

Amir Riaz

List of Publications by Year in descending order

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36
papers

1,120
citations

430874

18
h-index

395702

33
g-index

37
all docs

37
docs citations

37
times ranked

868
citing authors

#	ARTICLE	IF	CITATIONS
1	Convective dissolution of carbon dioxide in saline aquifers. <i>Geophysical Research Letters</i> , 2010, 37, .	4.0	266
2	Carbon dioxide sequestration in saline formations: Part 1—Review of the modeling of solubility trapping. <i>Journal of Petroleum Science and Engineering</i> , 2014, 124, 367-380.	4.2	84
3	Linear stability analysis of immiscible two-phase flow in porous media with capillary dispersion and density variation. <i>Physics of Fluids</i> , 2004, 16, 4727-4737.	4.0	77
4	Numerical simulation of immiscible two-phase flow in porous media. <i>Physics of Fluids</i> , 2006, 18, 014104.	4.0	76
5	Experimental Study of CO ₂ Injection Into Saline Formations. <i>SPE Journal</i> , 2009, 14, 588-594.	3.1	57
6	Forced imbibition in natural porous media: Comparison between experiments and continuum models. <i>Physical Review E</i> , 2007, 75, 036305.	2.1	49
7	Carbon dioxide sequestration in saline formations: Part 2—Review of multiphase flow modeling. <i>Journal of Petroleum Science and Engineering</i> , 2014, 124, 381-398.	4.2	49
8	Influence of Relative Permeability on the Stability Characteristics of Immiscible Flow in Porous Media. <i>Transport in Porous Media</i> , 2006, 64, 315-338.	2.6	48
9	The initial transient period of gravitationally unstable diffusive boundary layers developing in porous media. <i>Physics of Fluids</i> , 2013, 25, .	4.0	47
10	Optimal perturbations of gravitationally unstable, transient boundary layers in porous media. <i>Journal of Fluid Mechanics</i> , 2013, 727, 456-487.	3.4	34
11	Direct numerical simulation of incompressible multiphase flow with phase change. <i>Journal of Computational Physics</i> , 2017, 344, 381-418.	3.8	31
12	Multiscale level-set method for accurate modeling of immiscible two-phase flow with deposited thin films on solid surfaces. <i>Journal of Computational Physics</i> , 2017, 333, 297-320.	3.8	31
13	Radial source flows in porous media: Linear stability analysis of axial and helical perturbations in miscible displacements. <i>Physics of Fluids</i> , 2003, 15, 938-946.	4.0	24
14	Topology preserving advection of implicit interfaces on Cartesian grids. <i>Journal of Computational Physics</i> , 2015, 290, 219-238.	3.8	23
15	A new model for the density of saturated solutions of CO ₂ -H ₂ O-NaCl in saline aquifers. <i>International Journal of Greenhouse Gas Control</i> , 2014, 31, 192-204.	4.6	20
16	Effect of viscosity contrast on gravitationally unstable diffusive layers in porous media. <i>Physics of Fluids</i> , 2014, 26, .	4.0	19
17	Smooth particle hydrodynamics studies of wet granular column collapses. <i>Acta Geotechnica</i> , 2020, 15, 1205-1217.	5.7	19
18	Pore-scale study of water salinity effect on thin-film stability for a moving oil droplet. <i>Journal of Colloid and Interface Science</i> , 2020, 569, 366-377.	9.4	19

#	ARTICLE	IF	CITATIONS
19	Onset of natural convection in layered aquifers. Journal of Fluid Mechanics, 2015, 767, 763-781.	3.4	17
20	A formulation for high-fidelity simulations of pool boiling in low gravity. International Journal of Multiphase Flow, 2019, 120, 103099.	3.4	17
21	Two-phase multiscale numerical framework for modeling thin films on curved solid surfaces in porous media. Journal of Computational Physics, 2020, 413, 109464.	3.8	15
22	Stability of two-phase vertical flow in homogeneous porous media. Physics of Fluids, 2007, 19, .	4.0	14
23	Eigenspectra and mode coalescence of temporal instability in two-phase channel flow. Physics of Fluids, 2015, 27, 042101.	4.0	14
24	Waves and instabilities in high quality adiabatic flow in microgap channels. International Journal of Multiphase Flow, 2016, 83, 62-76.	3.4	10
25	Convective mixing in vertically-layered porous media: The linear regime and the onset of convection. Physics of Fluids, 2017, 29, .	4.0	9
26	An investigation of the gravity effects on pool boiling heat transfer via high-fidelity simulations. International Journal of Heat and Mass Transfer, 2021, 180, 121826.	4.8	8
27	Wettability and capillary effects: Dynamics of pinch-off in unconstricted straight capillary tubes. Physical Review E, 2020, 102, 023109.	2.1	7
28	Miscible, Porous Media Displacements with Density Stratification. Annals of the New York Academy of Sciences, 2004, 1027, 342-359.	3.8	6
29	A data driven model for the impact of IFT and density variations on CO ₂ storage capacity in geologic formations. Advances in Water Resources, 2017, 107, 83-92.	3.8	6
30	Effect of CO_2 solubility on dissolution rate of calcite in saline aquifers for temperature range of $50\text{--}100\text{ }^\circ\text{C}$ and pressures up to 600 bar: alterations of fractures geometry in carbonate rocks by CO_2 -acidified brines. Environmental Earth Sciences, 2017, 76, 1.	2.7	5
31	Computational Studies on Interactions between Robot Leg and Deformable Terrain. Procedia Engineering, 2017, 199, 2439-2444.	1.2	4
32	A locally second order symmetric method for discontinuous solution of Poisson's equation on uniform cartesian grids. Computers and Fluids, 2020, 198, 104397.	2.5	4
33	Continuum Modeling and Simulation of Robotic Appendage Interaction With Granular Material. Journal of Applied Mechanics, Transactions ASME, 2021, 88, .	2.2	3
34	Direct numerical simulation of Taylor bubble with phase change. International Journal of Heat and Mass Transfer, 2022, 194, 123039.	4.8	3
35	Effect of inertia on capillary-driven breakup of drops surrounded by another fluid. Physics of Fluids, 2021, 33, .	4.0	2
36	An efficient, robust and high accuracy framework for direct numerical simulation of 2D and 2D axisymmetric immiscible flow with large property contrast. Computers and Fluids, 2021, 229, 105083.	2.5	0