Christophe Ancey

List of Publications by Year
in descending order

99 papers	4,192 citations	101543 36 h-index	118850 62 g-index
117 all docs	117 docs citations	117 times ranked	2559 citing authors

#	Article	IF	Citations
1	Plasticity and geophysical flows: A review. Journal of Non-Newtonian Fluid Mechanics, 2007, 142, 4-35.	2.4	325
2	Rheophysical classification of concentrated suspensions and granular pastes. Physical Review E, 1999, 59, 4445-4457.	2.1	200
3	Refractive-index and density matching in concentrated particle suspensions: a review. Experiments in Fluids, 2011, 50, 1183-1206.	2.4	175
4	Entrainment and motion of coarse particles in a shallow water stream down a steep slope. Journal of Fluid Mechanics, 2008, 595, 83-114.	3.4	166
5	Improved SPH methods for simulating free surface flows of viscous fluids. Applied Numerical Mathematics, 2009, 59, 251-271.	2.1	124
6	Segregation, recirculation and deposition of coarse particles near two-dimensional avalanche fronts. Journal of Fluid Mechanics, 2009, 629, 387-423.	3.4	119
7	Rheological interpretation of deposits of yield stress fluids. Journal of Non-Newtonian Fluid Mechanics, 1996, 66, 55-70.	2.4	114
8	Multi-component particle-size segregation in shallow granular avalanches. Journal of Fluid Mechanics, 2011, 678, 535-588.	3.4	113
9	Experimental investigation into segregating granular flows down chutes. Physics of Fluids, 2011, 23, .	4.0	104
10	Yield stress for particle suspensions within a clay dispersion. Journal of Rheology, 2001, 45, 297-319.	2.6	99
11	A theoretical framework for granular suspensions in a steady simple shear flow. Journal of Rheology, 1999, 43, 1673-1699.	2.6	98
12	Dry granular flows down an inclined channel: Experimental investigations on the frictional-collisional regime. Physical Review E, 2001, 65, 011304.	2.1	98
13	Statistical description of sediment transport experiments. Physical Review E, 2006, 74, 011302.	2.1	98
14	Underlying Asymmetry within Particle Size Segregation. Physical Review Letters, 2015, 114, 238001.	7.8	97
15	A microstructural approach to bed load transport: mean behaviour and fluctuations of particle transport rates. Journal of Fluid Mechanics, 2014, 744, 129-168.	3.4	91
16	Stochastic modeling in sediment dynamics: Exner equation for planar bed incipient bed load transport conditions. Journal of Geophysical Research, 2010, 115, .	3.3	87
17	The dam-break problem for Herschelâ€“Bulkley viscoplastic fluids down steep flumes. Journal of Non-Newtonian Fluid Mechanics, 2009, 158, 18-35.	2.4	81
18	Saltating motion of a bead in a rapid water stream. Physical Review E, 2002, 66, 036306.	2.1	76

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19	Flow behaviour and runout modelling of a complex debris flow in a clay-shale basin. Earth Surface Processes and Landforms, 2005, 30, 479-488.	2.5	67
20	Computing extreme avalanches. Cold Regions Science and Technology, 2004, 39, 161-180.	3.5	65
21	Bedload transport: a walk between randomness and determinism. Part 1. The state of the art. Journal of Hydraulic Research/De Recherches Hydrauliques, 2020, 58, 1-17.	1.7	64
22	An exact solution for ideal damâ€break floods on steep slopes. Water Resources Research, 2008, 44, .	4.2	62
23	Experimental investigation of the spreading of viscoplastic fluids on inclined planes. Journal of Non-Newtonian Fluid Mechanics, 2009, 158, 73-84.	2.4	62
24	Frictional-collisional regime for granular suspension flows down an inclined channel. Physical Review E, 2000, 62, 8349-8360.	2.1	58
25	Solving the Couette inverse problem using a wavelet-vaguelette decomposition. Journal of Rheology, 2005, 49, 441-460.	2.6	55
26	Bedload transport: a walk between randomness and determinism. Part 2. Challenges and prospects. Journal of Hydraulic Research/De Recherches Hydrauliques, 2020, 58, 18-33.	1.7	53
27	Particle-size andÂ-density segregation in granular free-surface flows. Journal of Fluid Mechanics, 2015, 779, 622-668.	3.4	50
28	Impulse waves generated by snow avalanches: Momentum and energy transfer to a water body. Journal of Geophysical Research F: Earth Surface, 2016, 121, 2399-2423.	2.8	48
29	Stochastic interpretation of the advection-diffusion equation and its relevance to bed load transport. Journal of Geophysical Research F: Earth Surface, 2015, 120, 2529-2551.	2.8	46
30	Entrainment, motion, and deposition of coarse particles transported by water over a sloping mobile bed. Journal of Geophysical Research F: Earth Surface, 2016, 121, 1931-1952.	2.8	44
31	Powder snow avalanches: Approximation as non-Boussinesq clouds with a Richardson number-dependent entrainment function. Journal of Geophysical Research, 2004, 109, .	3.3	42
32	Tracking the free surface of time-dependent flows: image processing for the dam-break problem. Experiments in Fluids, 2007, 44, 59-71.	2.4	42
33	Statistics of bedload transport over steep slopes: Separation of time scales and collective motion. Geophysical Research Letters, 2013, 40, 128-133.	4.0	42
34	Dynamics of glide avalanches and snow gliding. Reviews of Geophysics, 2015, 53, 745-784.	23.0	40
35	Role of lubricated contacts in concentrated polydisperse suspensions. Journal of Rheology, 2001, 45, 1421-1439.	2.6	39
36	Inverse problem in avalanche dynamics models. Water Resources Research, 2003, 39, .	4.2	37

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37	Estimating bulk rheological properties of flowing snow avalanches from field data. Journal of Geophysical Research, 2004, 109, .	3.3	37
38	Fluctuations of the solid discharge of gravity-driven particle flows in a turbulent stream. Physical Review E, 2004, 69, 061307.	2.1	36
39	Two-dimensional motion of a set of particles in a free surface flow with image processing. Experiments in Fluids, 2006, 41, 1-11.	2.4	36
40	Image processing for the study of bedload transport of two-size spherical particles in a supercritical flow. Experiments in Fluids, 2010, 49, 1095-1107.	2.4	36
41	Are Bedload Transport Pulses in Gravel Bed Rivers Created by Bar Migration or Sediment Waves?. Geophysical Research Letters, 2018, 45, 5501-5508.	4.0	36
42	Spatial correlations in bed load transport: Evidence, importance, and modeling. Journal of Geophysical Research F: Earth Surface, 2014, 119, 1751-1767.	2.8	35
43	Monte Carlo calibration of avalanches described as Coulomb fluid flows. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2005, 363, 1529-1550.	3.4	34
44	Viscoplastic dambreak waves: Review of simple computational approaches and comparison with experiments. Advances in Water Resources, 2012, 48, 79-91.	3.8	33
45	Stochastic-deterministic modeling of bed load transport in shallow water flow over erodible slope: Linear stability analysis and numerical simulation. Advances in Water Resources, 2015, 83, 36-54.	3.8	33
46	21 Debris Flows and Related Phenomena. Lecture Notes in Physics, 2001, , 528-547.	0.7	33
47	Towards a conceptual approach to predetermining long-return-period avalanche run-out distances. Journal of Glaciology, 2004, 50, 268-278.	2.2	31
48	Rolling motion of a bead in a rapid water stream. Physical Review E, 2003, 67, 011303.	2.1	30
49	Internal dynamics of Newtonian and viscoplastic fluid avalanches down a sloping bed. Physics of Fluids, 2012, 24, .	4.0	30
50	Segregation of large particles in dense granular flows suggests a granular Saffman effect. Physical Review Fluids, 2018, 3, .	2.5	30
51	The dam-break problem for viscous fluids in the high-capillary-number limit. Journal of Fluid Mechanics, 2009, 624, 1-22.	3.4	29
52	Kulikovskiyâ€“Sveshnikovaâ€“Beghin model of powder snow avalanches: Development and application. Journal of Geophysical Research, 2007, 112, .	3.3	27
53	Snow Avalanches. , 2001, , 319-338.		26
54	Examination of the possibility of a fluid-mechanics treatment of dense granular flows. International Journal for Numerical and Analytical Methods in Geomechanics, 1996, 1, 385-403.	0.8	25

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55	Bed load transport over a broad range of timescales: Determination of three regimes of fluctuations. Journal of Geophysical Research F: Earth Surface, 2014, 119, 2653-2673.	2.8	25
56	Particle diffusion in non-equilibrium bedload transport simulations. Applied Mathematical Modelling, 2016, 40, 7474-7492.	4.2	23
57	Asymmetric breaking size-segregation waves in dense granular free-surface flows. Journal of Fluid Mechanics, 2016, 794, 460-505.	3.4	22
58	Are there â€œdragon-kingsâ€•events (i.e. genuine outliers) among extreme avalanches?. European Physical Journal: Special Topics, 2012, 205, 117-129.	2.6	20
59	Estimating Mean Bedload Transport Rates and Their Uncertainty. Journal of Geophysical Research F: Earth Surface, 2020, 125, e2020JF005534.	2.8	20
60	Scanning PIV of turbulent flows over and through rough porous beds using refractive index matching. Experiments in Fluids, 2020, 61, 1.	2.4	20
61	Using a Data Driven Approach to Predict Waves Generated by Gravity Driven Mass Flows. Water (Switzerland), 2020, 12, 600.	2.7	19
62	Hydraulic Reconstruction of the 1818 GiÃ©tro Glacial Lake Outburst Flood. Water Resources Research, 2019, 55, 8840-8863.	4.2	17
63	An experimental scaling law for particle-size segregation in dense granular flows. Journal of Fluid Mechanics, 2021, 916, .	3.4	17
64	Fitting avalanche-dynamics models with documented events from the Col du Lautaret site (France) using the conceptual approach. Cold Regions Science and Technology, 2004, 39, 55-66.	3.5	16
65	The dam-break problem for concentrated suspensions of neutrally buoyant particles. Journal of Fluid Mechanics, 2013, 724, 95-122.	3.4	14
66	Snow avalanches striking water basins: behaviour of the avalancheâ€™s centre of mass and front. Natural Hazards, 2017, 88, 1297-1323.	3.4	13
67	Front dynamics of supercritical non-Boussinesq gravity currents. Water Resources Research, 2006, 42, .	4.2	12
68	Granular suspension avalanches. I. Macro-viscous behavior. Physics of Fluids, 2013, 25, .	4.0	11
69	Breaking size-segregation waves and mobility feedback in dense granular avalanches. Granular Matter, 2018, 20, 1.	2.2	11
70	Decoupling the Role of Inertia, Friction, and Cohesion in Dense Granular Avalanche Pressure Buildâ€up on Obstacles. Journal of Geophysical Research F: Earth Surface, 2020, 125, e2019JF005192.	2.8	11
71	Large particle segregation in two-dimensional sheared granular flows. Physical Review Fluids, 2021, 6, .	2.5	10
72	L'avalanche de PÃ©clerey du 9 fÃ©vrier 1999. Houille Blanche, 2000, 86, 45-53.	0.3	10

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73	Existence and features of similarity solutions for non-Boussinesq gravity currents. Physica D: Nonlinear Phenomena, 2007, 226, 32-54.	2.8	9
74	Granular suspension avalanches. II. Plastic regime. Physics of Fluids, 2013, 25, .	4.0	9
75	The dam-break problem for eroding viscoplastic fluids. Journal of Non-Newtonian Fluid Mechanics, 2017, 243, 64-78.	2.4	9
76	An experimental study of particle-driven gravity currents on steep slopes with entrainment of particles. Natural Hazards and Earth System Sciences, 2002, 2, 181-185.	3.6	8
77	Visco-plastic fluids: From Theory to Application. Journal of Non-Newtonian Fluid Mechanics, 2009, 158, 1-3.	2.4	8
78	Basal entrainment by Newtonian gravity-driven flows. Physics of Fluids, 2016, 28, .	4.0	8
79	The effects of slide cohesion on impulse-wave formation. Experiments in Fluids, 2019, 60, 1.	2.4	8
80	Physics-based estimates of drag coefficients for the impact pressure calculation of dense snow avalanches. Engineering Structures, 2022, 254, 113478.	5.3	8
81	Gravity flow on steep slope. , 2012, , 372-432.		7
82	Stokesâ€™ third problem for Herschelâ€“Bulkley fluids. Journal of Non-Newtonian Fluid Mechanics, 2017, 243, 27-37.	2.4	7
83	Continuous Monitoring of Bed-Load Transport in a Laboratory Flume Using an Impact Sensor. Journal of Hydraulic Engineering, 2017, 143, .	1.5	7
84	A conveyor belt experimental setup to study the internal dynamics of granular avalanches. Experiments in Fluids, 2021, 62, 207.	2.4	6
85	The concept of the mobilized domain: how it can explain and predict the forces exerted by a cohesive granular avalanche on an obstacle. Granular Matter, 2022, 24, 45.	2.2	6
86	Visualization of the internal flow properties and the material exchange interface in an entraining viscous Newtonian gravity current. Environmental Fluid Mechanics, 2014, 14, 501-518.	1.6	5
87	An experimental investigation of turbulent free-surface flows over a steep permeable bed. Journal of Fluid Mechanics, 2022, 941, .	3.4	4
88	ModÃ©lisation des avalanches denses Approches thÃ©orique et numÃ©rique. Houille Blanche, 1994, 80, 25-39.	0.3	3
89	T. JÃ³hannesson, P. Gauer, P. Issler and K. Lied, eds. 2009. The design of avalanche protection dams: recent practical and theoretical developments. Brussels, European Communities. 195pp. ISBN 978-92-79-08885-8, softback, free.. Journal of Glaciology, 2009, 55, 753-754.	2.2	3
90	The variability of antidune morphodynamics on steep slopes. Earth Surface Processes and Landforms, 2021, 46, 1750-1765.	2.5	3

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91	Rheophysics of highly concentrated coarse-particle suspensions in a wide-gap Couette rheometer. , 2009, , .		2
92	Rheophysical Investigation in Concentrated Particle Suspensions. AIP Conference Proceedings, 2008, , .	0.4	1
93	Stochastic bedload transport in mountain streams. E3S Web of Conferences, 2018, 40, 05046.	0.5	1
94	Introduction to Rheology and Application to Geophysics. Lecture Notes in Physics, 2001, , 52-78.	0.7	1
95	Avalanches of Concentrated Granular Suspensions Down an Inclined Plane. AIP Conference Proceedings, 2008, , .	0.4	0
96	Visco-plastic Fluids: From Theory to Application. Applied Rheology, 2008, 18, 48-50.	5.2	0
97	Experimental study of bed load transport on steep slopes with a two-size mixture of spherical particles. , 2007, , 565-570.		0
98	Mudflow. Encyclopedia of Earth Sciences Series, 2013, , 706-706.	0.1	0
99	10.1063/1.4947242.1. , 2016, , .		0