

Bruce J Tatarchuk

List of Publications by Year in descending order

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118
papers

2,964
citations

136950

32
h-index

197818

49
g-index

121
all docs

121
docs citations

121
times ranked

2607
citing authors

#	ARTICLE	IF	CITATIONS
1	A Career in Catalysis: James A. Dumesic. <i>ACS Catalysis</i> , 2021, 11, 2310-2339.	11.2	5
2	XPS and FTIR investigations of the transient photocatalytic decomposition of surface carbon contaminants from anatase TiO ₂ in UHV starved water/oxygen environments. <i>Applied Surface Science</i> , 2021, 570, 151147.	6.1	49
3	Characterization of Dirt Holding Capacity of Microfiber-Based Filter Media Using Thermal Impedance Spectroscopy. <i>ACS Applied Materials & Interfaces</i> , 2020, 12, 15737-15747.	8.0	1
4	Multilayered Two-Dimensional V ₂ CT _x MXene for Methane Dehydroaromatization. <i>ChemCatChem</i> , 2020, 12, 3639-3643.	3.7	28
5	Building a Microkinetic Model from First Principles for Higher Amine Synthesis on Pd Catalyst. <i>Industrial & Engineering Chemistry Research</i> , 2019, 58, 19022-19032.	3.7	7
6	Kinetic study of SO ₂ adsorption on microfibrillar entrapped sorbents for solid oxide fuel cell cathode protection. <i>Chemical Engineering Science</i> , 2019, 201, 157-166.	3.8	8
7	Filtration performance of novel microfibrillar media embedded with nanofiber flocs for aerosol particle removal. <i>Nanotechnology</i> , 2019, 30, 075603.	2.6	4
8	A novel cooling structure with a matrix block of microfibrillar media / phase change materials for heat transfer enhancement in high power Li-ion battery packs. <i>Journal of Cleaner Production</i> , 2019, 210, 542-551.	9.3	23
9	A quantitative XPS examination of UV induced surface modification of TiO ₂ sorbents for the increased saturation capacity of sulfur heterocycles. <i>Fuel</i> , 2019, 238, 454-461.	6.4	54
10	Persistent adsorptive desulfurization enhancement of TiO ₂ after one-time ex-situ UV-treatment. <i>Fuel</i> , 2017, 193, 95-100.	6.4	17
11	Simulation of Ni-MH Batteries via an Equivalent Circuit Model for Energy Storage Applications. <i>Advances in Physical Chemistry</i> , 2016, 2016, 1-11.	2.0	9
12	Microfibrillar entrapped hybrid iron-based catalysts for Fischer-Tropsch synthesis. <i>Catalysis Today</i> , 2016, 273, 62-71.	4.4	14
13	A fiber optics system for monitoring utilization of ZnO adsorbent beds during desulfurization for logistic fuel cell applications. <i>Journal of Power Sources</i> , 2016, 315, 242-253.	7.8	0
14	Photo-assisted adsorptive desulfurization of hydrocarbon fuels over TiO ₂ and Ag/TiO ₂ . <i>Fuel</i> , 2016, 183, 550-556.	6.4	34
15	Comparison of Packed Beds, Washcoated Monoliths, and Microfibrillar Entrapped Catalysts for Ozone Decomposition at High Volumetric Flow Rates in Pressurized Systems. <i>Industrial & Engineering Chemistry Research</i> , 2016, 55, 8025-8033.	3.7	10
16	Loading of fibrous filter media and newly designed filter configurations by salt particles: An experimental study. <i>AIChE Journal</i> , 2016, 62, 3739-3750.	3.6	4
17	Characterization of asymmetric ultracapacitors as hybrid pulse power devices for efficient energy storage and power delivery applications. <i>Applied Energy</i> , 2016, 169, 460-468.	10.1	16
18	Understanding the dispersion of Ag on high surface area TiO ₂ supports using XPS intensity ratios. <i>Applied Surface Science</i> , 2015, 353, 679-685.	6.1	13

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19	A CFD pressure drop model for microfibrus entrapped catalyst filters using micro-scale imaging. Engineering Applications of Computational Fluid Mechanics, 2015, 9, 567-576.	3.1	5
20	Joint Numerical–Experimental Investigation of Enhanced Chemical Reactivity in Microfibrus Materials for Desulfurization. Journal of Fluids Engineering, Transactions of the ASME, 2015, 137, .	1.5	1
21	Comparison of wash–coated monoliths vs. microfibrus entrapped catalyst structures for catalytic VOC removal. AIChE Journal, 2014, 60, 3814-3823.	3.6	11
22	Performance comparison between high temperature and traditional proton exchange membrane fuel cell stacks using electrochemical impedance spectroscopy. Journal of Power Sources, 2014, 256, 250-257.	7.8	26
23	Self-discharge characteristics and performance degradation of Ni-MH batteries for storage applications. International Journal of Hydrogen Energy, 2014, 39, 19789-19798.	7.1	51
24	Improvement of Commercial Gas Mask Canisters Using Adsorbents Enhanced by Sintered Microfibrus Networks. Industrial & Engineering Chemistry Research, 2014, 53, 6509-6520.	3.7	12
25	Density Functional Theory Study of Organosulfur Selective Adsorption on Ag–TiO ₂ Adsorbents. Journal of Physical Chemistry C, 2014, 118, 14938-14947.	3.1	27
26	Growth of nanostructured ZnO on wearable fabrics for functional garment. Materials Letters, 2014, 118, 47-50.	2.6	9
27	Mechanism of hydrocarbon fuel desulfurization using Ag/TiO ₂ –Al ₂ O ₃ adsorbent. Fuel Processing Technology, 2014, 126, 233-242.	7.2	50
28	Experimental, Theoretical, and Computational Comparison of Pressure Drops Occurring in Pleated Catalyst Structure. Industrial & Engineering Chemistry Research, 2013, 52, 14472-14482.	3.7	4
29	Energy efficiency and capacity retention of Ni–MH batteries for storage applications. Applied Energy, 2013, 106, 307-313.	10.1	91
30	Catalytic Material with Enhanced Contacting Efficiency for Volatile Organic Compound Removal at Ultrashort Contact Time. Industrial & Engineering Chemistry Research, 2013, 52, 15494-15503.	3.7	12
31	Investigation of Organosulfur Adsorption Pathways from Liquid Fuels onto Ag/TiO _x –Al ₂ O ₃ Adsorbents at Ambient Conditions. Energy & Fuels, 2013, 27, 4353-4362.	5.1	16
32	Adsorptive desulfurization of jet and diesel fuels using Ag/TiO _x –Al ₂ O ₃ and Ag/TiO _x –SiO ₂ adsorbents. Fuel, 2013, 107, 465-473.	6.4	100
33	The role of surface acidity in adsorption of aromatic sulfur heterocycles from fuels. Fuel, 2013, 105, 695-704.	6.4	36
34	Effective thermal conductivity and junction factor for sintered microfibrus materials. International Journal of Heat and Mass Transfer, 2013, 56, 10-19.	4.8	15
35	Micro Scale Heat Transfer Comparison between Packed Beds and Microfibrus Entrapped Catalysts. Engineering Applications of Computational Fluid Mechanics, 2013, 7, 471-485.	3.1	5
36	In Situ Performance Analysis of a High Temperature PEM Fuel Cell Stack at Loads. ECS Transactions, 2013, 45, 67-72.	0.5	0

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37	Reactive adsorption of hydrogen sulfide by promoted sorbents Cu ²⁺ /ZnO/SiO ₂ : active sites by experiment and simulation. <i>Surface and Interface Analysis</i> , 2013, 45, 865-872.	1.8	20
38	In-Situ Dynamic Characterization of Energy Storage and Conversion Systems. , 2013, , .		2
39	Microfibrous Entrapped Catalysts for Cleaning Aircraft Cabin Air: VOC Removal at Ultra-Short Short Contact Times. , 2012, , .		0
40	Ozone Removal at Micro-Second Contact Time for Aircraft Cabin Air Using Microfibrous Entrapped Catalysts. , 2012, , .		0
41	High conductivity catalyst structures for applications in exothermic reactions. <i>Applied Catalysis A: General</i> , 2012, 445-446, 143-152.	4.3	42
42	Microfibrous entrapped catalysts for low temperature CO oxidation in humid air. <i>Catalysis Communications</i> , 2012, 27, 9-12.	3.3	5
43	A novel nano-nonwoven fabric with three-dimensionally dispersed nanofibers: entrapment of carbon nanofibers within nonwovens using the wet-lay process. <i>Nanotechnology</i> , 2012, 23, 185601.	2.6	16
44	Metal microfibers entrapped catalysts as effective ambient temperature CO oxidation catalysts. <i>Applied Catalysis A: General</i> , 2012, 441-442, 54-64.	4.3	6
45	Carbon Nanofiber Synthesis within 3-Dimensional Sintered Nickel Microfibrous Matrices: Optimization of Synthesis Conditions. <i>Journal of Nanotechnology</i> , 2012, 2012, 1-14.	3.4	3
46	Pressure drop and aerosol filtration efficiency of microfibrous entrapped catalyst and sorbent media: Semi-empirical models. <i>Separation and Purification Technology</i> , 2012, 86, 55-63.	7.9	12
47	Aerosol filtration enhancement using carbon nanostructures synthesized within a sintered nickel microfibrous matrix. <i>Separation and Purification Technology</i> , 2012, 87, 84-94.	7.9	31
48	Characterization of active sites, determination of mechanisms of H ₂ S, COS and CS ₂ sorption and regeneration of ZnO low-temperature sorbents: past, current and perspectives. <i>Physical Chemistry Chemical Physics</i> , 2011, 13, 3197.	2.8	106
49	Regenerable Fe ²⁺ /Mn ²⁺ /ZnO/SiO ₂ sorbents for room temperature removal of H ₂ S from fuel reformates: performance, active sites, Operando studies. <i>Physical Chemistry Chemical Physics</i> , 2011, 13, 2179-2187.	2.8	67
50	Adsorption and desorption of dibenzothiophene on Ag-titania studied by the complementary temperature-programmed XPS and ESR. <i>Applied Surface Science</i> , 2011, 257, 3226-3232.	6.1	22
51	Novel catalyst structures with enhanced heat transfer characteristics. <i>Journal of Catalysis</i> , 2011, 281, 254-262.	6.2	94
52	Characteristics of sulfur removal by silver-titania adsorbents at ambient conditions. <i>Adsorption</i> , 2011, 17, 663-673.	3.0	21
53	A simplified equivalent circuit model for simulation of Pb ²⁺ acid batteries at load for energy storage application. <i>Energy Conversion and Management</i> , 2011, 52, 2794-2799.	9.2	49
54	Diffusion and Gas Conversion Analysis of Solid Oxide Fuel Cells at Loads via AC Impedance. <i>International Journal of Electrochemistry</i> , 2011, 2011, 1-11.	2.4	12

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55	Note: Heated sample platform for <i>in situ</i> temperature-programmed XPS. Review of Scientific Instruments, 2011, 82, 076106.	1.3	0
56	New Structures of Matter for High Performance Heterogeneous Catalytic Beneficiation of Cabin Air. , 2010, , .		0
57	Novel doped zinc oxide sorbents for low temperature regenerable desulfurization applications. AIChE Journal, 2010, 56, 2898-2904.	3.6	45
58	Surface characterization of Ag/Titania adsorbents. Applied Surface Science, 2010, 256, 3647-3652.	6.1	38
59	Supported silver adsorbents for selective removal of sulfur species from hydrocarbon fuels. Fuel, 2010, 89, 3218-3225.	6.4	58
60	An <i>in situ</i> temperature-programmed XPS study of the surface chemical reactions of thiophene with Ag/titania. Surface and Interface Analysis, 2010, 42, 1476-1482.	1.8	21
61	Copper-Promoted ZnO/SiO ₂ Regenerable Sorbents for the Room Temperature Removal of H ₂ S from Reformate Gas Streams. Industrial & Engineering Chemistry Research, 2010, 49, 8388-8396.	3.7	76
62	Study of the Surface Chemical Reactions of Thiophene with Ag/Titania by the Complementary Temperature-Programmed Electron Spin Resonance, Temperature-Programmed Desorption, and X-ray Photoelectron Spectroscopy: Adsorption, Desorption, and Sorbent Regeneration Mechanisms. Journal of Physical Chemistry C, 2010, 114, 4075-4085.	3.1	20
63	Review of Experimental Characterization of Active Sites and Determination of Molecular Mechanisms of Adsorption, Desorption and Regeneration of the Deep and Ultradeep Desulfurization Sorbents for Liquid Fuels. Catalysis Reviews - Science and Engineering, 2010, 52, 381-410.	12.9	116
64	A Semi-Empirical Pressure Drop Model: Part II Multi-Element Pleated Filter Banks. HVAC and R Research, 2009, 15, 269-286.	0.6	3
65	Comparative heterogeneous contacting efficiency in fixed bed reactors: Opportunities for new microstructured systems. Applied Catalysis B: Environmental, 2009, 90, 507-515.	20.2	40
66	Microfibrinous Entrapped Catalysts for Low Temperature CO Oxidation. Materials Research Society Symposia Proceedings, 2009, 1217, 1.	0.1	1
67	Equivalent circuit elements for PSpice simulation of PEM stacks at pulse load. Journal of Power Sources, 2008, 178, 197-206.	7.8	14
68	Microfibrinous entrapped small particle adsorbents for high efficiency heterogeneous contacting. Separation and Purification Technology, 2008, 62, 304-316.	7.9	32
69	A study of kinetic effects due to using microfibrinous entrapped zinc oxide sorbents for hydrogen sulfide removal. Chemical Engineering Science, 2008, 63, 2707-2716.	3.8	45
70	Ammonia: It's Transformation and Effective Utilization. , 2008, , .		11
71	A Semi-Empirical Pressure Drop Model: Part I Pleated Filters. HVAC and R Research, 2008, 14, 841-860.	0.6	8
72	Breakthrough Characteristics of Reformate Desulfurization Using ZnO Sorbents for Logistic Fuel Cell Power Systems. Industrial & Engineering Chemistry Research, 2008, 47, 10064-10070.	3.7	49

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73	Minimization of Carbon Monoxide Poisoning in Polymer Electrolyte Fuel Cells using in situ PROX Catalysts. ECS Transactions, 2008, 13, 119-122.	0.5	0
74	Pressure Drop Predictions in Microfibrous Materials Using Computational Fluid Dynamics. Journal of Fluids Engineering, Transactions of the ASME, 2008, 130, .	1.5	16
75	Process integration under size constraints: Logistical fuels for mobile applications. Computer Aided Chemical Engineering, 2007, 24, 1059-1064.	0.5	1
76	PEM stack test and analysis in a power system at operational load via ac impedance. Journal of Power Sources, 2007, 168, 211-217.	7.8	49
77	Immobilization of CO ₂ by aqueous K ₂ CO ₃ using microfibrous media entrapped small particulates for battery and fuel cell applications. Journal of Power Sources, 2007, 173, 478-486.	7.8	11
78	Glass fiber entrapped sorbent for reformates desulfurization for logistic PEM fuel cell power systems. Journal of Power Sources, 2007, 174, 302-311.	7.8	30
79	Fuel cell cathode air filters: Methodologies for design and optimization. Journal of Power Sources, 2007, 168, 391-399.	7.8	28
80	Microfibrous entrapment of small catalyst or sorbent particulates for high contacting-efficiency removal of trace contaminants including CO and H ₂ S from practical reformates for PEM H ₂ /O ₂ fuel cells. Chemical Engineering Journal, 2006, 115, 195-202.	12.7	61
81	Critical flow rate of anode fuel exhaust in a PEM fuel cell system. Journal of Power Sources, 2006, 156, 512-519.	7.8	25
82	Hg/HgO electrode and hydrogen evolution potentials in aqueous sodium hydroxide. Journal of Power Sources, 2006, 161, 1217-1224.	7.8	33
83	Facile Regeneration Vitreous Microfibrous Entrapped Supported ZnO Sorbent with High Contacting Efficiency for Bulk H ₂ S Removal from Reformate Streams in Fuel Cell Applications. Journal of Materials Engineering and Performance, 2006, 15, 439-441.	2.5	14
84	Microfibrous Entrapment of Small Catalyst Particulates for High Contacting Efficiency Removal of Trace CO From Practical Reformates for PEM H ₂ -O ₂ Fuel Cells. Journal of Materials Engineering and Performance, 2006, 15, 453-456.	2.5	12
85	Process integration and optimization of logistical fuels processing for hydrogen production. Computer Aided Chemical Engineering, 2005, 20, 1609-1614.	0.5	0
86	High surface area, supported precious metal cathodes utilizing metal microfibrous collectors for application in chlor-alkali cells. Journal of Applied Electrochemistry, 2005, 35, 581-587.	2.9	5
87	Uniformity analysis at MEA and stack Levels for a Nexa PEM fuel cell system. Journal of Power Sources, 2004, 128, 231-238.	7.8	58
88	Flow Characterization Through Sintered Microfibrous Materials: Potential Ramifications to Stirling Engine Regenerators. , 2003, , .		0
89	Origin of strong Gâ€² band in Raman spectra of carbon whiskers. Applied Physics Letters, 2002, 80, 3733-3735.	3.3	23
90	Nickelâ€“zinc accordion-fold batteries with microfibrous electrodes using a papermaking process. Journal of Power Sources, 2002, 112, 353-366.	7.8	17

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91	Microfibrinous nickel substrates and electrodes for battery system applications. Journal of Power Sources, 2002, 111, 221-231.	7.8	12
92	Wet layup and sintering of metal-containing microfibrinous composites for chemical processing opportunities. Composites Part A: Applied Science and Manufacturing, 2001, 32, 1117-1126.	7.6	64
93	Permeability of sintered microfibrinous composites for heterogeneous catalysis and other chemical processing opportunities. Catalysis Today, 2001, 69, 33-39.	4.4	59
94	Surface and bulk interactions of hydrogen with copper. Applied Surface Science, 1997, 119, 275-287.	6.1	14
95	Temperature programmed desorption study of the adsorption and absorption of hydrogen on and in Cu(111). Applied Surface Science, 1997, 119, 267-274.	6.1	23
96	A study of the tribological and electrical properties of sputtered and burnished transition metal dichalcogenide films. Surface and Coatings Technology, 1995, 76-77, 415-420.	4.8	20
97	Electrical conductive composite lubricants. AIP Conference Proceedings, 1995, , .	0.4	0
98	Selective Electrochemical Oxidation of Coal in Aqueous Alkaline Electrolyte. Journal of the Electrochemical Society, 1995, 142, 782-787.	2.9	4
99	Air Electrode: Identification of Intraelectrode Rate Phenomena via AC Impedance. Journal of the Electrochemical Society, 1995, 142, 4169-4175.	2.9	30
100	High surface area, low-weight composite nickel fiber electrodes. Journal of Power Sources, 1994, 47, 251-259.	7.8	7
101	Composite fiber structures for catalysts and electrodes. Journal of Power Sources, 1994, 47, 297-302.	7.8	22
102	Electrochemical Reduction of Oxygen at α -Electrocoated α -Nafion α -Modified Metal α -Carbon Composite and Platinum Electrodes. Journal of the Electrochemical Society, 1993, 140, 1026-1033.	2.9	8
103	Fabrication of Composite Materials from Fibrous Precursors Using Paper Making Procedures. Materials Research Society Symposia Proceedings, 1990, 197, 297.	0.1	0
104	Angular and energy distributions of low energy electrons from backscattered-conversion electron Mossbauer spectroscopy. Hyperfine Interactions, 1990, 57, 1949-1954.	0.5	2
105	Investigation of internal interfacial reactions of the Fe α -Ti hydride system. Hyperfine Interactions, 1990, 57, 2083-2088.	0.5	2
106	Novel Composite Electrodes from Fibrous Precursors. Materials and Processing Report, 1990, 5, 3-4.	0.0	0
107	Metal α -Carbon Composite Electrodes from Fiber Precursors: II . Electrochemical Characterization of Stainless Steel α -Carbon Structures. Journal of the Electrochemical Society, 1990, 137, 1750-1757.	2.9	19
108	Metal α -Carbon Composite Materials from Fiber Precursors: I . Preparation of Stainless Steel α -Carbon Composite Electrodes. Journal of the Electrochemical Society, 1990, 137, 136-141.	2.9	33

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109	Pillared-clay catalysts containing mixed-metal complexes I. Preparation and characterization. Journal of Catalysis, 1989, 115, 159-179.	6.2	91
110	Mössbauer studies of high surface area pillared-clays containing mixed metal complexes. Hyperfine Interactions, 1988, 41, 661-664.	0.5	14
111	Spectroscopic Analysis of Southern Pine Treated with Chromater Copper Arsenate. I. X-Ray Photoelectron Spectroscopy (XPS)-17. Journal of Wood Chemistry and Technology, 1988, 8, 413-439.	1.7	35
112	Neutron scattering study of hydrogen on ruthenium sulfide. The Journal of Physical Chemistry, 1988, 92, 5184-5188.	2.9	24
113	Adsorption and Reaction Mechanisms of Thiophene over Sulfided Ruthenium Catalysts. Materials Research Society Symposia Proceedings, 1987, 111, 335.	0.1	1
114	Surface Chemical Characterization of Internal Interfaces Generated Within Thin-Film Fe-Ti Hydrides. Materials Research Society Symposia Proceedings, 1987, 111, 369.	0.1	0
115	Hydrazine reduction of transition-metal oxides. Journal of the Chemical Society Faraday Transactions I, 1987, 83, 3271.	1.0	23
116	Activated chemisorption of hydrogen on supported ruthenium I. Influence of adsorbed chlorine on accurate surface area measurements. Journal of Catalysis, 1987, 106, 166-175.	6.2	97
117	Activated chemisorption of hydrogen on supported ruthenium II. Effects of crystallite size and adsorbed chlorine on accurate surface area measurements. Journal of Catalysis, 1987, 106, 176-187.	6.2	55
118	Physical characterization of Fe/TiO ₂ model supported catalysts I. Electron microscopic studies of reduction behavior. Journal of Catalysis, 1981, 70, 308-322.	6.2	69