

# Olivier Desjardins

## List of Publications by Year in descending order

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60  
papers

3,225  
citations

186265

28  
h-index

182427

51  
g-index

60  
all docs

60  
docs citations

60  
times ranked

1776  
citing authors

#	ARTICLE	IF	CITATIONS
1	General, robust, and efficient polyhedron intersection in the Interface Reconstruction Library. Journal of Computational Physics, 2022, 449, 110787.	3.8	8
2	Stability of an air-water mixing layer: focus on the confinement effect. Journal of Fluid Mechanics, 2022, 933, .	3.4	5
3	Rebound of large jets from superhydrophobic surfaces in low gravity. Physical Review Fluids, 2021, 6, .	2.5	5
4	Traction open boundary condition for incompressible, turbulent, single- or multi-phase flows, and surface wave simulations. Journal of Computational Physics, 2021, 443, 110528.	3.8	1
5	An all-Mach, low-dissipation strategy for simulating multiphase flows. Journal of Computational Physics, 2021, 445, 110602.	3.8	9
6	Direct comparison of Eulerian-Eulerian and Eulerian-Lagrangian simulations for particle-laden vertical channel flow. AIChE Journal, 2020, 66, e16230.	3.6	12
7	The rapid distortion of two-way coupled particle-laden turbulence. Journal of Fluid Mechanics, 2019, 877, 82-104.	3.4	9
8	A volume of fluid framework for interface-resolved simulations of vaporizing liquid-gas flows. Journal of Computational Physics, 2019, 399, 108954.	3.8	45
9	Three-dimensional conditional hyperbolic quadrature method of moments. Journal of Computational Physics: X, 2019, 1, 100006.	0.7	12
10	Clustering in Euler-Euler and Euler-Lagrange simulations of unbounded homogeneous particle-laden shear. Journal of Fluid Mechanics, 2019, 859, 174-203.	3.4	25
11	A computational study of the effects of multiphase dynamics in catalytic upgrading of biomass pyrolysis vapor. AIChE Journal, 2018, 64, 3341-3353.	3.6	13
12	3D numerical study of large-scale two-phase flows with contact lines and application to drop detachment from a horizontal fiber. International Journal of Multiphase Flow, 2018, 101, 35-46.	3.4	14
13	On the transition between turbulence regimes in particle-laden channel flows. Journal of Fluid Mechanics, 2018, 845, 499-519.	3.4	55
14	Numerical study of the critical drop size on a thin horizontal fiber: Effect of fiber shape and contact angle. Chemical Engineering Science, 2018, 187, 127-133.	3.8	8
15	Technique for forcing high Reynolds number isotropic turbulence in physical space. Physical Review Fluids, 2018, 3, .	2.5	13
16	Numerical simulation of the initial destabilization of an air-blasted liquid layer. Journal of Fluid Mechanics, 2017, 812, 1024-1038.	3.4	29
17	Direct numerical simulations of turbulent multiphase flows undergoing evaporation. , 2017, , .		3
18	A Numerical Parametric Study on the Air-Blast Atomization of a Planar Liquid Layer. , 2017, , .		3

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19	Eulerian–euler anisotropic gaussian mesoscale simulation of homogeneous cluster-induced gas–particle turbulence. <i>AICHE Journal</i> , 2017, 63, 2630-2643.	3.6	40
20	A reformulation of the conservative level set reinitialization equation for accurate and robust simulation of complex multiphase flows. <i>Journal of Computational Physics</i> , 2017, 343, 186-200.	3.8	55
21	Improving particle drag predictions in Eulerian–Lagrange simulations with two-way coupling. <i>Journal of Computational Physics</i> , 2017, 338, 405-430.	3.8	90
22	A mass and momentum conserving unsplit semi-Lagrangian framework for simulating multiphase flows. <i>Journal of Computational Physics</i> , 2017, 332, 21-46.	3.8	49
23	Verification of Eulerian–Eulerian and Eulerian–Lagrangian simulations for turbulent fluid–particle flows. <i>AICHE Journal</i> , 2017, 63, 5396-5412.	3.6	39
24	An algorithm for solving the Navier–Stokes equations with shear-periodic boundary conditions and its application to homogeneously sheared turbulence. <i>Journal of Fluid Mechanics</i> , 2017, 833, 687-716.	3.4	16
25	Strongly coupled fluid-particle flows in vertical channels. II. Turbulence modeling. <i>Physics of Fluids</i> , 2016, 28, .	4.0	27
26	Strongly coupled fluid-particle flows in vertical channels. I. Reynolds-averaged two-phase turbulence statistics. <i>Physics of Fluids</i> , 2016, 28, .	4.0	31
27	Effect of Domain Size on Fluid–Particle Statistics in Homogeneous, Gravity-Driven, Cluster-Induced Turbulence. <i>Journal of Fluids Engineering, Transactions of the ASME</i> , 2016, 138, .	1.5	23
28	On fluid–particle dynamics in fully developed cluster-induced turbulence. <i>Journal of Fluid Mechanics</i> , 2015, 780, 578-635.	3.4	128
29	Mass Loading Effects on Turbulence Modulation by Particle Clustering in Dilute and Moderately Dilute Channel Flows. <i>Journal of Fluids Engineering, Transactions of the ASME</i> , 2015, 137, .	1.5	19
30	Transport modeling of sedimenting particles in a turbulent pipe flow using Eulerian–Lagrange large eddy simulation. <i>International Journal of Multiphase Flow</i> , 2015, 75, 1-11.	3.4	44
31	Preferential concentration driven instability of sheared gas–solid suspensions. <i>Journal of Fluid Mechanics</i> , 2015, 770, 85-123.	3.4	13
32	A mesh-decoupled height function method for computing interface curvature. <i>Journal of Computational Physics</i> , 2015, 281, 285-300.	3.8	53
33	Numerical investigation and modeling of reacting gas-solid flows in the presence of clusters. <i>Chemical Engineering Science</i> , 2015, 122, 403-415.	3.8	27
34	Large-eddy simulation study of injector geometry on liquid jet in cross-flow and validation with experiments. , 2014, , .		1
35	A fast marching approach to multidimensional extrapolation. <i>Journal of Computational Physics</i> , 2014, 274, 393-412.	3.8	7
36	Turbulence Modulation by Particle Clustering in Dilute and Moderately Dilute Channel Flows. , 2014, , .		0

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37	Numerical study of collisional particle dynamics in cluster-induced turbulence. <i>Journal of Fluid Mechanics</i> , 2014, 747, .	3.4	75
38	Numerical investigation of primary air-blast atomization and modal analysis of flow instabilities. , 2014, , .		0
39	A localized re-initialization equation for the conservative level set method. <i>Journal of Computational Physics</i> , 2014, 262, 408-426.	3.8	35
40	Numerical investigation of gravitational effects in horizontal annular liquidâ€“gas flow. <i>International Journal of Multiphase Flow</i> , 2014, 67, 88-105.	3.4	12
41	Numerical characterization and modeling of particle clustering in wall-bounded vertical risers. <i>Chemical Engineering Journal</i> , 2014, 245, 295-310.	12.7	57
42	A computational framework for conservative, three-dimensional, unsplit, geometric transport with application to the volume-of-fluid (VOF) method. <i>Journal of Computational Physics</i> , 2014, 270, 587-612.	3.8	97
43	Investigating Multiphase Turbulence Statistics of Large-Scale Two-Way Coupled Gravity-Driven Flows. , 2014, , .		0
44	Eulerianâ€“Lagrangian modeling of turbulent liquidâ€“solid slurries in horizontal pipes. <i>International Journal of Multiphase Flow</i> , 2013, 55, 64-79.	3.4	91
45	An Eulerâ€“Lagrange strategy for simulating particle-laden flows. <i>Journal of Computational Physics</i> , 2013, 238, 1-31.	3.8	388
46	A discontinuous Galerkin conservative level set scheme for interface capturing in multiphase flows. <i>Journal of Computational Physics</i> , 2013, 249, 275-302.	3.8	57
47	DIRECT NUMERICAL AND LARGE-EDDY SIMULATION OF PRIMARY ATOMIZATION IN COMPLEX GEOMETRIES. <i>Atomization and Sprays</i> , 2013, 23, 1001-1048.	0.8	75
48	Numerical analysis of the dynamics of two- and three-dimensional fluidized bed reactors using an Eulerâ€“Lagrange approach. <i>Powder Technology</i> , 2012, 220, 104-121.	4.2	67
49	Experimental and Numerical Investigation of Air-Blast <i>n</i> -Dodecane Injection. , 2011, , .		0
50	Direct numerical simulations and analysis of three-dimensional n-heptane spray flames in a model swirl combustor. <i>Proceedings of the Combustion Institute</i> , 2011, 33, 2143-2152.	3.9	147
51	A ghost fluid, level set methodology for simulating multiphase electrohydrodynamic flows with application to liquid fuel injection. <i>Journal of Computational Physics</i> , 2010, 229, 7977-7996.	3.8	38
52	Parametric Study of Primary Breakup of Turbulent Liquid Jets in Crossflow: Role of Weber number. , 2010, , .		2
53	A Ghost Fluid, Level Set Approach for Modeling Electrohydrodynamic Atomization. , 2010, , .		0
54	DETAILED NUMERICAL INVESTIGATION OF TURBULENT ATOMIZATION OF LIQUID JETS. <i>Atomization and Sprays</i> , 2010, 20, 311-336.	0.8	68

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55	A spectrally refined interface approach for simulating multiphase flows. Journal of Computational Physics, 2009, 228, 1658-1677.	3.8	49
56	High order conservative finite difference scheme for variable density low Mach number turbulent flows. Journal of Computational Physics, 2008, 227, 7125-7159.	3.8	505
57	A quadrature-based moment method for dilute fluid-particle flows. Journal of Computational Physics, 2008, 227, 2514-2539.	3.8	140
58	An accurate conservative level set/ghost fluid method for simulating turbulent atomization. Journal of Computational Physics, 2008, 227, 8395-8416.	3.8	327
59	Large-eddy simulation of turbulent reacting flows. Progress in Aerospace Sciences, 2008, 44, 466-478.	12.1	55
60	Influence of parametric forcing on the nonequilibrium dynamics of wave patterns. Physical Review E, 2007, 75, 046208.	2.1	9