidance 2004 ,		16
6	Coordinated Patterns on Smooth Curves		5
5			26
4	Control of small formations using shape coordinates		11
3	Improved trajectory tracing of underwater vehicles for flow field mapping. <i>International Journal of Intelligent Robotics and Applications</i> ,1	1.7	1
2	Highly dispersed Ru nanoparticles on a bipyridine-linked covalent organic framework for efficient photocatalytic CO2 reduction. <i>Sustainable Energy and Fuels</i> ,	5.8	8
1	Autopilot design of a class of miniature autonomous blimps enabled by switched controllers. <i>International Journal of Intelligent Robotics and Applications</i> ,1	1.7	