Mathieu Sellier

List of Publications by Year
in descending order

135	1,839	331259 21	315357 38
papers	citations	h-index	g-index

138	138	138	1816
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Viscosity of Î± -pinene secondary organic material and implications for particle growth and reactivity. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 8014-8019.	3.3	388
2	Gravity-driven flow of continuous thin liquid films on non-porous substrates with topography. Journal of Fluid Mechanics, 2004, 509, 253-280.	1.4	123
3	Efficient and accurate time adaptive multigrid simulations of droplet spreading. International Journal for Numerical Methods in Fluids, 2004, 45, 1161-1186.	0.9	58
4	Review of necessary thermophysical properties and their sensivities with temperature and electrolyte mass fractions for alkaline water electrolysis multiphysics modelling. International Journal of Hydrogen Energy, 2019, 44, 4553-4569.	3.8	51
5	Modeling the effects of contact angle hysteresis on the sliding of droplets down inclined surfaces. European Journal of Mechanics, B/Fluids, 2014, 48, 218-230.	1.2	49
6	Estimation of thermal conductivity, heat transfer coefficient, and heat flux using a three dimensional inverse analysis. International Journal of Thermal Sciences, 2016, 99, 258-270.	2.6	49
7	Flow of evaporating, gravity-driven thin liquid films over topography. Physics of Fluids, 2006, 18, 013601.	1.6	48
8	Validation of the poke-flow technique combined with simulations of fluid flow for determining viscosities in samples with small volumes and high viscosities. Atmospheric Measurement Techniques, 2015, 8, 2463-2472.	1.2	47
9	An iterative method for the inverse elasto-static problem. Journal of Fluids and Structures, 2011, 27, 1461-1470.	1.5	44
10	Estimation of linearly temperature-dependent thermal conductivity using an inverse analysis. International Journal of Thermal Sciences, 2017, 117, 68-76.	2.6	41
11	Modeling the coalescence of sessile droplets. Biomicrofluidics, 2009, 3, 22412.	1.2	38
12	Reconstruction of river bed topography from free surface data using a direct numerical approach in one-dimensional shallow water flow. Inverse Problems, 2011, 27, 025001.	1.0	36
13	Design of order-preserving algorithms for transient first-order systems with controllable numerical dissipation. International Journal for Numerical Methods in Engineering, 2011, 88, 1411-1448.	1.5	33
14	Inverse problems in free surface flows: a review. Acta Mechanica, 2016, 227, 913-935.	1.1	33
15	Eulerian Two-Fluid Model of Alkaline Water Electrolysis for Hydrogen Production. Energies, 2020, 13, 3394.	1.6	32
16	A computational model of hemodynamic parameters in cortical capillary networks. Journal of Theoretical Biology, 2011, 271, 145-156.	0.8	29
17	Self-propelling, coalescing droplets. International Journal of Multiphase Flow, 2011, 37, 462-468.	1.6	29
18	Thin film flow on surfaces containing arbitrary occlusions. Computers and Fluids, 2009, 38, 171-182.	1.3	26

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19	Thermal performances and emitter efficiency improvement studies on premixed micro-combustors with different geometric shapes for thermophotovoltaics applications. Energy, 2021, 226, 120298.	4.5	24
20	Substrate design or reconstruction from free surface data for thin film flows. Physics of Fluids, 2008, 20, 062106.	1.6	23
21	Droplet actuation induced by coalescence: Experimental evidences and phenomenological modeling. European Physical Journal: Special Topics, 2013, 219, 131-141.	1.2	22
22	Thermocapillary migration of droplets under molecular and gravitational forces. Journal of Fluid Mechanics, 2018, 847, 1-27.	1.4	20
23	An iterative algorithm for optimal mould design in high-precision compression moulding. Proceedings of the Institution of Mechanical Engineers, Part B: Journal of Engineering Manufacture, 2007, 221, 25-33.	1.5	19
24	Surface tension of concentrated cellulose solutions in 1-ethyl-3-methylimidazolium acetate. Cellulose, 2016, 23, 1043-1050.	2.4	17
25	Optimal Shape Design in Heat Transfer Based on Body-Fitted Grid Generation. International Journal for Computational Methods in Engineering Science and Mechanics, 2013, 14, 227-243.	1.4	16
26	Estimating the viscosity of a highly viscous liquid droplet through the relaxation time of a dry spot. Journal of Rheology, 2015, 59, 733-750.	1.3	15
27	Efficiency improvement for geothermal power generation to meet summer peak demand. Energy Policy, 2009, 37, 3370-3376.	4.2	14
28	The Kinematics and Dynamics of Undulatory Motion of a Tuna-Mimetic Robot. International Journal of Advanced Robotic Systems, 2015, 12, 83.	1.3	14
29	Modelling the wetting of a solid occlusion by a liquid film. International Journal of Multiphase Flow, 2015, 71, 66-73.	1.6	14
30	Parameter estimation in heat conduction using a two-dimensional inverse analysis. International Journal for Computational Methods in Engineering Science and Mechanics, 2016, 17, 274-287.	1.4	14
31	An investigation into improved non-contact adhesion mechanism suitable for wall climbing robotic applications. , 2011, , .		13
32	Scaling Laws of Droplet Coalescence: Theory and Numerical Simulation. Advances in Mathematical Physics, 2018, 2018, 1-16.	0.4	13
33	Evolutionary Design Optimization of an Alkaline Water Electrolysis Cell for Hydrogen Production. Applied Sciences (Switzerland), 2020, 10, 8425.	1.3	13
34	The inverse problem in creeping film flows. Acta Mechanica, 2012, 223, 841-847.	1.1	12
35	Modeling the spreading and sliding of power-law droplets. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2013, 432, 2-7.	2.3	12
36	Three-Dimensional Optimal Shape Design in Heat Transfer Based on Body-fitted Grid Generation. International Journal for Computational Methods in Engineering Science and Mechanics, 2013, 14, 473-490.	1.4	12

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37	Identification of space- and temperature-dependent heat transfer coefficient. International Journal of Thermal Sciences, 2018, 128, 28-37.	2.6	12
38	A Direct Solution Approach to the Inverse Shallow-Water Problem. Mathematical Problems in Engineering, 2012, 2012, 1-18.	0.6	11
39	Non-identifiability of the Rayleigh damping material model in Magnetic Resonance Elastography. Mathematical Biosciences, 2013, 246, 191-201.	0.9	11
40	A free-piston Stirling cryocooler using metal diaphragms. Cryogenics, 2016, 80, 8-16.	0.9	11
41	CFD analysis of a diaphragm free-piston Stirling cryocooler. Cryogenics, 2016, 79, 7-16.	0.9	11
42	Bathymetry reconstruction based on the zero-inertia shallow water approximation. Theoretical and Computational Fluid Dynamics, 2013, 27, 721-732.	0.9	10
43	An iterative method for modelling the air-cooled organic Rankine cycle geothermal power plant. International Journal of Energy Research, 2011, 35, 436-448.	2.2	9
44	Design, Fabrication, and Swimming Performance of a Free-Swimming Tuna-Mimetic Robot. Journal of Robotics, 2014, 2014, 1-7.	0.6	9
45	Direct reconstruction of glacier bedrock from known free surface data using the one-dimensional shallow ice approximation. Geomorphology, 2015, 228, 356-371.	1.1	9
46	Inertial and dimensional effects on the instability of a thin film. Journal of Fluid Mechanics, 2016, 787, 449-473.	1.4	9
47	Evolution of an eroding cylinder in single and lattice arrangements. Journal of Fluids and Structures, 2017, 70, 295-313.	1.5	9
48	Identification of Ellis rheological law from free surface velocity. Journal of Non-Newtonian Fluid Mechanics, 2019, 263, 15-23.	1.0	9
49	Pancake making and surface coating: Optimal control of a gravity-driven liquid film. Physical Review Fluids, 2019, 4, .	1.0	9
50	On the Applicability of an Isochronous Integration Framework for Parabolic/Hyperbolic Heat Conduction Type Problems. Numerical Heat Transfer; Part A: Applications, 2012, 62, 372-392.	1.2	8
51	Flow domain identification from free surface velocity in thin inertial films. Journal of Fluid Mechanics, 2013, 720, 338-356.	1.4	8
52	Dynamic wetting of an occlusion after droplet impact. International Journal of Multiphase Flow, 2019, 111, 264-271.	1.6	8
53	Beating capillarity in thin film flows. International Journal for Numerical Methods in Fluids, 2010, 63, 431-448.	0.9	7
54	The optimal profile of weirs for minimum static holdup. International Journal of Multiphase Flow, 2012, 39, 245-248.	1.6	7

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55	Multi-frequency inversion in Rayleigh damped Magnetic Resonance Elastography. Biomedical Signal Processing and Control, 2014, 13, 270-281.	3.5	7
56	Parametric-based brain Magnetic Resonance Elastography using a Rayleigh damping material model. Computer Methods and Programs in Biomedicine, 2014, 116, 328-339.	2.6	7
57	Regressive cross-correlation of pressure signals in the region of stenosis: Insights from particle image velocimetry experimentation. Biomedical Signal Processing and Control, 2017, 32, 143-149.	3.5	7
58	Non-uniform suction control of flow around a circular cylinder. International Journal of Heat and Fluid Flow, 2020, 82, 108559.	1.1	7
59	SURFACE TEMPERATURE RECONSTRUCTION BASED ON THE THERMOCAPILLARY EFFECT. ANZIAM Journal, 2010, 52, 146-159.	0.3	6
60	One-dimensional bathymetry based on velocity measurements. Inverse Problems in Science and Engineering, 2013, 21, 704-720.	1.2	6
61	Aerodynamic Optimal Shape Design Based on Body-Fitted Grid Generation. Mathematical Problems in Engineering, 2014, 2014, 1-22.	0.6	6
62	Rheometry based on free surface velocity. Inverse Problems in Science and Engineering, 2019, 27, 689-709.	1.2	6
63	Patching Hele-Shaw Cells to Investigate the Flow at Low Reynolds Number in Fracture Networks. Transport in Porous Media, 2021, 136, 147-163.	1.2	6
64	Optimal Process Design in High-Precision Glass Forming. International Journal of Forming Processes, 2006, 9, 61-78.	0.3	6
65	GS4-1 Computational Framework for Heat Transfer Problems: Part 2â€"Extension to Nonlinear Cases with Illustration to Radiation Heat Transfer Problem. Numerical Heat Transfer, Part B: Fundamentals, 2012, 62, 157-180.	0.6	5
66	On the Kutta Condition in Potential Flow over Airfoil. Journal of Aerodynamics, 2014, 2014, 1-10.	0.1	5
67	Design and Construction of a Specialised Biomimetic Robot in Multiple Swimming Gaits. International Journal of Advanced Robotic Systems, 2015, 12, 168.	1.3	5
68	Marangoni-induced actuation of miscible liquid droplets on an incline. International Journal of Multiphase Flow, 2016, 82, 27-34.	1.6	5
69	Modeling the Effects of Absorption on Spreading Dynamics. Transport in Porous Media, 2016, 112, 637-663.	1.2	5
70	Inverse problem of simultaneously estimating the thermal conductivity and boundary shape. International Journal for Computational Methods in Engineering Science and Mechanics, 2017, 18, 166-181.	1.4	5
71	FREE-SURFACE DYNAMICS OF THIN SECOND-GRADE FLUID OVER AN UNSTEADY STRETCHING SHEET. ANZIAM Journal, 2018, 60, 249-268.	0.3	5
72	An inverse analysis for determination of space-dependent heat flux in heat conduction problems in the presence of variable thermal conductivity. International Journal for Computational Methods in Engineering Science and Mechanics, 2019, 20, 229-241.	1.4	5

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73	Fluid dynamics investigation of a large array. Physics of Fluids, 2021, 33, .	1.6	5
74	Direct Reconstruction of Three-dimensional Glacier Bedrock and Surface Elevation from Free Surface Velocity. AIMS Geosciences, 2016, 2, 45-63.	0.4	5
75	Identification of Relaxation Functions in Glass by Mean of a Simple Experiment. Journal of the American Ceramic Society, 2007, 90, 2980-2983.	1.9	4
76	A NOTE ON APPROXIMATE BENCHMARK SOLUTIONS FOR VISCOUS TWO-LAYER FLOWS. ANZIAM Journal, 2010, 51, 406-415.	0.3	4
77	GS4-1 Computational Framework for Heat Transfer Problems: Part 1â€"Linear Cases with Illustration to Thermal Shock Problem. Numerical Heat Transfer, Part B: Fundamentals, 2012, 62, 141-156.	0.6	4
78	A mathematical model of a twin ducted-fan vertical takeoff and landing jetpack. Proceedings of the Institution of Mechanical Engineers, Part G: Journal of Aerospace Engineering, 2014, 228, 1831-1844.	0.7	4
79	Thermodynamic peculiarities of alpha-type Stirling engines for low-temperature difference power generation: Optimisation of operating parameters and heat exchangers using a third-order model. Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science, 2014, 228, 1936-1947.	1.1	4
80	Flow domain identification in three-dimensional creeping flows. Physics of Fluids, 2017, 29, .	1.6	4
81	Unraveling surfactant transport on a thin liquid film. Wave Motion, 2017, 70, 183-194.	1.0	4
82	Models for the bead mobility technique: A droplet-based viscometer. Aerosol Science and Technology, 2019, 53, 749-759.	1.5	4
83	On the Kutta Condition in Compressible Flow over Isolated Airfoils. Fluids, 2019, 4, 102.	0.8	4
84	Hydrodynamic loading profiles of viscously-interacting blocks subject to different stimulus locations. Journal of the Royal Society of New Zealand, 2021, 51, 346-360.	1.0	4
85	Estimation of Functional Form of Time-Dependent Heat Transfer Coefficient Using an Accurate and Robust Parameter Estimation Approach: An Inverse Analysis. Energies, 2021, 14, 5073.	1.6	4
86	Combustion modelling of a rotary limekiln. Progress in Computational Fluid Dynamics, 2010, 10, 384.	0.1	3
87	Insights into the power law relationships that describe mass deposition rates during electrospinning. Journal of Materials Science, 2012, 47, 1113-1118.	1.7	3
88	Process Parameter Identification in Thin Film Flows Driven by a Stretching Surface. International Journal of Engineering Mathematics, 2014, 2014, 1-12.	0.2	3
89	Multi-frequency Rayleigh damped elastography: in silico studies. Medical Engineering and Physics, 2015, 37, 55-67.	0.8	3
90	MODELING AN IMPACT DROPLET ON A PAIR OF PILLARS. Interfacial Phenomena and Heat Transfer, 2017, 5, 43-57.	0.3	3

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91	Modelling ripple morphodynamics driven by colloidal deposition. Computers and Fluids, 2018, 163, 54-67.	1.3	3
92	Sandwiched droplet actuated by Marangoni force in a Hele-Shaw cell. Acta Mechanica, 2018, 229, 571-584.	1.1	3
93	Effects of boundary layer suction control on flow through an axisymmetric diverging channel. Journal of the Royal Society of New Zealand, 2021, 51, 389-408.	1.0	3
94	The effects of surface roughness on the flow in multiple connected fractures. Fluid Dynamics Research, 2022, 54, 015504.	0.6	3
95	Wet-core temperature and concentration profiles in a single skim milk droplet drying process. Applied Thermal Engineering, 2022, 212, 118571.	3.0	3
96	Modeling of Multi-Layer Phase Change Material in a Triplex Tube under Various Thermal Boundary Conditions. Energies, 2022, 15, 3465.	1.6	3
97	Efficiency-based optimisation of a 2-DOF robotic fish model. International Journal of Biomechatronics and Biomedical Robotics, 2013, 2, 93.	0.1	2
98	Rheological effects on the levelling dynamics of thin fluid films. International Journal of Numerical Methods for Heat and Fluid Flow, 2015, 25, 1850-1867.	1.6	2
99	MARANGONI-IMPROVED MIXING IN A TWO-DROPLET SYSTEM. Interfacial Phenomena and Heat Transfer, 2017, 5, 81-95.	0.3	2
100	Consistent formulation of the power-law rheology and its application to the spreading of non-Newtonian droplets. Meccanica, 2018, 53, 3709-3717.	1.2	2
101	Ei¬€ects of a microscale ridge on dynamic wetting during drop impact. Journal of the Royal Society of New Zealand, 2020, 50, 523-537.	1.0	2
102	Bedrock reconstruction from free surface data for unidirectional glacier flow with basal slip. Acta Mechanica, 2021, 232, 305-322.	1.1	2
103	Thin Liquid Film Dynamics on a Spinning Spheroid. Fluids, 2021, 6, 318.	0.8	2
104	Direct Reconstruction of Three-dimensional Glacier Bedrock and Surface Elevation from Free Surface Velocity. AIMS Microbiology, 2016, 2, 45-63.	1.0	2
105	Novel Swimming Mechanism for a Robotic Fish. Advances in Mechatronics and Mechanical Engineering, 2013, , 41-58.	1.0	2
106	Interactive Fluid Coupling Effects of Non-Neighbouring Members. Sensors, 2021, 21, 6961.	2.1	2
107	An augmented lagrangian algorithm for recovery of ice thickness in unidirectional flow using the shallow ice approximation. Applied Mathematical Modelling, 2022, 107, 650-669.	2.2	2
108	Novel diaphragm based Stirling cryocooler. , 2012, , .		1

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109	Biochemical sensing assays based on coalescence-induced self-propulsion digital microfluidics. , 2013, , .		1
110	Imaging of Rayleigh damping properties of the in vivo brain using parametric Magnetic Resonance Elastography.. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2014, 47, 3881-3886.	0.4	1
111	Oblique Impact of a Droplet on a Textured Substrate. IUTAM Symposium on Cellular, Molecular and Tissue Mechanics, 2019, , 119-131.	0.1	1
112	Dynamics of Thin Film Under a Volatile Solvent Source Driven by a Constant Pressure Gradient Flow. Fluids, 2019, 4, 198.	0.8	1
113	Eliminating Boundary Layer Separation on a Cylinder with Nonuniform Suction. International Journal of Aerospace Engineering, 2020, 2020, 1-11.	0.5	1
114	On an Exact Step Length in Gradient-Based Aerodynamic Shape Optimizationâ€”Part II: Viscous Flows. Fluids, 2021, 6, 106.	0.8	1
115	10.1063/1.3154552.1. , 2009, , .		1
116	Free-surface dynamics of thin second-grade fluid over an unsteady stretching sheet. ANZIAM Journal, 0, 60, 249.	0.0	1
117	General Model for Cortical Capillary Networks and an Investigation on Pertinent Functional Reactivity to the Different Blood Inflows. IFMBE Proceedings, 2010, , 450-453.	0.2	1
118	Describing Lava Rheology using Flow Dynamics Information. , 2020, , .		1
119	Convergence and computational cost analysis of a boundary integral method applied to a rigid body moving in a viscous fluid in close proximity to a fixed boundary. Journal of Engineering Mathematics, 2022, 132, 1.	0.6	1
120	Subzone based multi-frequency magnetic resonance elastography using a Rayleigh damped material model. , 2012, 2012, 436-9.		0
121	Effects of Physicochemical Parameters on Colloidal Potentials. Applied Mechanics and Materials, 0, 564, 222-227.	0.2	0
122	Slug Self-Propulsion in a Capillary Tube Mathematical Modeling and Numerical Simulation. Advances in Mathematical Physics, 2016, 2016, 1-16.	0.4	0
123	The spontaneous motion of a slug of miscible liquids in a capillary tube. International Journal of Nanotechnology, 2017, 14, 530.	0.1	0
124	Spatially-Resolved 3Ï‰ Thermal Flow Sensing for Microfluidics and Biology. , 2019, , .		0
125	Effects of Non-neighbouring Members in an Array of Beams Vibrating in Fluids. IUTAM Symposium on Cellular, Molecular and Tissue Mechanics, 2019, , 283-293.	0.1	0
126	Evolution of a Melting Sphere in Cross Flow Using an Arbitrary Mesh Topology. IUTAM Symposium on Cellular, Molecular and Tissue Mechanics, 2019, , 217-229.	0.1	0

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127	The Three Dynamical Regimes of a Droplet Driven by Thermocapillarity. IUTAM Symposium on Cellular, Molecular and Tissue Mechanics, 2019, , 85-95.	0.1	0
128	Ka rere ngÄ•mea katoa â€“ everything flows. Journal of the Royal Society of New Zealand, 2021, 51, 187-193.	1.0	0
129	An Adaptive Design Approach for A Geothermal Plant with Changing Resource Characteristics. , 2011, , .		0
130	Direct Reconstruction of Three-dimensional Glacier Bedrock and Surface Elevation from Free Surface Velocity. AIMS Geosciences, 2016, 2, 45-63.	0.4	0
131	How valid is Taylor dispersion formula in slugs?. ANZIAM Journal, 0, 59, 155.	0.0	0
132	Modelling and Simulation of Spin Coating on a Spherical Substrate. , 2020, , .		0
133	Numerical Simulation of Milk Droplet Drying Process. , 2020, , .		0
134	Non-Isothermal Thin-Film Flow of a Viscoplastic Material Over Topography. SSRN Electronic Journal, 0, , .	0.4	0
135	Inferring rheological properties and topographical features from free surface flow data. , 2022, 3, 100064.		0