

# Clarence Rowley

## List of Publications by Year in descending order

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125  
papers

13,800  
citations

53660

45  
h-index

48187

88  
g-index

127  
all docs

127  
docs citations

127  
times ranked

5575  
citing authors

#	ARTICLE	IF	CITATIONS
1	Spectral analysis of nonlinear flows. <i>Journal of Fluid Mechanics</i> , 2009, 641, 115-127.	1.4	1,592
2	A Data-Driven Approximation of the Koopman Operator: Extending Dynamic Mode Decomposition. <i>Journal of Nonlinear Science</i> , 2015, 25, 1307-1346.	1.0	1,044
3	On dynamic mode decomposition: Theory and applications. <i>Journal of Computational Dynamics</i> , 2014, 1, 391-421.	0.4	1,023
4	Modal Analysis of Fluid Flows: An Overview. <i>AIAA Journal</i> , 2017, 55, 4013-4041.	1.5	1,020
5	MODEL REDUCTION FOR FLUIDS, USING BALANCED PROPER ORTHOGONAL DECOMPOSITION. <i>International Journal of Bifurcation and Chaos in Applied Sciences and Engineering</i> , 2005, 15, 997-1013.	0.7	702
6	Model reduction for compressible flows using POD and Galerkin projection. <i>Physica D: Nonlinear Phenomena</i> , 2004, 189, 115-129.	1.3	589
7	Variants of Dynamic Mode Decomposition: Boundary Condition, Koopman, and Fourier Analyses. <i>Journal of Nonlinear Science</i> , 2012, 22, 887-915.	1.0	540
8	Model Reduction for Flow Analysis and Control. <i>Annual Review of Fluid Mechanics</i> , 2017, 49, 387-417.	10.8	460
9	On self-sustained oscillations in two-dimensional compressible flow over rectangular cavities. <i>Journal of Fluid Mechanics</i> , 2002, 455, 315-346.	1.4	412
10	DYNAMICS AND CONTROL OF HIGH-REYNOLDS-NUMBER FLOW OVER OPEN CAVITIES. <i>Annual Review of Fluid Mechanics</i> , 2006, 38, 251-276.	10.8	323
11	Detection of Lagrangian coherent structures in three-dimensional turbulence. <i>Journal of Fluid Mechanics</i> , 2007, 572, 111-120.	1.4	289
12	Maximum Power Point Tracking for Photovoltaic Optimization Using Ripple-Based Extremum Seeking Control. <i>IEEE Transactions on Power Electronics</i> , 2010, 25, 2531-2540.	5.4	270
13	Active control of flow-induced cavity oscillations. <i>Progress in Aerospace Sciences</i> , 2008, 44, 479-502.	6.3	227
14	De-biasing the dynamic mode decomposition for applied Koopman spectral analysis of noisy datasets. <i>Theoretical and Computational Fluid Dynamics</i> , 2017, 31, 349-368.	0.9	216
15	Characterizing and correcting for the effect of sensor noise in the dynamic mode decomposition. <i>Experiments in Fluids</i> , 2016, 57, 1.	1.1	207
16	Locomotion of Articulated Bodies in a Perfect Fluid. <i>Journal of Nonlinear Science</i> , 2005, 15, 255-289.	1.0	195
17	Reduced-order models for control of fluids using the eigensystem realization algorithm. <i>Theoretical and Computational Fluid Dynamics</i> , 2011, 25, 233-247.	0.9	177
18	A kernel-based method for data-driven koopman spectral analysis. <i>Journal of Computational Dynamics</i> , 2015, 2, 247-265.	0.4	176

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19	Dynamic mode decomposition for large and streaming datasets. <i>Physics of Fluids</i> , 2014, 26, .	1.6	170
20	Linearly Recurrent Autoencoder Networks for Learning Dynamics. <i>SIAM Journal on Applied Dynamical Systems</i> , 2019, 18, 558-593.	0.7	157
21	Scaling the propulsive performance of heaving and pitching foils. <i>Journal of Fluid Mechanics</i> , 2017, 822, 386-397.	1.4	153
22	Reconstruction equations and the Karhunen-Loève expansion for systems with symmetry. <i>Physica D: Nonlinear Phenomena</i> , 2000, 142, 1-19.	1.3	139
23	The unsteady three-dimensional wake produced by a trapezoidal pitching panel. <i>Journal of Fluid Mechanics</i> , 2011, 685, 117-145.	1.4	123
24	Low-frequency dynamics in a shock-induced separated flow. <i>Journal of Fluid Mechanics</i> , 2016, 807, 441-477.	1.4	123
25	Modeling of transitional channel flow using balanced proper orthogonal decomposition. <i>Physics of Fluids</i> , 2008, 20, .	1.6	117
26	Fast computation of finite-time Lyapunov exponent fields for unsteady flows. <i>Chaos</i> , 2010, 20, 017503.	1.0	113
27	Feedback control of unstable steady states of flow past a flat plate using reduced-order estimators. <i>Journal of Fluid Mechanics</i> , 2010, 645, 447-478.	1.4	103
28	Online Dynamic Mode Decomposition for Time-Varying Systems. <i>SIAM Journal on Applied Dynamical Systems</i> , 2019, 18, 1586-1609.	0.7	102
29	Linear models for control of cavity flow oscillations. <i>Journal of Fluid Mechanics</i> , 2006, 547, 317.	1.4	96
30	Extending Data-Driven Koopman Analysis to Actuated Systems. <i>IFAC-PapersOnLine</i> , 2016, 49, 704-709.	0.5	93
31	Reduced-order unsteady aerodynamic models at low Reynolds numbers. <i>Journal of Fluid Mechanics</i> , 2013, 724, 203-233.	1.4	87
32	Reduction and reconstruction for self-similar dynamical systems. <i>Nonlinearity</i> , 2003, 16, 1257-1275.	0.6	86
33	Spectral analysis of fluid flows using sub-Nyquist-rate PIV data. <i>Experiments in Fluids</i> , 2014, 55, 1.	1.1	85
34	Empirical state-space representations for Theodorsen's lift model. <i>Journal of Fluids and Structures</i> , 2013, 38, 174-186.	1.5	78
35	Motion Planning for an Articulated Body in a Perfect Planar Fluid. <i>SIAM Journal on Applied Dynamical Systems</i> , 2006, 5, 650-669.	0.7	75
36	$H_2$ optimal actuator and sensor placement in the linearised complex Ginzburg-Landau system. <i>Journal of Fluid Mechanics</i> , 2011, 681, 241-260.	1.4	66

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37	Integration of non-time-resolved PIV and time-resolved velocity point sensors for dynamic estimation of velocity fields. <i>Experiments in Fluids</i> , 2013, 54, 1.	1.1	66
38	Discretely Nonreflecting Boundary Conditions for Linear Hyperbolic Systems. <i>Journal of Computational Physics</i> , 2000, 157, 500-538.	1.9	65
39	State-space model identification and feedback control of unsteady aerodynamic forces. <i>Journal of Fluids and Structures</i> , 2014, 50, 253-270.	1.5	62
40	Algorithm 945. <i>ACM Transactions on Mathematical Software</i> , 2014, 40, 1-23.	1.6	60
41	Feedback control of instabilities in the two-dimensional Blasius boundary layer: The role of sensors and actuators. <i>Physics of Fluids</i> , 2013, 25, .	1.6	59
42	Feedback control of flow resonances using balanced reduced-order models. <i>Journal of Sound and Vibration</i> , 2011, 330, 1567-1581.	2.1	57
43	Using hyperbolic Lagrangian coherent structures to investigate vortices in bioinspired fluid flows. <i>Chaos</i> , 2010, 20, 017510.	1.0	56
44	An improved algorithm for balanced POD through an analytic treatment of impulse response tails. <i>Journal of Computational Physics</i> , 2012, 231, 5317-5333.	1.9	53
45	Clarifying the relationship between efficiency and resonance for flexible inertial swimmers. <i>Journal of Fluid Mechanics</i> , 2018, 853, 271-300.	1.4	52
46	Model Reduction of the Nonlinear Complex Ginzburg-Landau Equation. <i>SIAM Journal on Applied Dynamical Systems</i> , 2010, 9, 1284-1302.	0.7	43
47	Data-Driven Model Predictive Control using Interpolated Koopman Generators. <i>SIAM Journal on Applied Dynamical Systems</i> , 2020, 19, 2162-2193.	0.7	43
48	Overview of results from the National Spherical Torus Experiment (NSTX). <i>Nuclear Fusion</i> , 2009, 49, 104016.	1.6	41
49	Data fusion via intrinsic dynamic variables: An application of data-driven Koopman spectral analysis. <i>Europhysics Letters</i> , 2015, 109, 40007.	0.7	38
50	Vortex dynamics in a pipe T-junction: Recirculation and sensitivity. <i>Physics of Fluids</i> , 2015, 27, .	1.6	38
51	Koopman Operators for Estimation and Control of Dynamical Systems. <i>Annual Review of Control, Robotics, and Autonomous Systems</i> , 2021, 4, 59-87.	7.5	37
52	Feedback control of slowly-varying transient growth by an array of plasma actuators. <i>Physics of Fluids</i> , 2014, 26, 024102.	1.6	36
53	POD based models of self-sustained oscillations in the flow past an open cavity. , 2000, , .		35
54	Feedback control of cavity flow oscillations using simple linear models. <i>Journal of Fluid Mechanics</i> , 2012, 709, 223-248.	1.4	35

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55	Uncertainty Quantification for Airfoil Icing Using Polynomial Chaos Expansions. <i>Journal of Aircraft</i> , 2015, 52, 1404-1411.	1.7	35
56	Dynamical models for control of cavity oscillations. , 2001, , .		34
57	Low-dimensional models of a temporally evolving free shear layer. <i>Journal of Fluid Mechanics</i> , 2009, 618, 113-134.	1.4	34
58	Strike point control for the National Spherical Torus Experiment (NSTX). <i>Nuclear Fusion</i> , 2010, 50, 105010.	1.6	32
59	Probabilistic Estimates of Transient Climate Sensitivity Subject to Uncertainty in Forcing and Natural Variability. <i>Journal of Climate</i> , 2011, 24, 5521-5537.	1.2	31
60	Adaptive separation control of a laminar boundary layer using online dynamic mode decomposition. <i>Journal of Fluid Mechanics</i> , 2020, 903, .	1.4	31
61	Unsteady High-Angle-of-Attack Aerodynamic Models of a Generic Jet Transport. <i>Journal of Aircraft</i> , 2015, 52, 890-895.	1.7	29
62	Snapshot-Based Balanced Truncation for Linear Time-Periodic Systems. <i>IEEE Transactions on Automatic Control</i> , 2010, 55, 469-473.	3.6	28
63	Riccati-less approach for optimal control and estimation: an application to two-dimensional boundary layers. <i>Journal of Fluid Mechanics</i> , 2013, 731, 394-417.	1.4	28
64	Identifying finite-time coherent sets from limited quantities of Lagrangian data. <i>Chaos</i> , 2015, 25, 087408.	1.0	28
65	Parameter-Varying Aerodynamics Models for Aggressive Pitching-Response Prediction. <i>AIAA Journal</i> , 2017, 55, 693-701.	1.5	28
66	Low-Dimensional Models for Control of Leading-Edge Vortices: Equilibria and Linearized Models. , 2007, , .		27
67	Long-time uncertainty propagation using generalized polynomial chaos and flow map composition. <i>Journal of Computational Physics</i> , 2014, 274, 783-802.	1.9	26
68	Distributed flexibility in inertial swimmers. <i>Journal of Fluid Mechanics</i> , 2020, 888, .	1.4	26
69	Reduced-Order Modeling of Channel Flow Using Traveling POD and Balanced POD. , 2006, , .		23
70	Normalized Coprime Robust Stability and Performance Guarantees for Reduced-Order Controllers. <i>IEEE Transactions on Automatic Control</i> , 2013, 58, 1068-1073.	3.6	23
71	Models and Control of Fish-Like Locomotion. <i>Experimental Mechanics</i> , 2010, 50, 1355-1360.	1.1	22
72	Improving Separation Control with Noise-Robust Variants of Dynamic Mode Decomposition. , 2016, , .		22

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73	Vortex breakdown, linear global instability and sensitivity of pipe bifurcation flows. Journal of Fluid Mechanics, 2017, 815, 257-294.	1.4	22
74	Analysis of amplification mechanisms and cross-frequency interactions in nonlinear flows via the harmonic resolvent. Journal of Fluid Mechanics, 2020, 900, .	1.4	21
75	Low-Dimensional Models for Feedback Stabilization of Unstable Steady States. , 2008, , .		19
76	Modeling the Unsteady Aerodynamic Forces on Small-Scale Wings. , 2009, , .		19
77	Low-Dimensional State-Space Representations for Classical Unsteady Aerodynamic Models. , 2011, , .		19
78	A Data-Driven Modeling Framework for Predicting Forces and Pressures on a Rapidly Pitching Airfoil. , 2015, , .		19
79	Control of Forced and Self-Sustained Oscillations in the Flow Past a Cavity. , 2003, , .		18
80	Lift Enhancement for Low-Aspect-Ratio Wings with Periodic Excitation. AIAA Journal, 2010, 48, 1785-1790.	1.5	18
81	Plasma modelling results and shape control improvements for NSTX. Nuclear Fusion, 2011, 51, 113024.	1.6	18
82	Cavity Flow Control Simulations and Experiments. , 2005, , .		17
83	Reduced-order models for flow control: balanced models and Koopman modes. IUTAM Symposium on Cellular, Molecular and Tissue Mechanics, 2010, , 43-50.	0.1	17
84	Unsteady Aerodynamic Forces on Small-Scale Wings: Experiments, Simulations, and Models. , 2008, , .		15
85	Koopman spectral analysis of separated flow over a finite-thickness flat plate with elliptical leading edge. , 2011, , .		15
86	Connections between resonance and nonlinearity in swimming performance of a flexible heaving plate. Journal of Fluid Mechanics, 2020, 888, .	1.4	15
87	Control of a canonical separated flow. , 2013, , .		14
88	Recent Progress in Closed-Loop Control of Cavity Tones. , 2006, , .		13
89	Maximum power point tracking for photovoltaic optimization using extremum seeking. , 2009, , .		12
90	Simultaneous feedback control of plasma rotation and stored energy on NSTX-U using neoclassical toroidal viscosity and neutral beam injection. Physics of Plasmas, 2017, 24, 056101.	0.7	12

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91	Optimal back-extrapolation method for estimating plasma volume in humans using the indocyanine green dilution method. <i>Theoretical Biology and Medical Modelling</i> , 2014, 11, 33.	2.1	11
92	Unsteady Aerodynamic Models for Agile Flight at Low Reynolds Number. , 2010, , .		10
93	Overview of physics results from NSTX. <i>Nuclear Fusion</i> , 2011, 51, 094011.	1.6	10
94	Experimental Implementation of Modal Approaches for Autonomous Reattachment of Separated Flows. , 2018, , .		10
95	Correction: Modal Analysis of Fluid Flows: An Overview. <i>AIAA Journal</i> , 2020, 58, AU9-AU9.	1.5	9
96	Supersonic Cavity Response to Open-Loop Forcing. , 2007, , 230-243.		8
97	Closed-Loop Control of Leading Edge Vorticity on a 3D Wing: Simulations and Low-Dimensional Models. , 2008, , .		7
98	Feedback Control of Transitional Channel Flow using Balanced Proper Orthogonal Decomposition. , 2008, , .		7
99	Fluid flow control applications of $\infty^2$ optimal actuator and sensor placement. , 2014, , .		7
100	Reactive control of isolated unsteady streaks in a laminar boundary layer. <i>Journal of Fluid Mechanics</i> , 2016, 795, 808-846.	1.4	7
101	Template-Based Stabilization of Relative Equilibria in Systems with Continuous Symmetry. <i>Journal of Nonlinear Science</i> , 2007, 17, 109-143.	1.0	6
102	Lie-Poisson integrators: A Hamiltonian, variational approach. <i>International Journal for Numerical Methods in Engineering</i> , 2010, 82, 1609-1644.	1.5	6
103	Reduced-order model based feedback control of the modified Hasegawa-Wakatani model. <i>Physics of Plasmas</i> , 2013, 20, 042501.	0.7	6
104	MODEL REDUCTION FOR FLUIDS, USING BALANCED PROPER ORTHOGONAL DECOMPOSITION. <i>World Scientific Series on Nonlinear Science, Series B</i> , 2006, , 301-317.	0.2	6
105	Low-Dimensional Models of a Temporally Evolving Free Shear Layer. , 2006, , .		5
106	Identifying Dynamic Modes of Separated Flow Subject to ZNMF-Based Control from Surface Pressure Measurements. , 2017, , .		5
107	Analysis of the dynamics of subharmonic flow structures via the harmonic resolvent: Application to vortex pairing in an axisymmetric jet. <i>Physical Review Fluids</i> , 2022, 7, .	1.0	5
108	Integration of non-time-resolved PIV and time-resolved velocity point sensors for dynamic estimation of time-resolved velocity fields. , 2012, , .		4

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109	An efficient approximation of the Kalman filter for multiple systems coupled via low-dimensional stochastic input. <i>Automatica</i> , 2020, 117, 108972.	3.0	4
110	Feedback Control of High-Lift State for A Low-Aspect-Ratio Wing. , 2010, , .		3
111	Data-Driven Low-Dimensional Modeling and Uncertainty Quantification for Airfoil Icing. , 2015, , .		3
112	Reduced Order Estimation of the Speckle Electric Field History for Space-based Coronagraphs. <i>Astrophysical Journal</i> , 2019, 881, 126.	1.6	3
113	Lock-On to a High-Lift State with Oscillatory Forcing in a Three-Dimensional Wake Flow. Notes on Numerical Fluid Mechanics and Multidisciplinary Design, 2010, , 81-93.	0.2	3
114	Optimizing Oblique Projections for Nonlinear Systems using Trajectories. <i>SIAM Journal of Scientific Computing</i> , 2022, 44, A1681-A1702.	1.3	3
115	Reduced-order models of linearized channel flow using balanced truncation. , 2006, , .		2
116	Low-dimensional Linearized Models for Systems with Periodic Orbits, with Application to the Ginzburg-Landau Equation. , 2008, , .		2
117	An adaptive-covariance-rank algorithm for the unscented Kalman filter. , 2010, , .		2
118	Lift Enhancement of High Angle of Attack Airfoils Using Periodic Pitching. , 2016, , .		2
119	Excess dNTPs Trigger Oscillatory Surface Flow in the Early <i>Drosophila</i> Embryo. <i>Biophysical Journal</i> , 2020, 118, 2349-2353.	0.2	2
120	Template-based stabilization of relative equilibria. , 2006, , .		1
121	Linear Unsteady Aerodynamic Models from Wind Tunnel Measurements. , 2011, , .		1
122	Unsteady Aerodynamic Response Modeling: A Parameter-Varying Approach. , 2015, , .		1
123	Low-Order Models for Control of Fluids: Balanced Models and the Koopman Operator. , 2016, , 60-67.		1
124	Three-Dimensional Wake of a Biologically Inspired Propulsor. , 2009, , .		0
125	Reduced-order models of linearized channel flow using balanced truncation. , 2006, , .		0