

# Mario Castro

## List of Publications by Year in descending order

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99  
papers

2,641  
citations

218592

26  
h-index

214721

47  
g-index

106  
all docs

106  
docs citations

106  
times ranked

2113  
citing authors

#	ARTICLE	IF	CITATIONS
1	Nanopatterning of rotating highly oriented pyrolytic graphite (0001) surfaces by ion beam irradiation: Experiments and modeling. <i>Physical Review B</i> , 2022, 105, .	1.1	4
2	A set point in the selection of the $\hat{1}\hat{2}$ TCR T cell repertoire imposed by pre-TCR signaling strength. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2022, 119, .	3.3	5
3	Challenges and Opportunities in Dock-Based Bike-Sharing Rebalancing: A Systematic Review. <i>Sustainability</i> , 2021, 13, 1829.	1.6	14
4	Fusion and fission events regulate endosome maturation and viral escape. <i>Scientific Reports</i> , 2021, 11, 7845.	1.6	7
5	Affinity Selection in Germinal Centers: Cautionary Tales and New Opportunities. <i>Cells</i> , 2021, 10, 1040.	1.8	6
6	Scaling Up DNA Origami Lattice Assembly. <i>Chemistry - A European Journal</i> , 2021, 27, 8564-8571.	1.7	25
7	Frontispiece: Scaling Up DNA Origami Lattice Assembly. <i>Chemistry - A European Journal</i> , 2021, 27, .	1.7	0
8	Red Blood Cells in low Reynolds number flow: a vorticity-based characterization of shapes in two dimensions. <i>Soft Matter</i> , 2021, 17, 9587-9594.	1.2	2
9	The limitations, dangers, and benefits of simple methods for testing identifiability. <i>PLoS Computational Biology</i> , 2021, 17, e1009425.	1.5	0
10	The turning point and end of an expanding epidemic cannot be precisely forecast. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2020, 117, 26190-26196.	3.3	117
11	Self-assembly of highly ordered DNA origami lattices at solid-liquid interfaces by controlling cation binding and exchange. <i>Nano Research</i> , 2020, 13, 3142-3150.	5.8	26
12	On Exact and Approximate Approaches for Stochastic Receptor-Ligand Competition Dynamicsâ€”An Ecological Perspective. <i>Mathematics</i> , 2020, 8, 1014.	1.1	0
13	Testing structural identifiability by a simple scaling method. <i>PLoS Computational Biology</i> , 2020, 16, e1008248.	1.5	31
14	$\text{CCR}5$ deficiency impairs $\text{CD}4^+$ T cell memory responses and antigenic sensitivity through increased ceramide synthesis. <i>EMBO Journal</i> , 2020, 39, e104749.	3.5	17
15	Testing structural identifiability by a simple scaling method. , 2020, 16, e1008248.		0
16	Testing structural identifiability by a simple scaling method. , 2020, 16, e1008248.		0
17	Testing structural identifiability by a simple scaling method. , 2020, 16, e1008248.		0
18	Testing structural identifiability by a simple scaling method. , 2020, 16, e1008248.		0

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19	IL7 receptor signaling in T cells: A mathematical modeling perspective. Wiley Interdisciplinary Reviews: Systems Biology and Medicine, 2019, 11, e1447.	6.6	6
20	Fate of a Naive T Cell: A Stochastic Journey. Frontiers in Immunology, 2019, 10, 194.	2.2	7
21	Stress-driven nonlinear dynamics of ion-induced surface nanopatterns. Physical Review B, 2019, 100, .	1.1	21
22	Front Microrheology of Biological Fluids. Journal of Physics: Conference Series, 2018, 1043, 012058.	0.3	2
23	Special issue on surfaces patterned by ion sputtering. Journal of Physics Condensed Matter, 2018, 30, 450301.	0.7	1
24	First passage events in biological systems with non-exponential inter-event times. Scientific Reports, 2018, 8, 15054.	1.6	14
25	Noise Is Not Error: Detecting Parametric Heterogeneity Between Epidemiologic Time Series. Frontiers in Microbiology, 2018, 9, 1529.	1.5	1
26	A window of opportunity for cooperativity in the T Cell Receptor. Nature Communications, 2018, 9, 2618.	5.8	27
27	Concurrent segregation and erosion effects in medium-energy iron beam patterning of silicon surfaces. Journal of Physics Condensed Matter, 2018, 30, 274001.	0.7	7
28	A unifying mathematical framework for experimental TCR-pMHC kinetic constants. Scientific Reports, 2017, 7, 46741.	1.6	24
29	Front microrheology of the non-Newtonian behaviour of blood: scaling theory of erythrocyte aggregation by aging. Soft Matter, 2017, 13, 3042-3047.	1.2	12
30	The T Cells in an Ageing Virtual Mouse. , 2017, , 127-140.		5
31	Performance evaluation of bluetooth low energy in indoor positioning systems. Transactions on Emerging Telecommunications Technologies, 2017, 28, e2864.	2.6	32
32	Mathematics in modern immunology. Interface Focus, 2016, 6, 20150093.	1.5	29
33	On the origin of multiscaling in stochastic-field models of surface growth. European Physical Journal B, 2016, 89, 1.	0.6	2
34	Symmetry of surface nanopatterns induced by ion-beam sputtering: Role of anisotropic surface diffusion. Physical Review B, 2016, 93, .	1.1	9
35	Temporal biological variability in dendritic cells and regulatory T cells in peripheral blood of healthy adults. Journal of Immunological Methods, 2016, 431, 63-65.	0.6	5
36	Nonuniversality due to inhomogeneous stress in semiconductor surface nanopatterning by low-energy ion-beam irradiation. Physical Review B, 2015, 91, .	1.1	44

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37	Ion damage overrides structural disorder in silicon surface nanopatterning by low-energy ion beam sputtering. <i>Europhysics Letters</i> , 2015, 109, 48003.	0.7	13
38	Stress vs sputtering effects in the propagation of surface ripples produced by ion-beam sputtering. <i>Nuclear Instruments &amp; Methods in Physics Research B</i> , 2015, 365, 13-16.	0.6	7
39	Experimental assessment of the adequacy of Bluetooth for opportunistic networks. <i>Ad Hoc Networks</i> , 2015, 25, 444-453.	3.4	9
40	Stabilizing interplay between thermodiffusion and viscoelasticity in a closed-loop thermosyphon. <i>Discrete and Continuous Dynamical Systems - Series B</i> , 2015, 20, 3267-3299.	0.5	3
41	Receptor Pre-Clustering and T cell Responses: Insights into Molecular Mechanisms. <i>Frontiers in Immunology</i> , 2014, 5, 132.	2.2	25
42	Pattern-Wavelength Coarsening from Topological Dynamics in Silicon Nanofoams. <i>Physical Review Letters</i> , 2014, 112, 094103.	2.9	18
43	Modulation of HCV replication after combination antiretroviral therapy in HCV/HIV co-infected patients. <i>Science Translational Medicine</i> , 2014, 6, 246ra98.	5.8	19
44	Elastic properties of natural single nanofibres. <i>RSC Advances</i> , 2014, 4, 11225.	1.7	10
45	Cognate Peptide-MHC Complexes Are Expressed as Tightly Apposed Nanoclusters in Virus-Infected Cells To Allow TCR Crosslinking. <i>Journal of Immunology</i> , 2014, 192, 52-58.	0.4	22
46	Self-organized nanopatterning of silicon surfaces by ion beam sputtering. <i>Materials Science and Engineering Reports</i> , 2014, 86, 1-44.	14.8	142
47	Energy dependence of the ripple wavelength for ion-beam sputtering of silicon: Experiments and theory. , 2013, , .		1
48	Asymptotic Behavior of a Viscoelastic Fluid in a Closed Loop Thermosyphon: Physical Derivation, Asymptotic Analysis, and Numerical Experiments. <i>Abstract and Applied Analysis</i> , 2013, 2013, 1-20.	0.3	4
49	Comment on "Effects of Particle Shape on Growth Dynamics at Edges of Evaporating Drops of Colloidal Suspensions". <i>Physical Review Letters</i> , 2013, 111, 209601.	2.9	19
50	Dimensional fragility of the Kardar-Parisi-Zhang universality class. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2013, 2013, P11001.	0.9	8
51	A stochastic T cell response criterion. <i>Journal of the Royal Society Interface</i> , 2012, 9, 2856-2870.	1.5	26
52	Independence of interrupted coarsening on initial system order: ion-beam nanopatterning of amorphous versus crystalline silicon targets. <i>Journal of Physics Condensed Matter</i> , 2012, 24, 375302.	0.7	22
53	Hydrodynamic approach to surface pattern formation by ion beams. <i>Applied Surface Science</i> , 2012, 258, 4171-4178.	3.1	102
54	Universality of cauliflower-like fronts: from nanoscale thin films to macroscopic plants. <i>New Journal of Physics</i> , 2012, 14, 103039.	1.2	33

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55	Stress-induced solid flow drives surface nanopatterning of silicon by ion-beam irradiation. Physical Review B, 2012, 86, .	1.1	92
56	Controlling Viscoelastic Flow in Microchannels with Slip. Langmuir, 2011, 27, 2075-2079.	1.6	19
57	Tumor Angiogenesis and Vascular Patterning: A Mathematical Model. PLoS ONE, 2011, 6, e19989.	1.1	104
58	Dynamical renormalization group study for a class of non-local interface equations. Journal of Statistical Mechanics: Theory and Experiment, 2011, 2011, P10030.	0.9	5
59	Adaptive Polling Enhances Quality and Energy Saving for Multimedia over Bluetooth. IEEE Communications Letters, 2011, 15, 521-523.	2.5	5
60	Impact of polling on bluetooth piconet performance. , 2011, 49, 84-89.		4
61	Nanoscale pattern formation at surfaces under ion-beam sputtering: A perspective from continuum models. Nuclear Instruments & Methods in Physics Research B, 2011, 269, 894-900.	0.6	49
62	The phase-field model in tumor growth. Philosophical Magazine, 2011, 91, 183-206.	0.7	25
63	IDSAl: A Distributed System for Intrusion Detection Based on Intelligent Agents. , 2010, , .		6
64	Kinetic roughening in a realistic model of non-conserved interface growth. Journal of Statistical Mechanics: Theory and Experiment, 2009, 2009, P02036.	0.9	15
65	Single-phase-field model of stepped surfaces. Physical Review E, 2009, 79, 021601.	0.8	2
66	Surface effects in atomistic mechanical simulations of Al nanocrystals. Physical Review B, 2009, 80, .	1.1	19
67	Unstable Nonlocal Interface Dynamics. Physical Review Letters, 2009, 102, 256102.	2.9	31
68	Coupling of morphology to surface transport in ion-beam-irradiated surfaces: normal incidence and rotating targets. Journal of Physics Condensed Matter, 2009, 21, 224020.	0.7	32
69	Self-Organized Surface Nanopatterning by Ion Beam Sputtering. , 2009, , 323-398.		46
70	Toward Functional Nanomaterials. , 2009, , .		19
71	Surface nanopatterns induced by ion-beam sputtering. Journal of Physics Condensed Matter, 2009, 21, 220301.	0.7	28
72	Unified moving-boundary model with fluctuations for unstable diffusive growth. Physical Review E, 2008, 78, 021601.	0.8	21

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73	Coupling of morphology to surface transport in ion-beam irradiated surfaces: Oblique incidence. <i>Physical Review B</i> , 2008, 78, .	1.1	74
74	Dynamic Characterization of Permeabilities and Flows in Microchannels. <i>Physical Review Letters</i> , 2008, 101, 224501.	2.9	16
75	Numerical Experiments on Noisy Chains: From Collective Transitions to Nucleation-Diffusion. <i>SIAM Journal on Applied Dynamical Systems</i> , 2008, 7, 207-219.	0.7	8
76	Pseudospectral versus finite-difference schemes in the numerical integration of stochastic models of surface growth. <i>Physical Review E</i> , 2007, 76, 051121.	0.8	25
77	Interplay between Morphology and Surface Transport in Nanopatterns Produced by Ion-Beam Sputtering. <i>Materials Research Society Symposia Proceedings</i> , 2007, 1059, 1.	0.1	2
78	Generic equations for pattern formation in evolving interfaces. <i>New Journal of Physics</i> , 2007, 9, 102-102.	1.2	18
79	Universal non-equilibrium phenomena at submicrometric surfaces and interfaces. <i>European Physical Journal: Special Topics</i> , 2007, 146, 427-441.	1.2	28
80	Nonlinear Ripple Dynamics on Amorphous Surfaces Patterned by Ion Beam Sputtering. <i>Physical Review Letters</i> , 2006, 96, 086101.	2.9	140
81	Order enhancement and coarsening of self-organized silicon nanodot patterns induced by ion-beam sputtering. <i>Applied Physics Letters</i> , 2006, 89, 233101.	1.5	53
82	Hidden structure in the randomness of the prime number sequence?. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2006, 360, 285-296.	1.2	15
83	Short-range stationary patterns and long-range disorder in an evolution equation for one-dimensional interfaces. <i>Physical Review E</i> , 2006, 74, 050103.	0.8	36
84	Intrinsic anomalous surface roughening of TiN films deposited by reactive sputtering. <i>Physical Review B</i> , 2006, 73, .	1.1	54
85	Effects of reduced dimensionality in the relaxation dynamics of ionic conductors. <i>Europhysics Letters</i> , 2005, 69, 770-776.	0.7	4
86	Scaling of Local Slopes, Conservation Laws, and Anomalous Roughening in Surface Growth. <i>Physical Review Letters</i> , 2005, 94, 166103.	2.9	85
87	Tumor growth instability and the onset of invasion. <i>Physical Review E</i> , 2005, 72, 041907.	0.8	22
88	Self-Organized Ordering of Nanostructures Produced by Ion-Beam Sputtering. <i>Physical Review Letters</i> , 2005, 94, 016102.	2.9	212
89	Comment on "Kinetic Roughening of Ion-Sputtered Pd(001) Surface: Beyond the Kuramoto-Sivashinsky Model". <i>Physical Review Letters</i> , 2005, 94, 139601; author reply 139602.	2.9	22
90	Growth dynamics of reactive-sputtering-deposited AlN films. <i>Journal of Applied Physics</i> , 2005, 97, 123528.	1.1	35

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91	Phase-field approach to heterogeneous nucleation. Physical Review B, 2003, 67, .	1.1	76
92	Possible origin for the experimental scarcity of KPZ scaling in non-conserved surface growth. Physica A: Statistical Mechanics and Its Applications, 2002, 314, 192-199.	1.2	9
93	Transients due to Instabilities Hinder Kardar-Parisi-Zhang Scaling: A Unified Derivation for Surface Growth by Electrochemical and Chemical Vapor Deposition. Physical Review Letters, 2001, 87, 236103.	2.9	33
94	Structural improvement of SiGe films by C and F implantation and solid phase crystallization. Thin Solid Films, 2001, 383, 113-116.	0.8	6
95	Lattice model for kinetics and grain-size distribution in crystallization. Physical Review B, 2000, 61, 6579-6586.	1.1	17
96	Multiparticle biased diffusion-limited aggregation with surface diffusion: A comprehensive model of electrodeposition. Physical Review E, 2000, 62, 161-173.	0.8	42
97	Model for crystallization kinetics: Deviations from Kolmogorovâ€“Johnsonâ€“Mehlâ€“Avrami kinetics. Applied Physics Letters, 1999, 75, 2205-2207.	1.5	42
98	Anomalous scaling in a nonlocal growth model in the Kardar-Parisi-Zhang universality class. Physical Review E, 1998, 57, R2491-R2494.	0.8	43
99	Electric field effects in Fibonacci superlattices. Physics Letters, Section A: General, Atomic and Solid State Physics, 1997, 225, 321-325.	0.9	12