

# Frederik Ronsse

## List of Publications by Year in descending order

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120  
papers

4,686  
citations

126708

33  
h-index

114278

63  
g-index

122  
all docs

122  
docs citations

122  
times ranked

5474  
citing authors

#	ARTICLE	IF	CITATIONS
1	Production and characterization of slow pyrolysis biochar: influence of feedstock type and pyrolysis conditions. <i>GCB Bioenergy</i> , 2013, 5, 104-115.	2.5	629
2	Hydrothermal liquefaction (HTL) of microalgae for biofuel production: State of the art review and future prospects. <i>Biomass and Bioenergy</i> , 2013, 53, 113-127.	2.9	572
3	Effect of biomass ash in catalytic fast pyrolysis of pine wood. <i>Applied Catalysis B: Environmental</i> , 2015, 168-169, 203-211.	10.8	223
4	Challenges in the design and operation of processes for catalytic fast pyrolysis of woody biomass. <i>Renewable and Sustainable Energy Reviews</i> , 2016, 57, 1596-1610.	8.2	134
5	Towards a carbon-negative sustainable bio-based economy. <i>Frontiers in Plant Science</i> , 2013, 4, 174.	1.7	114
6	Sewage Sludge Carbonization for Biochar Applications. Fate of Heavy Metals. <i>Energy &amp; Fuels</i> , 2014, 28, 5318-5326.	2.5	111
7	Influence of strain-specific parameters on hydrothermal liquefaction of microalgae. <i>Bioresource Technology</i> , 2013, 146, 463-471.	4.8	106
8	The electron donating capacity of biochar is dramatically underestimated. <i>Scientific Reports</i> , 2016, 6, 32870.	1.6	106
9	Validation of a new set-up for continuous catalytic fast pyrolysis of biomass coupled with vapour phase upgrading. <i>Journal of Analytical and Applied Pyrolysis</i> , 2013, 103, 343-351.	2.6	97
10	Suitability of hydrothermal liquefaction as a conversion route to produce biofuels from macroalgae. <i>Algal Research</i> , 2015, 11, 234-241.	2.4	84
11	Heterogeneous catalytic upgrading of biocrude oil produced by hydrothermal liquefaction of microalgae: State of the art and own experiments. <i>Fuel Processing Technology</i> , 2016, 148, 117-127.	3.7	80
12	Secondary reactions of levoglucosan and char in the fast pyrolysis of cellulose. <i>Environmental Progress and Sustainable Energy</i> , 2012, 31, 256-260.	1.3	79
13	Cost-benefit analysis of using biochar to improve cereals agriculture. <i>GCB Bioenergy</i> , 2015, 7, 850-864.	2.5	77
14	Modelling the thermal performance of a naturally ventilated greenhouse in Zimbabwe using a dynamic greenhouse climate model. <i>Solar Energy</i> , 2013, 91, 381-393.	2.9	76
15	Effects of phytolith rice-straw biochar, soil buffering capacity and pH on silicon bioavailability. <i>Plant and Soil</i> , 2019, 438, 187-203.	1.8	73
16	Nitrogen cycling in Bioregenerative Life Support Systems: Challenges for waste refinery and food production processes. <i>Progress in Aerospace Sciences</i> , 2017, 91, 87-98.	6.3	65
17	Catalytic Fast Pyrolysis of Pine Wood: Effect of Successive Catalyst Regeneration. <i>Energy &amp; Fuels</i> , 2014, 28, 4560-4572.	2.5	60
18	Biomass Pyrolysis. <i>Advances in Chemical Engineering</i> , 2013, 42, 75-139.	0.5	58

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19	Catalytic Fast Pyrolysis of Biomass: Catalyst Characterization Reveals the Feed-Dependent Deactivation of a Technical ZSM-5-Based Catalyst. <i>ACS Sustainable Chemistry and Engineering</i> , 2021, 9, 291-304.	3.2	57
20	Residence time distributions of coarse biomass particles in a screw conveyor reactor. <i>Fuel Processing Technology</i> , 2015, 130, 87-95.	3.7	50
21	Investigation of biomass and agricultural plastic co-pyrolysis: Effect on biochar yield and properties. <i>Journal of Analytical and Applied Pyrolysis</i> , 2021, 155, 105029.	2.6	50
22	Do you BET on routine? The reliability of N <sub>2</sub> physisorption for the quantitative assessment of biochar's surface area. <i>Chemical Engineering Journal</i> , 2021, 418, 129234.	6.6	49
23	Torrefaction of pine in a bench-scale screw conveyor reactor. <i>Biomass and Bioenergy</i> , 2015, 79, 96-104.	2.9	47
24	Production and characterization of slow pyrolysis biochar from lignin-rich digested stillage from lignocellulosic ethanol production. <i>Biomass and Bioenergy</i> , 2019, 122, 349-360.	2.9	46
25	Coupling CFD and Diffusion Models for Analyzing the Convective Drying Behavior of a Single Rice Kernel. <i>Drying Technology</i> , 2014, 32, 311-320.	1.7	42
26	Detection of DNA during the refining of soybean oil. <i>JAOCS, Journal of the American Oil Chemists' Society</i> , 2002, 79, 171-174.	0.8	41
27	Short-Term Effect of Feedstock and Pyrolysis Temperature on Biochar Characteristics, Soil and Crop Response in Temperate Soils. <i>Agronomy</i> , 2014, 4, 52-73.	1.3	41
28	Quantitative analysis of nitrogen containing compounds in microalgae based bio-oils using comprehensive two-dimensional gas-chromatography coupled to nitrogen chemiluminescence detector and time of flight mass spectrometer. <i>Journal of Chromatography A</i> , 2016, 1460, 135-146.	1.8	40
29	Combined population balance and thermodynamic modelling of the batch top-spray fluidised bed coating process. Part I – Model development and validation. <i>Journal of Food Engineering</i> , 2007, 78, 296-307.	2.7	38
30	The effects of whitening and dust accumulation on the microclimate and canopy behaviour of rose plants ( <i>Rosa hybrida</i> ) in a greenhouse in Zimbabwe. <i>Solar Energy</i> , 2010, 84, 10-23.	2.9	37
31	In situ performance of various metal doped catalysts in micro-pyrolysis and continuous fast pyrolysis. <i>Fuel Processing Technology</i> , 2016, 144, 312-322.	3.7	36
32	Effect of citric acid leaching on the demineralization and thermal degradation behavior of sugarcane trash and bagasse. <i>Biomass and Bioenergy</i> , 2018, 108, 371-380.	2.9	36
33	Biochar and activated carbon enhance ethanol conversion and selectivity to caproic acid by <i>Clostridium kluyveri</i> . <i>Bioresource Technology</i> , 2021, 319, 124236.	4.8	36
34	Integrating anaerobic digestion and slow pyrolysis improves the product portfolio of a cocoa waste biorefinery. <i>Sustainable Energy and Fuels</i> , 2020, 4, 3712-3725.	2.5	35
35	Influence of combined IR-grilling and hot air cooking conditions on moisture and fat content, texture and colour attributes of meat patties. <i>Journal of Food Engineering</i> , 2009, 93, 437-443.	2.7	34
36	Carbonization of Biomass. , 2015, , 293-324.		34

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37	Finite element modeling of intraparticle heterogeneous tar conversion during pyrolysis of woody biomass particles. <i>Fuel Processing Technology</i> , 2016, 148, 302-316.	3.7	34
38	CFD study of droplet atomisation using a binary nozzle in fluidised bed coating. <i>Chemical Engineering Science</i> , 2012, 68, 555-566.	1.9	33
39	Superheated steam as carrier gas and the sole heat source to enhance biomass torrefaction. <i>Bioresource Technology</i> , 2021, 331, 124955.	4.8	32
40	Improving fast pyrolysis of lignin using three additives with different modes of action. <i>Green Chemistry</i> , 2020, 22, 6471-6488.	4.6	31
41	Experimental studies on a two-step fast pyrolysis-catalytic hydrotreatment process for hydrocarbons from microalgae ( <i>Nannochloropsis gaditana</i> and <i>Scenedesmus almeriensis</i> ). <i>Fuel Processing Technology</i> , 2020, 206, 106466.	3.7	31
42	In situ catalytic fast pyrolysis of crude and torrefied <i>Eucalyptus globulus</i> using carbon aerogel-supported catalysts. <i>Energy</i> , 2017, 128, 701-712.	4.5	28
43	Assessment of biomass demineralization on gasification: From experimental investigation, mechanism to potential application. <i>Science of the Total Environment</i> , 2020, 726, 138634.	3.9	28
44	Progress in in-situ CO <sub>2</sub> -sorption for enhanced hydrogen production. <i>Progress in Energy and Combustion Science</i> , 2022, 91, 101008.	15.8	28
45	Potential of genetically engineered hybrid poplar for pyrolytic production of bio-based phenolic compounds. <i>Bioresource Technology</i> , 2016, 207, 229-236.	4.8	26
46	Infrared Heating as a Disinfestation Method Against <i>Sitophilus oryzae</i> and Its Effect on Textural and Cooking Properties of Milled Rice. <i>Food and Bioprocess Technology</i> , 2017, 10, 284-295.	2.6	26
47	Modelling side-effect spray drying in top-spray fluidised bed coating processes. <i>Journal of Food Engineering</i> , 2008, 86, 529-541.	2.7	25
48	Mild hydrothermal conditioning prior to torrefaction and slow pyrolysis of low-value biomass. <i>Bioresource Technology</i> , 2016, 217, 104-112.	4.8	25
49	Pyrolysis Kinetics of Hydrochars Produced from Brewer's™ Spent Grains. <i>Catalysts</i> , 2019, 9, 625.	1.6	25
50	Fast pyrolysis of mannan-rich ivory nut ( <i>Phytelephas aequatorialis</i> ) to valuable biorefinery products. <i>Chemical Engineering Journal</i> , 2019, 373, 446-457.	6.6	25
51	Fast pyrolysis with fractional condensation of lignin-rich digested stillage from second-generation bioethanol production. <i>Journal of Analytical and Applied Pyrolysis</i> , 2020, 145, 104756.	2.6	25
52	3D Eulerian-Eulerian modeling of a screw reactor for biomass thermochemical conversion. Part 2: Slow pyrolysis for char production. <i>Renewable Energy</i> , 2019, 143, 1477-1487.	4.3	24
53	Effects of demineralization on the composition of microalgae pyrolysis volatiles in py-GC-MS. <i>Energy Conversion and Management</i> , 2022, 251, 114979.	4.4	24
54	Comparison and evaluation of interphase momentum exchange models for simulation of the solids volume fraction in tapered fluidised beds. <i>Chemical Engineering Science</i> , 2010, 65, 3100-3112.	1.9	23

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55	Legal constraints and opportunities for biochar: a case analysis of <sc>EU</sc> law. GCB Bioenergy, 2015, 7, 14-24.	2.5	23
56	Valorization of the poultry litter through wet torrefaction and different activation treatments. Science of the Total Environment, 2020, 732, 139288.	3.9	23
57	Optimal strategy for clean and efficient biomass combustion based on ash deposition tendency and kinetic analysis. Journal of Cleaner Production, 2020, 271, 122529.	4.6	23
58	Digestion of high rate activated sludge coupled to biochar formation for soil improvement in the tropics. Water Research, 2015, 81, 216-222.	5.3	22
59	Tailoring of the pore structures of wood pyrolysis chars for potential use in energy storage applications. Applied Energy, 2021, 286, 116431.	5.1	22
60	Estimation of leaf wetness duration for greenhouse roses using a dynamic greenhouse climate model in Zimbabwe. Computers and Electronics in Agriculture, 2013, 95, 70-81.	3.7	21
61	Hydrotreatment of pyrolysis liquids derived from second-generation bioethanol production residues over NiMo and CoMo catalysts. Biomass and Bioenergy, 2019, 126, 84-93.	2.9	21
62	Optimization of platinum filament micropyrolyzer for studying primary decomposition in cellulose pyrolysis. Journal of Analytical and Applied Pyrolysis, 2012, 95, 247-256.	2.6	20
63	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
64	Catalytic upgrading of biomass-derived vapors on carbon aerogel-supported Ni: Effect of temperature, metal cluster size and catalyst-to-biomass ratio. Fuel Processing Technology, 2018, 178, 251-261.	3.7	19
65	Comparative study of different algae pyrolysis using photoionization mass spectrometry and gas chromatography/mass spectrometry. Journal of Analytical and Applied Pyrolysis, 2021, 155, 105068.	2.6	19
66	Numerical Spray Model of the Fluidized Bed Coating Process. Drying Technology, 2007, 25, 1491-1514.	1.7	18
67	Particle surface moisture content estimation using population balance modelling in fluidised bed agglomeration. Journal of Food Engineering, 2012, 109, 347-357.	2.7	18
68	Accelerated solid-phase dynamic extraction of toluene from air. Journal of Chromatography A, 2007, 1175, 145-153.	1.8	17
69	Combined population balance and thermodynamic modelling of the batch top-spray fluidised bed coating process. Part II—Model and process analysis. Journal of Food Engineering, 2007, 78, 308-322.	2.7	17
70	3D Eulerian-Eulerian modeling of a screw reactor for biomass thermochemical conversion. Part 1: Solids flow dynamics and back-mixing. Renewable Energy, 2019, 143, 1465-1476.	4.3	17
71	Fast torrefaction of large biomass particles by superheated steam: Enhanced solid products for multipurpose production. Renewable Energy, 2022, 185, 552-563.	4.3	17
72	Py-GC/MS based analysis of the influence of citric acid leaching of sugarcane residues as a pretreatment to fast pyrolysis. Journal of Analytical and Applied Pyrolysis, 2018, 134, 465-475.	2.6	16

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73	Sub- and supercritical water oxidation of anaerobic fermentation sludge for carbon and nitrogen recovery in a regenerative life support system. <i>Waste Management</i> , 2018, 77, 268-275.	3.7	16
74	Numerical study of air humidity and temperature distribution in a top-spray fluidised bed coating process. <i>Journal of Food Engineering</i> , 2015, 146, 81-91.	2.7	15
75	Modelling heat and mass transfer in batch, top-spray fluidised bed coating processes. <i>Powder Technology</i> , 2009, 190, 170-175.	2.1	14
76	Effect of foam on temperature prediction and heat recovery potential from biological wastewater treatment. <i>Water Research</i> , 2016, 95, 340-347.	5.3	14
77	Biosorption of residual cisplatin, carboplatin and oxaliplatin antineoplastic drugs in urine after chemotherapy treatment. <i>Environmental Chemistry</i> , 2018, 15, 506.	0.7	14
78	Application of Py-GC/MS coupled with PARAFAC2 and PLS-DA to study fast pyrolysis of genetically engineered poplars. <i>Journal of Analytical and Applied Pyrolysis</i> , 2018, 129, 101-111.	2.6	13
79	Metal sorption by biochars: A trade-off between phosphate and carbonate concentration as governed by pyrolysis conditions. <i>Journal of Environmental Management</i> , 2019, 246, 496-504.	3.8	13
80	Measurement and Simulation of the Ventilation Rates in a Naturally Ventilated Azrom-Type Greenhouse in Zimbabwe. <i>Applied Engineering in Agriculture</i> , 2010, 26, 475-488.	0.3	12
81	On the environmental and economic issues associated with the forestry residues-to-heat and electricity route in Chile: Sawdust gasification as a case study. <i>Energy</i> , 2019, 170, 763-776.	4.5	12
82	Application of biochars and solid fraction of digestate to decrease soil solution Cd, Pb and Zn concentrations in contaminated sandy soils. <i>Environmental Geochemistry and Health</i> , 2020, 42, 1589-1600.	1.8	11
83	Influence of sequential HTC pre-treatment and pyrolysis on wet food-industry wastes: Optimisation toward nitrogen-rich hierarchical carbonaceous materials intended for use in energy storage solutions. <i>Science of the Total Environment</i> , 2022, 816, 151648.	3.9	11
84	CFD study of solids concentration in a fluidised-bed coater with variation of atomisation air pressure. <i>Powder Technology</i> , 2011, 212, 103-114.	2.1	10
85	Analytical Py-GC/MS of Genetically Modified Poplar for the Increased Production of Bio-aromatics. <i>Computational and Structural Biotechnology Journal</i> , 2019, 17, 599-610.	1.9	10
86	Biochar stability scores from analytical pyrolysis (Py-GC-MS). <i>Journal of Analytical and Applied Pyrolysis</i> , 2022, 161, 105412.	2.6	10
87	Charcoal "Mines" in the Norwegian Woods. <i>Energy &amp; Fuels</i> , 2016, 30, 7959-7970.	2.5	9
88	Complete oxidation of organic waste under mild supercritical water oxidation by combining effluent recirculation and membrane filtration. <i>Science of the Total Environment</i> , 2020, 736, 139731.	3.9	9
89	A meta-analysis of thermo-physical and chemical aspects in CFD modelling of pyrolysis of a single wood particle in the thermally thick regime. <i>Chemical Engineering Journal</i> , 2022, 446, 137088.	6.6	9
90	Exploring catalytic pyrolysis of Palm Shell over HZSM-5 by gas Chromatography/mass spectrometry and photoionization mass spectrometry. <i>Journal of Analytical and Applied Pyrolysis</i> , 2020, 152, 104946.	2.6	8

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91	How to trace back an unknown production temperature of biochar from chemical characterization methods in a feedstock independent way. <i>Journal of Analytical and Applied Pyrolysis</i> , 2020, 151, 104926.	2.6	8
92	Biochar from sawmill residues: characterization and evaluation for its potential use in the horticultural growing media. <i>Biochar</i> , 2021, 3, 201-212.	6.2	8
93	Production of solid hydrochar from waste seaweed by hydrothermal carbonization: effect of process variables. <i>Biomass Conversion and Biorefinery</i> , 2024, 14, 183-197.	2.9	8
94	Attrition strength of water-soluble cellulose derivatives coatings. <i>Powder Technology</i> , 2010, 198, 298-309.	2.1	7
95	Biochar Production. , 2016, , 199-226.		7
96	Influence of citric acid leaching on the yield and quality of pyrolytic bio-oils from sugarcane residues. <i>Journal of Analytical and Applied Pyrolysis</i> , 2019, 137, 43-53.	2.6	7
97	Recycling of product gas does not affect fast pyrolysis oil yield and composition. <i>Journal of Analytical and Applied Pyrolysis</i> , 2020, 148, 104794.	2.6	7
98	Water-Soluble Cellulose Derivatives as Coating Agents in Fluidized Bed Processing. <i>Particulate Science and Technology</i> , 2009, 27, 389-403.	1.1	6
99	Modelling coating quality in fluidised bed coating: Spray sub-model. <i>Journal of Food Engineering</i> , 2011, 106, 220-227.	2.7	6
100	Modelling the bed characteristics in fluidised-beds for top-spray coating processes. <i>Particuology</i> , 2012, 10, 649-662.	2.0	6
101	Heat recovery during treatment of highly concentrated wastewater: economic evaluation and influencing factors. <i>Water Science and Technology</i> , 2018, 78, 2270-2278.	1.2	6
102	Mild temperature hydrothermal oxidation of anaerobic fermentation filtrate for carbon and nitrogen recovery in a regenerative life support system. <i>Journal of Supercritical Fluids</i> , 2019, 145, 39-47.	1.6	6
103	<i>Ex Situ</i> Catalytic Fast Pyrolysis of Lignin-Rich Digested Stillage over Na/ZSM-5, H/ZSM-5, and Fe/ZSM-5. <i>Energy &amp; Fuels</i> , 2020, 34, 12710-12723.	2.5	6
104	Potential of Jackfruit Waste as Anaerobic Digestion and Slow Pyrolysis Feedstock. <i>Journal of Biosystems Engineering</i> , 2021, 46, 163-172.	1.2	6
105	Space-time integral method for simplifying the modeling of torrefaction of a centimeter-sized biomass particle. <i>Journal of Analytical and Applied Pyrolysis</i> , 2017, 124, 486-498.	2.6	5
106	Assessment of carbon recovery from solid organic wastes by supercritical water oxidation for a regenerative life support system. <i>Environmental Science and Pollution Research</i> , 2020, 27, 8260-8270.	2.7	5
107	Effluent recirculation enables near-complete oxidation of organics during supercritical water oxidation at mild conditions: A proof of principle. <i>Chemosphere</i> , 2020, 250, 126213.	4.2	5
108	Fast pyrolysis of raw and acid-leached sugarcane residues en route to producing chemicals and fuels: Economic and environmental assessments. <i>Journal of Cleaner Production</i> , 2021, 296, 126601.	4.6	5

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109	Modelling overall particle motion in fluidised beds for top-spray coating processes. <i>Particuology</i> , 2013, 11, 490-505.	2.0	4
110	Comment on "Redox-Active Oxygen-Containing Functional Groups in Activated Carbon Facilitate Microbial Reduction of Ferrihydrite". <i>Environmental Science &amp; Technology</i> , 2018, 52, 4485-4486.	4.6	4
111	Pretreatment of Sugarcane Residues for Combustion in Biomass Power Stations: A Review. <i>Sugar Tech</i> , 2022, 24, 732-745.	0.9	4
112	Attrition strength of water-soluble cellulose derivative coatings applied on different core materials. <i>Powder Technology</i> , 2012, 222, 71-79.	2.1	3
113	Application of a Tracer Aerosol Technique Using Atomized Sodium Chloride Particles for Measuring Ventilation Rates in a Naturally Ventilated Azrom-Type Greenhouse in Zimbabwe. <i>Applied Engineering in Agriculture</i> , 2010, 26, 275-286.	0.3	2
114	Modelling particle random walk in a confined environment for inclusion in fluidised bed applications. <i>Powder Technology</i> , 2012, 221, 155-163.	2.1	2
115	Review on Modelling Approaches Based on Computational Fluid Dynamics for Biomass Pyrolysis Systems. <i>Biofuels and Biorefineries</i> , 2020, , 373-438.	0.5	2
116	Micropyrolysis of natural poplar mutants with altered p-hydroxyphenyl lignin content. <i>Journal of Analytical and Applied Pyrolysis</i> , 2016, 122, 377-386.	2.6	1
117	Heat transfer from an immersed fixed silver sphere to a gas fluidised bed of very small particles. <i>Thermal Science</i> , 2019, 23, 1425-1433.	0.5	1
118	COMPUTATIONAL STUDY OF THE MULTIPHASE FLOW IN THE FLUIDISED BED EQUIPMENT. <i>Acta Horticulturae</i> , 2008, , 67-72.	0.1	0
119	Biochar Production via Pyrolysis. , 2020, , 35-59.		0
120	Integrated numerical spray model and event-driven Monte Carlo model of the fluidised bed coating process. <i>Communications in Agricultural and Applied Biological Sciences</i> , 2004, 69, 235-8.	0.0	0