A M F R Pinto

List of Publications by Year
in descending order

81 papers	2,906 citations	136885 32 h-index	175177 52 g-index
81 all docs	81 docs citations	81 times ranked	2460 citing authors

#	Article	IF	Citations
1	Overview on the developments of microbial fuel cells. Biochemical Engineering Journal, 2013, 73, 53-64.	1.8	301
2	Numerical simulations of two-phase flow in proton exchange membrane fuel cells using the volume of fluid method â€“ A review. Journal of Power Sources, 2015, 277, 329-342.	4.0	118
3	Flow in the nose region and annular film around a Taylor bubble rising through vertical columns of stagnant and flowing Newtonian liquids. Chemical Engineering Science, 2006, 61, 845-857.	1.9	107
4	1D + 3D two-phase flow numerical model of a proton exchange membrane fuel cell. Applied Energy, 2017, 203, 474-495.	5.1	105
5	Flow patterns in the wake of a Taylor bubble rising through vertical columns of stagnant and flowing Newtonian liquids: An experimental study. Chemical Engineering Science, 2006, 61, 7199-7212.	1.9	94
6	Review on micro-direct methanol fuel cells. Renewable and Sustainable Energy Reviews, 2014, 34, 58-70.	8.2	90
7	Simultaneous PIV and pulsed shadow technique in slug flow: a solution for optical problems. Experiments in Fluids, 2003, 35, 598-609.	1.1	86
8	A 1D mathematical model for a microbial fuel cell. Energy, 2013, 61, 463-471.	4.5	86
9	Experimental study on the membrane electrode assembly of a proton exchange membrane fuel cell: effects of microporous layer, membrane thickness and gas diffusion layer hydrophobic treatment. Electrochimica Acta, 2017, 224, 337-345.	2.6	80
10	Review on microbial fuel cells applications, developments and costs. Journal of Environmental Management, 2022, 307, 114525.	3.8	80
11	Wide-ranging survey on the laminar flow of individual Taylor bubbles rising through stagnant Newtonian liquids. International Journal of Multiphase Flow, 2012, 43, 131-148.	1.6	73
12	Performance of a passive direct ethanol fuel cell. Journal of Power Sources, 2014, 256, 14-19.	4.0	73
13	A comparative study of approaches to direct methanol fuel cells modelling. International Journal of Hydrogen Energy, 2007, 32, 415-424.	3.8	72
14	Coalescence of two gas slugs rising in a co-current flowing liquid in vertical tubes. Chemical Engineering Science, 1998, 53, 2973-2983.	1.9	67
15	Effect of anode and cathode flow field design on the performance of a direct methanol fuel cell. Chemical Engineering Journal, 2010, 157, 174-180.	6.6	67
16	Hydrogen production from sodium borohydride in methanolâ€"water mixtures. International Journal of Hydrogen Energy, 2010, 35, 9862-9868.	3.8	66
17	Coalescence of two gas slugs rising in a vertical column of liquid. Chemical Engineering Science, 1996, 51, 45-54.	1.9	59
18	Water transport through a PEM fuel cell: A one-dimensional model with heat transfer effects. Chemical Engineering Science, 2009, 64, 2216-2225.	1.9	57

#	Article	IF	Citations
19	Numerical simulations of two-phase flow in an anode gas channel of a proton exchange membrane fuel cell. Energy, 2015, 82, 619-628.	4.5	51
20	A passive direct methanol fuel cell as transducer of an electrochemical sensor, applied to the detection of carcinoembryonic antigen. Biosensors and Bioelectronics, 2021, 175, 112877.	5.3	50
21	An image analysis technique for the study of gasâ€“liquid slug flow along vertical pipes â€” associated uncertainty. Flow Measurement and Instrumentation, 2007, 18, 139-147.	1.0	48
22	1D and 3D numerical simulations in PEM fuel cells. International Journal of Hydrogen Energy, 2011, 36, 12486-12498.	3.8	48
23	Optimization of a single chamber microbial fuel cell using Lactobacillus pentosus: Influence of design and operating parameters. Science of the Total Environment, 2019, 648, 263-270.	3.9	47
24	One-dimensional and non-isothermal model for a passive DMFC. Journal of Power Sources, 2011, 196, 8973-8982.	4.0	46
25	Modelling and experimental studies on a direct methanol fuel cell working under low methanol crossover and high methanol concentrations. International Journal of Hydrogen Energy, 2009, 34, 6443-6451.	3.8	45
26	Hydrogen generation and storage by aqueous sodium borohydride (NaBH 4) hydrolysis for small portable fuel cells (H 2 â€“ PEMFC). International Journal of Hydrogen Energy, 2016, 41, 15426-15432.	3.8	39
27	Water management in direct methanol fuel cells. International Journal of Hydrogen Energy, 2009, 34, 8245-8256.	3.8	38
28	Alkali free hydrolysis of sodium borohydride for hydrogen generation under pressure. International Journal of Hydrogen Energy, 2010, 35, 9869-9878.	3.8	37
29	Effect of operating and design parameters on the performance of a microbial fuel cell with Lactobacillus pentosus. Biochemical Engineering Journal, 2015, 104, 34-40.	1.8	35
30	Development and performance analysis of a metallic passive micro-direct methanol fuel cell for portable applications. International Journal of Hydrogen Energy, 2015, 40, 5408-5415.	3.8	33
31	On the interaction of Taylor bubbles rising in two-phase co-current slug flow in vertical columns: turbulent wakes. Experiments in Fluids, 2001, 31, 643-652.	1.1	32
32	Flow around individual Taylor bubbles rising in stagnant polyacrylamide (PAA) solutions. Journal of Non-Newtonian Fluid Mechanics, 2006, 135, 16-31.	1.0	32
33	Durability and reutilization capabilities of a Niâ€“Ru catalyst for the hydrolysis of sodium borohydride in batch reactors. Catalysis Today, 2011, 170, 40-49.	2.2	30
34	Interaction between Taylor bubbles rising in stagnant non-Newtonian fluids. International Journal of Multiphase Flow, 2007, 33, 970-986.	1.6	29
35	Hydrodynamics of gasâ€“liquid slug flow along vertical pipes in turbulent regimeâ€“An experimental study. International Journal of Heat and Fluid Flow, 2008, 29, 1039-1053.	1.1	29
36	Water management in a passive direct methanol fuel cell. International Journal of Energy Research, 2013, 37, 991-1001.	2.2	26

#	Article	IF	Citations
37	Experimental and modeling studies of a micro direct methanol fuel cell. Renewable Energy, 2015, 74, 464-470.	4.3	26
38	Vertical slug flow in laminar regime in the liquid and turbulent regime in the bubble wakeâ€"Comparison with fully turbulent and fully laminar regimes. Chemical Engineering Science, 2008, 63, 3614-3631.	1.9	25
39	Effect of the current collector design on the performance of a passive direct methanol fuel cell. Electrochimica Acta, 2019, 300, 306-315.	2.6	25
40	Effect of gas expansion on the velocity of a Taylor bubble: PIV measurements. International Journal of Multiphase Flow, 2006, 32, 1182-1190.	1.6	24
41	Modeling of passive direct ethanol fuel cells. Energy, 2017, 133, 652-665.	4.5	24
42	Experimental Study on the Transition in the Velocity of Individual Taylor Bubbles in Vertical Upward Co-Current Liquid Flow. Chemical Engineering Research and Design, 2005, 83, 1103-1110.	2.7	22
43	Effect of anode diffusion layer (GDL) on the performance of a passive direct methanol fuel cell (DMFC). International Journal of Hydrogen Energy, 2016, 41, 19455-19462.	3.8	22
44	Poly(4-styrene sulfonic acid)/bacterial cellulose membranes: Electrochemical performance in a single-chamber microbial fuel cell. Bioresource Technology Reports, 2020, 9, 100376.	1.5	20
45	Optimization of a passive direct methanol fuel cell with different current collector materials. Energy, 2020, 208, 118394.	4.5	19
46	Flow in the negative wake of a Taylor bubble rising in viscoelastic carboxymethylcellulose solutions: particle image velocimetry measurements. Journal of Fluid Mechanics, 2004, 511, 217-236.	1.4	18
47	Hydrodynamics of Gasâ˘Liquid Slug Flow along Vertical Pipes in the Laminar RegimeExperimental and Simulation Study. Industrial & Engineering Chemistry Research, 2007, 46, 3794-3809.	1.8	18
48	Water handling challenge on hydrolysis of sodium borohydride in batch reactors. International Journal of Hydrogen Energy, 2012, 37, 6985-6994.	3.8	18
49	Simulation of a stand-alone residential PEMFC power system with sodium borohydride as hydrogen source. International Journal of Electrical Power and Energy Systems, 2013, 49, 57-65.	3.3	18
50	Effects of the addition of an organic polymer on the hydrolysis of sodium tetrahydroborate in batch reactors. International Journal of Hydrogen Energy, 2010, 35, 11456-11469.	3.8	16
51	Rehydrogenation of Sodium Borates to Close the NaBH4-H2 Cycle: A Review. Energies, 2021, 14, 3567.	1.6	16
52	Hydrodynamics of Gasâ€"Liquid Slug Flow Along Vertical Pipes in Turbulent Regime. Chemical Engineering Research and Design, 2007, 85, 1497-1513.	2.7	15
53	Water Transport through a Proton-Exchange Membrane (PEM) Fuel Cell Operating near Ambient Conditions: Experimental and Modeling Studies. Energy & Fuels, 2009, 23, 397-402.	2.5	14
54	Numerical simulations of anode two-phase flow in Micro-DMFC using the volume of fluid method. International Journal of Hydrogen Energy, 2016, 41, 19724-19730.	3.8	14

#	Article	IF	Citations
55	Experimental Evaluation of the Effect of the Anode Diffusion Layer Properties on the Performance of a Passive Direct Methanol Fuel Cell. Energies, 2020, 13, 5198.	1.6	14
56	Effect of stainless steel meshes on the performance of passive micro direct methanol fuel cells. International Journal of Hydrogen Energy, 2016, 41, 13859-13867.	3.8	13
57	Performance of an Active Micro Direct Methanol Fuel Cell Using Reduced Catalyst Loading MEAs. Energies, 2017, 10, 1683.	1.6	13
58	Experimental studies of the effect of cathode diffusion layer properties on a passive direct methanol fuel cell power output. International Journal of Hydrogen Energy, 2019, 44, 19334-19343.	3.8	13
59	Batch sodium borohydride hydrolysis systems: Effect ofÂsudden valve opening on hydrogen generation rate. International Journal of Hydrogen Energy, 2012, 37, 1947-1953.	3.8	12
60	A one-dimensional and two-phase flow model of a proton exchange membrane fuel cell. Journal of Chemical Technology and Biotechnology, 2015, 90, 1547-1551.	1.6	11
61	Simulation of membrane chemical degradation in a proton exchange membrane fuel cell by computational fluid dynamics. International Journal of Hydrogen Energy, 2021, 46, 1106-1120.	3.8	10
62	On the gas expansion and gas hold-up in vertical slugging columnsâ€"A simulation study. Chemical Engineering and Processing: Process Intensification, 2008, 47, 799-815.	1.8	9
63	An all-in-one approach for self-powered sensing: A methanol fuel cell modified with a molecularly imprinted polymer for cancer biomarker detection. Journal of Electroanalytical Chemistry, 2022, 906, 116009.	1.9	9
64	Implementation of Transition Metal Phosphides as Pt-Free Catalysts for PEM Water Electrolysis. Energies, 2022, 15, 1821.	1.6	9
65	Gas Hold-up in Aerated Slugging Columns. Chemical Engineering Research and Design, 2000, 78, 1139-1146.	2.7	8
66	Introduction to direct alcohol fuel cells. , 2018, , 1-15.		8
67	Measurement of mass transfer between the bubble and dense phases in a fluidized bed combustor. Combustion and Flame, 1999, 116, 105-119.	2.8	7
68	Performance of a Direct Methanol Fuel Cell Operating Close to Room Temperature. Journal of Fuel Cell Science and Technology, 2011, 8, .	0.8	7
69	Passive Small Direct Alcohol Fuel Cells for Low-Power Portable Applications: Assessment Based on Innovative Increments since 2018. Energies, 2022, 15, 3787.	1.6	7
70	Axial dispersion of particles in a slugging columnâ€"the role of the laminar wake of the bubbles. Chemical Engineering Science, 2003, 58, 4159-4172.	1.9	5
71	Performance of passive Direct Methanol Fuel Cell: modelling and experimental studies. U Porto Journal of Engineering, 2015, 1, 89-103.	0.2	5
72	Fluidised-bed combustion of a charge of coke with a wide distribution of particle sizes. Chemical Engineering Science, 1994, 49, 1097-1105.	1.9	4

#	Article	IF	Citations
73	Direct alcohol fuel cells basic science. , 2018, , 17-80.		4
74	Fuel Cells and On-Demand Hydrogen Production: Didactic Demonstration Prototype. , 2007, , .		3
75	Water management in PEMFC: 1-D model simulations. CiÃªncia & Tecnologia Dos Materiais, 2016, 28, 81-87.	0.5	2
76	Miniaturization of direct alcohol fuel cells: Microfabrication techniques and microfluidic architectures. , 2018, , 245-264.		2
77	Development of direct alcohol fuel cells components. , 2018, , 209-244.		1
78	Direct alcohol fuel cells (DAFCs) basic modeling. , 2018, , 81-112.		0
79	Other fuels for direct fuel cells (DFCs). , 2018, , 157-207.		0
80	Kinetics and Mass Transfer Within Microbial Fuel Cells. , 2018, , 313-326.		0
81	Fuel-Cell Bioreactors. , 2019, , 464-478.		0