

# Wenguo Xiang

## List of Publications by Year in descending order

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75  
papers

2,358  
citations

147566

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h-index

214527

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g-index

75  
all docs

75  
docs citations

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times ranked

1740  
citing authors

#	ARTICLE	IF	CITATIONS
1	Oxygen vacancy induced performance enhancement of toluene catalytic oxidation using LaFeO <sub>3</sub> perovskite oxides. <i>Chemical Engineering Journal</i> , 2020, 387, 124101.	6.6	121
2	Ca <sub>2</sub> Fe <sub>2</sub> O <sub>5</sub> : A promising oxygen carrier for CO/CH <sub>4</sub> conversion and almost-pure H <sub>2</sub> production with inherent CO <sub>2</sub> capture over a two-step chemical looping hydrogen generation process. <i>Applied Energy</i> , 2018, 211, 431-442.	5.1	119
3	Experimental investigation of chemical-looping hydrogen generation using Al <sub>2</sub> O <sub>3</sub> or TiO <sub>2</sub> -supported iron oxides in a batch fluidized bed. <i>International Journal of Hydrogen Energy</i> , 2011, 36, 8915-8926.	3.8	101
4	Investigation of coal gasification hydrogen and electricity co-production plant with three-reactors chemical looping process. <i>International Journal of Hydrogen Energy</i> , 2010, 35, 8580-8591.	3.8	96
5	Coal gasification integration with solid oxide fuel cell and chemical looping combustion for high-efficiency power generation with inherent CO <sub>2</sub> capture. <i>Applied Energy</i> , 2015, 146, 298-312.	5.1	92
6	Improvement of H <sub>2</sub> -rich gas production with tar abatement from pine wood conversion over bi-functional Ca <sub>2</sub> Fe <sub>2</sub> O <sub>5</sub> catalyst: Investigation of inner-looping redox reaction and promoting mechanisms. <i>Applied Energy</i> , 2018, 212, 931-943.	5.1	89
7	Effects of Zr doping on Fe <sub>2</sub> O <sub>3</sub> /CeO <sub>2</sub> oxygen carrier in chemical looping hydrogen generation. <i>Chemical Engineering Journal</i> , 2018, 346, 712-725.	6.6	71
8	Chemical looping dry reforming of methane with hydrogen generation on Fe <sub>2</sub> O <sub>3</sub> /Al <sub>2</sub> O <sub>3</sub> oxygen carrier. <i>Chemical Engineering Journal</i> , 2019, 368, 812-823.	6.6	67
9	Effects of CeO <sub>2</sub> , ZrO <sub>2</sub> , and Al <sub>2</sub> O <sub>3</sub> Supports on Iron Oxygen Carrier for Chemical Looping Hydrogen Generation. <i>Energy &amp; Fuels</i> , 2017, 31, 8001-8013.	2.5	63
10	Hydrogen rich syngas production from biomass gasification using synthesized Fe/CaO active catalysts. <i>Journal of the Energy Institute</i> , 2018, 91, 805-816.	2.7	63
11	Effects of supports on hydrogen production and carbon deposition of Fe-based oxygen carriers in chemical looping hydrogen generation. <i>International Journal of Hydrogen Energy</i> , 2017, 42, 11006-11016.	3.8	60
12	Incorporating IGCC and CaO sorption-enhanced process for power generation with CO <sub>2</sub> capture. <i>Applied Energy</i> , 2012, 95, 285-294.	5.1	59
13	Carbon formation on iron-based oxygen carriers during CH <sub>4</sub> reduction period in Chemical Looping Hydrogen Generation process. <i>Chemical Engineering Journal</i> , 2017, 325, 322-331.	6.6	59
14	Thermogravimetric and kinetics investigation of pine wood pyrolysis catalyzed with alkali-treated CaO/ZSM-5. <i>Energy Conversion and Management</i> , 2017, 146, 182-194.	4.4	57
15	Chemical looping oxidative steam reforming of methanol: A new pathway for auto-thermal conversion. <i>Applied Catalysis B: Environmental</i> , 2020, 269, 118758.	10.8	57
16	Calcium looping gasification for high-concentration hydrogen production with CO <sub>2</sub> capture in a novel compact fluidized bed: Simulation and operation requirements. <i>International Journal of Hydrogen Energy</i> , 2011, 36, 4887-4899.	3.8	54
17	Enhanced sintering resistance of Fe <sub>2</sub> O <sub>3</sub> /CeO <sub>2</sub> oxygen carrier for chemical looping hydrogen generation using core-shell structure. <i>International Journal of Hydrogen Energy</i> , 2019, 44, 6491-6504.	3.8	53
18	Steam gasification of sewage sludge with CaO as CO <sub>2</sub> sorbent for hydrogen-rich syngas production. <i>Biomass and Bioenergy</i> , 2017, 107, 52-62.	2.9	52

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19	Thermodynamic assessment and optimization of a pressurized fluidized bed oxy-fuel combustion power plant with CO <sub>2</sub> capture. <i>Energy</i> , 2019, 175, 445-455.	4.5	47
20	Characterization of Fe <sub>2</sub> O <sub>3</sub> /CeO <sub>2</sub> oxygen carriers for chemical looping hydrogen generation. <i>International Journal of Hydrogen Energy</i> , 2018, 43, 3154-3164.	3.8	44
21	Effects of supports on reduction activity and carbon deposition of iron oxide for methane chemical looping hydrogen generation. <i>Applied Energy</i> , 2018, 225, 912-921.	5.1	43
22	Synergistic enhancement of chemical looping-based CO <sub>2</sub> splitting with biomass cascade utilization using cyclic stabilized Ca <sub>2</sub> Fe <sub>2</sub> O <sub>5</sub> aerogel. <i>Journal of Materials Chemistry A</i> , 2019, 7, 1216-1226.	5.2	43
23	An integrated system combining chemical looping hydrogen generation process and solid oxide fuel cell/gas turbine cycle for power production with CO <sub>2</sub> capture. <i>Journal of Power Sources</i> , 2012, 215, 89-98.	4.0	42
24	Ni, Co and Cu-promoted iron-based oxygen carriers in methane-fueled chemical looping hydrogen generation process. <i>Fuel Processing Technology</i> , 2021, 221, 106917.	3.7	40
25	Experimental investigation of chemical looping hydrogen generation using iron oxides in a batch fluidized bed. <i>Proceedings of the Combustion Institute</i> , 2011, 33, 2691-2699.	2.4	39
26	Hydrogen-rich syngas production via sorption-enhanced steam gasification of sewage sludge. <i>Biomass and Bioenergy</i> , 2020, 138, 105607.	2.9	38
27	Integration of chemical looping combustion and supercritical CO <sub>2</sub> cycle for combined heat and power generation with CO <sub>2</sub> capture. <i>Energy Conversion and Management</i> , 2018, 167, 113-124.	4.4	36
28	Investigation of synergistic effects and high performance of La-Co composite oxides for toluene catalytic oxidation at low temperature. <i>Environmental Science and Pollution Research</i> , 2019, 26, 12123-12135.	2.7	36
29	Investigation of Gasification Chemical Looping Combustion Combined Cycle Performance. <i>Energy &amp; Fuels</i> , 2008, 22, 961-966.	2.5	35
30	Biomass pyrolysis-gasification over Zr promoted CaO-HZSM-5 catalysts for hydrogen and bio-oil co-production with CO <sub>2</sub> capture. <i>International Journal of Hydrogen Energy</i> , 2017, 42, 16031-16044.	3.8	33
31	Fe-terminated LaFeO <sub>3</sub> perovskite oxide surface for low temperature toluene oxidation. <i>Journal of Cleaner Production</i> , 2020, 277, 123224.	4.6	32
32	Sintering and agglomeration of Fe <sub>2</sub> O <sub>3</sub> -MgAl <sub>2</sub> O <sub>4</sub> oxygen carriers with different Fe <sub>2</sub> O <sub>3</sub> loadings in chemical looping processes. <i>Fuel</i> , 2020, 265, 116983.	3.4	32
33	Robust Constrained Fuzzy Affine Model Predictive Control With Application to a Fluidized Bed Combustion Plant. <i>IEEE Transactions on Control Systems Technology</i> , 2008, 16, 1047-1056.	3.2	29
34	Performance improvement of combined cycle power plant based on the optimization of the bottom cycle and heat recuperation. <i>Journal of Thermal Science</i> , 2007, 16, 84-89.	0.9	27
35	Energy and exergy analysis of a new hydrogen-fueled power plant based on calcium looping process. <i>International Journal of Hydrogen Energy</i> , 2013, 38, 5389-5400.	3.8	26
36	Highly efficient methane decomposition to H <sub>2</sub> and CO <sub>2</sub> reduction to CO via redox looping of Ca <sub>2</sub> FexAl <sub>2</sub> -xO <sub>5</sub> supported NiyFe <sub>3</sub> -yO <sub>4</sub> nanoparticles. <i>Applied Catalysis B: Environmental</i> , 2020, 271, 118938.	10.8	24

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37	Hydrogen and electricity co-production plant integrating steam-iron process and chemical looping combustion. <i>International Journal of Hydrogen Energy</i> , 2012, 37, 8204-8216.	3.8	23
38	Sorption enhanced coal gasification for hydrogen production using a synthesized CaOMgO-molecular sieve sorbent. <i>International Journal of Hydrogen Energy</i> , 2016, 41, 17323-17333.	3.8	23
39	Design and Fluid Dynamic Analysis of a Three-Fluidized-Bed Reactor System for Chemical-Looping Hydrogen Generation. <i>Industrial &amp; Engineering Chemistry Research</i> , 2012, 51, 4267-4278.	1.8	22
40	Enhanced Hydrogen Generation for Fe <sub>2</sub> O <sub>3</sub> /CeO <sub>2</sub> Oxygen Carrier via Rare-Earth (Y, Sm, and La) Doping in Chemical Looping Process. <i>Energy &amp; Fuels</i> , 2018, 32, 11362-11374.	2.5	22
41	Simulation of the calcium looping process (CLP) for hydrogen, carbon monoxide and acetylene poly-generation with CO <sub>2</sub> capture and COS reduction. <i>Applied Energy</i> , 2016, 169, 642-651.	5.1	21
42	Synergistic Effects of the Zr and Sm Co-doped Fe <sub>2</sub> O <sub>3</sub> /CeO <sub>2</sub> Oxygen Carrier for Chemical Looping Hydrogen Generation. <i>Energy &amp; Fuels</i> , 2020, 34, 10256-10267.	2.5	21
43	Process integration of coal fueled chemical looping hydrogen generation with SOFC for power production and CO <sub>2</sub> capture. <i>International Journal of Hydrogen Energy</i> , 2017, 42, 28732-28746.	3.8	19
44	Solar-Wind-Bio Ecosystem for Biomass Cascade Utilization with Multigeneration of Formic Acid, Hydrogen, and Graphene. <i>ACS Sustainable Chemistry and Engineering</i> , 2019, 7, 2558-2568.	3.2	19
45	Experimental study on catalytic steam gasification of natural coke in a fluidized bed. <i>Fuel Processing Technology</i> , 2010, 91, 805-809.	3.7	18
46	Improvements of CaO-based sorbents for cyclic CO <sub>2</sub> capture using a wet mixing process. <i>Chemical Engineering Journal</i> , 2016, 286, 320-328.	6.6	18
47	Application of chemical looping air separation for MILD oxy-combustion: Identifying a suitable operational region. <i>Applied Thermal Engineering</i> , 2018, 132, 8-17.	3.0	17
48	Elucidation of syngas composition from catalytic steam gasification of lignin, cellulose, actual and simulated biomasses. <i>Biomass and Bioenergy</i> , 2018, 115, 210-222.	2.9	16
49	Investigation of coal fueled chemical looping combustion using Fe <sub>3</sub> O <sub>4</sub> as oxygen carrier: Influence of variables. <i>Journal of Thermal Science</i> , 2010, 19, 266-275.	0.9	15
50	Thermodynamic analysis of oxy-fuel combustion integrated with the sCO <sub>2</sub> Brayton cycle for combined heat and power production. <i>Energy Conversion and Management</i> , 2021, 232, 113869.	4.4	15
51	Boosting the surface oxygen activity for high performance Iron-based perovskite oxide. <i>Science of the Total Environment</i> , 2021, 795, 148904.	3.9	11
52	Investigation of a dual cold-flow fluidized bed for calcium looping gasification process. <i>Powder Technology</i> , 2019, 353, 10-19.	2.1	10
53	Application of incremental support vector regression based on optimal training subset and improved particle swarm optimization algorithm in real-time sensor fault diagnosis. <i>Applied Intelligence</i> , 2021, 51, 3323-3338.	3.3	9
54	Model predictive control for nonlinear boiler-turbine system based on fuzzy gain scheduling. , 2008, ,		8

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55	Investigations on fluid dynamics of binary particles in a dual fluidized bed reactor system for enhanced calcium looping gasification process. Powder Technology, 2020, 361, 803-811.	2.1	8
56	Classification and prediction of gas turbine gas path degradation based on deep neural networks. International Journal of Energy Research, 2021, 45, 10513-10526.	2.2	8
57	Enhanced Fe <sub>2</sub> O <sub>3</sub> /Al <sub>2</sub> O <sub>3</sub> Oxygen Carriers for Chemical Looping Steam Reforming of Methane with Different Mg Ratios. Industrial & Engineering Chemistry Research, 2022, 61, 1022-1031.	1.8	8
58	Application of chemical looping air separation for MILD oxy-fuel combustion in the supercritical power plant with CO <sub>2</sub> capture. Energy Science and Engineering, 2018, 6, 490-505.	1.9	6
59	Improved iron oxide oxygen carriers for chemical looping hydrogen generation using colloidal crystal templated method. International Journal of Hydrogen Energy, 2019, 44, 13175-13184.	3.8	6
60	Modification of Metal (Fe, Al) Doping on Reaction Properties of a NiO Oxygen Carrier with CO during Chemical Looping Combustion. ACS Omega, 2022, 7, 4381-4388.	1.6	5
61	Integration of molten carbonate fuel cell and chemical looping air separation for high-efficient power generation and CO <sub>2</sub> capture. Energy, 2022, 254, 124184.	4.5	5
62	Promoting effect of ZrO <sub>2</sub> /CeO <sub>2</sub> addition on Fe/CaO catalyst for hydrogen gas production in the gasification process. Biomass and Bioenergy, 2020, 142, 105712.	2.9	4
63	Chemometric modelling on element compositions and product distributions of cellulose and lignin. Biomass Conversion and Biorefinery, 2021, 11, 2233-2246.	2.9	4
64	Online coal quality analyzer-based decentralized PID control for the ALSTOM gasifier. , 2009, , .		3
65	Nonlinear system identification with modified differential evolution and RBF networks. , 2012, , .		3
66	Fuzzy dynamic modeling and predictive load following control of a solid oxide fuel cell power system. , 2008, , .		2
67	Gasifier Following-Based Coordinated Control for the IGCC Power Plant. , 2009, , .		2
68	On-line identification of thermal process using a modified ts-type neuro-fuzzy system. , 2011, , .		2
69	Thermodynamic Analysis and Optimization of an Oxyfuel Fluidized Bed Combustion Power Plant for CO <sub>2</sub> Capture. Industrial & Engineering Chemistry Research, 0, , .	1.8	2
70	Evolution of Sm-Doped Fe <sub>2</sub> O <sub>3</sub> /CeO <sub>2</sub> Oxygen Carriers in Chemical Looping Hydrogen Generation. Energy Technology, 2021, 9, 2100535.	1.8	2
71	Dynamic modeling and control of the air separation unit in an IGCC power plant. , 2009, , .		1
72	Hydrodynamic Analysis of a Three-Fluidized Bed Reactor Cold Flow Model for Chemical Looping Hydrogen Generation: Pressure Characteristics. , 2013, , 1351-1359.		1

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73	Modeling and Simulation of the Low-Pressure Rectification Column in an IGCC Power Plant. , 2009, , .		0
74	A new neuro-fuzzy approach for nonlinear system identification based on differential evolution. , 2012, , .		0
75	Reduction Behavior of Iron Oxide for Chemical-Looping Hydrogen Generation in a Compact Fluidized Fuel Reactor. , 2014, , .		0