Mauro Bracconi

List of Publications by Year
in descending order

63 papers	3,136 citations	147801 31 h-index	155660 55 g-index
63 all docs	63 docs citations	63 times ranked	1865 citing authors

#	Article	IF	Citations
1	Mass-Transfer Characterization of Metallic Foams as Supports for Structured Catalysts. Industrial & Engineering Chemistry Research, 2005, 44, 4993-5002.	3.7	324
2	Adequacy of lumped parameter models for SCR reactors with monolith structure. AIChE Journal, 1992, 38, 201-210.	3.6	197
3	Heat Transfer Characterization of Metallic Foams. Industrial & Engineering Chemistry Research, 2005, 44, 9078-9085.	3.7	145
4	An appraisal of the heat transfer properties of metallic open-cell foams for strongly exo-/endo-thermic catalytic processes in tubular reactors. Chemical Engineering Journal, 2012, 198-199, 512-528.	12.7	142
5	Design of novel monolith catalyst supports for gas/solid reactions with heat exchange. Chemical Engineering Science, 2000, 55, 2161-2171.	3.8	136
6	Structured catalysts for non-adiabatic applications. Current Opinion in Chemical Engineering, 2014, 5, 55-67.	7.8	123
7	Methods for the catalytic activation of metallic structured substrates. Catalysis Science and Technology, 2014, 4, 2846-2870.	4.1	118
8	Dynamic methods for catalytic kinetics. Applied Catalysis A: General, 2008, 342, 3-28.	4.3	99
9	A C₁ microkinetic model for methane conversion to syngas on Rh/Al₂O₃. AIChE Journal, 2009, 55, 993-1008.	3.6	95
10	Heat transfer properties of metal foam supports for structured catalysts: Wall heat transfer coefficient. Catalysis Today, 2013, 216, 121-134.	4.4	87
11	Monolithic catalysts with â€˜high conductivityâ€™ honeycomb supports for gas/solid exothermic reactions: characterization of the heat-transfer properties. Chemical Engineering Science, 2004, 59, 4941-4949.	3.8	79
12	Intensifying heat transfer in Fischer-Tropsch tubular reactors through the adoption of conductive packed foams. Chemical Engineering Journal, 2018, 349, 829-837.	12.7	78
13	Continuous vs. discrete models of nonadiabatic monolith catalysts. AIChE Journal, 1996, 42, 2382-2387.	3.6	72
14	A fundamental analysis of the influence of the geometrical properties on the effective thermal conductivity of open-cell foams. Chemical Engineering and Processing: Process Intensification, 2018, 129, 181-189.	3.6	70
15	Investigation of pressure drop in 3D replicated open-cell foams: Coupling CFD with experimental data on additively manufactured foams. Chemical Engineering Journal, 2019, 377, 120123.	12.7	67
16	Influence of the Substrate Properties on the Performances of NH₃-SCR Monolithic Catalysts for the Aftertreatment of Diesel Exhaust: An Experimental and Modeling Study. Industrial & Engineering Chemistry Research, 2011, 50, 299-309.	3.7	63
17	A fundamental investigation of gas/solid mass transfer in open-cell foams using a combined experimental and CFD approach. Chemical Engineering Journal, 2018, 352, 558-571.	12.7	61
18	Generalized Correlation for Gas/Solid Mass-Transfer Coefficients in Metallic and Ceramic Foams. Industrial & Engineering Chemistry Research, 2007, 46, 3955-3958.	3.7	60

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19	A study on the thermal behavior of structured plate-type catalysts with metallic supports for gas/solid exothermic reactions. Chemical Engineering Science, 2000, 55, 6021-6036.	3.8	58
20	A multiregion operator-splitting CFD approach for coupling microkinetic modeling with internal porous transport in heterogeneous catalytic reactors. Chemical Engineering Journal, 2016, 283, 1392-1404.	12.7	58
21	Simulation of structured catalytic reactors with enhanced thermal conductivity for selective oxidation reactions. Catalysis Today, 2001, 69, 63-73.	4.4	54
22	Adoption of 3D printed highly conductive periodic open cellular structures as an effective solution to enhance the heat transfer performances of compact Fischer-Tropsch fixed-bed reactors. Chemical Engineering Journal, 2020, 386, 123988.	12.7	49
23	Highly conductive â€œpacked foamsâ€: A new concept for the intensification of strongly endo- and exo-thermic catalytic processes in compact tubular reactors. Catalysis Today, 2016, 273, 178-186.	4.4	47
24	A systematic procedure for the virtual reconstruction of open-cell foams. Chemical Engineering Journal, 2017, 315, 608-620.	12.7	47
25	Washcoating and chemical testing of a commercial Cu/ZnO/Al2O3 catalyst for the methanol synthesis over copper open-cell foams. Applied Catalysis A: General, 2014, 481, 96-103.	4.3	42
26	Investigation of packed conductive foams as a novel reactor configuration for methane steam reforming. Chemical Engineering Journal, 2020, 391, 123494.	12.7	41
27	Accurate prediction of the effective radial conductivity of highly conductive honeycomb monoliths with square channels. Chemical Engineering Journal, 2013, 223, 224-230.	12.7	37
28	Conductive Monolithic Catalysts: Development and Industrial Pilot Tests for the Oxidation of <i>o</i>-Xylene to Phthalic Anhydride. Industrial & Engineering Chemistry Research, 2012, 51, 7590-7596.	3.7	35
29	Development of a heat transport model for open-cell metal foams with high cell densities. Chemical Engineering Journal, 2017, 321, 432-446.	12.7	35
30	Packed foams for the intensification of catalytic processes: assessment of packing efficiency and pressure drop using a combined experimental and numerical approach. Chemical Engineering Journal, 2020, 382, 122801.	12.7	35
31	Analytical Geometrical Model of Open Cell Foams with Detailed Description of Strutâ€Node Intersection. Chemie-Ingenieur-Technik, 2017, 89, 915-925.	0.8	33
32	Experiments and computations of microfluidic liquidâ€“liquid flow patterns. Reaction Chemistry and Engineering, 2020, 5, 39-50.	3.7	31
33	Quo vadis multiscale modeling in reaction engineering? â€“ A perspective. Chemical Engineering Research and Design, 2022, 184, 39-58.	5.6	31
34	Selective oxidation of n-butane to maleic anhydride in fluid bed reactors: detailed kinetic investigation and reactor modelling. Chemical Engineering Science, 2003, 58, 643-648.	3.8	30
35	<i>In situ</i> adaptive tabulation for the CFD simulation of heterogeneous reactors based on operatorâ€splitting algorithm. AIChE Journal, 2017, 63, 95-104.	3.6	28
36	A comparison between washcoated and packed copper foams for the intensification of methane steam reforming. Reaction Chemistry and Engineering, 2019, 4, 1387-1392.	3.7	28

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37	Training set design for machine learning techniques applied to the approximation of computationally intensive first-principles kinetic models. Chemical Engineering Journal, 2020, 400, 125469.	12.7	28
38	A Fundamental Investigation of Gas/Solid Heat and Mass Transfer in Structured Catalysts Based on Periodic Open Cellular Structures (POCS). Industrial & Engineering Chemistry Research, 2021, 60, 10522-10538.	3.7	27
39	Analysis of the effective thermal conductivity of isotropic and anisotropic Periodic Open Cellular Structures for the intensification of catalytic processes. Chemical Engineering and Processing: Process Intensification, 2020, 158, 108169.	3.6	24
40	Coupling CFDâ€“DEM and microkinetic modeling of surface chemistry for the simulation of catalytic fluidized systems. Reaction Chemistry and Engineering, 2018, 3, 527-539.	3.7	21
41	A hierarchical approach to chemical reactor engineering: an application to micro packed bed reactors. Reaction Chemistry and Engineering, 2018, 3, 25-33.	3.7	20
42	Liquidâ€“Liquid Microfluidic Flows for Ultrafast 5-Hydroxymethyl Furfural Extraction. Industrial & Engineering Chemistry Research, 2021, 60, 3723-3735.	3.7	20
43	H2 production by methane steam reforming over Rh/Al2O3 catalyst packed in Cu foams: A strategy for the kinetic investigation in concentrated conditions. Catalysis Today, 2022, 387, 107-118.	4.4	20
44	Computational Fluid Dynamics of Reacting Flows at Surfaces: Methodologies and Applications. Chemie-Ingenieur-Technik, 2022, 94, 634-651.	0.8	20
45	Packed Periodic Open Cellular Structures â€" an Option for the Intensification of Non-Adiabatic Catalytic Processes. Chemical Engineering and Processing: Process Intensification, 2020, 155, 108057.	3.6	19
46	Packed-POCS with skin: A novel concept for the intensification of non-adiabatic catalytic processes demonstrated in the case of the Fischer-Tropsch synthesis. Catalysis Today, 2022, 383, 15-20.	4.4	19
47	The Influence of the Washcoat Deposition Process on High Pore Density Open Cell Foams Activation for CO Catalytic Combustion. Catalysts, 2018, 8, 510.	3.5	18
48	A Numerical Investigation of Electrically-Heated Methane Steam Reforming Over Structured Catalysts. Frontiers in Chemical Engineering, 0, 3, .	2.7	18
49	Electrodeposition of CeO2 and Pd-CeO2 on small pore size metallic foams: Selection of deposition parameters. Catalysis Today, 2019, 334, 37-47.	4.4	17
50	Development and assessment of speed-up algorithms for the reactive CFDâ€“DEM simulation of fluidized bed reactors. Reaction Chemistry and Engineering, 2020, 5, 278-288.	3.7	15
51	Rich H2 catalytic oxidation as a novel methodology for the evaluation of mass transport properties of 3D printed catalyst supports. Catalysis Today, 2022, 383, 123-132.	4.4	15
52	Periodic open cellular structures (POCS) as enhanced catalyst supports: Optimization of the coating procedure and analysis of mass transport. Applied Catalysis B: Environmental, 2021, 283, 119651.	20.2	14
53	Impact of the Partitioning Method on Multidimensional Adaptive-Chemistry Simulations. Energies, 2020, 13, 2567.	3.1	13
54	Coupling Eulerâ€“Euler and Microkinetic Modeling for the Simulation of Fluidized Bed Reactors: an Application to the Oxidative Coupling of Methane. Industrial & Engineering Chemistry Research, 2021, 60, 6687-6697.	3.7	13

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55	The Effect of CH4 on NH3-SCR Over Metal-Promoted Zeolite Catalysts for Lean-Burn Natural Gas Vehicles. Topics in Catalysis, 2018, 61, 1974-1982.	2.8	10
56	A quasi 2D model for the interpretation of impedance and polarization of a planar solid oxide fuel cell with interconnects. Electrochimica Acta, 2021, 365, 137346.	5.2	10
57	CFD modeling of multiphase flows with detailed microkinetic description of the surface reactivity. Chemical Engineering Research and Design, 2022, 179, 564-579.	5.6	9
58	Numerical and Experimental Investigation of Pressure Drop in Periodic Open Cellular Structures for Intensification of Catalytic Processes. ACS Engineering Au, 2022, 2, 118-133.	5.1	8
59	A fast regression model for the interpretation of electrochemical impedance spectra of Intermediate Temperature Solid Oxide Fuel Cells. Journal of Electroanalytical Chemistry, 2018, 823, 697-712.	3.8	7
60	Heat transfer intensification with packed open-cell foams in TSA processes for CO<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline" id="d1e1096" altimg="si43.svg"><mml:msub><mml:mrow /><mml:mrow><mml:mn>2</mml:mn></mml:mrow></mml:msub></mml:math> capture. Chemical Engineering Journal, 2022, 430, 131000.	12.7	7
61	Recent Advances in the Development of Highly Conductive Structured Supports for the Intensification of Non-adiabatic Gas-Solid Catalytic Processes: The Methane Steam Reforming Case Study. Frontiers in Chemical Engineering, 2022, 3, .	2.7	5
62	Assessment of a catalytic plate reactor with in-situ sampling capabilities by means of CFD modeling and experiments. Chemical Engineering Journal, 2022, 446, 136999.	12.7	4
63	Catalysis Engineering: From the Catalytic Material to the Catalytic Reactor. Springer Series in Chemical Physics, 2017, , 189-218.	0.2	0