

# Mathieu Coppey

## List of Publications by Year in descending order

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55  
papers

3,270  
citations

186265

28  
h-index

161849

54  
g-index

72  
all docs

72  
docs citations

72  
times ranked

4145  
citing authors

#	ARTICLE	IF	CITATIONS
1	Actin Flows Mediate a Universal Coupling between Cell Speed and Cell Persistence. <i>Cell</i> , 2015, 161, 374-386.	28.9	369
2	Optimal Search Strategies for Hidden Targets. <i>Physical Review Letters</i> , 2005, 94, 198101.	7.8	270
3	Magneto-fluorescent core-shell supernanoparticles. <i>Nature Communications</i> , 2014, 5, 5093.	12.8	223
4	Kinetics of Target Site Localization of a Protein on DNA: A Stochastic Approach. <i>Biophysical Journal</i> , 2004, 87, 1640-1649.	0.5	204
5	Live Imaging of Bicoid-Dependent Transcription in <i>Drosophila</i> Embryos. <i>Current Biology</i> , 2013, 23, 2135-2139.	3.9	159
6	Modelling the Bicoid gradient. <i>Development (Cambridge)</i> , 2010, 137, 2253-2264.	2.5	139
7	Subcellular control of Rac-GTPase signalling by magnetogenetic manipulation inside living cells. <i>Nature Nanotechnology</i> , 2013, 8, 193-198.	31.5	132
8	Non-specific interactions govern cytosolic diffusion of nanosized objects in mammalian cells. <i>Nature Materials</i> , 2018, 17, 740-746.	27.5	119
9	Zwitterionic polymer ligands: an ideal surface coating to totally suppress protein-nanoparticle corona formation?. <i>Biomaterials</i> , 2019, 219, 119357.	11.4	110
10	Nuclear Trapping Shapes the Terminal Gradient in the <i>Drosophila</i> Embryo. <i>Current Biology</i> , 2008, 18, 915-919.	3.9	92
11	Modeling the bicoid gradient: Diffusion and reversible nuclear trapping of a stable protein. <i>Developmental Biology</i> , 2007, 312, 623-630.	2.0	81
12	MAPK Substrate Competition Integrates Patterning Signals in the <i>Drosophila</i> Embryo. <i>Current Biology</i> , 2010, 20, 446-451.	3.9	80
13	Gradients of Rac1 Nanoclusters Support Spatial Patterns of Rac1 Signaling. <i>Cell Reports</i> , 2017, 21, 1922-1935.	6.4	74
14	Magnetogenetic Control of Protein Gradients Inside Living Cells with High Spatial and Temporal Resolution. <i>Nano Letters</i> , 2015, 15, 3487-3494.	9.1	68
15	Averaged residence times of stochastic motions in bounded domains. <i>Europhysics Letters</i> , 2005, 70, 42-48.	2.0	66
16	Optogenetic dissection of Rac1 and Cdc42 gradient shaping. <i>Nature Communications</i> , 2018, 9, 4816.	12.8	64
17	Transcriptional Memory in the <i>Drosophila</i> Embryo. <i>Current Biology</i> , 2016, 26, 212-218.	3.9	63
18	Magnetic control of cellular processes using biofunctional nanoparticles. <i>Chemical Science</i> , 2017, 8, 7330-7338.	7.4	60

#	ARTICLE	IF	CITATIONS
19	Predictive Spatiotemporal Manipulation of Signaling Perturbations Using Optogenetics. <i>Biophysical Journal</i> , 2015, 109, 1785-1797.	0.5	57
20	Trapping reactions with randomly moving traps: Exact asymptotic results for compact exploration. <i>Physical Review E</i> , 2002, 66, 060101.	2.1	56
21	Intermittent search strategies: When losing time becomes efficient. <i>Europhysics Letters</i> , 2006, 75, 349-354.	2.0	56
22	Stick-slip dynamics of cell adhesion triggers spontaneous symmetry breaking and directional migration of mesenchymal cells on one-dimensional lines. <i>Science Advances</i> , 2020, 6, eaau5670.	10.3	56
23	Pascal principle for diffusion-controlled trapping reactions. <i>Physical Review E</i> , 2003, 67, 045104.	2.1	54
24	Precision of Readout at the hunchback Gene: Analyzing Short Transcription Time Traces in Living Fly Embryos. <i>PLoS Computational Biology</i> , 2016, 12, e1005256.	3.2	48
25	Lattice theory of trapping reactions with mobile species. <i>Physical Review E</i> , 2004, 69, 046101.	2.1	42
26	Engineered Ferritin for Magnetogenetic Manipulation of Proteins and Organelles Inside Living Cells. <i>Advanced Materials</i> , 2017, 29, 1700189.	21.0	42
27	A stochastic model for intermittent search strategies. <i>Journal of Physics Condensed Matter</i> , 2005, 17, S4275-S4286.	1.8	40
28	Transient Activations of Rac1 at the Lamellipodium Tip Trigger Membrane Protrusion. <i>Current Biology</i> , 2019, 29, 2852-2866.e5.	3.9	38
29	3 minutes to precisely measure morphogen concentration. <i>PLoS Genetics</i> , 2018, 14, e1007676.	3.5	35
30	Precision in a rush: Trade-offs between reproducibility and steepness of the hunchback expression pattern. <i>PLoS Computational Biology</i> , 2018, 14, e1006513.	3.2	32
31	New methods to image transcription in living fly embryos: the insights so far, and the prospects. <i>Wiley Interdisciplinary Reviews: Developmental Biology</i> , 2016, 5, 296-310.	5.9	27
32	RalB directly triggers invasion downstream Ras by mobilizing the Wave complex. <i>ELife</i> , 2018, 7, .	6.0	27
33	Time and Length Scales of Autocrine Signals in Three Dimensions. <i>Biophysical Journal</i> , 2007, 93, 1917-1922.	0.5	26
34	Dynamics of maternal morphogen gradients in <i>Drosophila</i> . <i>Current Opinion in Genetics and Development</i> , 2008, 18, 342-347.	3.3	25
35	Kinetics of diffusion-limited catalytically activated reactions: An extension of the Wilemskiâ€Fixman approach. <i>Journal of Chemical Physics</i> , 2005, 123, 194506.	3.0	24
36	Signaling gradients in cascades of two-state reaction-diffusion systems. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2009, 106, 1087-1092.	7.1	23

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37	Perspectives of RAS and RHEB GTPase Signaling Pathways in Regenerating Brain Neurons. <i>International Journal of Molecular Sciences</i> , 2018, 19, 4052.	4.1	23
38	Modelling the early steps of transduction in insect olfactory receptor neurons. <i>BioSystems</i> , 2007, 89, 101-109.	2.0	20
39	Intracellular organization in cell polarity – placing organelles into the polarity loop. <i>Journal of Cell Science</i> , 2019, 132, .	2.0	18
40	Optical Magnetometry of Single Biocompatible Micromagnets for Quantitative Magnetogenetic and Magnetomechanical Assays. <i>Nano Letters</i> , 2018, 18, 7635-7641.	9.1	17
41	MAPK signaling in equine and embryos. <i>Fly</i> , 2009, 3, 62-67.	1.7	13
42	Parallelized Manipulation of Adherent Living Cells by Magnetic Nanoparticles-Mediated Forces. <i>International Journal of Molecular Sciences</i> , 2020, 21, 6560.	4.1	13
43	A stochastic theory for the intermittent behaviour of foraging animals. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2005, 356, 151-156.	2.6	12
44	Catalytic reactions with bulk-mediated excursions: Mixing fails to restore chemical equilibrium. <i>Physical Review E</i> , 2004, 69, 036115.	2.1	11
45	Mean joint residence time of two Brownian particles in a sphere. <i>Journal of Physics A</i> , 2005, 38, 7205-7214.	1.6	10
46	Stochastic theory of diffusion-controlled reactions. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2003, 327, 99-104.	2.6	7
47	Live Imaging of mRNA Transcription in Drosophila Embryos. <i>Methods in Molecular Biology</i> , 2018, 1863, 165-182.	0.9	5
48	Persistent cell migration emerges from a coupling between protrusion dynamics and polarized trafficking. <i>ELife</i> , 2022, 11, .	6.0	5
49	LiveFly: A Toolbox for the Analysis of Transcription Dynamics in Live Drosophila Embryos. <i>Methods in Molecular Biology</i> , 2018, 1863, 183-195.	0.9	4
50	Localization of RalB signaling at endomembrane compartments and its modulation by autophagy. <i>Scientific Reports</i> , 2019, 9, 8910.	3.3	4
51	Cell-to-cell communication: Time and length scales of ligand internalization in cultures of suspended cells. <i>Journal of Chemical Physics</i> , 2008, 128, 225102.	3.0	3
52	Two timescales control the creation of large protein aggregates in cells. <i>Biophysical Journal</i> , 2021, 120, 2394-2399.	0.5	2
53	Autophagy Is Polarized toward Cell Front during Migration and Spatially Perturbed by Oncogenic Ras. <i>Cells</i> , 2021, 10, 2637.	4.1	2
54	Magnetic Manipulation of Signaling – Hotspots – Inside Living Cells Shows Context-Dependent Amplification of the Rac Pathway. <i>Biophysical Journal</i> , 2012, 102, 475a.	0.5	0

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55	Redox-Triggered Control of Cell Adhesion and Deadhesion on Poly(lysine)-g-poly(ethylene oxide) Adlayers. <i>ACS Applied Bio Materials</i> , 2019, 2, 4367-4376.	4.6	0