Michael Harasek

List of Publications by Year
in descending order

111 papers	2,079 citations	257450 24 h-index	276875 41 g-index
119 all docs	119 docs citations	119 times ranked	2462 citing authors

#	Article	IF	Citations
1	Importance of considering interstitial fluid effects in the kinetic theory of granular flow for raceway formation prediction. Chemical Engineering Science, 2022, 247, 117026.	3.8	1
2	Enhanced kinetic model identification for gasâ€“solid reactions through Computational Fluid Dynamics. Chemical Engineering Journal, 2022, 430, 132850.	12.7	2
3	Membrane-based enthalpy exchangers for coincident sensible and latent heat recovery. Energy Conversion and Management, 2022, 253, 115144.	9.2	20
4	Heat Transfer Models for Dense Pulverized Particle Jets. Processes, 2022, 10, 238.	2.8	1
5	Assessment of Graphical Methods for Determination of the Limiting Current Density in Complex Electrodialysis-Feed Solutions. Membranes, 2022, 12, 241.	3.0	3
6	Dataset for the Heat-Up and Heat Transfer towards Single Particles and Synthetic Particle Clusters from Particle-Resolved CFD Simulations. Data, 2022, 7, 23.	2.3	0
7	Evaluation of Nanofiltration Membranes for Pure Lactic Acid Permeability. Membranes, 2022, 12, 302.	3.0	6
8	Numerical and experimental study of heterogeneous reactions involving carbonaceous compounds in clay brick firing. Construction and Building Materials, 2022, 327, 126744.	7.2	3
9	Air-to-Air Heat and Moisture Recovery in a Plate-Frame Exchanger Using Composite and Asymmetric Membranes. Membranes, 2022, 12, 484.	3.0	2
10	Residence Time Distribution of Non-Spherical Particles in a Continuous Rotary Drum. Processes, 2022, 10, 1069.	2.8	3
11	Titanium-Pillared Clay: Preparation Optimization, Characterization, and Artificial Neural Network Modeling. Materials, 2022, 15, 4502.	2.9	2
12	Characteristic Chemical Time Scales for Reactive Flow Modeling. Combustion Science and Technology, 2021, 193, 2807-2832.	2.3	15
13	Effect of particle contact point treatment on the CFD simulation of the heat transfer in packed beds. Chemical Engineering Research and Design, 2021, 165, 242-253.	5.6	17
14	Design and simulation of gas burner ejectors. Carbon Resources Conversion, 2021, 4, 28-35.	5.9	1
15	Non-isothermal effectiveness factors in thermo-chemical char conversion. Carbon Resources Conversion, 2021, 4, 47-54.	5.9	1
16	Medium-temperature thermochemical energy storage with transition metal ammoniates â€“ A systematic material comparison. Applied Energy, 2021, 285, 116470.	10.1	9
17	Suitable CO2 Solubility Models for Determination of the CO2 Removal Performance of Oxygenators. Bioengineering, 2021, 8, 33.	3.5	5
18	A Microfluidic Multisize Spheroid Array for Multiparametric Screening of Anticancer Drugs and Bloodâ€“Brain Barrier Transport Properties. Advanced Science, 2021, 8, e2004856.	11.2	46

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19	Water as a Blood Model for Determination of CO2 Removal Performance of Membrane Oxygenators. Membranes, 2021, 11, 356.	3.0	1
20	Microstructured Hollow Fiber Membranes: Potential Fiber Shapes for Extracorporeal Membrane Oxygenators. Membranes, 2021, 11, 374.	3.0	5
21	Animal blood in translational research: How to adjust animal blood viscosity to the human standard. Physiological Reports, 2021, 9, e14880.	1.7	9
22	Co-Combustion Studies of Low-Rank Coal and Refuse-Derived Fuel: Performance and Reaction Kinetics. Energies, 2021, 14, 3796.	3.1	4
23	The Potential Use of Fly Ash from the Pulp and Paper Industry as Thermochemical Energy and CO2 Storage Material. Energies, 2021, 14, 3348.	3.1	3
24	Non-parametric dynamical estimation of blood flow rate, pressure difference and viscosity for a miniaturized blood pump. International Journal of Artificial Organs, 2021, , 039139882110067.	1.4	2
25	Considerations on Temperature Dependent Effective Diffusion and Permeability of Natural Clays. Materials, 2021, 14, 4942.	2.9	2
26	Influence of particle residence time distribution on the biomass pyrolysis in a rotary kiln. Journal of Analytical and Applied Pyrolysis, 2021, 158, 105171.	5.5	12
27	Modeling the effective thermal conductivity of hollow bricks at high temperatures. Construction and Building Materials, 2021, 309, 125066.	7.2	4
28	Solubility Data of Potential Salts in the MgO-CaO-SO2-H2O-O2 System for Process Modeling. Processes, 2021, 9, 50.	2.8	2
29	Dataset for the simulated biomass pyrolysis in rotary kilns with varying particle residence time distributions. Data in Brief, 2021, 39, 107603.	1.0	2
30	Suitability of pulverised coal testing facilities for blast furnace applications. Ironmaking and Steelmaking, 2020, 47, 574-585.	2.1	6
31	Transient simulation and modeling of photovoltaic-PEM water electrolysis. Energy Sources, Part A: Recovery, Utilization and Environmental Effects, 2020, 42, 1097-1107.	2.3	21
32	Computational fluid dynamics analysis of char conversion in Sandiaâ€™s pressurized entrained flow reactor. Review of Scientific Instruments, 2020, 91, 074103.	1.3	0
33	CuSO4/[Cu(NH3)4]SO4-Composite Thermochemical Energy Storage Materials. Nanomaterials, 2020, 10, 2485.	4.1	4
34	An Unreacted Shrinking Core Model Serves for Predicting Combustion Rates of Organic Additives in Clay Bricks. Energy & Fuels, 2020, 34, 16679-16692.	5.1	11
35	Estimation Methods for Viscosity, Flow Rate and Pressure from Pump-Motor Assembly Parameters. Sensors, 2020, 20, 1451.	3.8	4
36	The multistep decomposition of boric acid. Energy Science and Engineering, 2020, 8, 1650-1666.	4.0	20

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37	Computation of Global and Local Mass Transfer in Hollow Fiber Membrane Modules. Sustainability, 2020, 12, 2207.	3.2	7
38	Computational Fluid Dynamics and Experimental Analysis of Blood Gas Transport in a Hollow Fiber Module. IFMBE Proceedings, 2020, , 1453-1458.	0.3	1
39	Pressure effects on the carbonation of MeO (Meâ€¯=â€¯Co, Mn, Pb, Zn) for thermochemical energy storage. Applied Energy, 2019, 252, 113451.	10.1	8
40	Tuning the performance of MgO for thermochemical energy storage by dehydration â€“ From fundamentals to phase impurities. Applied Energy, 2019, 253, 113562.	10.1	15
41	Comparing Fly Ash Samples from Different Types of Incinerators for Their Potential as Storage Materials for Thermochemical Energy and CO2. Materials, 2019, 12, 3358.	2.9	6
42	Comparison of the combustion characteristics and kinetic study of coal, municipal solid waste, and refuseâ€derived fuel: Modelâ€fitting methods. Energy Science and Engineering, 2019, 7, 2646-2657.	4.0	30
43	Low-temperature carbonatization of metal oxides. Energy Procedia, 2019, 158, 4870-4881.	1.8	4
44	Magnesium oxide from natural magnesite samples as thermochemical energy storage material. Energy Procedia, 2019, 158, 4861-4869.	1.8	8
45	Investigation on the influence of membrane selectivity on the performance of mobile biogas upgrading plants by process simulation. Journal of Cleaner Production, 2019, 231, 43-53.	9.3	12
46	Impact of Partial Pressure, Conversion, and Temperature on the Oxidation Reaction Kinetics of Cu2O to CuO in Thermochemical Energy Storage. Energies, 2019, 12, 508.	3.1	22
47	Boric Acid: A High Potential Candidate for Thermochemical Energy Storage. Energies, 2019, 12, 1086.	3.1	25
48	Fly Ash from Municipal Solid Waste Incineration as a Potential Thermochemical Energy Storage Material. Energy & Fuels, 2019, 33, 5810-5819.	5.1	33
49	Efficient extraction of hydrogen transported as co-stream in the natural gas grid â€“ The importance of process design. Applied Energy, 2019, 233-234, 747-763.	10.1	21
50	APPLICATION OF PERVAPORATION FOR THE IN-SITU RECOVERY OF GREEN SOLVENTS AND BIOFUELS FROM ABE FERMENTATION. Environmental Engineering and Management Journal, 2019, 18, 1711-1719.	0.6	0
51	A new methanation and membrane based power-to-gas process for the direct integration of raw biogas â€“ Feasability and comparison. Energy, 2018, 146, 34-46.	8.8	40
52	Simultaneous Laser Doppler Velocimetry and stand-off Raman spectroscopy as a novel tool to assess flow characteristics of process streams. Chemical Engineering Journal, 2018, 334, 123-133.	12.7	0
53	Calcium Doping Facilitates Water Dissociation in Magnesium Oxide. Advanced Sustainable Systems, 2018, 2, 1700096.	5.3	12
54	The Eddy Dissipation Conceptâ€"Analysis of Different Fine Structure Treatments for Classical Combustion. Energies, 2018, 11, 1902.	3.1	27

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55	Cycle Stability and Hydration Behavior of Magnesium Oxide and Its Dependence on the Precursor-Related Particle Morphology. Nanomaterials, 2018, 8, 795.	4.1	19
56	Development of Honeycomb Methanation Catalyst and Its Application in Power to Gas Systems. Energies, 2018, 11, 1679.	3.1	20
57	Membrane modeling using CFD: Combined evaluation of mass transfer and geometrical influences in 1D and 3D. Journal of Membrane Science, 2018, 563, 199-209.	8.2	35
58	Thermochemical Energy Storage: Calcium Doping Facilitates Water Dissociation in Magnesium Oxide (Adv. Sustainable Syst. 1/2018). Advanced Sustainable Systems, 2018, 2, 1870004.	5.3	0
59	Engineering of three-dimensional pre-vascular networks within fibrin hydrogel constructs by microfluidic control over reciprocal cell signaling. Biomicrofluidics, 2018, 12, 042216.	2.4	39
60	Reduced Model Describing Efficient Extraction of Hydrogen Transported as Co-Stream in the Natural Gas Grid. Computer Aided Chemical Engineering, 2018, 43, 1383-1388.	0.5	3
61	CFD modelling of organosolv lignin extraction in packed beds. Computer Aided Chemical Engineering, 2018, 43, 1583-1588.	0.5	1
62	Production of Micro- and Nanoscale Lignin from Wheat Straw Using Different Precipitation Setups. Molecules, 2018, 23, 633.	3.8	32
63	Every Breath You Take: Non-invasive Real-Time Oxygen Biosensing in Two- and Three-Dimensional Microfluidic Cell Models. Frontiers in Physiology, 2018, 9, 815.	2.8	66
64	Enhanced mid-infrared multi-bounce ATR spectroscopy for online detection of hydrogen peroxide using a supercontinuum laser. Optics Express, 2018, 26, 12169-12179.	3.4	7
65	A nonchromatographic process for purification of secretory immunoglobulins from caprine whey. Biotechnology Progress, 2017, 33, 642-653.	2.6	4
66	Review on available biogas upgrading technologies and innovations towards advanced solutions. Journal of Cleaner Production, 2017, 161, 1329-1337.	9.3	248
67	Combining in-situ X-ray diffraction with thermogravimetry and differential scanning calorimetry â€“ An investigation of Co3O4, MnO2 and PbO2 for thermochemical energy storage. Solar Energy, 2017, 153, 11-24.	6.1	29
68	Experimental analysis of membrane and pressure swing adsorption (PSA) for the hydrogen separation from natural gas. Journal of Cleaner Production, 2017, 167, 896-907.	9.3	73
69	Cost efficient CFD simulations: Proper selection of domain partitioning strategies. Computer Physics Communications, 2017, 219, 121-134.	7.5	12
70	An extension of the NPK method to include the pressure dependency of solid state reactions. Thermochimica Acta, 2017, 654, 168-178.	2.7	18
71	Probing cycle stability and reversibility in thermochemical energy storage â€“ CaC2O4Â·H2O as perfect match?. Applied Energy, 2017, 187, 1-9.	10.1	27
72	Designing Better Membrane Modules Using CFD. Chemical Product and Process Modeling, 2016, 11, 57-66.	0.9	6

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73	Simulation of Membrane Gas Separation Process Using Aspen PlusÂ® V8.6. Chemical Product and Process Modeling, 2016, 11, 67-72.	0.9	28
74	The purification of fermentatively produced hydrogen using membrane technology: a simulation based on small-scale pilot plant results. Clean Technologies and Environmental Policy, 2016, 18, 315-322.	4.1	6
75	CFD simulation of straight and slightly swirling turbulent free jets using different RANS-turbulence models. Applied Thermal Engineering, 2015, 89, 1117-1126.	6.0	53
76	Collocation Method for the Modeling of Membrane Gas Permeation Systems. International Journal of Nonlinear Sciences and Numerical Simulation, 2015, 16, 141-149.	1.0	0
77	Collocation Method for the Modeling of Membrane Gas Permeation Systems. International Journal of Nonlinear Sciences and Numerical Simulation, 2014, 15, .	1.0	0
78	Biogas desulfurization and biogas upgrading using a hybrid membrane system â€“ modeling study. Water Science and Technology, 2013, 67, 326-332.	2.5	17
79	Determination of mixing quality in biogas plant digesters using tracer tests and computational fluid dynamics. Acta Universitatis Agriculturae Et Silviculturae Mendelianae Brunensis, 2013, 61, 1269-1278.	0.4	13
80	Chemical-oxidative scrubbing for the removal of hydrogen sulphide from raw biogas: potentials and economics. Water Science and Technology, 2012, 66, 1354-1360.	2.5	27
81	Beet Sugar Pulp-Press Water Treatment: A Comparison of Nanofiltration and Reverse Osmosis Processes. Procedia Engineering, 2012, 44, 634.	1.2	0
82	Ultrafiltration as Pre-Treatment Technology at the Green Biorefinery Upper Austria. Procedia Engineering, 2012, 44, 1337-1339.	1.2	0
83	Membrane Gas Permeation in the Production of Renewable Gaseous Fuels. Procedia Engineering, 2012, 44, 1342.	1.2	1
84	Membrane gas permeation in the upgrading of renewable hydrogen from biomass steam gasification gases. Applied Thermal Engineering, 2012, 43, 134-140.	6.0	15
85	Energy saving in sugar manufacturing through the integration of environmental friendly new membrane processes for thin juice pre-concentration. Applied Thermal Engineering, 2012, 43, 128-133.	6.0	14
86	Nanofiltration as key technology for the separation of LA and AA. Journal of Membrane Science, 2012, 389, 389-398.	8.2	36
87	Membrane biogas upgrading processes for the production of natural gas substitute. Separation and Purification Technology, 2010, 74, 83-92.	7.9	206
88	Improvement of a Combustion Unit Based on a Grate Furnace for Granular Dry Solid Biofuels Using CFD Methods. Heat Transfer Engineering, 2010, 31, 774-781.	1.9	11
89	Numerical algorithm for modelling multicomponent multipermeator systems. Journal of Membrane Science, 2009, 344, 258-265.	8.2	40
90	Computational fluid dynamic simulation of a solid biomass combustor: modelling approaches. Clean Technologies and Environmental Policy, 2008, 10, 165-174.	4.1	22

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91	CFD methods for the reduction of reactive gas emission from a paper laminating machine. Journal of Hazardous Materials, 2007, 144, 687-691.	12.4	1
92	Process simulation and CFD calculations for the development of an innovative baled biomass-fired combustion chamber. Applied Thermal Engineering, 2007, 27, 1138-1143.	6.0	27
93	Towards biochemical reaction monitoring using FT-IR synchrotron radiation. Analyst, The, 2006, 131, 489.	3.5	19
94	Evaluation of alkali resistant nanofiltration membranes for the separation of hemicellulose from concentrated alkaline process liquors. Desalination, 2006, 192, 303-314.	8.2	78
95	NOx formation in natural gas combustionâ€"a new simplified reaction scheme for CFD calculations. Fuel, 2006, 85, 513-523.	6.4	46
96	Processing and simulation of few nm thick high-Îº dielectric films. Microelectronic Engineering, 2006, 83, 1571-1572.	2.4	2
97	Photoacoustic Monitoring of CO2 in Biogas Matrix using a Quantum Cascade Laser. , 2006, , .		4
98	Online Raman monitoring of the phase transition of magnesium sulphite hydrate. Chemical Engineering and Processing: Process Intensification, 2005, 44, 471-475.	3.6	4
99	Influence of hemicellulose aggregate and gel layer formation on flux and retention during nanofiltration of alkaline solutions. Desalination, 2005, 175, 121-134.	8.2	9
100	Enhancement of an object-oriented power plant simulator by seawater desalination topics. Desalination, 2003, 156, 355-360.	8.2	5
101	A knowledge based system to support the process selection during waste water treatment. Resources, Conservation and Recycling, 2003, 37, 205-215.	10.8	7
102	Flow-through Picoliter Dispenser: A New Approach for Solvent Elimination in FT-IR Spectroscopy. Applied Spectroscopy, 2002, 56, 902-908.	2.2	17
103	CFD-simulation of mass transfer effects in gas and vapour permeation modules. Desalination, 2002, 146, 237-241.	8.2	15
104	Time-Resolved FT-IR Spectroscopy of Chemical Reactions in Solution by Fast Diffusion-Based Mixing in a Micromachined Flow Cell. Applied Spectroscopy, 2001, 55, 241-251.	2.2	45
105	Design, simulation and application of a new micromixing device for time resolved infrared spectroscopy of chemical reactions in solution. Lab on A Chip, 2001, 1, 16.	6.0	108
106	CFD-Simulation of Preparative Chromatographic Columns: Effect of the Distributor and the Column Design on the Separation Performance. Chemie-Ingenieur-Technik, 2001, 73, 639-639.	0.8	2
107	Simulation and optimization of the reactive absorption of HF/HNO3 during pickling acid regeneration. Computer Aided Chemical Engineering, 2000, 8, 919-924.	0.5	1
108	Highly selective TFAA-cleavage of tertiary 2,4-dimethoxybenzylamines and its use in the synthesis of secondary amines. Tetrahedron, 1991, 47, 4591-4602.	1.9	16

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109	Validation of Turbulence Models for an Automotive SCR System with Laser Doppler Anemometry Measurements. , 0, , .		11
110	Ethyl lactate production by reactive distillation â€“ optimization of reaction kinetics and energy efficiency. Open Research Europe, 0, 1, 82.	2.0	0
111	Ethyl lactate production by reactive distillation â€“ optimization of reaction kinetics and energy efficiency. Open Research Europe, 0, 1, 82.	2.0	0