Philippe LaurenÃ§ot

List of Publications by Year
in descending order

135	2,463	218677	265206
papers	citations	26 h-index	42 g-index

137	137	137	691
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Numerical Simulation of the Smoluchowski Coagulation Equation. SIAM Journal of Scientific Computing, 2004, 25, 2004-2028.	2.8	145
2	Critical mass for a Patlakâ€“Kellerâ€“Segel model with degenerate diffusion in higher dimensions. Calculus of Variations and Partial Differential Equations, 2009, 35, 133-168.	1.7	138
3	The 8Ï€-problem for radially symmetric solutions of a chemotaxis model in the plane. Mathematical Methods in the Applied Sciences, 2006, 29, 1563-1583.	2.3	97
4	Finite time blow-up for a one-dimensional quasilinear parabolicâ€“parabolic chemotaxis system. Annales De L'Institut Henri Poincare (C) Analyse Non Lineaire, 2010, 27, 437-446.	1.4	83
5	Gelation and mass conservation in coagulation-fragmentation models. Journal of Differential Equations, 2003, 195, 143-174.	2.2	74
6	The Continuous Coagulation-FragmentationÂ¶Equations with Diffusion. Archive for Rational Mechanics and Analysis, 2002, 162, 45-99.	2.4	73
7	Existence of Self-Similar Solutions to Smoluchowskiâ€™s Coagulation Equation. Communications in Mathematical Physics, 2005, 256, 589-609.	2.2	71
8	On a Class of Continuous Coagulation-Fragmentation Equations. Journal of Differential Equations, 2000, 167, 245-274.	2.2	61
9	Chapmanâ€“Enskog derivation of the generalized Smoluchowski equation. Physica A: Statistical Mechanics and Its Applications, 2004, 341, 145-164.	2.6	60
10	From the discrete to the continuous coagulationâ€“fragmentation equations. Proceedings of the Royal Society of Edinburgh Section A: Mathematics, 2002, 132, 1219-1248.	1.2	59
11	On convergence to equilibria for the Kellerâ€“Segel chemotaxis model. Journal of Differential Equations, 2007, 236, 551-569.	2.2	57
12	Global solutions to viscous hamilton-jacob1 equations with irregular initial data. Communications in Partial Differential Equations, 1999, 24, 1999-2021.	2.2	54
13	Well-posedness of Smoluchowski's coagulation equation for a class of homogeneous kernels. Journal of Functional Analysis, 2006, 233, 351-379.	1.4	44
14	On coalescence equations and related models. Modeling and Simulation in Science, Engineering and Technology, 2004, , 321-356.	0.6	44
15	The Parabolic-Parabolic Keller-Segel System with Critical Diffusion as a Gradient Flow in â„^d,dÂá¥Â3. Communications in Partial Differential Equations, 2013, 38, 658-686.	2.2	39
16	Exponential decay for the growth-fragmentation/cell-division equations. Communications in Mathematical Sciences, 2009, 7, 503-510.	1.0	37
17	Asymptotic profiles of solutions to viscous Hamiltonâ€“Jacobi equations. Journal Des Mathematiques Pures Et Appliquees, 2004, 83, 1275-1308.	1.6	36
18	A gradient flow approach to a thin film approximation of the Muskat problem. Calculus of Variations and Partial Differential Equations, 2013, 47, 319-341.	1.7	36

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19	A hybrid variational principle for the Kellerâ€“Segel system in â„². ESAIM: Mathematical Modelling and Numerical Analysis, 2015, 49, 1553-1576.	1.9	33
20	Finite time blowup for the parabolicâ€“parabolic Kellerâ€“Segel system with critical diffusion. Annales De L'Institut Henri Poincare (C) Analyse Non Lineaire, 2017, 34, 197-220.	1.4	32
21	On the Oort--Hulst--Safronov Coagulation Equation and Its Relation to the Smoluchowski Equation. SIAM Journal on Mathematical Analysis, 2003, 34, 1399-1421.	1.9	30
22	A stationary free boundary problem modeling electrostatic MEMS. Archive for Rational Mechanics and Analysis, 2013, 207, 139-158.	2.4	30
23	A Parabolic Free Boundary Problem Modeling Electrostatic MEMS. Archive for Rational Mechanics and Analysis, 2014, 211, 389-417.	2.4	30
24	Delayed blowâ€up for chemotaxis models with local sensing. Journal of the London Mathematical Society, 2021, 103, 1596-1617.	1.0	30
25	Finite time blow-up for radially symmetric solutions to a critical quasilinear Smoluchowskiâ€“Poisson system. Comptes Rendus Mathematique, 2009, 347, 237-242.	0.3	28
26	THE DISCRETE COAGULATION EQUATIONS WITH MULTIPLE FRAGMENTATION. Proceedings of the Edinburgh Mathematical Society, 2002, 45, 67-82.	0.3	27
27	Global existence of a strong solution to the one-dimensional full model for irreversible phase transitions. Journal of Mathematical Analysis and Applications, 2002, 271, 426-442.	1.0	27
28	Well-posedness for a model of prion proliferation dynamics. Journal of Evolution Equations, 2007, 7, 241-264.	1.1	27
29	Fermiâ€“Diracâ€“Fokkerâ€“Planck equation: Well-posedness & long-time asymptotics. Journal of Differential Equations, 2009, 247, 2209-2234.	2.2	27
30	Some singular equations modeling MEMS. Bulletin of the American Mathematical Society, 2016, 54, 437-479.	1.5	26
31	On the growth of mass for a viscous Hamilton-Jacobi equation. Journal D'Analyse Mathematique, 2003, 89, 367-383.	0.8	25
32	THE LIFSHITZâ€“SLYOZOV EQUATION WITH ENCOUNTERS. Mathematical Models and Methods in Applied Sciences, 2001, 11, 731-748.	3.3	24
33	Local properties of self-similar solutions to Smoluchowskiâ€™s coagulation equation with sum kernels. Proceedings of the Royal Society of Edinburgh Section A: Mathematics, 2006, 136, 485-508.	1.2	24
34	Global existence and uniform boundedness in a chemotaxis model with signal-dependent motility. Journal of Differential Equations, 2021, 299, 513-541.	2.2	24
35	Gradient estimates for a degenerate parabolic equation with gradient absorption and applications. Journal of Functional Analysis, 2008, 254, 851-878.	1.4	23
36	Weak solutions to the continuous coagulation equation with multiple fragmentation. Nonlinear Analysis: Theory, Methods & Applications, 2012, 75, 2199-2208.	1.1	22

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37	Mass-conserving solutions and non-conservative approximation to the Smoluchowski coagulation equation. Archiv Der Mathematik, 2004, 83, 558-567.	0.5	21
38	Extinction and decay estimates for viscous Hamilton-Jacobi equations in ${mathbb {R}}^N$. Proceedings of the American Mathematical Society, 2001, 130, 1103-1111.	0.8	20
39	Existence and stability of weak solutions for a degenerate parabolic system modelling two-phase flows in porous media. Annales De L'Institut Henri Poincare (C) Analyse Non Lineaire, 2011, 28, 583-598.	1.4	20
40	Positivity, decay, and extinction for a singular diffusion equation with gradient absorption. Journal of Functional Analysis, 2012, 262, 3186-3239.	1.4	19
41	Blowup of solutions to a diffusive aggregation model. Nonlinearity, 2009, 22, 1559-1568.	1.4	18
42	Convergence to equilibrium for the continuous coagulation-fragmentation equation. Bulletin Des Sciences Mathematiques, 2003, 127, 179-190.	1.0	17
43	Non-isothermal Smoluchowskiâ€“Poisson equations as a singular limit of the Navierâ€“Stokesâ€“Fourierâ€“Poisson system. Journal Des Mathematiques Pures Et Appliquees, 2007, 88, 325-349.	1.6	17
44	Localized Non-diffusive Asymptotic Patterns for Nonlinear Parabolic Equations with Gradient Absorption. Journal of Dynamics and Differential Equations, 2007, 19, 985-1005.	1.9	17
45	A free boundary problem modeling electrostatic MEMS: I. Linear bending effects. Mathematische Annalen, 2014, 360, 307-349.	1.4	17
46	A free boundary problem modeling electrostatic MEMS: II. Nonlinear bending effects. Mathematical Models and Methods in Applied Sciences, 2014, 24, 2549-2568.	3.3	16
47	Asymptotic behavior for a viscous Hamilton-Jacobi equation with critical exponent. Indiana University Mathematics Journal, 2007, 56, 459-480.	0.9	16
48	From the discrete to the continuous coagulationâ€“fragmentation equations. Proceedings of the Royal Society of Edinburgh Section A: Mathematics, 2002, 132, 1219-1248.	1.2	15
49	Self-similar solutions to a coagulation equation with multiplicative kernel. Physica D: Nonlinear Phenomena, 2006, 222, 80-87.	2.8	15
50	Marcusâ€“Lushnikov processes, Smoluchowskiâ€™s and Floryâ€™s models. Stochastic Processes and Their Applications, 2009, 119, 167-189.	0.9	15
51	Self-similar solutions with fat tails for a coagulation equation with nonlocal drift. Comptes Rendus Mathematique, 2009, 347, 909-914.	0.3	15
52	Dynamics of a free boundary problem with curvature modeling electrostatic MEMS. Transactions of the American Mathematical Society, 2014, 367, 5693-5719.	0.9	15
53	Thin film equations with soluble surfactant and gravity: Modeling and stability of steady states. Mathematische Nachrichten, 2012, 285, 210-222.	0.8	14
54	Weak Compactness Techniques and Coagulation Equations. Lecture Notes in Mathematics, 2015, , 199-253.	0.2	14

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55	Global existence, uniform boundedness, and stabilization in a chemotaxis system with density-suppressed motility and nutrient consumption. Communications in Partial Differential Equations, 2022, 47, 1024-1069.	2.2	14
56	Liapunov Functionals for Smoluchowskiâ€™s Coagulation Equation and Convergence to Self-Similarity. Monatshefte Fur Mathematik, 2005, 146, 127-142.	0.9	13
57	Self-Similar Solutions To The Oortâ€“Hulstâ€“Safronov Coagulation Equation. SIAM Journal on Mathematical Analysis, 2007, 39, 345-378.	1.9	13
58	Finite time singularity in a free boundary problem modeling MEMS. Comptes Rendus Mathematique, 2013, 351, 807-812.	0.3	13
59	Blow-up behavior of solutions to a degenerate parabolicâ€“parabolic Kellerâ€“Segel system. Mathematische Annalen, 2017, 367, 461-499.	1.4	13
60	Very singular solutions to a nonlinear parabolic equation with absorption. I. Existence. Proceedings of the Royal Society of Edinburgh Section A: Mathematics, 2001, 131, 27-44.	1.2	12
61	Convergence to self-similar solutions for a coagulation equation. Zeitschrift Fur Angewandte Mathematik Und Physik, 2005, 56, 398-411.	1.4	12
62	Existence and uniqueness of very singular solutions for a fast diffusion equation with gradient absorption. Journal of the London Mathematical Society, 2013, 87, 509-529.	1.0	12
63	Self-Similarity in a Thin Film Muskat Problem. SIAM Journal on Mathematical Analysis, 2017, 49, 2790-2842.	1.9	12
64	Very singular solutions to a nonlinear parabolic equation with absorption II. Uniqueness. Proceedings of the Royal Society of Edinburgh Section A: Mathematics, 2004, 134, 39-54.	1.2	11
65	A Phase-Field Approximation of the Willmore Flow with Volume and Area Constraints. SIAM Journal on Mathematical Analysis, 2012, 44, 3734-3754.	1.9	11
66	Convergence to Separate Variables Solutions for a Degenerate Parabolic Equation with Gradient Source. Journal of Dynamics and Differential Equations, 2012, 24, 29-49.	1.9	11
67	A thin film approximation of the Muskat problem with gravity and capillary forces. Journal of the Mathematical Society of Japan, 2014, 66, .	0.4	11
68	Well-Posedness and Convergence to the Steady State for a Model of Morphogen Transport. SIAM Journal on Mathematical Analysis, 2009, 40, 1725-1749.	1.9	10
69	A fourth-order model for MEMS with clamped boundary conditions. Proceedings of the London Mathematical Society, 2014, 109, 1435-1464.	1.3	10
70	Convergence to steady states for a one-dimensional viscous Hamiltonâ€“Jacobi equation with Dirichlet boundary conditions. Pacific Journal of Mathematics, 2007, 230, 347-364.	0.5	10
71	Looking for critical nonlinearity in the one-dimensional quasilinear Smoluchowski-Poisson system. Discrete and Continuous Dynamical Systems, 2010, 26, 417-430.	0.9	10
72	Non-Diffusive Large Time Behavior for a Degenerate Viscous Hamiltonâ€“Jacobi Equation. Communications in Partial Differential Equations, 2009, 34, 281-304.	2.2	9

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73	Global weak solutions for a degenerate parabolic system modeling the spreading of insoluble surfactant. Indiana University Mathematics Journal, 2011, 60, 1975-2020.	0.9	9
74	Eternal solutions to a singular diffusion equation with critical gradient absorption. Nonlinearity, 2013, 26, 3169-3195.	1.4	9
75	Sign-preserving property for some fourth-order elliptic operators in one dimension or in radial symmetry. Journal D'Analyse Mathematique, 2015, 127, 69-89.	0.8	9
76	Mass-conserving solutions to the Smoluchowski coagulation equation with singular kernel. Proceedings of the Royal Society of Edinburgh Section A: Mathematics, 2020, 150, 1805-1825.	1.2	9
77	Convergence to steady states for radially symmetric solutions to a quasilinear degenerate diffusive Hamiltonâ€“Jacobi equation. Asymptotic Analysis, 2010, 67, 229-250.	0.5	8
78	Asymptotic behaviour of a nonlinear parabolic equation with gradient absorption and critical exponent. Interfaces and Free Boundaries, 2011, 13, 271-295.	0.8	8
79	A phase-field approximation of the Willmore flow with volume constraint. Interfaces and Free Boundaries, 2011, 13, 341-351.	0.8	8
80	Concentration phenomena in a diffusive aggregation model. Journal of Differential Equations, 2021, 271, 1092-1108.	2.2	8
81	Finite mass self-similar blowing-up solutions of a chemotaxis system with non-linear diffusion. Communications on Pure and Applied Analysis, 2012, 11, 47-60.	0.8	8
82	Proteus mirabilis swarm-colony development with drift. Journal Des Mathematiques Pures Et Appliquees, 2009, 92, 476-498.	1.6	7
83	Global existence for a hydrogen storage model with full energy balance. Nonlinear Analysis: Theory, Methods & Applications, 2012, 75, 3558-3573.	1.1	7
84	The Fokkerâ€“Planck equation for bosons in 2D: Well-posedness and asymptotic behavior. Nonlinear Analysis: Theory, Methods & Applications, 2016, 137, 291-305.	1.1	7
85	Large time behavior of a two phase extension of the porous medium equation. Interfaces and Free Boundaries, 2019, 21, 199-229.	0.8	7
86	Shape Derivative of the Dirichlet Energy for a Transmission Problem. Archive for Rational Mechanics and Analysis, 2020, 237, 447-496.	2.4	7
87	Oscillatory dynamics in Smoluchowski's coagulation equation with diagonal kernel. Kinetic and Related Models, 2018, 11, 933-952.	0.9	7
88	MATHEMATICAL MODELS OF RECEPTOR-MEDIATED TRANSPORT OF MORPHOGENS. Mathematical Models and Methods in Applied Sciences, 2010, 20, 2021-2052.	3.3	6
89	Refined Asymptotics for the Infinite Heat Equation with Homogeneous Dirichlet Boundary Conditions. Communications in Partial Differential Equations, 2010, 36, 532-546.	2.2	6
90	Weak solutions to a thin film model with capillary effects and insoluble surfactant. Nonlinearity, 2012, 25, 2423-2441.	1.4	6

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91	Absence of Gelation and Self-Similar Behavior for a Coagulation-Fragmentation Equation. SIAM Journal on Mathematical Analysis, 2015, 47, 2355-2374.	1.9	6
92	A variational approach to a stationary free boundary problem modeling MEMS. ESAIM - Control, Optimisation and Calculus of Variations, 2016, 22, 417-438.	1.3	6
93	Finite speed of propagation and waiting time for a thin-film Muskat problem. Proceedings of the Royal Society of Edinburgh Section A: Mathematics, 2017, 147, 813-830.	1.2	6
94	Heterogeneous Dielectric Properties in Models for Microelectromechanical Systems. SIAM Journal on Applied Mathematics, 2018, 78, 504-530.	1.8	6
95	Uniqueness of Mass-Conserving Self-similar Solutions to Smoluchowskiâ€™s Coagulation Equation with Inverse Power Law Kernels. Journal of Statistical Physics, 2018, 171, 484-492.	1.2	6
96	An Age and Spatially Structured Population Model forProteus MirabilisSwarm-Colony Development. Mathematical Modelling of Natural Phenomena, 2008, 3, 49-77.	2.4	6
97	Nonuniversal self-similarity in a coagulationâ€“annihilation model with constant kernels. Journal of Physics A: Mathematical and Theoretical, 2010, 43, 455210.	2.1	5
98	Self-Similar Solutions to a Kinetic Model for Grain Growth. Journal of Nonlinear Science, 2012, 22, 399-427.	2.1	5
99	A constrained model for MEMS with varying dielectric properties. Journal of Elliptic and Parabolic Equations, 2017, 3, 15-51.	0.9	5
100	Reinforced Limit of a MEMS Model with Heterogeneous Dielectric Properties. Applied Mathematics and Optimization, 2021, 84, 1373-1393.	1.6	5
101	Existence and NonExistence for the Collision-Induced Breakage Equation. SIAM Journal on Mathematical Analysis, 2021, 53, 4605-4636.	1.9	5
102	Global Existence vs. Blowup in a One-dimensional Smoluchowski-Poisson System. Progress in Nonlinear Differential Equations and Their Application, 2011, , 95-109.	0.9	5
103	Steady states for a fragmentation equation with size diffusion. , 0, , .		5
104	On a three-dimensional free boundary problem modeling electrostatic MEMS. Interfaces and Free Boundaries, 2016, 18, 393-411.	0.8	5
105	Optimal growth rates for a viscous Hamilton-Jacobi equation. Journal of Evolution Equations, 2005, 5, 123-135.	1.1	4
106	Weak solutions to the collision-induced breakage equation with dominating coagulation. Journal of Differential Equations, 2021, 280, 690-729.	2.2	4
107	Global bounded and unbounded solutions to a chemotaxis system with indirect signal production. Discrete and Continuous Dynamical Systems - Series B, 2019, 24, 6419-6444.	0.9	4
108	Asymptotic behavior for a singular diffusion equation with gradient absorption. Journal of Differential Equations, 2014, 256, 2739-2777.	2.2	3

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109	Traveling Waves for a Thin Film with Gravity and Insoluble Surfactant. SIAM Journal on Applied Dynamical Systems, 2015, 14, 1991-2012.	1.6	3
110	Large time behavior for the fast diffusion equation with critical absorption. Journal of Differential Equations, 2016, 260, 8000-8024.	2.2	3
111	Instantaneous shrinking and single point extinction for viscous Hamiltonâ€“Jacobi equations with fast diffusion. Mathematische Annalen, 2017, 368, 65-109.	1.4	3
112	Self-similar extinction for a diffusive Hamiltonâ€“Jacobi equation with critical absorption. Calculus of Variations and Partial Differential Equations, 2017, 56, 1.	1.7	3
113	Mass-conserving solutions to coagulation-fragmentation equations with nonintegrable fragment distribution function. Quarterly of Applied Mathematics, 2018, 76, 767-785.	0.7	2
114	Stationary solutions to coagulation-fragmentation equations. Annales De L'Institut Henri Poincare (C) Analyse Non Lineaire, 2019, 36, 1903-1939.	1.4	2
115	The fragmentation equation with size diffusion: Small and large size behavior of stationary solutions. Kinetic and Related Models, 2021, .	0.9	2
116	Energy minimizers for an asymptotic MEMS model with heterogeneous dielectric properties. Calculus of Variations and Partial Differential Equations, 2022, 61, 1.	1.7	2
117	The fragmentation equation with size diffusion: Well posedness and long-term behaviour. European Journal of Applied Mathematics, 0, , 1-34.	2.9	2
118	Non-existence of nonnegative separate variable solutions to a porous medium equation with spatially dependent nonlinear source. Bulletin Des Sciences Mathematiques, 2022, 179, 103167.	1.0	2
119	Global-in-time solutions for the isothermal Matovichâ€“Pearson equations. Nonlinearity, 2011, 24, 277-292.	1.4	1
120	Stationary solutions to a nonlocal fourth-order elliptic obstacle problem. Journal of Elliptic and Parabolic Equations, 2020, 6, 171-186.	0.9	1
121	Mass Threshold for Infinite-time Blowup in a Chemotaxis Model with Split Population. SIAM Journal on Mathematical Analysis, 2021, 53, 3385-3419.	1.9	1
122	Convergence of Energy Minimizers of a MEMS Model in the Reinforced Limit. Acta Applicandae Mathematicae, 2021, 173, 1.	1.0	1
123	Touchdown is the Only Finite Time Singularity in a Three-Dimensional MEMS Model. Annales Mathematiques Blaise Pascal, 2020, 27, 65-81.	0.1	1
124	The porous medium equation as a singular limit of the thin film Muskat problem. Asymptotic Analysis, 2022, , 1-17.	0.5	1
125	A stochastic min-driven coalescence process and its hydrodynamical limit. Annales De L'institut Henri Poincare (B) Probability and Statistics, 2011, 47, .	1.1	0
126	Some recent results on a free boundary problem for microelectromechanical systems. Proceedings in Applied Mathematics and Mechanics, 2014, 14, 761-762.	0.2	0

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127	Large time behavior and Lyapunov functionals for a nonlocal differential equation. Nonlinear Differential Equations and Applications, 2016, 23, 1.	0.8	0
128	Large Time Behavior for a Quasilinear Diffusion Equation with Critical Gradient Absorption. Journal of Dynamics and Differential Equations, 2017, 29, 817-832.	1.9	0
129	Vanishing aspect ratio limit for a fourth-order MEMS model. Annali Di Matematica Pura Ed Applicata, 2017, 196, 1537-1556.	1.0	0
130	Extinction for a Singular Diffusion Equation with Strong Gradient Absorption Revisited. Advanced Nonlinear Studies, 2018, 18, 785-797.	1.7	0
131	Classification of extinction profiles for a one-dimensional diffusive Hamiltonâ€“Jacobi equation with critical absorption. Proceedings of the Royal Society of Edinburgh Section A: Mathematics, 2018, 148, 559-574.	1.2	0
132	Optimal extinction rates for the fast diffusion equation with strong absorption. Bulletin of the London Mathematical Society, 2018, 50, 635-648.	0.8	0
133	Finite Time Singularity in a MEMS Model Revisited. Zeitschrift Fur Analysis Und Ihre Anwendung, 2018, 37, 209-219.	0.6	0
134	Mass-conserving self-similar solutions to coagulationâ€“fragmentation equations. Communications in Partial Differential Equations, 2019, 44, 773-800.	2.2	0
135	Sharp Sobolev Estimates for Concentration of Solutions to an Aggregationâ€“Diffusion Equation. Journal of Dynamics and Differential Equations, 0, , 1.	1.9	0