OndÅej MaÅ¡ek

List of Publications by Year
in descending order

115 papers	6,714 citations	76031 42 h-index	78623 77 g-index
122 all docs	122 docs citations	122 times ranked	6797 citing authors

#	Article	IF	Citations
1	The role of biochar particle size and hydrophobicity in improving soil hydraulic properties. European Journal of Soil Science, 2022, 73, .	1.8	38
2	Biochar composites: Emerging trends, field successes and sustainability implications. Soil Use and Management, 2022, 38, 14-38.	2.6	73
3	Contaminants in biochar and suggested mitigation measures â€“ a review. Chemical Engineering Journal, 2022, 429, 132287.	6.6	34
4	A state-of-the-art review on algae pyrolysis for bioenergy and biochar production. Bioresource Technology, 2022, 346, 126258.	4.8	79
5	Biochar stability scores from analytical pyrolysis (Py-GC-MS). Journal of Analytical and Applied Pyrolysis, 2022, 161, 105412.	2.6	10
6	Comprehensive analysis of industrial-scale heating plants based on different biomass slow pyrolysis technologies: Product property, energy balance, and ecological impact. Cleaner Engineering and Technology, 2022, 6, 100391.	2.1	9
7	Aging features of metal(loid)s in biochar-amended soil: Effects of biochar type and aging method. Science of the Total Environment, 2022, 815, 152922.	3.9	31
8	Mineral-enriched biochar delivers enhanced nutrient recovery and carbon dioxide removal. Communications Earth & Environment, 2022, 3, .	2.6	39
9	Comparative study on the characteristics and environmental risk of potentially toxic elements in biochar obtained via pyrolysis of swine manure at lab and pilot scales. Science of the Total Environment, 2022, 825, 153941.	3.9	10
10	Highly efficient phosphorus recovery from sludge and manure biochars using potassium acetate pre-treatment. Journal of Environmental Management, 2022, 314, 115035.	3.8	4
11	Immobilizing chromate reductase NfoR on magnetic biochar reduced Cr(VI) in copper-containing wastewater. Journal of Cleaner Production, 2022, 361, 132118.	4.6	14
12	Composition of PAHs in Biochar and Implications for Biochar Production. ACS Sustainable Chemistry and Engineering, 2022, 10, 6755-6765.	3.2	16
13	Engineered biochar as a potential adsorbent for carbon dioxide capture. , 2022, , 345-359.		1
14	Sequential biochar systems in a circular economy. , 2022, , 305-319.		1
15	Customizing high-performance molten salt biochar from wood waste for CO2/N2 separation. Fuel Processing Technology, 2022, 234, 107319.	3.7	23
16	Algae, biochar and bacteria for acid mine drainage (AMD) remediation: A review. Chemosphere, 2022, 304, 135284.	4.2	28
17	Co-combustion, co-densification, and pollutant emission characteristics of charcoal-based briquettes prepared using bio-tar as a binder. Fuel, 2021, 287, 119512.	3.4	8
18	Biochar from pyrolyzed Tibetan Yak dung as a novel additive in ensiling sweet sorghum: An alternate to the hazardous use of Yak dung as a fuel in the home. Journal of Hazardous Materials, 2021, 403, 123647.	6.5	10

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19	Specific enrichment of hydrocarbonclastic bacteria from diesel-amended soil on biochar particles. Science of the Total Environment, 2021, 762, 143084.	3.9	9
20	Feedstock doping using iron rich waste increases the pyrolysis gas yield and adsorption performance of magnetic biochar for emerging contaminants. Bioresource Technology, 2021, 321, 124473.	4.8	40
21	Country-level potential of carbon sequestration and environmental benefits by utilizing crop residues for biochar implementation. Applied Energy, 2021, 282, 116275.	5.1	81
22	Chemical stabilization of Cd-contaminated soil using fresh and aged wheat straw biochar. Environmental Science and Pollution Research, 2021, 28, 10155-10166.	2.7	20
23	Uranium removal from aqueous solution using macauba endocarp-derived biochar: Effect of physical activation. Environmental Pollution, 2021, 272, 116022.	3.7	31
24	Prospective contributions of biomass pyrolysis to Chinaâ€™s 2050 carbon reduction and renewable energy goals. Nature Communications, 2021, 12, 1698.	5.8	146
25	Biochar from sawmill residues: characterization and evaluation for its potential use in the horticultural growing media. Biochar, 2021, 3, 201-212.	6.2	8
26	SPEAR (Solar Pyrolysis Energy Access Reactor): Theoretical Design and Evaluation of a Small-Scale Low-Cost Pyrolysis Unit for Implementation in Rural Communities. Energies, 2021, 14, 2189.	1.6	4
27	Investigation of biomass and agricultural plastic co-pyrolysis: Effect on biochar yield and properties. Journal of Analytical and Applied Pyrolysis, 2021, 155, 105029.	2.6	50
28	Kinetic study of pyrolysis of highâ€density polyethylene (HDPE) waste at different bed thickness in a fixed bed reactor. Canadian Journal of Chemical Engineering, 2021, 99, 1733-1744.	0.9	14
29	Effect of Pyrolysis Temperature on the Characterisation of Dissolved Organic Matter from Pyroligneous Acid. Molecules, 2021, 26, 3416.	1.7	8
30	Synchrotron X-ray microtomography and multifractal analysis for the characterization of pore structure and distribution in softwood pellet biochar. Biochar, 2021, 3, 671-686.	6.2	7
31	Valorization of humins from food waste biorefinery for synthesis of biochar-supported Lewis acid catalysts. Science of the Total Environment, 2021, 775, 145851.	3.9	30
32	Analysis of the influence of activated biochar properties on methane production from anaerobic digestion of waste activated sludge. Biomass and Bioenergy, 2021, 150, 106129.	2.9	20
33	Do you BET on routine? The reliability of N2 physisorption for the quantitative assessment of biocharâ€™s surface area. Chemical Engineering Journal, 2021, 418, 129234.	6.6	49
34	Addition of Different Biochars as Catalysts during the Mesophilic Anaerobic Digestion of Mixed Wastewater Sludge. Catalysts, 2021, 11, 1094.	1.6	10
35	Co-hydrothermal carbonization of swine and chicken manure: Influence of cross-interaction on hydrochar and liquid characteristics. Science of the Total Environment, 2021, 786, 147381.	3.9	38
36	Production and use of biochar from lignin and lignin-rich residues (such as digestate and olive) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 62	2.6	30

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37	Anisotropic and homogeneous model of heat transfer for self-heating ignition of large ensembles of lithium-ion batteries during storage. Applied Thermal Engineering, 2021, 197, 117301.	3.0	10
38	Recent trends in biochar integration with anaerobic fermentation: Win-win strategies in a closed-loop. Renewable and Sustainable Energy Reviews, 2021, 149, 111371.	8.2	28
39	Removal of contaminants of emerging concern from multicomponent systems using carbon dioxide activated biochar from lignocellulosic feedstocks. Bioresource Technology, 2021, 340, 125561.	4.8	48
40	Semi-continuous anaerobic digestion of mixed wastewater sludge with biochar addition. Bioresource Technology, 2021, 340, 125664.	4.8	7
41	New directions and challenges in engineering biologically-enhanced biochar for biological water treatment. Science of the Total Environment, 2021, 796, 148977.	3.9	32
42	Opening the black box: Soil microcosm experiments reveal soot black carbon short-term oxidation and influence on soil organic carbon mineralisation. Science of the Total Environment, 2021, 801, 149659.	3.9	0
43	Comparison of Pyrolysis Liquids from Continuous and Batch Biochar Productionâ€"Influence of Feedstock Evidenced by FTICR MS. Energies, 2021, 14, 9.	1.6	15
44	Evaluating the performance of honeycomb briquettes produced from semi-coke and corn stover char: Co-combustion, emission characteristics, and a value-chain model for rural China. Journal of Cleaner Production, 2020, 244, 118770.	4.6	9
45	Biochar amendment improves alpine meadows growth and soil health in Tibetan plateau over a three year period. Science of the Total Environment, 2020, 717, 135296.	3.9	26
46	Influence of Biochar Composition and Source Material on Catalytic Performance: The Carboxylation of Glycerol with CO2 as a Case Study. Catalysts, 2020, 10, 1067.	1.6	16
47	Review of biochar role as additive in anaerobic digestion processes. Renewable and Sustainable Energy Reviews, 2020, 131, 110037.	8.2	153
48	Advances in algal biochar: Production, characterization and applications. Bioresource Technology, 2020, 317, 123982.	4.8	15
49	Unlocking the Fertilizer Potential of Waste-Derived Biochar. ACS Sustainable Chemistry and Engineering, 2020, 8, 12295-12303.	3.2	43
50	Evaluating biochar and its modifications for the removal of ammonium, nitrate, and phosphate in water. Water Research, 2020, 186, 116303.	5.3	248
51	How to trace back an unknown production temperature of biochar from chemical characterization methods in a feedstock independent way. Journal of Analytical and Applied Pyrolysis, 2020, 151, 104926.	2.6	8
52	Experimental Study of Self-heating Ignition of Lithium-Ion Batteries During Storage: Effect of the Number of Cells. Fire Technology, 2020, 56, 2649-2669.	1.5	33
53	A Graphical-User-Interface application for multifractal analysis of soil and plant structures. Computers and Electronics in Agriculture, 2020, 174, 105454.	3.7	8
54	Numerical Study of Self-Heating Ignition of a Box of Lithium-Ion Batteries During Storage. Fire Technology, 2020, 56, 2603-2621.	1.5	14

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55	A meta-analysis on biochar's effects on soil water properties â€“ New insights and future research challenges. Science of the Total Environment, 2020, 714, 136857.	3.9	157
56	New trends in biochar pyrolysis and modification strategies: feedstock, pyrolysis conditions, sustainability concerns and implications for soil amendment. Soil Use and Management, 2020, 36, 358-386.	2.6	200
57	Biocidal Activity of Fast Pyrolysis Biochar against Escherichia coli O157:H7 in Soil Varies Based on Production Temperature or Age of Biochar. Journal of Food Protection, 2020, 83, 1020-1029.	0.8	7
58	Prospects of Biochar for Carbon Sequestration and Livelihood Improvement in theÂTibetan Grasslands. , 2020, , 185-196.		0
59	Superior activity of metal oxide biochar composite in hydrogen evolution under artificial solar irradiation: A promising alternative to conventional metal-based photocatalysts. International Journal of Hydrogen Energy, 2019, 44, 28698-28708.	3.8	26
60	Experimental measurement of particle size effects on the self-heating ignition of biomass piles: Homogeneous samples of dust and pellets. Fuel, 2019, 256, 115838.	3.4	29
61	Synergies between BECCS and Biocharâ€"Maximizing Carbon Sequestration Potential by Recycling Wood Ash. ACS Sustainable Chemistry and Engineering, 2019, 7, 4204-4209.	3.2	44
62	A critical review of clay-based composites with enhanced adsorption performance for metal and organic pollutants. Journal of Hazardous Materials, 2019, 369, 780-796.	6.5	314
63	Quick pyrolysis of a massive coal sample via rapid infrared heating. Applied Energy, 2019, 242, 732-740.	5.1	49
64	Potassium doping increases biochar carbon sequestration potential by 45%, facilitating decoupling of carbon sequestration from soil improvement. Scientific Reports, 2019, 9, 5514.	1.6	69
65	Pyrolytic temperature evaluation of macauba biochar for uranium adsorption from aqueous solutions. Biomass and Bioenergy, 2019, 122, 381-390.	2.9	49
66	Superior visible-light photocatalytic activity of biocarbon derived from sewage sludge in the absence of active phase for hydrogen production. AIP Conference Proceedings, 2019, , .	0.3	1
67	Quantifying self-heating ignition of biochar as a function of feedstock and the pyrolysis reactor temperature. Fuel, 2019, 236, 201-213.	3.4	32
68	Unexplored potential of novel biochar-ash composites for use as organo-mineral fertilizers. Journal of Cleaner Production, 2019, 208, 960-967.	4.6	41
69	Interaction of Inherent Minerals with Carbon during Biomass Pyrolysis Weakens Biochar Carbon Sequestration Potential. ACS Sustainable Chemistry and Engineering, 2019, 7, 1591-1599.	3.2	74
70	Slow Pyrolysis Performance and Energy Balance of Corn Stover in Continuous Pyrolysis-Based Poly-Generation Systems. Energy & Fuels, 2018, 32, 3743-3750.	2.5	40
71	Catalytic Fast Pyrolysis of Biomass over Microporous and Hierarchical Zeolites: Characterization of Heavy Products. ACS Sustainable Chemistry and Engineering, 2018, 6, 4717-4728.	3.2	62
72	Consistency of biochar properties over time and production scales: A characterisation of standard materials. Journal of Analytical and Applied Pyrolysis, 2018, 132, 200-210.	2.6	91

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73	Designing an optimised supply network for sustainable conversion of waste agricultural plastics into higher value products. Journal of Cleaner Production, 2018, 189, 683-700.	4.6	34
74	Thermochemical decomposition of coffee ground residues by TG-MS: A kinetic study. Journal of Analytical and Applied Pyrolysis, 2018, 130, 358-367.	2.6	53
75	Novel biomass-derived hybrid TiO 2 /carbon material using tar-derived secondary char to improve TiO 2 bonding to carbon matrix. Journal of Analytical and Applied Pyrolysis, 2018, 131, 35-41.	2.6	28
76	Influence of pyrolysis temperature and production unit on formation of selected PAHs, oxy-PAHs, N-PACs, PCDDs, and PCDFs in biocharâ€"a screening study. Environmental Science and Pollution Research, 2018, 25, 3933-3940.	2.7	49
77	Secondary cracking of volatile and its avoidance in infrared-heating pyrolysis reactor. Carbon Resources Conversion, 2018, 1, 202-208.	3.2	12
78	Pyrolysis characteristics of waste tire particles in fixed-bed reactor with internals. Carbon Resources Conversion, 2018, 1, 228-237.	3.2	34
79	Spatial and temporal microscale pH change at the soil-biochar interface. Geoderma, 2018, 331, 50-52.	2.3	48
80	Toxicity screening of biochar-mineral composites using germination tests. Chemosphere, 2018, 207, 91-100.	4.2	45
81	Design and Fabrication of TiO₂/Lignocellulosic Carbon Materials: Relevance of Lowâ€temperature Sonocrystallization to Photocatalysts Performance. ChemCatChem, 2018, 10, 3469-3480.	1.8	35
82	Self-heating behavior and ignition of shale rock. Combustion and Flame, 2017, 176, 213-219.	2.8	42
83	Roles of Phosphoric Acid in Biochar Formation: Synchronously Improving Carbon Retention and Sorption Capacity. Journal of Environmental Quality, 2017, 46, 393-401.	1.0	123
84	Self-ignition of natural fuels: Can wildfires of carbon-rich soil start by self-heating?. Fire Safety Journal, 2017, 91, 828-834.	1.4	43
85	Source and Biological Response of Biochar Organic Compounds Released into Water; Relationships with Bio-Oil Composition and Carbonization Degree. Environmental Science & Technology, 2017, 51, 6580-6589.	4.6	35
86	Indispensable role of biochar-inherent mineral constituents in its environmental applications: A review. Bioresource Technology, 2017, 241, 887-899.	4.8	239
87	Dual Functionality of TiO₂/Biochar Hybrid Materials: Photocatalytic Phenol Degradation in the Liquid Phase and Selective Oxidation of Methanol in the Gas Phase. ACS Sustainable Chemistry and Engineering, 2017, 5, 6274-6287.	3.2	130
88	Combination of electrospray ionization, atmospheric pressure photoionization and laser desorption ionization Fourier transform ion cyclotronic resonance mass spectrometry for the investigation of complex mixtures â€“ Application to the petroleomic analysis of bio-oils. Analytica Chimica Acta, 2017, 969, 26-34.	2.6	58
89	Strategies for producing biochars with minimum PAH contamination. Journal of Analytical and Applied Pyrolysis, 2016, 119, 24-30.	2.6	93
90	Risks and benefits of marginal biomass-derived biochars for plant growth. Science of the Total Environment, 2016, 569-570, 496-506.	3.9	67

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91	High-VOC biocharâ€"effectiveness of post-treatment measures and potential health risks related to handling and storage. Environmental Science and Pollution Research, 2016, 23, 19580-19589.	2.7	36
92	Suitability of marginal biomass-derived biochars for soil amendment. Science of the Total Environment, 2016, 547, 314-322.	3.9	103
93	Toward the Standardization of Biochar Analysis: The COST Action TD1107 Interlaboratory Comparison. Journal of Agricultural and Food Chemistry, 2016, 64, 513-527.	2.4	86
94	Biochar â€" synergies and tradeâ€offs between soil enhancing properties and C sequestration potential. GCB Bioenergy, 2015, 7, 1161-1175.	2.5	75
95	Inherent organic compounds in biocharâ€"Their content, composition and potential toxic effects. Journal of Environmental Management, 2015, 156, 150-157.	3.8	129
96	Hydrothermal Carbonization of Digestate in the Presence of Zeolite: Process Efficiency and Composite Properties. ACS Sustainable Chemistry and Engineering, 2015, 3, 2967-2974.	3.2	53
97	Pyrolysis biochar systems, balance between bioenergy and carbon sequestration. GCB Bioenergy, 2015, 7, 349-361.	2.5	100
98	Investigating the potential for a self-sustaining slow pyrolysis system under varying operating conditions. Bioresource Technology, 2014, 162, 148-156.	4.8	80
99	Mobile organic compounds in biochar â€" A potential source ofÂcontamination â€" Phytotoxic effects on cress seed (LepidiumÂsativum) germination. Journal of Environmental Management, 2014, 137, 111-119.	3.8	132
100	Biochar, Tool for Climate Change Mitigation and Soil Management. , 2013, , 73-140.		7
101	Heterogeneity of biochar properties as a function of feedstock sources and production temperatures. Journal of Hazardous Materials, 2013, 256-257, 1-9.	6.5	287
102	Microwave and slow pyrolysis biocharâ€"Comparison of physical and functional properties. Journal of Analytical and Applied Pyrolysis, 2013, 100, 41-48.	2.6	193
103	Detailed Analysis of Residual Volatiles in Chars from the Pyrolysis of Biomass and Lignite. Energy & Fuels, 2013, 27, 3209-3223.	2.5	21
104	The effect of pyrolysis conditions on biochar stability as determined by three methods. GCB Bioenergy, 2013, 5, 122-131.	2.5	372
105	Influence of production conditions on the yield and environmental stability of biochar. Fuel, 2013, 103, 151-155.	3.4	250
106	Estimation of Enthalpy of Bio-Oil Vapor and Heat Required for Pyrolysis of Biomass. Energy & Fuels, 2013, 27, 2675-2686.	2.5	82
107	Simultaneous Maximization of the Char Yield and Volatility of Oil from Biomass Pyrolysis. Energy & Fuels, 2013, 27, 247-254.	2.5	38
108	Torrefaction/biochar production by microwave and conventional slow pyrolysis â€" comparison of energy properties. GCB Bioenergy, 2013, 5, 144-152.	2.5	56

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109	Numerical Simulation of Secondary Gas Phase Reactions of Coffee Grounds with a Detailed Chemical Kinetic Model. Nihon Enerugi Gakkaishi/Journal of the Japan Institute of Energy, 2010, 89, 955-961.	0.2	6
110	Study on multi-objective optimization of load dispatch including renewable energy and CCS technologies. International Journal of Energy Research, 2009, 34, n/a-n/a.	2.2	4
111	CO2 Capture Technologies for Cement Industry. Energy Procedia, 2009, 1, 133-140.	1.8	249
112	Rapid Gasification of Nascent Char in Steam Atmosphere during the Pyrolysis of Na- and Ca-Ion-Exchanged Brown Coals in a Drop-Tube Reactor. Energy & Fuels, 2009, 23, 4496-4501.	2.5	18
113	A study on pyrolytic gasification of coffee grounds and implications to allothermal gasification. Biomass and Bioenergy, 2008, 32, 78-89.	2.9	30
114	Examination of catalytic roles of inherent metallic species in steam reforming of nascent volatiles from the rapid pyrolysis of a brown coal. Fuel Processing Technology, 2007, 88, 179-185.	3.7	32
115	Interparticle Desorption and Re-adsorption of Alkali and Alkaline Earth Metallic Species within a Bed of Pyrolyzing Char from Pulverized Woody Biomass. Energy & Fuels, 2006, 20, 1294-1297.	2.5	38