AndrÃ©s Anca-Couce

List of Publications by Year in descending order

55 papers	2,418 citations	279798 23 h-index	206112 48 g-index
56 all docs	56 docs citations	56 times ranked	2543 citing authors

#	Article	IF	Citations
1	Reaction mechanisms and multi-scale modelling of lignocellulosic biomass pyrolysis. Progress in Energy and Combustion Science, 2016, 53, 41-79.	31.2	462
2	How to determine consistent biomass pyrolysis kinetics in a parallel reaction scheme. Fuel, 2014, 123, 230-240.	6.4	177
3	Surface Properties and Chemical Composition of Corncob and Miscanthus Biochars: Effects of Production Temperature and Method. Journal of Agricultural and Food Chemistry, 2014, 62, 3791-3799.	5.2	129
4	Smouldering of pine wood: Kinetics and reaction heats. Combustion and Flame, 2012, 159, 1708-1719.	5.2	124
5	Kinetic scheme of biomass pyrolysis considering secondary charring reactions. Energy Conversion and Management, 2014, 87, 687-696.	9.2	96
6	Pyrogenic carbon capture and storage. GCB Bioenergy, 2019, 11, 573-591.	5.6	95
7	Application of a detailed biomass pyrolysis kinetic scheme to hardwood and softwood torrefaction. Fuel, 2016, 167, 158-167.	6.4	86
8	Biomass pyrolysis TGA assessment with an international round robin. Fuel, 2020, 276, 118002.	6.4	85
9	Towards Biochar and Hydrochar Engineeringâ€"Influence of Process Conditions on Surface Physical and Chemical Properties, Thermal Stability, Nutrient Availability, Toxicity and Wettability. Energies, 2018, 11, 496.	3.1	84
10	Modelling heat of reaction in biomass pyrolysis with detailed reaction schemes. Fuel, 2017, 206, 572-579.	6.4	73
11	Bioenergy technologies, uses, market and future trends with Austria as a case study. Renewable and Sustainable Energy Reviews, 2021, 135, 110237.	16.4	73
12	Applicability of the SOFC technology for coupling with biomass-gasifier systems: Short- and long-term experimental study on SOFC performance and degradation behaviour. Applied Energy, 2019, 256, 113904.	10.1	72
13	Online experiments and modelling with a detailed reaction scheme of single particle biomass pyrolysis. Journal of Analytical and Applied Pyrolysis, 2017, 127, 411-425.	5.5	67
14	Experiments and modelling of NOx precursors release (NH3 and HCN) in fixed-bed biomass combustion conditions. Fuel, 2018, 222, 529-537.	6.4	61
15	Numerical analysis of a biomass pyrolysis particle model: Solution method optimized for the coupling to reactor models. Fuel, 2012, 97, 80-88.	6.4	52
16	Pyrolysis of pellets made with biomass and glycerol: Kinetic analysis and evolved gas analysis. Biomass and Bioenergy, 2017, 97, 11-19.	5.7	49
17	Designing biochar properties through the blending of biomass feedstock with metals: Impact on oxyanions adsorption behavior. Chemosphere, 2019, 214, 743-753.	8.2	44
18	Understanding the primary and secondary slow pyrolysis mechanisms of holocellulose, lignin and wood with laser-induced fluorescence. Fuel, 2015, 153, 102-109.	6.4	38

#	ARTICLE	IF	CITATIONS
19	Multi-scale modeling of fixed-bed thermo-chemical processes of biomass with the representative particle model: Application to pyrolysis. Fuel, 2013, 103, 773-782.	6.4	36
20	Influence of Heterogeneous Secondary Reactions during Slow Pyrolysis on Char Oxidation Reactivity of Woody Biomass. Energy & Fuels, 2017, 31, 2335-2344.	5.1	33
21	On-line tar characterization from pyrolysis of wood particles in a technical-scale fixed-bed reactor by applying Laser-Induced Fluorescence (LIF). Journal of Analytical and Applied Pyrolysis, 2013, 102, 33-46.	5.5	26
22	Influence of intraparticle secondary heterogeneous reactions on the reaction enthalpy of wood pyrolysis. Journal of Analytical and Applied Pyrolysis, 2015, 116, 281-286.	5.5	26
23	Transient CFD simulation of wood log combustion in stoves. Renewable Energy, 2020, 145, 651-662.	8.9	26
24	Experimental investigation on biomass shrinking and swelling behaviour: Particles pyrolysis and wood logs combustion. Biomass and Bioenergy, 2019, 123, 1-13.	5.7	25
25	Tar conversion of biomass syngas in a downstream char bed. Fuel Processing Technology, 2020, 199, 106271.	7.2	24
26	Slow pyrolysis of wood particles: Characterization of volatiles by Laser-Induced Fluorescence. Proceedings of the Combustion Institute, 2013, 34, 2355-2362.	3.9	23
27	Single large wood log conversion in a stove: Experiments and modelling. Renewable Energy, 2019, 143, 890-897.	8.9	21
28	Effect of bed material density on the performance of steam gasification of biomass in bubbling fluidized beds. Fuel, 2019, 257, 116118.	6.4	20
29	Evaluation of heat transfer models at various fluidization velocities for biomass pyrolysis conducted in a bubbling fluidized bed. International Journal of Heat and Mass Transfer, 2020, 160, 120175.	4.8	18
30	Correlations between tar content and permanent gases as well as reactor temperature in a lab-scale fluidized bed biomass gasifier applying different feedstock and operating conditions. Fuel, 2021, 305, 121531.	6.4	17
31	Characterization and condensation behaviour of gravimetric tars produced during spruce torrefaction. Journal of Analytical and Applied Pyrolysis, 2016, 119, 173-179.	5.5	16
32	Analysis of H2S-related short-term degradation and regeneration of anode- and electrolyte supported solid oxide fuel cells fueled with biomass steam gasifier product gas. Energy, 2021, 218, 119556.	8.8	16
33	Experimental evaluation of primary measures for NOX and dust emission reduction in a novel 200ÂkW multi-fuel biomass boiler. Renewable Energy, 2021, 170, 1186-1196.	8.9	16
34	CO/CO 2 ratio in biomass char oxidation. Energy Procedia, 2017, 120, 238-245.	1.8	15
35	Investigation of solid oxide fuel cell operation with synthetic biomass gasification product gases as a basis for enhancing its performance. Biomass Conversion and Biorefinery, 2021, 11, 121-139.	4.6	15
36	Emission minimization of a top-lit updraft gasifier cookstove based on experiments and detailed CFD analyses. Energy Conversion and Management, 2021, 247, 114755.	9.2	15

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37	Multi-scale modelling of fluidized bed biomass gasification using a 1D particle model coupled to CFD. Fuel, 2022, 324, 124677.	6.4	15
38	New insights in growth of phenylketonuric patients. European Journal of Pediatrics, 2015, 174, 651-659.	2.7	14
39	On the Uncertainty of a Mathematical Model for Drying of a Wood Particle. Energy & Fuels, 2013, 27, 6705-6717.	5.1	12
40	Solid oxide fuel cell operation with biomass gasification product gases: Performance- and carbon deposition risk evaluation via a CFD modelling approach. Energy, 2022, 244, 123085.	8.8	12
41	Shifting of the flame front in a small-scale commercial downdraft gasifier by water injection and exhaust gas recirculation. Fuel, 2021, 303, 121297.	6.4	11
42	Detailed experimental investigation of the spatially distributed gas release and bed temperatures in fixed-bed biomass combustion with low oxygen concentration. Biomass and Bioenergy, 2020, 141, 105725.	5.7	10
43	Flame ionization detection as a simple real-time tar monitoring device for biomass downdraft gasification. Fuel, 2021, 289, 119950.	6.4	10
44	Real coupling of solid oxide fuel cells with a biomass steam gasifier: Operating boundaries considering performance, tar and carbon deposition analyses. Fuel, 2022, 316, 123310.	6.4	10
45	Application of laser-based diagnostics for characterization of the influence of inorganics on the slow pyrolysis of woody biomass. Journal of Analytical and Applied Pyrolysis, 2019, 140, 125-136.	5.5	9
46	Multi-stage model for the release of potassium in single particle biomass combustion. Fuel, 2020, 280, 118569.	6.4	9
47	Modelling fuel flexibility in fixed-bed biomass conversion with a low primary air ratio in an updraft configuration. Fuel, 2021, 296, 120687.	6.4	9
48	A meta-analysis of thermo-physical and chemical aspects in CFD modelling of pyrolysis of a single wood particle in the thermally thick regime. Chemical Engineering Journal, 2022, 446, 137088.	12.7	9
49	Evaluation and extension of the load and fuel flexibility limits of a stratified downdraft gasifier. Energy, 2022, 239, 122279.	8.8	8
50	Optimization of an integrated biomass gasifier-fuel cell system: An experimental study on the cell response to process variations. Energy Procedia, 2019, 158, 2052-2057.	1.8	7
51	Detailed NOX precursor measurements within the reduction zone of a novel small-scale fuel flexible biomass combustion technology. Fuel, 2021, 302, 121073.	6.4	6
52	Understanding the torrefaction of woody and agricultural biomasses through their extracted macromolecular components. Part 2: Torrefaction model. Energy, 2020, 210, 118451.	8.8	5
53	Minimization of inorganic particulate matter emissions with a novel multi-fuel combustion technology that enhances inorganic retention in a compact updraft fixed-bed. Fuel, 2022, 318, 123611.	6.4	4
54	Review on Modelling Approaches Based on Computational Fluid Dynamics for Biomass Pyrolysis Systems. Biofuels and Biorefineries, 2020, , 373-438.	0.5	2

#	Article	IF	Citations
55	Condensable and Liquid Compounds from Biomass and Waste Thermal Degradation. , 2020, , 1173-1210.		0