Chr Ludwig

List of Publications by Year
in descending order

Source: https://exaly.com/author-pdf/2739013/publications.pdf

Version: 2024-02-01

126 papers	4,952 citations	87843 38 h-index	98753 67 g-index
126 all docs	126 docs citations	126 times ranked	6495 citing authors

#	Article	IF	Citations
1	Assessing the life cycle costs and environmental performance of lightweight materials in automobile applications. Composites Part A: Applied Science and Manufacturing, 2011, 42, 1694-1709.	3.8	269
2	Carbon fibre reinforced composite waste: An environmental assessment of recycling, energy recovery and landfilling. Composites Part A: Applied Science and Manufacturing, 2013, 49, 89-99.	3.8	267
3	Catalytic gasification of algae in supercritical water for biofuel production and carbon capture. Energy and Environmental Science, 2009, 2, 535.	15.6	202
4	Persistence of engineered nanoparticles in a municipal solid-waste incineration plant. Nature Nanotechnology, 2012, 7, 520-524.	15.6	186
5	Dopantâ€Free Holeâ€Transporting Materials for Stable and Efficient Perovskite Solar Cells. Advanced Materials, 2017, 29, 1606555.	11.1	171
6	On the chemistry of the Keggin Al13 polymer. Journal of Colloid and Interface Science, 1992, 149, 56-67.	5.0	162
7	Characterization of Silver Nanoparticle Products Using Asymmetric Flow Field Flow Fractionation with a Multidetector Approach â€“ a Comparison to Transmission Electron Microscopy and Batch Dynamic Light Scattering. Analytical Chemistry, 2012, 84, 2678-2685.	3.2	142
8	Thermal Treatment of Metal-Enriched Biomass Produced from Heavy Metal Phytoextraction. Environmental Science & Technology, 2005, 39, 3359-3367.	4.6	140
9	SunCHem: an integrated process for the hydrothermal production of methane from microalgae and CO2 mitigation. Journal of Applied Phycology, 2009, 21, 529-541.	1.5	126
10	Seasonal variation of municipal solid waste generation and composition in four East European cities. Resources, Conservation and Recycling, 2014, 89, 22-30.	5.3	122
11	Sulphur poisoning of Ni catalysts in the SNG production from biomass: A TPO/XPS/XAS study. Applied Catalysis A: General, 2009, 362, 121-128.	2.2	106
12	Assessing computer waste generation in Chile using material flow analysis. Waste Management, 2010, 30, 473-482.	3.7	103
13	Bioenergy in Switzerland: Assessing the domestic sustainable biomass potential. Renewable and Sustainable Energy Reviews, 2010, 14, 2256-2265.	8.2	100
14	Prediction of ligand-promoted dissolution rates from the reactivities of aqueous complexes. Nature, 1995, 375, 44-47.	13.7	92
15	Size-fractionated characterization and quantification of nanoparticle release rates from a consumer spray product containing engineered nanoparticles. Journal of Nanoparticle Research, 2010, 12, 2481-2494.	0.8	90
16	Application of an asymmetric flow field flow fractionation multi-detector approach for metallic engineered nanoparticle characterization â€“ Prospects and limitations demonstrated on Au nanoparticles. Analytica Chimica Acta, 2011, 706, 367-378.	2.6	85
17	Visualization of supercritical water pseudo-boiling at Widom line crossover. Nature Communications, 2019, 10, 4114.	5.8	85
18	Sintering and coking resistant coreâ€“shell microporous silicaâ€“nickel nanoparticles for CO methanation: Towards advanced catalysts production. Applied Catalysis B: Environmental, 2016, 182, 94-101.	10.8	81

#	Article	IF	Citations
19	Preliminary evaluation of risks related to waste incineration of polymer nanocomposites. Science of the Total Environment, 2012, 417-418, 76-86.	3.9	78
20	Algal cellulose, production and potential use in plastics: Challenges and opportunities. Algal Research, 2021, 56, 102288.	2.4	78
21	The mechanism of dissolution of oxide minerals. Nature, 1996, 381, 506-509.	13.7	77
22	Speciation of Zinc in Municipal Solid Waste Incineration Fly Ash after Heat Treatment:Â An X-ray Absorption Spectroscopy Study. Environmental Science & Technology, 2004, 38, 3760-3767.	4.6	74
23	Surface Complexation on TiO2. Journal of Colloid and Interface Science, 1995, 169, 284-290.	5.0	72
24	Heat, Electricity, or Transportation? The Optimal Use of Residual and Waste Biomass in Europe from an Environmental Perspective. Environmental Science & Technology, 2012, 46, 164-171.	4.6	67
25	Life cycle assessment of SNG from wood for heating, electricity, and transportation. Biomass and Bioenergy, 2011, 35, 2950-2960.	2.9	66
26	Extraction of carotenoids from Chlorella vulgaris using green solvents and syngas production from residual biomass. Algal Research, 2017, 25, 488-495.	2.4	63
27	The effect of different functional groups on the ligand-promoted dissolution of NiO and other oxide minerals. Geochimica Et Cosmochimica Acta, 1996, 60, 213-224.	1.6	53
28	Qualitative Evaluation of Alkali Release during the Pyrolysis of Biomass. Energy & Fuels, 2007, 21, 3017-3022.	2.5	53
29	Solid oxide fuel cell anode degradation by the effect of hydrogen chloride in stack and single cell environments. Journal of Power Sources, 2016, 326, 349-356.	4.0	53
30	Air side contamination in Solid Oxide Fuel Cell stack testing. Journal of Power Sources, 2011, 196, 7225-7231.	4.0	51
31	Producing synthetic natural gas from microalgae via supercritical water gasification: A techno-economic sensitivity analysis. Biomass and Bioenergy, 2013, 51, 26-34.	2.9	50
32	Impact of moisture on volatility of heavy metals in municipal solid waste incinerated in a laboratory scale simulated incinerator. Waste Management, 2004, 24, 581-587.	3.7	47
33	Continuous catalytic hydrothermal gasification of algal biomass and case study on toxicity of aluminum as a step toward effluents recycling. Catalysis Today, 2014, 223, 35-43.	2.2	46
34	Formation and transformation of calcium phosphate phases under biologically relevant conditions: Experiments and modelling. Acta Biomaterialia, 2018, 74, 478-488.	4.1	45
35	The effect of sodium hydroxide on Al uptake by calcium silicate hydrates (C S H). Journal of Colloid and Interface Science, 2020, 572, 246-256.	5.0	45
36	First developments towards closing the nutrient cycle in a biofuel production process. Algal Research, 2015, 8, 76-82.	2.4	42

#	Article	IF	Citations
37	Thermodynamic-Kinetic Precipitation Modeling. A Case Study: The Amorphous Calcium Carbonate (ACC) Precipitation Pathway Unravelled. Crystal Growth and Design, 2017, 17, 2006-2015.	1.4	42
38	Studying the Formation of Ni₃C from CO and Metallic Ni atT= 265 Â°C in Situ Using Ni K-Edge X-ray Absorption Spectroscopy. Journal of Physical Chemistry C, 2009, 113, 2443-2451.	1.5	41
39	Size Control of Pt Clusters on CeO₂ Nanoparticles via an Incorporationâ€“Segregation Mechanism and Study of Segregation Kinetics. ACS Catalysis, 2016, 6, 3688-3699.	5.5	40
40	Thermodynamics and Dynamics of Supercritical Water Pseudoâ€Boiling. Advanced Science, 2021, 8, 2002312.	5.6	40
41	Sampling and Online Analysis of Alkalis in Thermal Process Gases with a Novel Surface Ionization Detector. Energy & Fuels, 2011, 25, 4163-4171.	2.5	39
42	Redox dynamics of sulphur with Ni/GDC anode during SOFC operation at mid- and low-range temperatures: An operando SÂK-edge XANES study. Journal of Power Sources, 2013, 240, 448-457.	4.0	39
43	Catalytic Supercritical Water Gasification: Continuous Methanization of Chlorella vulgaris. Industrial & Engineering Chemistry Research, 2017, 56, 6256-6265.	1.8	39
44	On the Mechanisms of Dissolution of Bunsenite [NiO(s)] and Other Simple Oxide Minerals. Journal of Colloid and Interface Science, 1996, 178, 176-185.	5.0	38
45	On the mesoscale mechanism of synthetic calciumâ€“silicateâ€“hydrate precipitation: a population balance modeling approach. Journal of Materials Chemistry A, 2018, 6, 363-373.	5.2	37
46	Iron phosphate nanoparticles for food fortification: Biological effects in rats and human cell lines. Nanotoxicology, 2017, 11, 496-506.	1.6	36
47	Catalytic supercritical water gasification: Interaction of sulfur with ZnO and the ruthenium catalyst. Applied Catalysis B: Environmental, 2017, 202, 262-268.	10.8	36
48	The Leaching Behavior of Cement Stabilized Air Pollution Control Residues:Â A Comparison of Field and Laboratory Investigations. Environmental Science & Technology, 2001, 35, 2817-2822.	4.6	34
49	Damage of Siloxanes on Niâ€YSZ Anode Supported SOFC Operated on Hydrogen and Bioâ€Syngas. Fuel Cells, 2015, 15, 718-727.	1.5	34
50	Effect of carbon surface functional groups on the synthesis of Ru/C catalysts for supercritical water gasification. Catalysis Science and Technology, 2015, 5, 3658-3666.	2.1	33
51	Weakly Conjugated Hybrid Zinc Porphyrin Sensitizers for Solidâ€State Dyeâ€Sensitized Solar Cells. Advanced Functional Materials, 2016, 26, 5550-5559.	7.8	31
52	Exploiting end-of-life lamps fluorescent powder e-waste as a secondary resource for critical rare earth metals. Resources, Conservation and Recycling, 2021, 164, 105153.	5.3	31
53	Hydrological and geochemical factors controlling the leaching of cemented MSWI air pollution control residues: A lysimeter field study. Journal of Contaminant Hydrology, 2000, 42, 253-272.	1.6	28
54	The effect of equilibration time on Al uptake in C-S-H. Cement and Concrete Research, 2021, 144, 106438.	4.6	28

#	Article	IF	Citations
55	Decomposition of copper concentrates at high-temperatures: An efficient method to remove volatile impurities. Minerals Engineering, 2008, 21, 731-742.	1.8	27
56	Sulfur containing organic compounds in the raw producer gas of wood and grass gasification. Fuel, 2014, 128, 330-339.	3.4	27
57	Supercritical water anomalies in the vicinity of the Widom line. Scientific Reports, 2019, 9, 15731.	1.6	27
58	Heavy metal partitioning from electronic scrap during thermal End-of-Life treatment. Science of the Total Environment, 2007, 373, 576-584.	3.9	25
59	Organic-sulfur poisoning of solid oxide fuel cell operated on bio-syngas. International Journal of Hydrogen Energy, 2016, 41, 12231-12241.	3.8	24
60	Continuous synthesis of nickel nanopowders: Characterization, process optimization, and catalytic properties. Applied Catalysis B: Environmental, 2014, 156-157, 404-415.	10.8	23
61	Municipal solid waste management strategies and technologies for sustainable solutions. International Journal of Life Cycle Assessment, 2003, 8, 114-114.	2.2	22
62	X-ray absorption investigation of the valence state and electronic structure of La1â^'xCaxCoO3â^'Î´ in comparison with La1â^'xSrxCoO3â^'Î´ and La1â^'xSrxFeO3â^'Î´. Journal of Solid State Chemistry, 2011, 184, 3163-3171.	1.4	22
63	Measuring Evaporation Rates of Metal Compounds from Solid Samples. Analytical Chemistry, 2007, 79, 2992-2996.	3.2	21
64	One-Pot Polyol Synthesis of Pt/CeO₂ and Au/CeO₂ Nanopowders as Catalysts for CO Oxidation. Journal of Nanoscience and Nanotechnology, 2015, 15, 3530-3539.	0.9	20
65	Real-Time Detection of Aerosol Metals Using Online Extractive Electrospray Ionization Mass Spectrometry. Analytical Chemistry, 2020, 92, 1316-1325.	3.2	20
66	Separation and Recycling Potential of Rare Earth Elements from Energy Systems: Feed and Economic Viability Review. Separations, 2022, 9, 56.	1.1	20
67	Studying sulfur functional groups in Norway spruce year rings using S L-edge total electron yield spectroscopy. Science of the Total Environment, 2008, 403, 196-206.	3.9	19
68	Synthesis factors affecting the catalytic performance and stability of Ru/C catalysts for supercritical water gasification. Catalysis Science and Technology, 2014, 4, 3329-3339.	2.1	19
69	Continuous Production of Tailored Silver Nanoparticles by Polyol Synthesis and Reaction Yield Measured by X-ray Absorption Spectroscopy: Toward a Growth Mechanism. Journal of Physical Chemistry C, 2014, 118, 11093-11103.	1.5	19
70	A novel proposition for a citrate-modified photo-Fenton process against bacterial contamination of microalgae cultures. Applied Catalysis B: Environmental, 2020, 265, 118615.	10.8	19
71	Surface Complexation on TiO2. Journal of Colloid and Interface Science, 1995, 169, 291-299.	5.0	18
72	Studying the evaporation behavior of heavy metals by thermo-desorption spectrometry. Fresenius' Journal of Analytical Chemistry, 2001, 371, 1057-1062.	1.5	18

#	Article	IF	Citations
73	Ruthenium Dispersion: A Key Parameter for the Stability of Supported Ruthenium Catalysts during Catalytic Supercritical Water Gasification. ChemCatChem, 2016, 8, 139-141.	1.8	18
74	Cultivation of microalgae at high-density with pretreated liquid digestate as a nitrogen source: Fate of nitrogen and improvements on growth limitations. Journal of Cleaner Production, 2021, 324, 129238.	4.6	18
75	Liquid-Quench Sampling System for the Analysis of Gas Streams from Biomass Gasification Processes. Part 1: Sampling Noncondensable Compounds. Energy & Fuels, 2012, 26, 7308-7315.	2.5	16
76	A hyphenated SMPSâ€“ICPMS coupling setup: Size-resolved element specific analysis of airborne nanoparticles. Journal of Aerosol Science, 2015, 88, 109-118.	1.8	16
77	Flow microcapillary plasma mass spectrometry-based investigation of new Alâ€“Crâ€“Fe complex metallic alloy passivation. Talanta, 2014, 120, 230-238.	2.9	15
78	Liquid-Quench Sampling System for the Analysis of Gas Streams from Biomass Gasification Processes. Part 2: Sampling Condensable Compounds. Energy & Fuels, 2012, 26, 6358-6365.	2.5	13
79	Local, element-specific and time-resolved dissolution processes on a Mgâ€“Yâ€“RE alloy â€“ Influence of inorganic species and buffering systems. Corrosion Science, 2013, 75, 201-211.	3.0	13
80	The Fate of Lead in MSWIâ€Fly Ash During Heat Treatment: An Xâ€Ray Absorption Spectroscopy Study. Advanced Engineering Materials, 2009, 11, 507-512.	1.6	12
81	On-line liquid quench sampling and UVâ€“Vis spectroscopy for tar measurements in wood gasification process gases. Fuel, 2016, 184, 59-68.	3.4	12
82	Measuring air borne nanoparticles for characterizing hyphenated RDD-SMPS-ICPMS instrumentation. Journal of Aerosol Science, 2016, 92, 130-141.	1.8	12
83	Siloxane compounds in biogas from manure and mixed organic waste: Method development and speciation analysis with GC-ICP-MS. Talanta, 2020, 208, 120398.	2.9	12
84	Transmission of Alkali Aerosols through Sampling Systems. Chemical Engineering and Technology, 2011, 34, 42-48.	0.9	11
85	Online elemental analysis of process gases with ICP-OES: A case study on waste wood combustion. Waste Management, 2012, 32, 1843-1852.	3.7	11
86	Measuring heavy metals by quantitative thermal vaporization. Water Science and Technology, 2000, 42, 209-216.	1.2	9
87	Determination of the Bulk Cobalt Valence State of Co-Perovskites Containing Surface-Adsorbed Impurities. Analytical Chemistry, 2006, 78, 7273-7277.	3.2	9
88	The Impact of Toluene on the Performance of Anode-Supported Ni-YSZ SOFC Operated on Hydrogen and Biosyngas. ECS Transactions, 2015, 68, 2811-2818.	0.3	9
89	Adsorption of thiophene by activated carbon: A global sensitivity analysis. Journal of Environmental Chemical Engineering, 2017, 5, 4173-4184.	3.3	9
90	Integrated aerodynamic/electrochemical microsystem for collection and detection of nanogram-level airborne bioaccessible metals. Sensors and Actuators B: Chemical, 2022, 351, 130903.	4.0	8

#	Article	IF	Citations
91	Emissions of Secondary Formed ZnO Nano-Objects from the Combustion of Impregnated Wood. An Online Size-Resolved Elemental Investigation. Environmental Science & Technology, 2018, 52, 895-903.	4.6	7
92	Detection of trace metals in biogas using extractive electrospray ionization high-resolution mass spectrometry. Renewable Energy, 2021, 169, 780-787.	4.3	7
93	RELEASE KINETICS OF SURFACE-ASSOCIATED MN AND NI IN SERPENTINITIC SOILS. Soil Science, 1995, 160, 273-280.	0.9	6
94	Heavy Metal Binding Mechanisms in Cement-Based Waste Materials. Studies in Environmental Science, 1997, , 459-468.	0.0	6
95	Mitigating Cr Contamination by Hot Air Filtering in Solid Oxide Fuel Cells. Electrochemical and Solid-State Letters, 2011, 14, B132.	2.2	5
96	Multi-Scale Assessment of Cr Contamination Levels in SOFC Cathode Environment. ECS Transactions, 2011, 35, 2001-2008.	0.3	5
97	Gasification of hay in a bench scale fluidised bed reactor with emphasis on the suitability for gas turbines. Biomass and Bioenergy, 2012, 46, 739-749.	2.9	5
98	Combustion generated nanomaterials: online characterization via an ICP-MS based technique. Part II: resolving power for heterogeneous matrices. Journal of Analytical Atomic Spectrometry, 2018, 33, 1500-1505.	1.6	5
99	A combined hydrothermal gasification - solid oxide fuel cell system for sustainable production of algal biomass and energy. Algal Research, 2019, 41, 101552.	2.4	5
100	Insights about inductively coupled plasma optical emission spectroscopy interferences of major rare earth elements in complex e-waste feeds. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2022, 191, 106399.	1.5	5
101	Online Size and Element Analysis of Aerosol Particles Released from Thermal Treatment of Wood Samples Impregnated with Different Salts. Energy & Fuels, 2016, 30, 4072-4084.	2.5	4
102	Fate and reuse of nitrogen-containing organics from the hydrothermal conversion of algal biomass. Algal Research, 2018, 32, 241-249.	2.4	4
103	Combustion generated nanomaterials: online characterization via an ICP-MS based technique. Part I: calibration strategy with a TGA. Journal of Analytical Atomic Spectrometry, 2018, 33, 1493-1499.	1.6	4
104	Evaporation of Metals during the Thermal Treatment of Oxide Nanomaterials in Cellulose-Based Matrices. Environmental Science & Technology, 2020, 54, 4504-4514.	4.6	4
105	Sampling, on-line and off-line measurement of organic silicon compounds at an industrial biogas-fed 175-kWe SOFC plant. Renewable Energy, 2021, 177, 61-71.	4.3	4
106	Enhancing Algae Biomass Production by Using Dye-Sensitized Solar Cells as Filters. ACS Sustainable Chemistry and Engineering, 2021, 9, 14353-14364.	3.2	4
107	Opportunities for Switzerland to Contribute to the Production of Algal Biofuels: the Hydrothermal Pathway to Bio-Methane. Chimia, 2015, 69, 614.	0.3	3
108	Coexistence of reactive functional groups at the interface of a powdered activated amorphous carbon: a molecular view. Molecular Physics, 2021, 119, .	0.8	3

#	Article	IF	Citations
109	Flowing Gas Experiments Reveal Mechanistic Details of Interfacial Reactions on a Molecular Level at Knudsen Flow Conditions. Frontiers in Astronomy and Space Sciences, 0, 9, .	1.1	3
110	Heavy metal partitioning in a nuclear waste treatment plant. Particuology: Science and Technology of Particles, 2006, 4, 86-89.	0.4	2
111	A Practical Guide on Coupling a Scanning Mobility Sizer and Inductively Coupled Plasma Mass Spectrometer (SMPS-ICPMS). Journal of Visualized Experiments, 2017, , .	0.2	2
112	Extraction of Rare Earth Metals: The New Thermodynamic Considerations Toward Process Hydrometallurgy. Minerals, Metals and Materials Series, 2021, , 187-194.	0.3	2
113	An elution-based method for estimating efficiencies of aerosol collection devices not affected by their pressure drops. Separation and Purification Technology, 2022, 287, 120590.	3.9	2
114	Leaching processes in cement-stabilised municipal incinerator air pollution control residues. Waste Management Series, 2000, 1, 662-670.	0.0	1
115	Advanced Thermal Treatment Processes. , 2003, , 164-349.		1
116	Online Detection of Selenium and Its Retention in Reducing Gasification Atmosphere. Energy & Fuels, 0, , .	2.5	1
117	Recycling, Thermal Treatment and Recovery. , 2003, , 44-127.		1
118	Influence of testing surface on tire lateral force characteristics â€“ Einfluss der PrÃ¼foberflÃche auf die Reifenseitenkraft-Eigenschaften. Proceedings, 2017, , 795-808.	0.2	1
119	Waste Disposal: What are the Impacts?. , 2003, , 15-43.		1
120	Standard-Free Quantification of Dicarboxylic Acids: Case Studies with Salt-Rich Effluents and Serum. Journal of the American Society for Mass Spectrometry, 2022, , .	1.2	1
121	Katalytische, hydrothermale Vergasung von Algenbiomasse fÃ¼r die Produktion von synthetischem Erdgas. Chemie-Ingenieur-Technik, 2010, 82, 1565-1565.	0.4	0
122	Editorial. Science of the Total Environment, 2013, 461-462, 773.	3.9	0
123	Special Issue about Natural Resources â€" Part II. Science of the Total Environment, 2014, 481, 637.	3.9	0
124	Phase-resolved particle size distribution: New insight into material characterization. Materials Letters, 2015, 158, 333-338.	1.3	0
125	The impact of sorbent geometry on the sulphur adsorption under supercritical water conditions: a numerical study. Biomass Conversion and Biorefinery, 2017, 7, 479-485.	2.9	0
126	Elemental and Thermo-gravimetric Characterization of Trace Metals in Leaves and Soils as Bioindicators of Pollution in Kyiv City. Water, Air, and Soil Pollution, 2021, 232, 331.	1.1	0