

Thomas Fruergaard Astrup

List of Publications by Year in descending order

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122
papers

7,570
citations

38660

50
h-index

58464

82
g-index

125
all docs

125
docs citations

125
times ranked

7135
citing authors

#	ARTICLE	IF	CITATIONS
1	Life cycle assessment (LCA) of electricity generation technologies: Overview, comparability and limitations. <i>Renewable and Sustainable Energy Reviews</i> , 2013, 28, 555-565.	8.2	535
2	Life cycle assessment of thermal Waste-to-Energy technologies: Review and recommendations. <i>Waste Management</i> , 2015, 37, 104-115.	3.7	241
3	Environmental impacts of food waste: Learnings and challenges from a case study on UK. <i>Waste Management</i> , 2018, 76, 744-766.	3.7	212
4	Municipal solid waste composition: Sampling methodology, statistical analyses, and case study evaluation. <i>Waste Management</i> , 2015, 36, 12-23.	3.7	210
5	Landfilling of waste: accounting of greenhouse gases and global warming contributions. <i>Waste Management and Research</i> , 2009, 27, 825-836.	2.2	200
6	Plastic waste from recycling centres: Characterisation and evaluation of plastic recyclability. <i>Waste Management</i> , 2019, 95, 388-398.	3.7	194
7	Incineration and co-combustion of waste: accounting of greenhouse gases and global warming contributions. <i>Waste Management and Research</i> , 2009, 27, 789-799.	2.2	175
8	Life cycle assessment of construction and demolition waste management. <i>Waste Management</i> , 2015, 44, 196-205.	3.7	157
9	Life cycle costing of waste management systems: Overview, calculation principles and case studies. <i>Waste Management</i> , 2015, 36, 343-355.	3.7	141
10	Life cycle assessment of biofuel production from brown seaweed in Nordic conditions. <i>Bioresource Technology</i> , 2013, 129, 92-99.	4.8	135
11	Systematic Evaluation of Uncertainty in Material Flow Analysis. <i>Journal of Industrial Ecology</i> , 2014, 18, 859-870.	2.8	127
12	Quantification of the resource recovery potential of municipal solid waste incineration bottom ashes. <i>Waste Management</i> , 2014, 34, 1627-1636.	3.7	127
13	Waste paper for recycling: Overview and identification of potentially critical substances. <i>Waste Management</i> , 2015, 45, 134-142.	3.7	126
14	Recycling of post-consumer plastic packaging waste in the EU: Recovery rates, material flows, and barriers. <i>Waste Management</i> , 2021, 126, 694-705.	3.7	122
15	Mechanical“biological treatment: Performance and potentials. An LCA of 8 MBT plants including waste characterization. <i>Journal of Environmental Management</i> , 2013, 128, 661-673.	3.8	118
16	Quality Assessment and Circularity Potential of Recovery Systems for Household Plastic Waste. <i>Journal of Industrial Ecology</i> , 2019, 23, 156-168.	2.8	115
17	Composition and leaching of construction and demolition waste: Inorganic elements and organic compounds. <i>Journal of Hazardous Materials</i> , 2014, 276, 302-311.	6.5	114
18	Food waste from Danish households: Generation and composition. <i>Waste Management</i> , 2016, 52, 256-268.	3.7	112

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19	Geochemical Modeling of Leaching from MSWI Air-Pollution-Control Residues. <i>Environmental Science & Technology</i> , 2006, 40, 3551-3557.	4.6	111
20	LCA of biomass-based energy systems: A case study for Denmark. <i>Applied Energy</i> , 2012, 99, 234-246.	5.1	110
21	Life cycle assessment of waste incineration in Denmark and Italy using two LCA models. <i>Waste Management and Research</i> , 2011, 29, S78-S90.	2.2	109
22	Let's Be Clear(er) about Substitution: A Reporting Framework to Account for Product Displacement in Life Cycle Assessment. <i>Journal of Industrial Ecology</i> , 2017, 21, 1078-1089.	2.8	105
23	Recycling of plastic: accounting of greenhouse gases and global warming contributions. <i>Waste Management and Research</i> , 2009, 27, 763-772.	2.2	103
24	Bioenergy Production from Perennial Energy Crops: A Consequential LCA of 12 Bioenergy Scenarios including Land Use Changes. <i>Environmental Science & Technology</i> , 2012, 46, 13521-13530.	4.6	103
25	A global approach for sparse representation of uncertainty in Life Cycle Assessments of waste management systems. <i>International Journal of Life Cycle Assessment</i> , 2016, 21, 378-394.	2.2	103
26	Environmental implications of the use of agro-industrial residues for biorefineries: application of a deterministic model for indirect land-use changes. <i>GCB Bioenergy</i> , 2016, 8, 690-706.	2.5	101
27	Environmental life cycle cost assessment: Recycling of hard plastic waste collected at Danish recycling centres. <i>Resources, Conservation and Recycling</i> , 2019, 143, 299-309.	5.3	101
28	Life cycle assessment of resource recovery from municipal solid waste incineration bottom ash. <i>Journal of Environmental Management</i> , 2015, 151, 132-143.	3.8	98
29	Application of LCA modelling in integrated waste management. <i>Waste Management</i> , 2020, 118, 313-322.	3.7	93
30	Organic waste biorefineries: Looking towards implementation. <i>Waste Management</i> , 2020, 114, 274-286.	3.7	91
31	Life-Cycle Costing of Food Waste Management in Denmark: Importance of Indirect Effects. <i>Environmental Science & Technology</i> , 2016, 50, 4513-4523.	4.6	88
32	Life cycle assessment of orange peel waste management. <i>Resources, Conservation and Recycling</i> , 2017, 127, 148-158.	5.3	85
33	Long-term leaching from MSWI air-pollution-control residues: Leaching characterization and modeling. <i>Journal of Hazardous Materials</i> , 2009, 162, 80-91.	6.5	81
34	GHG emission factors for bioelectricity, biomethane, and bioethanol quantified for 24 biomass substrates with consequential life-cycle assessment. <i>Bioresource Technology</i> , 2016, 208, 123-133.	4.8	79
35	Immobilization of Chromate from Coal Fly Ash Leachate Using an Attenuating Barrier Containing Zero-valent Iron. <i>Environmental Science & Technology</i> , 2000, 34, 4163-4168.	4.6	77
36	Life-cycle assessment of selected management options for air pollution control residues from waste incineration. <i>Science of the Total Environment</i> , 2010, 408, 4672-4680.	3.9	76

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37	Environmental assessment of different management options for individual waste fractions by means of life-cycle assessment modelling. <i>Resources, Conservation and Recycling</i> , 2011, 55, 995-1004.	5.3	75
38	Material Cycles and Chemicals: Dynamic Material Flow Analysis of Contaminants in Paper Recycling. <i>Environmental Science & Technology</i> , 2016, 50, 12302-12311.	4.6	66
39	Statistical analysis of solid waste composition data: Arithmetic mean, standard deviation and correlation coefficients. <i>Waste Management</i> , 2017, 69, 13-23.	3.7	65
40	Environmental exposure assessment framework for nanoparticles in solid waste. <i>Journal of Nanoparticle Research</i> , 2014, 16, 2394.	0.8	64
41	A Full-scale Study on the Partitioning of Trace Elements in Municipal Solid Waste Incineration—Effects of Firing Different Waste Types. <i>Energy & Fuels</i> , 2009, 23, 3475-3489.	2.5	60
42	Leaching of metals from copper smelter flue dust (Mufulira, Zambian Copperbelt). <i>Applied Geochemistry</i> , 2011, 26, S263-S266.	1.4	60
43	Waste prevention for sustainable resource and waste management. <i>Journal of Material Cycles and Waste Management</i> , 2017, 19, 1295-1313.	1.6	60
44	Phosphorus in Denmark: National and regional anthropogenic flows. <i>Resources, Conservation and Recycling</i> , 2015, 105, 311-324.	5.3	58
45	Dynamic Material Flow Analysis of PET, PE, and PP Flows in Europe: Evaluation of the Potential for Circular Economy. <i>Environmental Science & Technology</i> , 2020, 54, 16166-16175.	4.6	58
46	Stochastic and epistemic uncertainty propagation in LCA. <i>International Journal of Life Cycle Assessment</i> , 2013, 18, 1393-1403.	2.2	57
47	Resource quality of wood waste: The importance of physical and chemical impurities in wood waste for recycling. <i>Waste Management</i> , 2019, 87, 135-147.	3.7	57
48	Dynamic accounting of greenhouse gas emissions from cascading utilisation of wood waste. <i>Science of the Total Environment</i> , 2019, 651, 2689-2700.	3.9	57
49	Environmental impacts of future low-carbon electricity systems: Detailed life cycle assessment of a Danish case study. <i>Applied Energy</i> , 2014, 132, 66-73.	5.1	55
50	Physico-chemical characterisation of material fractions in household waste: Overview of data in literature. <i>Waste Management</i> , 2016, 49, 3-14.	3.7	54
51	A Holistic Sustainability Framework for Waste Management in European Cities: Concept Development. <i>Sustainability</i> , 2018, 10, 2184.	1.6	54
52	Contribution of individual waste fractions to the environmental impacts from landfilling of municipal solid waste. <i>Waste Management</i> , 2010, 30, 433-440.	3.7	52
53	Evaluation of Externality Costs in Life-Cycle Optimization of Municipal Solid Waste Management Systems. <i>Environmental Science & Technology</i> , 2017, 51, 3119-3127.	4.6	52
54	Pretreatment and utilization of waste incineration bottom ashes: Danish experiences. <i>Waste Management</i> , 2007, 27, 1452-1457.	3.7	51

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55	Leaching from MSWI bottom ash: Evaluation of non-equilibrium in column percolation experiments. <i>Waste Management</i> , 2009, 29, 522-529.	3.7	51
56	Global warming factors modelled for 40 generic municipal waste management scenarios. <i>Waste Management and Research</i> , 2009, 27, 871-884.	2.2	50
57	Extended producer responsibility: How to unlock the environmental and economic potential of plastic packaging waste?. <i>Resources, Conservation and Recycling</i> , 2020, 162, 105030.	5.3	48
58	Quantitative sustainability assessment of household food waste management in the Amsterdam Metropolitan Area. <i>Resources, Conservation and Recycling</i> , 2020, 160, 104854.	5.3	45
59	Lead Distribution and Mobility in a Soil Embankment Used as a Bullet Stop at a Shooting Range. <i>Journal of Soil Contamination</i> , 1999, 8, 653-665.	0.5	44
60	Influence of operational conditions, waste input and ageing on contaminant leaching from waste incinerator bottom ash: A full-scale study. <i>Chemosphere</i> , 2009, 76, 1178-1184.	4.2	44
61	An environmental and economic assessment of bioplastic from urban biowaste. The example of polyhydroxyalkanoate. <i>Bioresource Technology</i> , 2021, 327, 124813.	4.8	44
62	Impact Assessment of Abiotic Resources in LCA: Quantitative Comparison of Selected Characterization Models. <i>Environmental Science & Technology</i> , 2014, 48, 11072-11081.	4.6	42
63	Valorisation of surplus food in the French retail sector: Environmental and economic impacts. <i>Waste Management</i> , 2019, 90, 141-151.	3.7	40
64	Life cycle assessment of the Danish electricity distribution network. <i>International Journal of Life Cycle Assessment</i> , 2014, 19, 100-108.	2.2	38
65	Energy recovery from plastic and biomass waste by means of fluidized bed gasification: A life cycle inventory model. <i>Energy</i> , 2018, 165, 299-314.	4.5	38
66	Incinerator performance: effects of changes in waste input and furnace operation on air emissions and residues. <i>Waste Management and Research</i> , 2011, 29, S57-S68.	2.2	37
67	COMBUSTION AEROSOLS FROM MUNICIPAL WASTE INCINERATION—EFFECT OF FUEL FEEDSTOCK AND PLANT OPERATION. <i>Combustion Science and Technology</i> , 2007, 179, 2171-2198.	1.2	36
68	Environmental Multiobjective Optimization of the Use of Biomass Resources for Energy. <i>Environmental Science & Technology</i> , 2017, 51, 3575-3583.	4.6	36
69	High-value products from food waste: An environmental and socio-economic assessment. <i>Science of the Total Environment</i> , 2021, 755, 142466.	3.9	36
70	Construction and demolition waste: Comparison of standard up-flow column and down-flow lysimeter leaching tests. <i>Waste Management</i> , 2015, 43, 386-397.	3.7	34
71	Physico-chemical characterisation of material fractions in residual and source-segregated household waste in Denmark. <i>Waste Management</i> , 2016, 54, 13-26.	3.7	34
72	Applying Fuzzy and Probabilistic Uncertainty Concepts to the Material Flow Analysis of Palladium in Austria. <i>Journal of Industrial Ecology</i> , 2015, 19, 1055-1069.	2.8	33

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73	LCA of management strategies for RDF incineration and gasification bottom ash based on experimental leaching data. <i>Waste Management</i> , 2016, 47, 285-298.	3.7	32
74	A Quantitative Sustainability Assessment of Food Waste Management in the European Union. <i>Environmental Science & Technology</i> , 2021, 55, 16099-16109.	4.6	31
75	Biogenic carbon in combustible waste: Waste composition, variability and measurement uncertainty. <i>Waste Management and Research</i> , 2013, 31, 56-66.	2.2	30
76	Priority of domestic biomass resources for energy: Importance of national environmental targets in a climate perspective. <i>Energy</i> , 2017, 124, 295-309.	4.5	30
77	Environmental optimization of biomass use for energy under alternative future energy scenarios for Switzerland. <i>Biomass and Bioenergy</i> , 2018, 119, 462-472.	2.9	29
78	Preparing the ground for an operational handling of long-term emissions in LCA. <i>International Journal of Life Cycle Assessment</i> , 2015, 20, 1444-1455.	2.2	28
79	Influence of test conditions on solubility controlled leaching predictions from air-pollution-control residues. <i>Waste Management and Research</i> , 2007, 25, 457-466.	2.2	26
80	CO2 emission factors for waste incineration: Influence from source separation of recyclable materials. <i>Waste Management</i> , 2011, 31, 1597-1605.	3.7	26
81	Bioenergy, material, and nutrients recovery from household waste: Advanced material, substance, energy, and cost flow analysis of a waste refinery process. <i>Applied Energy</i> , 2014, 121, 64-78.	5.1	26
82	Compositional analysis of seasonal variation in Danish residual household waste. <i>Resources, Conservation and Recycling</i> , 2018, 130, 70-79.	5.3	26
83	Quality of recycling: Urgent and undefined. <i>Waste Management</i> , 2022, 146, 11-19.	3.7	26
84	Energy and environmental analysis of a rapeseed biorefinery conversion process. <i>Biomass Conversion and Biorefinery</i> , 2013, 3, 127-141.	2.9	25
85	Pyrolysis and gasification of meat-and-bone-meal: Energy balance and GHG accounting. <i>Waste Management</i> , 2013, 33, 2501-2508.	3.7	25
86	A process-oriented life-cycle assessment (LCA) model for environmental and resource-related technologies (EASETECH). <i>International Journal of Life Cycle Assessment</i> , 2020, 25, 73-88.	2.2	25
87	An operational framework for sustainability assessment including local to global impacts: Focus on waste management systems. <i>Resources, Conservation and Recycling</i> , 2020, 162, 104964.	5.3	25
88	Environmental performance of dewatered sewage sludge digestate utilization based on life cycle assessment. <i>Waste Management</i> , 2022, 137, 210-221.	3.7	25
89	Soil retention of hexavalent chromium released from construction and demolition waste in a road-base-application scenario. <i>Journal of Hazardous Materials</i> , 2015, 298, 361-367.	6.5	24
90	Material Resources, Energy, and Nutrient Recovery from Waste: Are Waste Refineries the Solution for the Future?. <i>Environmental Science & Technology</i> , 2013, 47, 130725155216007.	4.6	23

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91	Semi-quantitative analysis of solid waste flows from nano-enabled consumer products in Europe, Denmark and the United Kingdom – Abundance, distribution and management. <i>Waste Management</i> , 2016, 56, 584-592.	3.7	23
92	Assessment of tetrabromobisphenol-A (TBBPA) content in plastic waste recovered from WEEE. <i>Journal of Hazardous Materials</i> , 2020, 390, 121641.	6.5	23
93	Leaching from waste incineration bottom ashes treated in a rotary kiln. <i>Waste Management and Research</i> , 2011, 29, 995-1007.	2.2	22
94	Dynamics of bisphenol A (BPA) and bisphenol S (BPS) in the European paper cycle: Need for concern?. <i>Resources, Conservation and Recycling</i> , 2018, 133, 278-287.	5.3	22
95	An MFA-based optimization model for increased resource efficiency: Phosphorus flows in Denmark. <i>Resources, Conservation and Recycling</i> , 2017, 122, 1-10.	5.3	21
96	Linking Data Choices and Context Specificity in Life Cycle Assessment of Waste Treatment Technologies: A Landfill Case Study. <i>Journal of Industrial Ecology</i> , 2018, 22, 1039-1049.	2.8	21
97	Sustainability assessment of organic waste management in three EU Cities: Analysing stakeholder-based solutions. <i>Waste Management</i> , 2021, 132, 44-55.	3.7	19
98	Source segregation of food waste in office areas: Factors affecting waste generation rates and quality. <i>Waste Management</i> , 2015, 46, 94-102.	3.7	18
99	The effect of data structure and model choices on MFA results: A comparison of phosphorus balances for Denmark and Austria. <i>Resources, Conservation and Recycling</i> , 2016, 109, 166-175.	5.3	18
100	Stability and leaching of cobalt smelter fly ash. <i>Applied Geochemistry</i> , 2013, 29, 117-125.	1.4	17
101	The influence of recycling schemes on the composition and generation of municipal solid waste. <i>Journal of Cleaner Production</i> , 2021, 295, 126439.	4.6	17
102	Environmental and Socioeconomic Impacts of Poly(ethylene terephthalate) (PET) Packaging Management Strategies in the EU. <i>Environmental Science & Technology</i> , 2022, 56, 501-511.	4.6	17
103	Assessment of long-term pH developments in leachate from waste incineration residues. <i>Waste Management and Research</i> , 2006, 24, 491-502.	2.2	16
104	Estimation of marginal costs at existing waste treatment facilities. <i>Waste Management</i> , 2016, 50, 364-375.	3.7	16
105	Combustible waste collected at Danish recycling centres: Characterisation, recycling potentials and contribution to environmental savings. <i>Waste Management</i> , 2019, 89, 354-365.	3.7	16
106	Resource recovery from residual household waste: An application of exergy flow analysis and exergetic life cycle assessment. <i>Waste Management</i> , 2015, 46, 653-667.	3.7	15
107	Long-term sampling of CO ₂ from waste-to-energy plants: ¹⁴ C determination methodology, data variation and uncertainty. <i>Waste Management and Research</i> , 2014, 32, 115-123.	2.2	14
108	Life Cycle Assessment of Waste Management: Are We Addressing the Key Challenges Ahead of Us?. <i>Journal of Industrial Ecology</i> , 2018, 22, 1000-1004.	2.8	14

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109	GHG sustainability compliance of rapeseed-based biofuels produced in a Danish multi-output biorefinery system. <i>Biomass and Bioenergy</i> , 2015, 75, 83-93.	2.9	12
110	The challenge of chemicals in material lifecycles. <i>Waste Management</i> , 2016, 56, 1-2.	3.7	12
111	Temporal and geographical patterns of solid waste collected at recycling centres. <i>Journal of Environmental Management</i> , 2019, 245, 384-397.	3.8	11
112	A life cycle assessment framework for large-scale changes in material circularity. <i>Waste Management</i> , 2021, 135, 360-371.	3.7	10
113	IMPLEMENTATION STAGE FOR CIRCULAR ECONOMY IN THE DANISH BUILDING AND CONSTRUCTION SECTOR. <i>Detritus</i> , 2021, , 26-30.	0.4	8
114	Pyrolysis and Gasification. , 2010, , 502-512.		7
115	Data representativeness in LCA: A framework for the systematic assessment of data quality relative to technology characteristics. <i>Journal of Industrial Ecology</i> , 2021, 25, 51-66.	2.8	6
116	Process-oriented life cycle assessment modelling in EASETECH. <i>Waste Management</i> , 2021, 127, 168-178.	3.7	6
117	Effect of drying on leaching testing of treated municipal solid waste incineration APC-residues. <i>Waste Management and Research</i> , 2008, 26, 400-405.	2.2	5
118	Quality and generation rate of solid residues in the boiler of a waste-to-energy plant. <i>Journal of Hazardous Materials</i> , 2014, 270, 127-136.	6.5	4
119	Carbon in solid waste: is it a problem?. <i>Waste Management and Research</i> , 2011, 29, 453-454.	2.2	3
120	Biomass waste – the way ahead. <i>Waste Management and Research</i> , 2012, 30, 999-1000.	2.2	3
121	Treatment and Disposal of Incineration Residues. , 2018, , 157-178.		2
122	Influences of ammonia contamination on leaching from air-pollution-control residues. <i>Waste Management and Research</i> , 2014, 32, 1169-1177.	2.2	0