Mathieu Sellier

List of Publications by Year
in descending order

135 papers	1,839 citations	331259 21 h-index	315357 38 g-index
138 all docs	138 docs citations	138 times ranked	1816 citing authors

#	Article	IF	Citations
1	The effects of surface roughness on the flow in multiple connected fractures. Fluid Dynamics Research, 2022, 54, 015504.	0.6	3
2	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
3	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
4	Wet-core temperature and concentration profiles in a single skim milk droplet drying process. Applied Thermal Engineering, 2022, 212, 118571.	3.0	3
5	Modeling of Multi-Layer Phase Change Material in a Triplex Tube under Various Thermal Boundary Conditions. Energies, 2022, 15, 3465.	1.6	3
6	Inferring rheological properties and topographical features from free surface flow data. , 2022, 3, 100064.		0
7	Bedrock reconstruction from free surface data for unidirectional glacier flow with basal slip. Acta Mechanica, 2021, 232, 305-322.	1.1	2
8	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
9	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
10	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
11	On an Exact Step Length in Gradient-Based Aerodynamic Shape Optimization—Part II: Viscous Flows. Fluids, 2021, 6, 106.	0.8	1
12	Ka rere ngÄ•mea katoa â€" everything flows. Journal of the Royal Society of New Zealand, 2021, 51, 187-193.	1.0	0
13	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
14	Fluid dynamics investigation of a large array. Physics of Fluids, 2021, 33, .	1.6	5
15	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
16	Thin Liquid Film Dynamics on a Spinning Spheroid. Fluids, 2021, 6, 318.	0.8	2
17	Interactive Fluid Coupling Effects of Non-Neighbouring Members. Sensors, 2021, 21, 6961.	2.1	2
18	Evolutionary Design Optimization of an Alkaline Water Electrolysis Cell for Hydrogen Production. Applied Sciences (Switzerland), 2020, 10, 8425.	1.3	13

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19	Eliminating Boundary Layer Separation on a Cylinder with Nonuniform Suction. International Journal of Aerospace Engineering, 2020, 2020, 1-11.	0.5	1
20	Eulerian Two-Fluid Model of Alkaline Water Electrolysis for Hydrogen Production. Energies, 2020, 13, 3394.	1.6	32
21	Non-uniform suction control of flow around a circular cylinder. International Journal of Heat and Fluid Flow, 2020, 82, 108559.	1.1	7
22	Eﬀects 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
23	Describing Lava Rheology using Flow Dynamics Information. , 2020, , .		1
24	Modelling and Simulation of Spin Coating on a Spherical Substrate. , 2020, , .		0
25	Numerical Simulation of Milk Droplet Drying Process. , 2020, , .		0
26	Oblique Impact of a Droplet on a Textured Substrate. IUTAM Symposium on Cellular, Molecular and Tissue Mechanics, 2019, , 119-131.	0.1	1
27	Spatially-Resolved 3ω Thermal Flow Sensing for Microfluidics and Biology. , 2019, , .		0
28	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
29	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
30	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
31	The Three Dynamical Regimes of a Droplet Driven by Thermocapillarity. IUTAM Symposium on Cellular, Molecular and Tissue Mechanics, 2019, , 85-95.	0.1	0
32	Models for the bead mobility technique: A droplet-based viscometer. Aerosol Science and Technology, 2019, 53, 749-759.	1.5	4
33	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
34	Dynamics of Thin Film Under a Volatile Solvent Source Driven by a Constant Pressure Gradient Flow. Fluids, 2019, 4, 198.	0.8	1
35	On the Kutta Condition in Compressible Flow over Isolated Airfoils. Fluids, 2019, 4, 102.	0.8	4
36	Rheometry based on free surface velocity. Inverse Problems in Science and Engineering, 2019, 27, 689-709.	1.2	6

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37	Identification of Ellis rheological law from free surface velocity. Journal of Non-Newtonian Fluid Mechanics, 2019, 263, 15-23.	1.0	9
38	Dynamic wetting of an occlusion after droplet impact. International Journal of Multiphase Flow, 2019, 111, 264-271.	1.6	8
39	Pancake making and surface coating: Optimal control of a gravity-driven liquid film. Physical Review Fluids, 2019, 4, .	1.0	9
40	Identification of space- and temperature-dependent heat transfer coefficient. International Journal of Thermal Sciences, 2018, 128, 28-37.	2.6	12
41	Modelling ripple morphodynamics driven by colloidal deposition. Computers and Fluids, 2018, 163, 54-67.	1.3	3
42	Sandwiched droplet actuated by Marangoni force in a Hele-Shaw cell. Acta Mechanica, 2018, 229, 571-584.	1.1	3
43	Scaling Laws of Droplet Coalescence: Theory and Numerical Simulation. Advances in Mathematical Physics, 2018, 2018, 1-16.	0.4	13
44	FREE-SURFACE DYNAMICS OF THIN SECOND-GRADE FLUID OVER AN UNSTEADY STRETCHING SHEET. ANZIAM Journal, 2018, 60, 249-268.	0.3	5
45	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
46	Thermocapillary migration of droplets under molecular and gravitational forces. Journal of Fluid Mechanics, 2018, 847, 1-27.	1.4	20
47	Evolution of an eroding cylinder in single and lattice arrangements. Journal of Fluids and Structures, 2017, 70, 295-313.	1.5	9
48	Estimation of linearly temperature-dependent thermal conductivity using an inverse analysis. International Journal of Thermal Sciences, 2017, 117, 68-76.	2.6	41
49	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
50	Flow domain identification in three-dimensional creeping flows. Physics of Fluids, 2017, 29, .	1.6	4
51	Unraveling surfactant transport on a thin liquid film. Wave Motion, 2017, 70, 183-194.	1.0	4
52	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
53	MODELING AN IMPACT DROPLET ON A PAIR OF PILLARS. Interfacial Phenomena and Heat Transfer, 2017, 5, 43-57.	0.3	3
54	MARANGONI-IMPROVED MIXING IN A TWO-DROPLET SYSTEM. Interfacial Phenomena and Heat Transfer, 2017, 5, 81-95.	0.3	2

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55	The spontaneous motion of a slug of miscible liquids in a capillary tube. International Journal of Nanotechnology, 2017, 14, 530.	0.1	0
56	Slug Self-Propulsion in a Capillary Tube Mathematical Modeling and Numerical Simulation. Advances in Mathematical Physics, 2016, 2016, 1-16.	0.4	0
57	Marangoni-induced actuation of miscible liquid droplets on an incline. International Journal of Multiphase Flow, 2016, 82, 27-34.	1.6	5
58	Inertial and dimensional effects on the instability of a thin film. Journal of Fluid Mechanics, 2016, 787, 449-473.	1.4	9
59	Modeling the Effects of Absorption on Spreading Dynamics. Transport in Porous Media, 2016, 112, 637-663.	1.2	5
60	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
61	A free-piston Stirling cryocooler using metal diaphragms. Cryogenics, 2016, 80, 8-16.	0.9	11
62	CFD analysis of a diaphragm free-piston Stirling cryocooler. Cryogenics, 2016, 79, 7-16.	0.9	11
63	Surface tension of concentrated cellulose solutions in 1-ethyl-3-methylimidazolium acetate. Cellulose, 2016, 23, 1043-1050.	2.4	17
64	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
65	Inverse problems in free surface flows: a review. Acta Mechanica, 2016, 227, 913-935.	1.1	33
66	Direct Reconstruction of Three-dimensional Glacier Bedrock and Surface Elevation from Free Surface Velocity. AIMS Geosciences, 2016, 2, 45-63.	0.4	5
67	Direct Reconstruction of Three-dimensional Glacier Bedrock and Surface Elevation from Free Surface Velocity. AIMS Microbiology, 2016, 2, 45-63.	1.0	2
68	Direct Reconstruction of Three-dimensional Glacier Bedrock and Surface Elevation from Free Surface Velocity. AIMS Geosciences, 2016, 2, 45-63.	0.4	0
69	Design and Construction of a Specialised Biomimetic Robot in Multiple Swimming Gaits. International Journal of Advanced Robotic Systems, 2015, 12, 168.	1.3	5
70	The Kinematics and Dynamics of Undulatory Motion of a Tuna-Mimetic Robot. International Journal of Advanced Robotic Systems, 2015, 12, 83.	1.3	14
71	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
72	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

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73	Multi-frequency Rayleigh damped elastography: in silico studies. Medical Engineering and Physics, 2015, 37, 55-67.	0.8	3
74	Modelling the wetting of a solid occlusion by a liquid film. International Journal of Multiphase Flow, 2015, 71, 66-73.	1.6	14
75	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
76	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
77	On the Kutta Condition in Potential Flow over Airfoil. Journal of Aerodynamics, 2014, 2014, 1-10.	0.1	5
78	Design, Fabrication, and Swimming Performance of a Free-Swimming Tuna-Mimetic Robot. Journal of Robotics, 2014, 2014, 1-7.	0.6	9
79	Process Parameter Identification in Thin Film Flows Driven by a Stretching Surface. International Journal of Engineering Mathematics, 2014, 2014, 1-12.	0.2	3
80	Aerodynamic Optimal Shape Design Based on Body-Fitted Grid Generation. Mathematical Problems in Engineering, 2014, 2014, 1-22.	0.6	6
81	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
82	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
83	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
84	Multi-frequency inversion in Rayleigh damped Magnetic Resonance Elastography. Biomedical Signal Processing and Control, 2014, 13, 270-281.	3.5	7
85	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
86	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
87	Bathymetry reconstruction based on the zero-inertia shallow water approximation. Theoretical and Computational Fluid Dynamics, 2013, 27, 721-732.	0.9	10
88	Modeling the spreading and sliding of power-law droplets. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2013, 432, 2-7.	2.3	12
89	Droplet actuation induced by coalescence: Experimental evidences and phenomenological modeling. European Physical Journal: Special Topics, 2013, 219, 131-141.	1.2	22
90	Biochemical sensing assays based on coalescence-induced self-propulsion digital microfluidics. , 2013, , .		1

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91	Flow domain identification from free surface velocity in thin inertial films. Journal of Fluid Mechanics, 2013, 720, 338-356.	1.4	8
92	Non-identifiability of the Rayleigh damping material model in Magnetic Resonance Elastography. Mathematical Biosciences, 2013, 246, 191-201.	0.9	11
93	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
94	Viscosity of α -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
95	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
96	One-dimensional bathymetry based on velocity measurements. Inverse Problems in Science and Engineering, 2013, 21, 704-720.	1.2	6
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	Novel Swimming Mechanism for a Robotic Fish. Advances in Mechatronics and Mechanical Engineering, 2013, , 41-58.	1.0	2
99	A Direct Solution Approach to the Inverse Shallow-Water Problem. Mathematical Problems in Engineering, 2012, 2012, 1-18.	0.6	11
100	Novel diaphragm based Stirling cryocooler. , 2012, , .		1
101	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
102	Subzone based multi-frequency magnetic resonance elastography using a Rayleigh damped material model. , 2012, 2012, 436-9.		0
103	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
104	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
105	The inverse problem in creeping film flows. Acta Mechanica, 2012, 223, 841-847.	1.1	12
106	The optimal profile of weirs for minimum static holdup. International Journal of Multiphase Flow, 2012, 39, 245-248.	1.6	7
107	Insights into the power law relationships that describe mass deposition rates during electrospinning. Journal of Materials Science, 2012, 47, 1113-1118.	1.7	3
108	An iterative method for the inverse elasto-static problem. Journal of Fluids and Structures, 2011, 27, 1461-1470.	1.5	44

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109	A computational model of hemodynamic parameters in cortical capillary networks. Journal of Theoretical Biology, 2011, 271, 145-156.	0.8	29
110	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
111	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
112	Self-propelling, coalescing droplets. International Journal of Multiphase Flow, 2011, 37, 462-468.	1.6	29
113	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
114	An investigation into improved non-contact adhesion mechanism suitable for wall climbing robotic applications. , 2011, , .		13
115	An Adaptive Design Approach for A Geothermal Plant with Changing Resource Characteristics. , 2011, , .		0
116	Beating capillarity in thin film flows. International Journal for Numerical Methods in Fluids, 2010, 63, 431-448.	0.9	7
117	Combustion modelling of a rotary limekiln. Progress in Computational Fluid Dynamics, 2010, 10, 384.	0.1	3
118	A NOTE ON APPROXIMATE BENCHMARK SOLUTIONS FOR VISCOUS TWO-LAYER FLOWS. ANZIAM Journal, 2010, 51, 406-415.	0.3	4
119	SURFACE TEMPERATURE RECONSTRUCTION BASED ON THE THERMOCAPILLARY EFFECT. ANZIAM Journal, 2010, 52, 146-159.	0.3	6
120	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
121	Thin film flow on surfaces containing arbitrary occlusions. Computers and Fluids, 2009, 38, 171-182.	1.3	26
122	Efficiency improvement for geothermal power generation to meet summer peak demand. Energy Policy, 2009, 37, 3370-3376.	4.2	14
123	Modeling the coalescence of sessile droplets. Biomicrofluidics, 2009, 3, 22412.	1.2	38
124	10.1063/1.3154552.1. , 2009, , .		1
125	Substrate design or reconstruction from free surface data for thin film flows. Physics of Fluids, 2008, 20, 062106.	1.6	23
126	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

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127	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
128	Flow of evaporating, gravity-driven thin liquid films over topography. Physics of Fluids, 2006, 18, 013601.	1.6	48
129	Optimal Process Design in High-Precision Glass Forming. International Journal of Forming Processes, 2006, 9, 61-78.	0.3	6
130	Efficient and accurate time adaptive multigrid simulations of droplet spreading. International Journal for Numerical Methods in Fluids, 2004, 45, 1161-1186.	0.9	58
131	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
132	Effects of Physicochemical Parameters on Colloidal Potentials. Applied Mechanics and Materials, 0, 564, 222-227.	0.2	0
133	Free-surface dynamics of thin second-grade fluid over an unsteady stretching sheet. ANZIAM Journal, 0, 60, 249.	0.0	1
134	How valid is Taylor dispersion formula in slugs?. ANZIAM Journal, 0, 59, 155.	0.0	0
135	Non-Isothermal Thin-Film Flow of a Viscoplastic Material Over Topography. SSRN Electronic Journal, 0, , .	0.4	0