Ilenia Battiato

List of Publications by Year
in descending order

51 papers	1,347 citations	361296 20 h-index	345118 36 g-index
52 all docs	52 docs citations	52 times ranked	1074 citing authors

#	Article	IF	Citations
1	Chemical and Reactive Transport Processes Associated with Hydraulic Fracturing of Unconventional Oil/Gas Shales. Chemical Reviews, 2022, 122, 9198-9263.	23.0	25
2	Module-Fluidics: Building Blocks for Spatio-Temporal Microenvironment Control. Micromachines, 2022, 13, 774.	1.4	1
3	Macroscale transport in channel-matrix systems via integral transforms. Physical Review Fluids, 2021, 6, .	1.0	11
4	Upscaling Reactive Transport and Clogging in Shale Microcracks by Deep Learning. Water Resources Research, 2021, 57, e2020WR029125.	1.7	5
5	Dynamic Modeling of Fouling in Reverse Osmosis Membranes. Membranes, 2021, 11, 349.	1.4	10
6	Upscaling and Automation: Pushing the Boundaries of Multiscale Modeling through Symbolic Computing. Transport in Porous Media, 2021, 140, 313-349.	1.2	7
7	Concentration polarization over reverse osmosis membranes with engineered surface features. Journal of Membrane Science, 2021, 617, 118199.	4.1	36
8	Multi-Scale Microfluidics for Transport in Shale Fabric. Energies, 2021, 14, 21.	1.6	11
9	Striving to translate shale physics across ten orders of magnitude: What have we learned?. Earth-Science Reviews, 2021, 223, 103848.	4.0	21
10	A Data-Driven Multiscale Framework to Estimate Effective Properties of Lithium-Ion Batteries from Microstructure Images. Transport in Porous Media, 2020, 134, 173-194.	1.2	6
11	Suitability of 2D modelling to evaluate flow properties in 3D porous media. Transport in Porous Media, 2020, 134, 315-329.	1.2	18
12	Ï„-SIMPLE Algorithm for the closure problem in homogenization of stokes flows. Advances in Water Resources, 2020, 144, 103712.	1.7	2
13	Taylor drop in a closed vertical pipe. Journal of Fluid Mechanics, 2020, 902, .	1.4	4
14	Patchâ€Based Multiscale Algorithm for Flow and Reactive Transport in Fractureâ€Microcrack Systems in Shales. Water Resources Research, 2020, 56, e2019WR025960.	1.7	7
15	Impact of Pore-Scale Characteristics on Immiscible Fluid Displacement. Geofluids, 2020, 2020, 1-10.	0.3	6
16	Scaling of two-phase water-steam relative permeability and thermal fluxes in porous media. International Journal of Multiphase Flow, 2020, 129, 103257.	1.6	8
17	Contribution of Pore-Scale Approach to Macroscale Geofluids Modelling in Porous Media. Geofluids, 2019, 2019, 1-4.	0.3	1
18	High order ghost-cell immersed boundary method for generalized boundary conditions. International Journal of Heat and Mass Transfer, 2019, 137, 585-598.	2.5	19

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19	Theory and Applications of Macroscale Models in Porous Media. Transport in Porous Media, 2019, 130, 5-76.	1.2	58
20	Relative Permeability Scaling From Poreâ€Scale Flow Regimes. Water Resources Research, 2019, 55, 3215-3233.	1.7	25
21	Rough or wiggly? Membrane topology and morphology for fouling control. Journal of Fluid Mechanics, 2019, 862, 753-780.	1.4	20
22	Planning the process parameters for the direct metal deposition of functionally graded parts based on mathematical models. Journal of Manufacturing Processes, 2018, 31, 56-71.	2.8	15
23	Downscalingâ€Based Segmentation for Unresolved Images of Highly Heterogeneous Granular Porous Samples. Water Resources Research, 2018, 54, 2871-2890.	1.7	5
24	Universal scaling-law for flow resistance over canopies with complex morphology. Scientific Reports, 2018, 8, 4430.	1.6	36
25	Bistability of buoyancy-driven exchange flows in vertical tubes. Journal of Fluid Mechanics, 2018, 850, 525-550.	1.4	20
26	Hydrodynamic dispersion in thin channels with micro-structured porous walls. Physics of Fluids, 2018, 30, .	1.6	30
27	The Impact of Poreâ€Scale Flow Regimes on Upscaling of Immiscible Twoâ€Phase Flow in Porous Media. Water Resources Research, 2018, 54, 6683-6707.	1.7	36
28	Modeling variability in porescale multiphase flow experiments. Advances in Water Resources, 2017, 105, 29-38.	1.7	24
29	A Mathematical Model-Based Optimization Method for Direct Metal Deposition of Multimaterials. Journal of Manufacturing Science and Engineering, Transactions of the ASME, 2017, 139, .	1.3	13
30	Physics-based hybrid method for multiscale transport in porous media. Journal of Computational Physics, 2017, 344, 320-338.	1.9	31
31	Design of injection nozzle in direct metal deposition (DMD) manufacturing of thin-walled structures based on 3D models. International Journal of Advanced Manufacturing Technology, 2017, 91, 605-616.	1.5	11
32	Multiscale modeling approach to determine effective lithium-ion transport properties. , 2017, , .		9
33	Role of glycocalyx in attenuation of shear stress on endothelial cells: From in vivo experiments to microfluidic circuits. , 2017, , .		1
34	Preliminary Investigation of Provability of Li-Ion Macroscale Models Subject to Capacity Fade. , 2016, , .		1
35	Design of Injection Nozzle in Direct Metal Deposition (DMD) Manufacturing of Thin-Walled Structures Based on 3D Models. , 2016, , .		0
36	Dispersion controlled by permeable surfaces: surface properties and scaling. Journal of Fluid Mechanics, 2016, 801, 13-42.	1.4	38

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37	Sequential Homogenization of Reactive Transport in Polydisperse Porous Media. Multiscale Modeling and Simulation, 2016, 14, 1301-1318.	0.6	23
38	Vertical dispersion in vegetated shear flows. Water Resources Research, 2016, 52, 8066-8080.	1.7	37
39	Temperature-dependent multiscale-dynamics in Lithium-ion battery electrochemical models. , 2015, , .		5
40	On Veracity of Macroscopic Lithium-Ion Battery Models. Journal of the Electrochemical Society, 2015, 162, A1940-A1951.	1.3	52
41	An Analysis Platform for Multiscale Hydrogeologic Modeling with Emphasis on Hybrid Multiscale Methods. Ground Water, 2015, 53, 38-56.	0.7	62
42	Singleâ€parameter model of vegetated aquatic flows. Water Resources Research, 2014, 50, 6358-6369.	1.7	35
43	Effective medium theory for drag-reducing micro-patterned surfaces in turbulent flows. European Physical Journal E, 2014, 37, 19.	0.7	12
44	Homogenizability conditions for multicomponent reactive transport. Advances in Water Resources, 2013, 62, 254-265.	1.7	54
45	A reduced complexity model for dynamic similarity in obstructed shear flows. Geophysical Research Letters, 2013, 40, 3888-3892.	1.5	13
46	Flow-induced shear instabilities of cohesive granulates. Physical Review E, 2012, 86, 031301.	0.8	1
47	Self-similarity in coupled Brinkman/Navierâ€“Stokes flows. Journal of Fluid Mechanics, 2012, 699, 94-114.	1.4	30
48	Hybrid models of reactive transport in porous and fractured media. Advances in Water Resources, 2011, 34, 1140-1150.	1.7	119
49	Applicability regimes for macroscopic models of reactive transport in porous media. Journal of Contaminant Hydrology, 2011, 120-121, 18-26.	1.6	163
50	Elastic Response of Carbon Nanotube Forests to Aerodynamic Stresses. Physical Review Letters, 2010, 105, 144504.	2.9	37
51	On breakdown of macroscopic models of mixing-controlled heterogeneous reactions in porous media. Advances in Water Resources, 2009, 32, 1664-1673.	1.7	133