

# Jacek Jagiello

## List of Publications by Year in descending order

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110  
papers

7,576  
citations

53794

45  
h-index

53230

85  
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110  
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110  
docs citations

110  
times ranked

7015  
citing authors

#	ARTICLE	IF	CITATIONS
1	2D-NLDFT adsorption models for carbon slit-shaped pores with surface energetical heterogeneity and geometrical corrugation. <i>Carbon</i> , 2013, 55, 70-80.	10.3	440
2	Comparison of DFT characterization methods based on N <sub>2</sub> , Ar, CO <sub>2</sub> , and H <sub>2</sub> adsorption applied to carbons with various pore size distributions. <i>Carbon</i> , 2004, 42, 1227-1232.	10.3	417
3	Stable Numerical Solution of the Adsorption Integral Equation Using Splines. <i>Langmuir</i> , 1994, 10, 2778-2785.	3.5	385
4	Carbide-Derived Carbons: Effect of Pore Size on Hydrogen Uptake and Heat of Adsorption. <i>Advanced Functional Materials</i> , 2006, 16, 2288-2293.	14.9	379
5	Virial-type thermal equation of gas-solids adsorption. <i>Chemical Engineering Science</i> , 1989, 44, 797-801.	3.8	319
6	Hierarchically Engineered Mesoporous Metal-Organic Frameworks toward Cell-free Immobilized Enzyme Systems. <i>Chem</i> , 2018, 4, 1022-1034.	11.7	281
7	Carbon slit pore model incorporating surface energetical heterogeneity and geometrical corrugation. <i>Adsorption</i> , 2013, 19, 777-783.	3.0	272
8	The first example of commensurate adsorption of atomic gas in a MOF and effective separation of xenon from other noble gases. <i>Chemical Science</i> , 2014, 5, 620-624.	7.4	203
9	Surface functionality and porosity of activated carbons obtained from chemical activation of wood. <i>Carbon</i> , 2000, 38, 669-674.	10.3	193
10	Characterization of the surfaces of activated carbons in terms of their acidity constant distributions. <i>Carbon</i> , 1993, 31, 1193-1202.	10.3	187
11	Tailoring the Pore Alignment for Rapid Ion Transport in Microporous Carbons. <i>Journal of the American Chemical Society</i> , 2010, 132, 3252-3253.	13.7	175
12	Gas sorption properties of microporous metal organic frameworks. <i>Journal of Solid State Chemistry</i> , 2005, 178, 2527-2532.	2.9	170
13	Heterogeneity of proton binding sites at the oxide/solution interface. <i>Langmuir</i> , 1993, 9, 1754-1765.	3.5	162
14	A Simple Two-Dimensional NLDFT Model of Gas Adsorption in Finite Carbon Pores. Application to Pore Structure Analysis. <i>Journal of Physical Chemistry C</i> , 2009, 113, 19382-19385.	3.1	156
15	Hydrogen adsorption studies on single wall carbon nanotubes. <i>Carbon</i> , 2004, 42, 1243-1248.	10.3	154
16	Carbons with narrow pore size distribution prepared by simultaneous carbonization and self-activation of tobacco stems and their application to supercapacitors. <i>Carbon</i> , 2015, 81, 148-157.	10.3	144
17	Toward Understanding Reactive Adsorption of Ammonia on Cu-MOF/Graphite Oxide Nanocomposites. <i>Langmuir</i> , 2011, 27, 13043-13051.	3.5	137
18	Dual gas analysis of microporous carbons using 2D-NLDFT heterogeneous surface model and combined adsorption data of N <sub>2</sub> and CO <sub>2</sub> . <i>Carbon</i> , 2015, 91, 330-337.	10.3	133

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19	Achieving High Density of Adsorbed Hydrogen in Microporous Metal Organic Frameworks. <i>Advanced Materials</i> , 2005, 17, 2703-2706.	21.0	125
20	Porosity, Surface Area, Surface Energy, and Hydrogen Adsorption in Nanostructured Carbons. <i>Journal of Physical Chemistry B</i> , 2004, 108, 15820-15826.	2.6	112
21	Complexity of CO <sub>2</sub> adsorption on nanoporous sulfur-doped carbons – Is surface chemistry an important factor?. <i>Carbon</i> , 2014, 74, 207-217.	10.3	109
22	Comparison of methods to assess surface acidic groups on activated carbons. <i>Analytical Chemistry</i> , 1992, 64, 891-895.	6.5	105
23	Physical adsorption of gases on heterogeneous solid surfaces: Evaluation of the adsorption energy distribution from adsorption isotherms and heats of adsorption. <i>Journal of Colloid and Interface Science</i> , 1982, 87, 478-491.	9.4	102
24	In Situ Studies of Ion Transport in Microporous Supercapacitor Electrodes at Ultralow Temperatures. <i>Advanced Functional Materials</i> , 2012, 22, 1655-1662.	14.9	96
25	Determination of Proton Affinity Distributions for Chemical Systems in Aqueous Environments Using a Stable Numerical Solution of the Adsorption Integral Equation. <i>Journal of Colloid and Interface Science</i> , 1995, 172, 341-346.	9.4	89
26	Enhanced resolution of ultra micropore size determination of biochars and activated carbons by dual gas analysis using N <sub>2</sub> and CO <sub>2</sub> with 2D-NLDFT adsorption models. <i>Carbon</i> , 2019, 144, 206-215.	10.3	86
27	Tetracycline removal with activated carbons produced by hydrothermal carbonisation of Agave americana fibres and mimosa tannin. <i>Industrial Crops and Products</i> , 2018, 115, 146-157.	5.2	78
28	Pore Structure of Carbon~Mineral Nanocomposites and Derived Carbons Obtained by Template Carbonization. <i>Chemistry of Materials</i> , 1996, 8, 2023-2029.	6.7	75
29	Adsorption Properties of Activated Carbons Prepared from Waste CDs and DVDs. <i>ACS Sustainable Chemistry and Engineering</i> , 2015, 3, 733-742.	6.7	73
30	Characterization of silicas by inverse gas chromatography at finite concentration: Determination of the adsorption energy distribution function. <i>Journal of Colloid and Interface Science</i> , 1990, 137, 128-136.	9.4	71
31	Insight into the mechanism of CO <sub>2</sub> adsorption on Cu~BTC and its composites with graphite oxide or aminated graphite oxide. <i>Chemical Engineering Journal</i> , 2014, 239, 399-407.	12.7	71
32	Enhanced reactive adsorption of H <sub>2</sub> S on Cu~BTC/ S- and N-doped GO composites. <i>Journal of Materials Chemistry A</i> , 2015, 3, 8194-8204.	10.3	63
33	Relationship between energetic and structural heterogeneity of microporous carbons determined on the basis of adsorption potentials in model micropores. <i>Langmuir</i> , 1993, 9, 2513-2517.	3.5	62
34	Crystallizing Atomic Xenon in a Flexible MOF to Probe and Understand Its Temperature-Dependent Breathing Behavior and Unusual Gas Adsorption Phenomenon. <i>Journal of the American Chemical Society</i> , 2020, 142, 20088-20097.	18.7	62
35	Quantifying the Complex Pore Architecture of Hierarchical Faujasite Zeolites and the Impact on Diffusion. <i>Advanced Functional Materials</i> , 2016, 26, 5621-5630.	14.9	61
36	Effect of surface chemical groups on energetic heterogeneity of activated carbons. <i>Langmuir</i> , 1993, 9, 2518-2522.	3.5	56

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37	Adsorption near Ambient Temperatures of Methane, Carbon Tetrafluoride, and Sulfur Hexafluoride on Commercial Activated Carbons. <i>Journal of Chemical &amp; Engineering Data</i> , 1995, 40, 1288-1292.	1.9	55
38	Study of carbon-smectite composites and carbons obtained by in situ carbonization of polyfurfuryl alcohol. <i>Carbon</i> , 1994, 32, 659-664.	10.3	54
39	DFT-Based Prediction of High-Pressure H <sub>2</sub> Adsorption on Porous Carbons at Ambient Temperatures from Low-Pressure Adsorption Data Measured at 77 K. <i>Journal of Physical Chemistry B</i> , 2006, 110, 4531-4534.	2.6	52
40	Inverse Gas Chromatography Study of Modified Smectite Surfaces. <i>Clays and Clay Minerals</i> , 1992, 40, 306-310.	1.3	51
41	Using DFT analysis of adsorption data of multiple gases including H <sub>2</sub> for the comprehensive characterization of microporous carbons. <i>Carbon</i> , 2007, 45, 1066-1071.	10.3	51
42	Application of inverse gas chromatography at infinite dilution to study the effects of oxidation of activated carbons. <i>Carbon</i> , 1992, 30, 63-69.	10.3	49
43	Hydrogen adsorption on a single-walled carbon nanotube material: a comparative study of three different adsorption techniques. <i>Nanotechnology</i> , 2004, 15, 1503-1508.	2.6	48
44	Application of inverse gas chromatography to the study of the surface properties of modified layered minerals. <i>Microporous Materials</i> , 1993, 1, 73-79.	1.6	47
45	Characterization of pore structure of carbon molecular sieves using DFT analysis of Ar and H <sub>2</sub> adsorption data. <i>Microporous and Mesoporous Materials</i> , 2008, 108, 117-122.	4.4	47
46	Surface energy and adsorption energy distribution measurements on some carbon blacks. <i>Carbon</i> , 1991, 29, 1135-1143.	10.3	45
47	Sieving Properties of Carbons Obtained by Template Carbonization of Polyfurfuryl Alcohol within Mineral Matrixes. <i>Langmuir</i> , 1995, 11, 3964-3969.	3.5	45
48	Exploiting the adsorption of simple gases O <sub>2</sub> and H <sub>2</sub> with minimal quadrupole moments for the dual gas characterization of nanoporous carbons using 2D-NLDFT models. <i>Carbon</i> , 2020, 160, 164-175.	10.3	44
49	Unified Method for the Total Pore Volume and Pore Size Distribution of Hierarchical Zeolites from Argon Adsorption and Mercury Intrusion. <i>Langmuir</i> , 2015, 31, 1242-1247.	3.5	41
50	Effect of WO <sub>3</sub> loading on the surface acidity of WO <sub>3</sub> /Al <sub>2</sub> O <sub>3</sub> composite oxides. <i>Applied Catalysis A: General</i> , 1992, 84, 123-139.	4.3	37
51	Micropore structure of template-derived carbons studied using adsorption of gases with different molecular diameters. <i>Journal of the Chemical Society, Faraday Transactions</i> , 1995, 91, 2929-2933.	1.7	36
52	Low-temperature adsorption of gases on heterogeneous solid surfaces: Surfaces with random topography. <i>Journal of Low Temperature Physics</i> , 1981, 45, 1-19.	1.4	35
53	Characterization of specific interaction capacity of solid surfaces by adsorption of alkanes and alkenes. Part I: Adsorption on open surfaces. <i>Chromatographia</i> , 1989, 28, 588-592.	1.3	35
54	Sorption and desorption of lithium ions from activated carbons. <i>Carbon</i> , 1996, 34, 481-487.	10.3	35

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55	Consistency of carbon nanopore characteristics derived from adsorption of simple gases and 2D-NLDFT models. Advantages of using adsorption isotherms of oxygen (O <sub>2</sub> ) at 77 K. <i>Journal of Colloid and Interface Science</i> , 2019, 542, 151-158.	9.4	35
56	Thermodynamics of CO <sub>2</sub> adsorption on functionalized SBA-15 silica. NLDFT analysis of surface energetic heterogeneity. <i>Physical Chemistry Chemical Physics</i> , 2011, 13, 15468.	2.8	34
57	Effects of CO <sub>2</sub> activation of carbon aerogels leading to ultrahigh micro-meso porosity. <i>Microporous and Mesoporous Materials</i> , 2015, 209, 18-22.	4.4	33
58	Local exact and approximate solutions of the adsorption integral equation with a kernel of a Langmuir-like isotherm: Determination of adsorption energy distribution. <i>Journal of Colloid and Interface Science</i> , 1991, 146, 415-424.	9.4	32
59	Thermodynamic description of the process of gas liberation from a coal bed. <i>Fuel</i> , 1992, 71, 431-435.	6.4	32
60	Surface acidity of pillared taeniolites in terms of their proton affinity distributions. <i>The Journal of Physical Chemistry</i> , 1995, 99, 13522-13527.	2.9	32
61	High-Resolution Adsorption of Nitrogen on Mesoporous Alumina. <i>Langmuir</i> , 2004, 20, 7532-7539.	3.5	32
62	Adsorption of Sulfur Hexafluoride and Propane at Temperatures near Ambient on Pillared Clays. <i>Journal of Chemical &amp; Engineering Data</i> , 1996, 41, 880-884.	1.9	31
63	Inverse gas chromatographic studies on silica: infinite dilution and finite concentration measurements. <i>Langmuir</i> , 1991, 7, 2243-2247.	3.5	30
64	Adsorption of pentane isomers on metal-organic frameworks Cu-BTC and Fe-BTC. <i>Catalysis Today</i> , 2015, 243, 69-75.	4.4	30
65	Physical meaning of the parameters used in fractal kinetic and generalised adsorption models of Brouers' Sotolongo. <i>Adsorption</i> , 2018, 24, 11-27.	3.0	30
66	Exploring the effect of ultramicropore distribution on gravimetric capacitance of nanoporous carbons. <i>Electrochimica Acta</i> , 2018, 275, 236-247.	5.2	30
67	Sorption Properties of Carbon Composite Materials Formed from Layered Clay Minerals. <i>Clays and Clay Minerals</i> , 1994, 42, 1-6.	1.3	28
68	Chemical and structural properties of clay minerals modified by inorganic and organic material. <i>Clay Minerals</i> , 1992, 27, 435-444.	0.6	27
69	Study of carbon microstructure by using inverse gas chromatography. <i>Carbon</i> , 1994, 32, 687-691.	10.3	27
70	Characterization of acidity of pillared clays by proton affinity distribution and DRIFT spectroscopy. <i>Journal of the Chemical Society, Faraday Transactions</i> , 1994, 90, 3573-3578.	1.7	26
71	Assessing the contribution of micropores and mesopores from nitrogen adsorption on nanoporous carbons: Application to pore size analysis. <i>Carbon</i> , 2021, 183, 150-157.	10.3	25
72	Low-temperature adsorption of gases on heterogeneous solid surfaces: Effects of surface topography. <i>Journal of Low Temperature Physics</i> , 1982, 48, 307-320.	1.4	24

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73	Tests of Pore-Size Distributions Deduced from Inversion of Simulated and Real Adsorption Data. <i>Journal of Low Temperature Physics</i> , 2009, 157, 410-428.	1.4	24
74	Using a New Finite Slit Pore Model for NLDFT Analysis of Carbon Pore Structure. <i>Adsorption Science and Technology</i> , 2011, 29, 769-780.	3.2	24
75	Direct structural evidence of commensurate-to-incommensurate transition of hydrocarbon adsorption in a microporous metal organic framework. <i>Chemical Science</i> , 2016, 7, 759-765.	7.4	24
76	Effects of Temperature on Adsorption of Methanol on Graphitized Thermal Carbon Black: A Computer Simulation and Experimental Study. <i>Journal of Physical Chemistry C</i> , 2011, 115, 16142-16149.	3.1	23
77	2D-NLDFT adsorption models for porous oxides with corrugated cylindrical pores. <i>Journal of Colloid and Interface Science</i> , 2018, 532, 588-597.	9.4	22
78	Hydrotalcite-like structures as molecular containers for preparation of microporous carbons. <i>Applied Clay Science</i> , 1995, 10, 177-186.	5.2	21
79	Structural analysis of IPC zeolites and related materials using positron annihilation spectroscopy and high-resolution argon adsorption. <i>Physical Chemistry Chemical Physics</i> , 2016, 18, 15269-15277.	2.8	21
80	Monte Carlo simulation and experimental studies on the low temperature characterization of nitrogen adsorption on graphite. <i>Carbon</i> , 2013, 52, 158-170.	10.3	19
81	Thermodynamic study of high-pressure adsorption of methane on activated carbons: The effect of oxidation on pore structure and adsorption energy heterogeneity. <i>Carbon</i> , 1992, 30, 507-512.	10.3	18
82	Complementary study of microporous adsorbents with DFT and LBET. <i>Applied Surface Science</i> , 2007, 253, 5616-5621.	6.1	16
83	Evaluation of the textural properties of ultramicroporous carbons using experimental and theoretical methods. <i>Carbon</i> , 2020, 157, 495-505.	10.3	15
84	Effect of the Incorporation of Functionalized Cellulose Nanocrystals into UiO-66 on Composite Porosity and Surface Heterogeneity Alterations. <i>Advanced Materials Interfaces</i> , 2020, 7, 1902098.	3.7	15
85	Alternative view of oxygen reduction on porous carbon electrocatalysts: The substance of complex oxygen-surface interactions. <i>IScience</i> , 2021, 24, 102216.	4.1	13
86	Surface chemical heterogeneity of pillared hydrotalcites. <i>Journal of the Chemical Society, Faraday Transactions</i> , 1996, 92, 1243.	1.7	12
87	A study of the acidic properties of pure and composite oxides by inverse gas chromatography at infinite dilution. <i>Journal of Catalysis</i> , 1991, 131, 433-444.	6.2	11
88	Proton affinity distributions: A scientific basis for the design and construction of supported metal catalysts. <i>Studies in Surface Science and Catalysis</i> , 1995, 91, 237-252.	1.5	11
89	Study of Nanocomposites Obtained by Carbonization of Different Organic Precursors within Taeniolite Matrices. <i>Clays and Clay Minerals</i> , 1996, 44, 237-243.	1.3	11
90	Enhancing the gas adsorption capacities of UiO-66 by nanographite addition. <i>Microporous and Mesoporous Materials</i> , 2020, 309, 110571.	4.4	11

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91	Confirmation of pore formation mechanisms in biochars and activated carbons by dual isotherm analysis. <i>Materials Advances</i> , 2022, 3, 3961-3971.	5.4	11
92	Poropore structure development in poly(sodium-4-styrenesulfonate) derived carbons. <i>Carbon</i> , 1995, 33, 1047-1052.	10.3	10
93	Adsorption of ammonia in zeolites and SiO <sub>2</sub> -molecular sieves. The distribution of adsorption energy in Na-X and NaH-Y zeolites. <i>Zeolites</i> , 1983, 3, 199-204.	0.5	9
94	Characterization of specific interactions capacity of solid surfaces by adsorption of alkanes and alkenes. Part II: Adsorption on crystalline silica layer surfaces. <i>Chromatographia</i> , 1990, 29, 35-38.	1.3	9
95	Low-pressure adsorption of gases on heterogeneous solid surfaces and the virial description formalism. <i>Journal of Colloid and Interface Science</i> , 1985, 104, 297-310.	9.4	8
96	A study of the activity of chemical groups on carbonaceous and model surfaces by infinite dilution chromatography. <i>Chromatographia</i> , 1992, 33, 441-444.	1.3	8
97	Pore wall corrugation effect on the dynamics of adsorbed H <sub>2</sub> studied by in situ quasi-elastic neutron scattering: Observation of two timescaled diffusion. <i>Carbon</i> , 2022, 197, 359-367.	10.3	8
98	Development of a simple NLDFT model for the analysis of adsorption isotherms on zeolite templated carbon (ZTC). <i>Carbon</i> , 2020, 169, 205-213.	10.3	7
99	Comprehensive Analysis of Hierarchical Porous Carbons Using a Dual-Shape 2D-NLDFT Model with an Adjustable Slit-Cylinder Pore Shape Boundary. <i>ACS Applied Materials &amp; Interfaces</i> , 2021, 13, 49472-49481.	8.0	7
100	Adsorption energy and structural heterogeneity of activated carbons. <i>Studies in Surface Science and Catalysis</i> , 1994, 87, 679-688.	1.5	6
101	Pore development during CO <sub>2</sub> and H <sub>2</sub> O activation associated with the catalytic role of inherent inorganics in sewage sludge char and its performance during the reforming of volatiles. <i>Chemical Engineering Journal</i> , 2022, 446, 137298.	12.7	6
102	A Simple Approach to the 2D Mobile Adsorption of Gases on Heterogeneous Solid Surfaces Exhibiting Random Surface Topography. <i>Adsorption Science and Technology</i> , 1989, 6, 35-51.	3.2	5
103	A new method of evaluation of specific surface area of solids using inverse gas chromatography at infinite dilution. <i>Journal of Colloid and Interface Science</i> , 1991, 142, 232-235.	9.4	5
104	Adsorption of organics on thermally treated solids obtained from colloidal silica. <i>Collection of Czechoslovak Chemical Communications</i> , 1987, 52, 572-581.	1.0	4
105	NLDFT adsorption models for zeolite porosity analysis with particular focus on ultra-microporous zeolites using O <sub>2</sub> and H <sub>2</sub> . <i>Journal of Colloid and Interface Science</i> , 2022, 625, 178-186.	9.4	4
106	Effect of Mineral Host on Surface Acidity of Hydroxy-Cr Intercalated Clays. <i>Clays and Clay Minerals</i> , 1997, 45, 110-113.	1.3	3
107	Carbon materials porosity analysis using DFT models for potential application in the recovery of methane from its low-concentration mixtures. <i>Chemical Engineering Journal</i> , 2022, 436, 135259.	12.7	3
108	Changes in the acidic properties of pillared taeniolites on heat treatment or alkene decomposition. <i>Journal of the Chemical Society, Faraday Transactions</i> , 1996, 92, 4631-4635.	1.7	2

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109	Thermodynamically Consistent Analysis of Silica Surface Heterogeneity Using Alkane and Alkene Adsorption Isotherms. Kluwer International Series in Engineering and Computer Science, 1996, , 417-424.	0.2	2
110	Hierarchical Structures: Quantifying the Complex Pore Architecture of Hierarchical Faujasite Zeolites and the Impact on Diffusion (Adv. Funct. Mater. 31/2016). Advanced Functional Materials, 2016, 26, 5768-5768.	14.9	0