

Derek A Paley

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128
papers

3,126
citations

22
h-index

54
g-index

141
ext. papers

3,885
ext. citations

3.6
avg, IF

5.43
L-index

#	Paper	IF	Citations
128	. <i>Proceedings of the IEEE</i> , 2007 , 95, 48-74	14.3	536
127	Stabilization of Planar Collective Motion: All-to-All Communication. <i>IEEE Transactions on Automatic Control</i> , 2007 , 52, 811-824	5.9	310
126	Stabilization of Planar Collective Motion With Limited Communication. <i>IEEE Transactions on Automatic Control</i> , 2008 , 53, 706-719	5.9	280
125	. <i>IEEE Journal of Oceanic Engineering</i> , 2006 , 31, 935-948	3.3	256
124	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
123	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
122	Oscillator Models and Collective Motion. <i>IEEE Control Systems</i> , 2007 , 27, 89-105	2.9	139
121	Control of coordinated patterns for ocean sampling. <i>International Journal of Control</i> , 2007 , 80, 1186-1192	2.5	127
120	Distributed flow estimation and closed-loop control of an underwater vehicle with a multi-modal artificial lateral line. <i>Bioinspiration and Biomimetics</i> , 2015 , 10, 025002	2.6	67
119	Three-dimensional reconstruction of the fast-start swimming kinematics of densely schooling fish. <i>Journal of the Royal Society Interface</i> , 2012 , 9, 77-88	4.1	60
118	Reconstructing the flight kinematics of swarming and mating in wild mosquitoes. <i>Journal of the Royal Society Interface</i> , 2012 , 9, 2624-38	4.1	56
117	Stabilization of Collective Motion in a Time-Invariant Flowfield. <i>Journal of Guidance, Control, and Dynamics</i> , 2009 , 32, 771-779	2.1	52
116	Stabilization of symmetric formations to motion around convex loops. <i>Systems and Control Letters</i> , 2008 , 57, 209-215	2.4	42
115	Collective Motion and Oscillator Synchronization. <i>Lecture Notes in Control and Information Sciences</i> , 189-205	2.5	42
114	Dynamic control of autonomous quadrotor flight in an estimated wind field 2013 ,		39
113	Multivehicle Coordination in an Estimated Time-Varying Flowfield. <i>Journal of Guidance, Control, and Dynamics</i> , 2011 , 34, 177-191	2.1	36
112	Stabilization of collective motion on a sphere. <i>Automatica</i> , 2009 , 45, 212-216	5.7	32

111	On Planar Discrete Elastic Rod Models for the Locomotion of Soft Robots. <i>Soft Robotics</i> , 2019 , 6, 595-610	0.2	27
110	The spatiotemporal dynamics of rheotactic behavior depends on flow speed and available sensory information. <i>Journal of Experimental Biology</i> , 2013 , 216, 4011-24	3	27
109	The effects of flow on schooling <i>Devario aequipinnatus</i> : school structure, startle response and information transmission. <i>Journal of Fish Biology</i> , 2014 , 84, 1401-21	1.9	24
108	Distributed flow sensing for closed-loop speed control of a flexible fish robot. <i>Bioinspiration and Biomimetics</i> , 2015 , 10, 065001	2.6	24
107	The dance of male <i>Anopheles gambiae</i> in wild mating swarms. <i>Journal of Medical Entomology</i> , 2013 , 50, 552-9	2.2	23
106	Observer-Based Feedback Control for Stabilization of Collective Motion. <i>IEEE Transactions on Control Systems Technology</i> , 2013 , 21, 1846-1857	4.8	20
105	Multivehicle Control in a Strong Flowfield with Application to Hurricane Sampling. <i>Journal of Guidance, Control, and Dynamics</i> , 2012 , 35, 794-806	2.1	20
104	Onboard Flow Sensing for Downwash Detection and Avoidance with a Small Quadrotor Helicopter 2015 ,		19
103	Observability-based Optimization of Coordinated Sampling Trajectories for Recursive Estimation of a Strong, Spatially Varying Flowfield. <i>Journal of Intelligent and Robotic Systems: Theory and Applications</i> , 2013 , 70, 527-544	2.9	18
102	Group Coordination and Cooperative Control of Steered Particles in the Plane 2006 , 217-232		17
101	An Empirical Model of Rotorcraft UAV Downwash for Disturbance Localization and Avoidance 2015 ,		16
100	Stereoscopic video analysis of <i>Anopheles gambiae</i> behavior in the field: challenges and opportunities. <i>Acta Tropica</i> , 2014 , 132 Suppl, S80-5	3.2	16
99	Backstepping control design for motion coordination of self-propelled vehicles in a flowfield. <i>International Journal of Robust and Nonlinear Control</i> , 2011 , 21, 1452-1466	3.6	16
98	Distributed Estimation for Motion Coordination in an Unknown Spatially Varying Flowfield. <i>Journal of Guidance, Control, and Dynamics</i> , 2013 , 36, 894-898	2.1	15
97	Echinoderm-Inspired Tube Feet for Robust Robot Locomotion and Adhesion. <i>IEEE Robotics and Automation Letters</i> , 2018 , 3, 2222-2228	4.2	14
96	Male motion coordination in anopheline mating swarms. <i>Scientific Reports</i> , 2014 , 4, 6318	4.9	14
95	Observability-based optimization for flow sensing and control of an underwater vehicle in a uniform flowfield 2013 ,		14
94	Three-Dimensional Motion Coordination in a Spatiotemporal Flowfield. <i>IEEE Transactions on Automatic Control</i> , 2010 , 55, 2805-2810	5.9	14

93	2006,		13
92	Engineering Dynamics 2011,		13
91	Data-Driven Estimation of the Unsteady Flowfield Near an Actuated Airfoil. <i>Journal of Guidance, Control, and Dynamics</i> , 2019 , 42, 2279-2287	2.1	13
90	Distributed Multitarget Search and Track Assignment With Consensus-Based Coordination. <i>IEEE Sensors Journal</i> , 2015 , 15, 864-875	4	12
89	3D reconstruction of fish schooling kinematics from underwater video 2010,		12
88	Model-based observer and feedback control design for a rigid Joukowski foil in a Kármán vortex street. <i>Bioinspiration and Biomimetics</i> , 2018 , 13, 035001	2.6	11
87	Probabilistic information transmission in a network of coupled oscillators reveals speed-accuracy trade-off in responding to threats. <i>Chaos</i> , 2016 , 26, 116311	3.3	11
86	Spatial models of bistability in biological collectives 2007,		10
85	Global bilinearization and controllability of control-affine nonlinear systems: A Koopman spectral approach 2017,		9
84	Parallel Simulation of Transient Magnetorheological Direct Shear Flows Using Millions of Particles. <i>IEEE Transactions on Magnetics</i> , 2012 , 48, 3517-3520	2	8
83	Cooperative control of an autonomous sampling network in an external flow field 2008,		8
82	Mosquito-inspired distributed swarming and pursuit for cooperative defense against fast intruders. <i>Autonomous Robots</i> , 2019 , 43, 1781-1799	3	7
81	Multivehicle coverage control for a nonstationary spatiotemporal field. <i>Automatica</i> , 2014 , 50, 1381-1390	5.7	7
80	Performance improvement of IPMC flow sensors with a biologically-inspired cupula structure 2016,		7
79	Physics-inspired motion planning for information-theoretic target detection using multiple aerial robots. <i>Autonomous Robots</i> , 2017 , 41, 231-241	3	6
78	Unsteady DMD-Based Flow Field Estimation From Embedded Pressure Sensors in an Actuated Airfoil 2019,		6
77	. <i>IEEE Transactions on Aerospace and Electronic Systems</i> , 2014 , 50, 2313-2320	3.7	6
76	3D tracking of mating events in wild swarms of the malaria mosquito <i>Anopheles gambiae</i> . <i>Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference</i> , 2011 , 2011, 720-3	0.9	6

75	Unmanned Aerial Vehicle Coordination on Closed Convex Paths in Wind. <i>Journal of Guidance, Control, and Dynamics</i> , 2010 , 33, 1946-1951	2.1	6
74	Three-dimensional motion coordination in a time-invariant flowfield 2009 ,		6
73	Cooperative Control of Unmanned Vehicles in a Time-Varying Flowfield 2009 ,		6
72	Coordinated Perimeter Patrol with Minimum-Time Alert Response 2009 ,		6
71	Stabilization of Collective Motion in a Uniform and Constant Flow Field 2008 ,		6
70	A flexible, reaction-wheel-driven fish robot: Flow sensing and flow-relative control 2016 ,		6
69	Multi-UAS path planning for non-uniform data collection in precision agriculture 2017 ,		5
68	The pursuit strategy of predatory bluefish (<i>Pomatomus saltatrix</i>). <i>Proceedings of the Royal Society B: Biological Sciences</i> , 2019 , 286, 20182934	4.4	5
67	Probabilistic analytical modelling of predator-prey interactions in fishes. <i>Journal of the Royal Society Interface</i> , 2019 , 16, 20180873	4.1	5
66	2015 ,		5
65	Multi-vehicle control and optimization for spatiotemporal sampling 2011 ,		5
64	UAV coordination on convex curves in wind: An environmental sampling application 2009 ,		5
63	Wake Sensing and Estimation for Control of Autonomous Aircraft in Formation Flight. <i>Journal of Guidance, Control, and Dynamics</i> , 2016 , 39, 32-41	2.1	5
62	. <i>IEEE Transactions on Control Systems Technology</i> , 2017 , 25, 509-520	4.8	4
61	Multi-target tracking and data association on road networks using unmanned aerial vehicles 2017 ,		4
60	Downwash Detection and Avoidance with Small Quadrotor Helicopters. <i>Journal of Guidance, Control, and Dynamics</i> , 2017 , 40, 692-701	2.1	4
59	Cooperative Mapping and Target Search Over an Unknown Occupancy Graph Using Mutual Information. <i>IEEE Robotics and Automation Letters</i> , 2020 , 5, 1071-1078	4.2	4
58	Geometric Gait Design for a Starfish-Inspired Robot Using a Planar Discrete Elastic Rod Model. <i>Advanced Intelligent Systems</i> , 2020 , 2, 1900186	6	4

57	2010,		4
56	Massively Parallel Simulations of Chain Formation and Restructuring Dynamics in a Magnetorheological Fluid 2011,		4
55	Stabilization of collective motion in a time-invariant flowfield on a rotating sphere 2009,		4
54	Height Estimation and Control of Rotorcraft in Ground Effect Using Spatially Distributed Pressure Sensing. <i>Journal of the American Helicopter Society</i> , 2016 , 61, 1-14	1.2	4
53	Dynamics of a Rotor-Pendulum With a Small, Stiff Propeller in Wind 2016,		4
52	State-feedback control of an internal rotor for propelling and steering a flexible fish-inspired underwater vehicle 2019,		4
51	Mobile Sensor Networks and Control: Adaptive Sampling of Spatiotemporal Processes. <i>Annual Review of Control, Robotics, and Autonomous Systems</i> , 2020 , 3, 91-114	11.8	4
50	Constrained Ulam Dynamic Mode Decomposition: Approximation of the Perron-Frobenius Operator for Deterministic and Stochastic Systems 2018 , 2, 809-814		4
49	Onboard Flow Sensing for Multi-Rotor Pitch Control in Wind. <i>Journal of Guidance, Control, and Dynamics</i> , 2018 , 41, 1196-1201	2.1	3
48	Cooperative Bayesian target detection on a real road network using aerial vehicles 2016,		3
47	Geometric Control of Quadrotor Attitude in Wind With Flow Sensing and Thrust Constraints 2017,		3
46	Lyapunov stability analysis of a mosquito-inspired swarm model 2015,		3
45	Distributed optimization for radar mission coordination 2012,		3
44	Reduced-Order Dynamic Modeling and Stabilizing Control of a Micro-Helicopter 2009,		3
43	Robotic Fish. <i>Mechanical Engineering</i> , 2016 , 138, S2-S5	0.9	3
42	UAV State and Parameter Estimation in Wind Using Calibration Trajectories Optimized for Observability 2021 , 5, 1801-1806		3
41	Bioinspired pursuit with a swimming robot using feedback control of an internal rotor. <i>Bioinspiration and Biomimetics</i> , 2020 , 15, 035005	2.6	2
40	Geometric Attitude and Position Control of a Quadrotor in Wind. <i>Journal of Guidance, Control, and Dynamics</i> , 2020 , 43, 870-883	2.1	2

39	Incorporating prior knowledge in observability-based path planning for ocean sampling. <i>Systems and Control Letters</i> , 2016 , 97, 169-175	2.4	2
38	Mosquito-inspired swarming for decentralized pursuit with autonomous vehicles 2017 ,		2
37	Observability-based path-planning and flow-relative control of a bioinspired sensor array in a Karman vortex street 2017 ,		2
36	Distributed Flow Sensing Using Bayesian Estimation for a Flexible Fish Robot 2015 ,		2
35	Flow sensing, estimation and control for rotorcraft in ground effect 2015 ,		2
34	Bio-inspired pursuit with autonomous hovercraft using Lyapunov-based control 2015 ,		2
33	Distributed multi-target search and track assignment using consensus-based coordination 2013 ,		2
32	Wake Estimation and Optimal Control for Autonomous Aircraft in Formation Flight 2013 ,		2
31	Distributed Estimation for Motion Coordination in an Unknown Spatiotemporal Flowfield 2011 ,		2
30	Critical damping in a kinetic interaction network 2010 ,		2
29	A multi-vehicle testbed for underwater motion coordination 2010 ,		2
28	Putting the fish in the fish tank: Immersive VR for animal behavior experiments 2012 ,		2
27	Engineering Dynamics 2011 ,		2
26	Non-Gaussian estimation of a two-vortex flow using a Lagrangian sensor guided by output feedback control 2016 ,		2
25	Feedback-Linearizing Control for Velocity and Attitude Tracking of an ROV with Thruster Dynamics Containing Input Dead Zones 2019 ,		2
24	Geometric control of a quadrotor in wind with flow sensing and thrust constraints: Attitude and position control 2019 ,		2
23	Bilinearization, Reachability, and Optimal Control of Control-Affine Nonlinear Systems: A Koopman Spectral Approach. <i>IEEE Transactions on Automatic Control</i> , 2021 , 1-1	5.9	2
22	Tip-Vortex Localization for Cross-Stream Position Control of a Multi-Hole Probe Relative to a Stationary Wing in a Free-Jet Wind Tunnel 2017 ,		1

21	Geometric Gait Design for a Starfish-Inspired Robot Using a Planar Discrete Elastic Rod Model. <i>Advanced Intelligent Systems</i> , 2020 , 2, 2070062	6	1
20	Geometric Gait Design for a Starfish-Inspired Robot With Curvature-Controlled Soft Actuators 2017 ,		1
19	Competing Swarms of Autonomous Vehicles: Intruders Versus Guardians 2017 ,		1
18	Multi-vehicle Control in a Strong Flowfield with Application to Hurricane Sampling 2011 ,		1
17	Vision-based estimation of three-dimensional position and pose of multiple underwater vehicles 2009 ,		1
16	Synchronization on the N-torus with noisy measurements 2011 ,		1
15	Motion coordination of planar rigid bodies 2011 ,		1
14	Multi-Vehicle Coordination in an Unknown Flowfield 2010 ,		1
13	Distributed Control of a Planar Discrete Elastic Rod for Eel-Inspired Underwater Locomotion 2021 , 261-279		1
12	Global Bilinearization and Reachability Analysis of Control-Affine Nonlinear Systems. <i>Lecture Notes in Control and Information Sciences</i> , 2020 , 81-98	0.5	1
11	Active Singularities for Multivehicle Motion Planning in an N-Vortex System. <i>Lecture Notes in Computer Science</i> , 2015 , 334-346	0.9	1
10	Optimal control of a 1D diffusion process with a team of mobile actuators under jointly optimal guidance 2020 ,		1
9	Tracking Performance of Model-Based Thruster Control of a Remotely Operated Underwater Vehicle. <i>IEEE Journal of Oceanic Engineering</i> , 2021 , 46, 389-401	3.3	1
8	Non-Gaussian Estimation and Dynamic Output Feedback Using the Gaussian Mixture Kalman Filter. <i>Journal of Guidance, Control, and Dynamics</i> , 2021 , 44, 15-24	2.1	1
7	A 3D underwater robotic collective called Blueswarm. <i>Science Robotics</i> , 2021 , 6,	18.6	1
6	Optimal control of a 2D diffusion-Advection process with a team of mobile actuators under jointly optimal guidance. <i>Automatica</i> , 2021 , 133, 109866	5.7	1
5	Feedback Control and Parameter Estimation for Lift Maximization of a Pitching Airfoil. <i>Journal of Guidance, Control, and Dynamics</i> , 2021 , 44, 587-594	2.1	0
4	Optimal Sampling of Nonstationary Spatiotemporal Fields Using a Mobile Sensor Network*. <i>IFAC Postprint Volumes IPPV / International Federation of Automatic Control</i> , 2012 , 45, 186-191		

- 3 Burrowing Locomotion via Crack Propagation of a Bio-inspired Soft Robot. *IFAC-PapersOnLine*, **2021**, 54, 128-133 0.7
- 2 Non-Gaussian Estimation of a Potential Flow by an Actuated Lagrangian Sensor Steered to Separating Boundaries by Augmented Observability. *IEEE Journal of Oceanic Engineering*, **2020**, 45, 1203-1218 3.3
- 1 Dynamic Modeling and Simulation of Electric Scooter Interactions With a Pedestrian Crowd Using a Social Force Model. *IEEE Transactions on Intelligent Transportation Systems*, **2022**, 1-14 6.1