Derek A Paley

List of Publications by Year in Descending Order

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	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	
127	Distributed Control of a Planar Discrete Elastic Rod for Eel-Inspired Underwater Locomotion **2021**, 261-279		1
126	Burrowing Locomotion via Crack Propagation of a Bio-inspired Soft Robot. *IFAC-PapersOnLine*, **2021**, 54, 128-133	0.7	
125	Tracking Performance of Model-Based Thruster Control of a Remotely Operated Underwater Vehicle. *IEEE Journal of Oceanic Engineering*, **2021**, 46, 389-401	3.3	1
124	Non-Gaussian Estimation and Dynamic Output Feedback Using the Gaussian Mixture Kalman Filter. *Journal of Guidance, Control, and Dynamics*, **2021**, 44, 15-24	2.1	1
123	Bilinearization, Reachability, and Optimal Control of Control-Affine Nonlinear Systems: A Koopman Spectral Approach. *IEEE Transactions on Automatic Control*, **2021**, 1-1	5.9	2
122	A 3D underwater robotic collective called Blueswarm. *Science Robotics*, **2021**, 6,	18.6	1
121	Feedback Control and Parameter Estimation for Lift Maximization of a Pitching Airfoil. *Journal of Guidance, Control, and Dynamics*, **2021**, 44, 587-594	2.1	0
120	UAV State and Parameter Estimation in Wind Using Calibration Trajectories Optimized for Observability **2021**, 5, 1801-1806		3
119	Optimal control of a 2D diffusion–advection process with a team of mobile actuators under jointly optimal guidance. *Automatica*, **2021**, 133, 109866	5.7	1
118	Cooperative Mapping and Target Search Over an Unknown Occupancy Graph Using Mutual Information. *IEEE Robotics and Automation Letters*, **2020**, 5, 1071-1078	4.2	4
117	Geometric Gait Design for a Starfish-Inspired Robot Using a Planar Discrete Elastic Rod Model. *Advanced Intelligent Systems*, **2020**, 2, 2070062	6	1
116	Bioinspired pursuit with a swimming robot using feedback control of an internal rotor. *Bioinspiration and Biomimetics*, **2020**, 15, 035005	2.6	2
115	Geometric Gait Design for a Starfish-Inspired Robot Using a Planar Discrete Elastic Rod Model. *Advanced Intelligent Systems*, **2020**, 2, 1900186	6	4
114	Geometric Attitude and Position Control of a Quadrotor in Wind. *Journal of Guidance, Control, and Dynamics*, **2020**, 43, 870-883	2.1	2
113	Global Bilinearization and Reachability Analysis of Control-Affine Nonlinear Systems. *Lecture Notes in Control and Information Sciences*, **2020**, 81-98	0.5	1
112	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	

111	Optimal control of a 1D diffusion process with a team of mobile actuators under jointly optimal guidance **2020**,		1
110	Mobile Sensor Networks and Control: Adaptive Sampling of Spatiotemporal Processes. *Annual Review of Control, Robotics, and Autonomous Systems*, **2020**, 3, 91-114	11.8	4
109	Unsteady DMD-Based Flow Field Estimation From Embedded Pressure Sensors in an Actuated Airfoil **2019**,		6
108	The pursuit strategy of predatory bluefish (Pomatomus saltatrix). *Proceedings of the Royal Society B: Biological Sciences*, **2019**, 286, 20182934	4.4	5
107	Probabilistic analytical modelling of predator-prey interactions in fishes. *Journal of the Royal Society Interface*, **2019**, 16, 20180873	4.1	5
106	Mosquito-inspired distributed swarming and pursuit for cooperative defense against fast intruders. *Autonomous Robots*, **2019**, 43, 1781-1799	3	7
105	On Planar Discrete Elastic Rod Models for the Locomotion of Soft Robots. *Soft Robotics*, **2019**, 6, 595-610	9.2	27
104	State-feedback control of an internal rotor for propelling and steering a flexible fish-inspired underwater vehicle **2019**,		4
103	Feedback-Linearizing Control for Velocity and Attitude Tracking of an ROV with Thruster Dynamics Containing Input Dead Zones **2019**,		2
102	Data-Driven Estimation of the Unsteady Flowfield Near an Actuated Airfoil. *Journal of Guidance, Control, and Dynamics*, **2019**, 42, 2279-2287	2.1	13
101	Geometric control of a quadrotor in wind with flow sensing and thrust constraints: Attitude and position control **2019**,		2
100	Echinoderm-Inspired Tube Feet for Robust Robot Locomotion and Adhesion. *IEEE Robotics and Automation Letters*, **2018**, 3, 2222-2228	4.2	14
99	Model-based observer and feedback control design for a rigid Joukowski foil in a Kármán vortex street. *Bioinspiration and Biomimetics*, **2018**, 13, 035001	2.6	11
98	Onboard Flow Sensing for Multi-Rotor Pitch Control in Wind. *Journal of Guidance, Control, and Dynamics*, **2018**, 41, 1196-1201	2.1	3
97	Constrained Ulam Dynamic Mode Decomposition: Approximation of the Perron-Frobenius Operator for Deterministic and Stochastic Systems **2018**, 2, 809-814		4
96	Physics-inspired motion planning for information-theoretic target detection using multiple aerial robots. *Autonomous Robots*, **2017**, 41, 231-241	3	6
95	. *IEEE Transactions on Control Systems Technology*, **2017**, 25, 509-520	4.8	4
94	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

No.	Title	IF	Cites
93	Multi-target tracking and data association on road networks using unmanned aerial vehicles **2017**,		4
92	Multi-UAS path planning for non-uniform data collection in precision agriculture **2017**,		5
91	Downwash Detection and Avoidance with Small Quadrotor Helicopters. *Journal of Guidance, Control, and Dynamics*, **2017**, 40, 692-701	2.1	4
90	Mosquito-inspired swarming for decentralized pursuit with autonomous vehicles **2017**,		2
89	Geometric Control of Quadrotor Attitude in Wind With Flow Sensing and Thrust Constraints **2017**,		3
88	Geometric Gait Design for a Starfish-Inspired Robot With Curvature-Controlled Soft Actuators **2017**,		1
87	Observability-based path-planning and flow-relative control of a bioinspired sensor array in a Karman vortex street **2017**,		2
86	Global bilinearization and controllability of control-affine nonlinear systems: A Koopman spectral approach **2017**,		9
85	Competing Swarms of Autonomous Vehicles: Intruders Versus Guardians **2017**,		1
84	Cooperative Bayesian target detection on a real road network using aerial vehicles **2016**,		3
83	Incorporating prior knowledge in observability-based path planning for ocean sampling. *Systems and Control Letters*, **2016**, 97, 169-175	2.4	2
82	Height Estimation and Control of Rotorcraft in Ground Effect Using Spatially Distributed Pressure Sensing. *Journal of the American Helicopter Society*, **2016**, 61, 1-14	1.2	4
81	Robotic Fish. *Mechanical Engineering*, **2016**, 138, S2-S5	0.9	3
80	Wake Sensing and Estimation for Control of Autonomous Aircraft in Formation Flight. *Journal of Guidance, Control, and Dynamics*, **2016**, 39, 32-41	2.1	5
79	Dynamics of a Rotor-Pendulum With a Small, Stiff Propeller in Wind **2016**,		4
78	Non-Gaussian estimation of a two-vortex flow using a Lagrangian sensor guided by output feedback control **2016**,		2
77	Probabilistic information transmission in a network of coupled oscillators reveals speed-accuracy trade-off in responding to threats. *Chaos*, **2016**, 26, 116311	3.3	11
76	Performance improvement of IPMC flow sensors with a biologically-inspired cupula structure **2016**,		7

75	A flexible, reaction-wheel-driven fish robot: Flow sensing and flow-relative control **2016**,		6
74	Onboard Flow Sensing for Downwash Detection and Avoidance with a Small Quadrotor Helicopter **2015**,		19
73	An Empirical Model of Rotorcrafy UAV Downwash for Disturbance Localization and Avoidance **2015**,		16
72	Distributed Multitarget Search and Track Assignment With Consensus-Based Coordination. *IEEE Sensors Journal*, **2015**, 15, 864-875	4	12
71	Distributed Flow Sensing Using Bayesian Estimation for a Flexible Fish Robot **2015**,		2
70	Distributed flow estimation and closed-loop control of an underwater vehicle with a multi-modal artificial lateral line. *Bioinspiration and Biomimetics*, **2015**, 10, 025002	2.6	67
69	Lyapunov stability analysis of a mosquito-inspired swarm model **2015**,		3
68	Flow sensing, estimation and control for rotorcraft in ground effect **2015**,		2
67	**2015**,		5
66	Distributed flow sensing for closed-loop speed control of a flexible fish robot. *Bioinspiration and Biomimetics*, **2015**, 10, 065001	2.6	24
65	Bio-inspired pursuit with autonomous hovercraft using Lyapunov-based control **2015**,		2
64	Active Singularities for Multivehicle Motion Planning in an N-Vortex System. *Lecture Notes in Computer Science*, **2015**, 334-346	0.9	1
63	Stereoscopic video analysis of Anopheles gambiae behavior in the field: challenges and opportunities. *Acta Tropica*, **2014**, 132 Suppl, S80-5	3.2	16
62	Multivehicle coverage control for a nonstationary spatiotemporal field. *Automatica*, **2014**, 50, 1381-1390	5.7	7
61	The effects of flow on schooling Devario aequipinnatus: school structure, startle response and information transmission. *Journal of Fish Biology*, **2014**, 84, 1401-21	1.9	24
60	Male motion coordination in anopheline mating swarms. *Scientific Reports*, **2014**, 4, 6318	4.9	14
59	. *IEEE Transactions on Aerospace and Electronic Systems*, **2014**, 50, 2313-2320	3.7	6
58	The spatiotemporal dynamics of rheotactic behavior depends on flow speed and available sensory information. *Journal of Experimental Biology*, **2013**, 216, 4011-24	3	27

57	Dynamic control of autonomous quadrotor flight in an estimated wind field **2013**,		39
56	Distributed Estimation for Motion Coordination in an Unknown Spatially Varying Flowfield. *Journal of Guidance, Control, and Dynamics*, **2013**, 36, 894-898	2.1	15
55	Observer-Based Feedback Control for Stabilization of Collective Motion. *IEEE Transactions on Control Systems Technology*, **2013**, 21, 1846-1857	4.8	20
54	Observability-based Optimization of Coordinated Sampling Trajectories for Recursive Estimation of a Strong, Spatially Varying Flowfield. *Journal of Intelligent and Robotic Systems: Theory and Applications*, **2013**, 70, 527-544	2.9	18
53	Distributed multi-target search and track assignment using consensus-based coordination **2013**,		2
52	Observability-based optimization for flow sensing and control of an underwater vehicle in a uniform flowfield **2013**,		14
51	The dance of male Anopheles gambiae in wild mating swarms. *Journal of Medical Entomology*, **2013**, 50, 552-9	2.2	23
50	Wake Estimation and Optimal Control for Autonomous Aircraft in Formation Flight **2013**,		2
49	Multivehicle Control in a Strong Flowfield with Application to Hurricane Sampling. *Journal of Guidance, Control, and Dynamics*, **2012**, 35, 794-806	2.1	20
48	Parallel Simulation of Transient Magnetorheological Direct Shear Flows Using Millions of Particles. *IEEE Transactions on Magnetics*, **2012**, 48, 3517-3520	2	8
47	Reconstructing the flight kinematics of swarming and mating in wild mosquitoes. *Journal of the Royal Society Interface*, **2012**, 9, 2624-38	4.1	56
46	Three-dimensional reconstruction of the fast-start swimming kinematics of densely schooling fish. *Journal of the Royal Society Interface*, **2012**, 9, 77-88	4.1	60
45	Distributed optimization for radar mission coordination **2012**,		3
44	Putting the fish in the fish tank: Immersive VR for animal behavior experiments **2012**,		2
43	Optimal Sampling of Nonstationary Spatiotemporal Fields Using a Mobile Sensor Network*. *IFAC Postprint Volumes IPPV / International Federation of Automatic Control*, **2012**, 45, 186-191		
42	3D tracking of mating events in wild swarms of the malaria mosquito Anopheles gambiae. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2011**, 2011, 720-3	0.9	6
41	Multi-vehicle Control in a Strong Flowfield with Application to Hurricane Sampling **2011**,		1
40	Distributed Estimation for Motion Coordination in an Unknown Spatiotemporal Flowfield **2011**,		2

39	Backstepping control design for motion coordination of self-propelled vehicles in a flowfield. *International Journal of Robust and Nonlinear Control*, **2011**, 21, 1452-1466	3.6	16
38	Massively Parallel Simulations of Chain Formation and Restructuring Dynamics in a Magnetorheological Fluid **2011**,		4
37	Synchronization on the N-torus with noisy measurements **2011**,		1
36	Multi-vehicle control and optimization for spatiotemporal sampling **2011**,		5
35	Motion coordination of planar rigid bodies **2011**,		1
34	Multivehicle Coordination in an Estimated Time-Varying Flowfield. *Journal of Guidance, Control, and Dynamics*, **2011**, 34, 177-191	2.1	36
33	Engineering Dynamics **2011**,		13
32	Engineering Dynamics **2011**,		2
31	3D reconstruction of fish schooling kinematics from underwater video **2010**,		12
30	**2010**,		4
29	Unmanned Aerial Vehicle Coordination on Closed Convex Paths in Wind. *Journal of Guidance, Control, and Dynamics*, **2010**, 33, 1946-1951	2.1	6
28	Critical damping in a kinetic interaction network **2010**,		2
27	A multi-vehicle testbed for underwater motion coordination **2010**,		2
26	Three-Dimensional Motion Coordination in a Spatiotemporal Flowfield. *IEEE Transactions on Automatic Control*, **2010**, 55, 2805-2810	5.9	14
25	Multi-Vehicle Coordination in an Unknown Flowfield **2010**,		1
24	Coordinated control of an underwater glider fleet in an adaptive ocean sampling field experiment in Monterey Bay. *Journal of Field Robotics*, **2010**, 27, 718-740	6.7	199
23	Stabilization of collective motion in a time-invariant flowfield on a rotating sphere **2009**,		4
22	Three-dimensional motion coordination in a time-invariant flowfield **2009**,		6

21	Vision-based estimation of three-dimensional position and pose of multiple underwater vehicles **2009**,		1
20	Stabilization of collective motion on a sphere. *Automatica*, **2009**, 45, 212-216	5.7	32
19	Reduced-Order Dynamic Modeling and Stabilizing Control of a Micro-Helicopter **2009**,		3
18	Cooperative Control of Unmanned Vehicles in a Time-Varying Flowfield **2009**,		6
17	Coordinated Perimeter Patrol with Minimum-Time Alert Response **2009**,		6
16	Stabilization of Collective Motion in a Time-Invariant Flowfield. *Journal of Guidance, Control, and Dynamics*, **2009**, 32, 771-779	2.1	52
15	UAV coordination on convex curves in wind: An environmental sampling application **2009**,		5
14	Stabilization of Collective Motion in a Uniform and Constant Flow Field **2008**,		6
13	Cooperative Control for Ocean Sampling: The Glider Coordinated Control System. *IEEE Transactions on Control Systems Technology*, **2008**, 16, 735-744	4.8	143
12	Stabilization of Planar Collective Motion With Limited Communication. *IEEE Transactions on Automatic Control*, **2008**, 53, 706-719	5.9	280
11	Cooperative control of an autonomous sampling network in an external flow field **2008**,		8
10	Stabilization of symmetric formations to motion around convex loops. *Systems and Control Letters*, **2008**, 57, 209-215	2.4	42
9	Stabilization of Planar Collective Motion: All-to-All Communication. *IEEE Transactions on Automatic Control*, **2007**, 52, 811-824	5.9	310
8	Spatial models of bistability in biological collectives **2007**,		10
7	Control of coordinated patterns for ocean sampling. *International Journal of Control*, **2007**, 80, 1186-1199	2.5	127
6	. *Proceedings of the IEEE*, **2007**, 95, 48-74	14.3	536
5	Oscillator Models and Collective Motion. *IEEE Control Systems*, **2007**, 27, 89-105	2.9	139
4	**2006**,		13

3   *. IEEE Journal of Oceanic Engineering*, **2006**, 31, 935-948   3.3   256

2   Group Coordination and Cooperative Control of Steered Particles in the Plane **2006**, 217-232   17

1   Collective Motion and Oscillator Synchronization. *Lecture Notes in Control and Information Sciences,*189-205   42