

# Peter N Ciesielski

## List of Publications by Year in descending order

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65  
papers

4,944  
citations

117571

34  
h-index

110317

64  
g-index

65  
all docs

65  
docs citations

65  
times ranked

7963  
citing authors

#	ARTICLE	IF	CITATIONS
1	Mass Transport Limitations and Kinetic Consequences of Corn Stover Deacetylation. <i>Frontiers in Energy Research</i> , 2022, 10, .	1.2	5
2	Minimizing Oxygen Permeability in Chitin/Cellulose Nanomaterial Coatings by Tuning Chitin Deacetylation. <i>ACS Sustainable Chemistry and Engineering</i> , 2022, 10, 124-133.	3.2	13
3	Measurement of Transport Properties of Woody Biomass Feedstock Particles Before and After Pyrolysis by Numerical Analysis of X-Ray Tomographic Reconstructions. <i>Frontiers in Energy Research</i> , 2022, 10, .	1.2	3
4	CFD-DEM modeling of autothermal pyrolysis of corn stover with a coupled particle- and reactor-scale framework. <i>Chemical Engineering Journal</i> , 2022, 446, 136920.	6.6	14
5	Investigating biomass composition and size effects on fast pyrolysis using global sensitivity analysis and CFD simulations. <i>Chemical Engineering Journal</i> , 2021, 421, 127789.	6.6	36
6	Ex situ upgrading of pyrolysis vapors over PtTiO <sub>2</sub> : extraction of apparent kinetics via hierarchical transport modeling. <i>Reaction Chemistry and Engineering</i> , 2021, 6, 125-137.	1.9	11
7	Tailorable cellulose II nanocrystals (CNC II) prepared in mildly acidic lithium bromide trihydrate (MALBTH). <i>Green Chemistry</i> , 2021, 23, 2778-2791.	4.6	31
8	Towards sustainable production and utilization of plant-biomass-based nanomaterials: a review and analysis of recent developments. <i>Biotechnology for Biofuels</i> , 2021, 14, 114.	6.2	51
9	Bridging Scales in Bioenergy and Catalysis: A Review of Mesoscale Modeling Applications, Methods, and Future Directions. <i>Energy &amp; Fuels</i> , 2021, 35, 14382-14400.	2.5	12
10	Assessment of a detailed biomass pyrolysis kinetic scheme in multiscale simulations of a single-particle pyrolyzer and a pilot-scale entrained flow pyrolyzer. <i>Chemical Engineering Journal</i> , 2021, 418, 129347.	6.6	38
11	Predicting thermal excursions during in situ oxidative regeneration of packed bed catalytic fast pyrolysis catalyst. <i>Reaction Chemistry and Engineering</i> , 2021, 6, 888-904.	1.9	4
12	Impacts of Anisotropic Porosity on Heat Transfer and Off-Gassing during Biomass Pyrolysis. <i>Energy &amp; Fuels</i> , 2021, 35, 20131-20141.	2.5	17
13	Beyond the effectiveness factor: Multi-step reactions with intraparticle diffusion limitations. <i>Chemical Engineering Journal</i> , 2020, 380, 122507.	6.6	31
14	Measurement of moisture-dependent ion diffusion constants in wood cell wall layers using time-lapse micro X-ray fluorescence microscopy. <i>Scientific Reports</i> , 2020, 10, 9919.	1.6	18
15	Nanocellulose Dewatering and Drying: Current State and Future Perspectives. <i>ACS Sustainable Chemistry and Engineering</i> , 2020, 8, 9601-9615.	3.2	79
16	Advances in Multiscale Modeling of Lignocellulosic Biomass. <i>ACS Sustainable Chemistry and Engineering</i> , 2020, 8, 3512-3531.	3.2	79
17	Mesoscale Reaction-Diffusion Phenomena Governing Lignin-First Biomass Fractionation. <i>ChemSusChem</i> , 2020, 13, 4495-4509.	3.6	35
18	Ferrous and Ferric Ion-Facilitated Dilute Acid Pretreatment of Lignocellulosic Biomass under Anaerobic or Aerobic Conditions: Observations of Fe Valence Interchange and the Role of Fenton Reaction. <i>Molecules</i> , 2020, 25, 1427.	1.7	3

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19	Multi-scale simulation of reaction, transport and deactivation in a SBA-16 supported catalyst for the conversion of ethanol to butadiene. <i>Catalysis Today</i> , 2019, 338, 141-151.	2.2	17
20	Hierarchically Structured CeO <sub>2</sub> Catalyst Particles From Nanocellulose/Alginate Templates for Upgrading of Fast Pyrolysis Vapors. <i>Frontiers in Chemistry</i> , 2019, 7, 730.	1.8	10
21	Nanomechanics of cellulose deformation reveal molecular defects that facilitate natural deconstruction. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2019, 116, 9825-9830.	3.3	40
22	Progress in understanding the four dominant intra-particle phenomena of lignocellulose pyrolysis: chemical reactions, heat transfer, mass transfer, and phase change. <i>Green Chemistry</i> , 2019, 21, 2868-2898.	4.6	102
23	Effects of Moisture on Diffusion in Unmodified Wood Cell Walls: A Phenomenological Polymer Science Approach. <i>Forests</i> , 2019, 10, 1084.	0.9	49
24	Quantifying cellulose accessibility during enzyme-mediated deconstruction using 2 fluorescence-tagged carbohydrate-binding modules. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2019, 116, 22545-22551.	3.3	37
25	Multiscale Alterations in Sugar Cane Bagasse and Straw Submitted to Alkaline Deacetylation. <i>ACS Sustainable Chemistry and Engineering</i> , 2018, 6, 3796-3804.	3.2	21
26	Advancing catalytic fast pyrolysis through integrated multiscale modeling and experimentation: Challenges, progress, and perspectives. <i>Wiley Interdisciplinary Reviews: Energy and Environment</i> , 2018, 7, e297.	1.9	30
27	Integrated Particle- and Reactor-Scale Simulation of Pine Pyrolysis in a Fluidized Bed. <i>Energy &amp; Fuels</i> , 2018, 32, 10683-10694.	2.5	39
28	Estimation of Heat Transfer Coefficients for Biomass Particles by Direct Numerical Simulation Using Microstructured Particle Models in the Laminar Regime. <i>ACS Sustainable Chemistry and Engineering</i> , 2017, 5, 1046-1053.	3.2	20
29	Predictive Model for Particle Residence Time Distributions in Riser Reactors. Part 1: Model Development and Validation. <i>ACS Sustainable Chemistry and Engineering</i> , 2017, 5, 2847-2856.	3.2	6
30	Catalyst Residence Time Distributions in Riser Reactors for Catalytic Fast Pyrolysis. Part 2: Pilot-Scale Simulations and Operational Parameter Study. <i>ACS Sustainable Chemistry and Engineering</i> , 2017, 5, 2857-2866.	3.2	8
31	Multifunctional Cellulolytic Enzymes Outperform Processive Fungal Cellulases for Coproduction of Nanocellulose and Biofuels. <i>ACS Nano</i> , 2017, 11, 3101-3109.	7.3	105
32	Enhanced mobility CsPbI <sub>3</sub> quantum dot arrays for record-efficiency, high-voltage photovoltaic cells. <i>Science Advances</i> , 2017, 3, eaao4204.	4.7	801
33	Lignocellulose deconstruction in the biosphere. <i>Current Opinion in Chemical Biology</i> , 2017, 41, 61-70.	2.8	110
34	Understanding Trends in Autoignition of Biofuels: Homologous Series of Oxygenated C <sub>5</sub> Molecules. <i>Journal of Physical Chemistry A</i> , 2017, 121, 5475-5486.	1.1	16
35	Heavy Metal-Free Tannin from Bark for Sustainable Energy Storage. <i>Nano Letters</i> , 2017, 17, 7897-7907.	4.5	46
36	Estimating the Temperature Experienced by Biomass Particles during Fast Pyrolysis Using Microscopic Analysis of Biochars. <i>Energy &amp; Fuels</i> , 2017, 31, 8193-8201.	2.5	9

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37	CHAPTER 11. Simulating Biomass Fast Pyrolysis at the Single Particle Scale. RSC Green Chemistry, 2017, , 231-253.	0.0	5
38	Directed plant cell-wall accumulation of iron: embedding co-catalyst for efficient biomass conversion. Biotechnology for Biofuels, 2016, 9, 225.	6.2	12
39	Not Just Lumber—Using Wood in the Sustainable Future of Materials, Chemicals, and Fuels. Jom, 2016, 68, 2395-2404.	0.9	40
40	Wood-Derived Materials for Green Electronics, Biological Devices, and Energy Applications. Chemical Reviews, 2016, 116, 9305-9374.	23.0	1,110
41	Influence of Crystal Allomorph and Crystallinity on the Products and Behavior of Cellulose during Fast Pyrolysis. ACS Sustainable Chemistry and Engineering, 2016, 4, 4662-4674.	3.2	69
42	Improving Sugar Yields and Reducing Enzyme Loadings in the Deacetylation and Mechanical Refining (DMR) Process through Multistage Disk and Szego Refining and Corresponding Techno-Economic Analysis. ACS Sustainable Chemistry and Engineering, 2016, 4, 324-333.	3.2	40
43	Low-Order Modeling of Internal Heat Transfer in Biomass Particle Pyrolysis. Energy & Fuels, 2016, 30, 4960-4969.	2.5	25
44	cis,cis-Muconic acid: separation and catalysis to bio-adipic acid for nylon-6,6 polymerization. Green Chemistry, 2016, 18, 3397-3413.	4.6	147
45	Pilot-Scale Batch Alkaline Pretreatment of Corn Stover. ACS Sustainable Chemistry and Engineering, 2016, 4, 944-956.	3.2	29
46	Biomass accessibility analysis using electron tomography. Biotechnology for Biofuels, 2015, 8, 212.	6.2	14
47	Biomass Particle Models with Realistic Morphology and Resolved Microstructure for Simulations of Intraparticle Transport Phenomena. Energy & Fuels, 2015, 29, 242-254.	2.5	66
48	Molybdenum incorporated mesoporous silica catalyst for production of biofuels and value-added chemicals via catalytic fast pyrolysis. Green Chemistry, 2015, 17, 3035-3046.	4.6	45
49	Manipulation of Guaiacyl and Syringyl Monomer Biosynthesis in an Arabidopsis Cinnamyl Alcohol Dehydrogenase Mutant Results in Atypical Lignin Biosynthesis and Modified Cell Wall Structure. Plant Cell, 2015, 27, 2195-2209.	3.1	136
50	The Structure of the Catalytic Domain of a Plant Cellulose Synthase and Its Assembly into Dimers. Plant Cell, 2014, 26, 2996-3009.	3.1	61
51	Alkaline Pretreatment of Corn Stover: Bench-Scale Fractionation and Stream Characterization. ACS Sustainable Chemistry and Engineering, 2014, 2, 1481-1491.	3.2	109
52	Clean Fractionation Pretreatment Reduces Enzyme Loadings for Biomass Saccharification and Reveals the Mechanism of Free and Cellulosomal Enzyme Synergy. ACS Sustainable Chemistry and Engineering, 2014, 2, 1377-1387.	3.2	35
53	Engineering plant cell walls: tuning lignin monomer composition for deconstructable biofuel feedstocks or resilient biomaterials. Green Chemistry, 2014, 16, 2627.	4.6	60
54	Lignin depolymerisation by nickel supported layered-double hydroxide catalysts. Green Chemistry, 2014, 16, 824-835.	4.6	161

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55	Hydrothermal catalytic processing of saturated and unsaturated fatty acids to hydrocarbons with glycerol for in situ hydrogen production. <i>Green Chemistry</i> , 2014, 16, 1507.	4.6	98
56	Real-time monitoring of the deactivation of HZSM-5 during upgrading of pine pyrolysis vapors. <i>Green Chemistry</i> , 2014, 16, 1444-1461.	4.6	112
57	Evaluation of Clean Fractionation Pretreatment for the Production of Renewable Fuels and Chemicals from Corn Stover. <i>ACS Sustainable Chemistry and Engineering</i> , 2014, 2, 1364-1376.	3.2	52
58	Effect of mechanical disruption on the effectiveness of three reactors used for dilute acid pretreatment of corn stover Part 2: morphological and structural substrate analysis. <i>Biotechnology for Biofuels</i> , 2014, 7, 47.	6.2	61
59	Effect of mechanical disruption on the effectiveness of three reactors used for dilute acid pretreatment of corn stover Part 1: chemical and physical substrate analysis. <i>Biotechnology for Biofuels</i> , 2014, 7, 57.	6.2	39
60	Disruption of Mediator rescues the stunted growth of a lignin-deficient Arabidopsis mutant. <i>Nature</i> , 2014, 509, 376-380.	13.7	313
61	Multiscale deconstruction of molecular architecture in corn stover. <i>Scientific Reports</i> , 2014, 4, 3756.	1.6	30
62	3D Electron Tomography of Pretreated Biomass Informs Atomic Modeling of Cellulose Microfibrils. <i>ACS Nano</i> , 2013, 7, 8011-8019.	7.3	68
63	Preservation and Preparation of Lignocellulosic Biomass Samples for Multi-scale Microscopy Analysis. <i>Methods in Molecular Biology</i> , 2012, 908, 31-47.	0.4	13
64	Elucidating the role of ferrous ion cocatalyst in enhancing dilute acid pretreatment of lignocellulosic biomass. <i>Biotechnology for Biofuels</i> , 2011, 4, 48.	6.2	47
65	A simplified integrated framework for predicting the economic impacts of feedstock variations in a catalytic fast pyrolysis conversion process. <i>Biofuels, Bioproducts and Biorefining</i> , 0, , .	1.9	1