

# Edwin Zondervan

## List of Publications by Year in descending order

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Version: 2024-02-01

118  
papers

1,797  
citations

304368

22  
h-index

301761

39  
g-index

119  
all docs

119  
docs citations

119  
times ranked

1840  
citing authors

#	ARTICLE	IF	CITATIONS
1	Shaping the future energy markets with hybrid multimicrogrids by sequential least squares programming. <i>ChemistrySelect</i> , 2023, 8, 121-156.	0.7	3
2	Supply chain optimization framework for CO <sub>2</sub> capture, utilization, and storage in Germany. <i>ChemistrySelect</i> , 2023, 8, 1685-1711.	0.7	0
3	Multi-objective optimization of CCUS supply chains for European countries with higher carbon dioxide emissions. <i>ChemistrySelect</i> , 2023, 8, 1593-1620.	0.7	1
4	Design of hydrogen supply chains under demand uncertainty – a case study of passenger transport in Germany. <i>ChemistrySelect</i> , 2023, 8, 741-762.	0.7	3
5	Exergy analysis of an atmospheric residue desulphurization hydrotreating process for a crude oil refinery. <i>ChemistrySelect</i> , 2023, 8, 1621-1657.	0.7	0
6	Process intensification and digital twin – the potential for the energy transition in process industries. <i>ChemistrySelect</i> , 2023, 8, 4859-4877.	0.7	1
7	Supply chain optimization for electricity-based jet fuel: The case study Germany. <i>Applied Energy</i> , 2022, 307, 117683.	5.1	7
8	Optimization of electrolysis and carbon capture processes for sustainable production of chemicals through Power-to-X. <i>ChemistrySelect</i> , 2022, .	0.7	0
9	Development of future-proof supply concepts for sector-coupled district heating systems based on scenario-analysis. <i>ChemistrySelect</i> , 2022, .	0.7	0
10	Integrating multi-objective superstructure optimization and multi-criteria assessment: a novel methodology for sustainable process design. <i>ChemistrySelect</i> , 2022, .	0.7	0
11	The role of bioprocess systems engineering in extracting chemicals and energy from microalgae. <i>ChemistrySelect</i> , 2022, .	0.7	0
12	Power to the city: Assessing the rooftop solar photovoltaic potential in multiple cities of Ecuador. <i>ChemistrySelect</i> , 2022, .	0.7	0
13	Renewable Fuels from Integrated Power- and Biomass-to-X Processes: A Superstructure Optimization Study. <i>Processes</i> , 2022, 10, 1298.	1.3	3
14	OUTDOOR – An open-source superstructure construction and optimization tool. <i>Computer Aided Chemical Engineering</i> , 2021, , 413-418.	0.3	3
15	Modeling alkaline water electrolysis for power-to-x applications: A scheduling approach. <i>International Journal of Hydrogen Energy</i> , 2021, 46, 9303-9313.	3.8	84
16	A generic superstructure modeling and optimization framework on the example of bi-criteria Power-to-Methanol process design. <i>Computers and Chemical Engineering</i> , 2021, 150, 107327.	2.0	17
17	Biogas Reforming as a Precursor for Integrated Algae Biorefineries: Simulation and Techno-Economic Analysis. <i>Processes</i> , 2021, 9, 1348.	1.3	6
18	Dynamic Modeling and Control of a Simulated Carbon Capture Process for Sustainable Power-to-X. <i>Applied Sciences (Switzerland)</i> , 2021, 11, 9574.	1.3	4

#	ARTICLE	IF	CITATIONS
19	Scenario Analysis of Carbon Capture, Utilization (Particularly Producing Methane and Methanol), and Storage (CCUS) Systems. <i>Industrial &amp; Engineering Chemistry Research</i> , 2020, 59, 6961-6976.	1.8	24
20	Analysis and Optimization of Carbon Supply Chains Integrated to a Power to Gas Plant in Italy. <i>Computer Aided Chemical Engineering</i> , 2020, , 325-330.	0.3	0
21	Agile Operation of Renewable Methanol Synthesis under Fluctuating Power Inputs. <i>Computer Aided Chemical Engineering</i> , 2020, , 1381-1386.	0.3	1
22	Power-to-Methanol at Refineries as a Precursor to Green Jet Fuel Production: a Simulation and Assessment Study. <i>Computer Aided Chemical Engineering</i> , 2020, , 1453-1458.	0.3	11
23	Surface-Response Analysis for the Optimization of a Carbon Dioxide Absorption Process Using [hmim][Tf2N]. <i>Processes</i> , 2020, 8, 1063.	1.3	5
24	Dynamic hydrogen production from PV & wind direct electricity supply – Modeling and techno-economic assessment. <i>International Journal of Hydrogen Energy</i> , 2020, 45, 29938-29952.	3.8	100
25	Optimization of CCUS Supply Chains for Some European Countries under the Uncertainty. <i>Processes</i> , 2020, 8, 960.	1.3	9
26	Analysis and optimization of carbon supply chains integrated to a power to gas process in Italy. <i>Journal of Cleaner Production</i> , 2020, 269, 122172.	4.6	17
27	An integrated methodology for the economic and environmental assessment of a biorefinery supply chain. <i>Chemical Engineering Research and Design</i> , 2020, 160, 199-215.	2.7	34
28	Optimization of CCUS supply chains in the UK: A strategic role for emissions reduction. <i>Chemical Engineering Research and Design</i> , 2020, 155, 211-228.	2.7	35
29	2. Performance products in a challenging environment. , 2020, , 9-88.		1
30	3. A structured approach for product-driven process design of consumer products. , 2020, , 89-118.		0
31	Certainty through uncertainty: stochastic optimization of grid-integrated large-scale energy storage in Germany. <i>ChemistrySelect</i> , 2020, .	0.7	1
32	Dynamic modeling of fouling over multiple biofuel production cycles in a membrane reactor. <i>Chemical Product and Process Modeling</i> , 2020, .	0.5	0
33	Design of Renewable and System-Beneficial District Heating Systems Using a Dynamic Emission Factor for Grid-Sourced Electricity. <i>Energies</i> , 2020, 13, 619.	1.6	14
34	Superstructure optimization of an integrated algae biorefinery. <i>Computers and Chemical Engineering</i> , 2019, 130, 106530.	2.0	33
35	Process design and techno-economic analysis of a pineapple wine production plant under the context of the Choco-Colombia region. <i>Computer Aided Chemical Engineering</i> , 2019, 46, 277-282.	0.3	0
36	Balancing costs, safety and CO2 emissions in the design of hydrogen supply chains. <i>Computers and Chemical Engineering</i> , 2019, 129, 106493.	2.0	20

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37	An optimization model for a biorefinery system based on process design and logistics. Computer Aided Chemical Engineering, 2019, 46, 265-270.	0.3	3
38	Sustainable utilization and storage of carbon dioxide: Analysis and design of an innovative supply chain. Computers and Chemical Engineering, 2019, 131, 106569.	2.0	28
39	Methanol production from captured CO <sub>2</sub> using hydrogenation and reforming technologies_ environmental and economic evaluation. Journal of CO <sub>2</sub> Utilization, 2019, 34, 1-11.	3.3	100
40	Methanol production by CO <sub>2</sub> hydrogenation: Analysis and simulation of reactor performance. International Journal of Hydrogen Energy, 2019, 44, 7915-7933.	3.8	90
41	Expanding the lifetime of Li-ion batteries through optimization of charging profiles. Journal of Cleaner Production, 2019, 225, 928-938.	4.6	26
42	An outlook towards 2030: Optimization and design of a CCUS supply chain in Germany. Computers and Chemical Engineering, 2019, 125, 499-513.	2.0	38
43	Optimization of energy storage and system flexibility in the context of the energy transition: Germany's power grid as a case study. BMC Energy, 2019, 1, .	6.3	4
44	Innovative application of statistical analysis for the optimization of CO <sub>2</sub> absorption from flue gas with ionic liquid. Computer Aided Chemical Engineering, 2019, 46, 151-156.	0.3	3
45	Giving added value to products from biomass: the role of mathematical programming in the product-driven process synthesis framework. Computer Aided Chemical Engineering, 2019, 46, 1591-1596.	0.3	0
46	Fast Fourier Transforms for Microgrid Climate Computing. Computer Aided Chemical Engineering, 2019, , 1657-1662.	0.3	2
47	Ionic Liquid as a Selective Capture Method of CO <sub>2</sub> from Different Sources: Comparison with MEA. ACS Sustainable Chemistry and Engineering, 2018, 6, 4845-4853.	3.2	38
48	A decision support platform for a bio-based supply chain: Application to the region of Lower Saxony and Bremen (Germany).. Computers and Chemical Engineering, 2018, 115, 233-242.	2.0	14
49	An outlook towards hydrogen supply chain networks in 2050 " Design of novel fuel infrastructures in Germany. Chemical Engineering Research and Design, 2018, 134, 90-103.	2.7	63
50	Steady state analysis of structured liquids in a penetrometer. Journal of Food Engineering, 2018, 218, 50-60.	2.7	4
51	Integration of carbon dioxide and hydrogen supply chains. Computer Aided Chemical Engineering, 2018, , 1413-1418.	0.3	16
52	Balancing Costs, Safety and CO <sub>2</sub> Emissions in the Design of Hydrogen Supply Chains. Computer Aided Chemical Engineering, 2018, 43, 603-608.	0.3	1
53	Process Integration as an Effective Route Towards Sustainable Oil Refinery Development. Computer Aided Chemical Engineering, 2018, 43, 609-614.	0.3	0
54	Product-driven process synthesis: Extraction of polyphenols from tea. Journal of Food Engineering, 2017, 196, 113-122.	2.7	18

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55	Development and implementation of supply chain optimization framework for CO <sub>2</sub> capture and storage in the Netherlands. <i>Computers and Chemical Engineering</i> , 2017, 102, 40-51.	2.0	42
56	Development of a conceptual process for CO <sub>2</sub> capture from flue gases using ionic liquid. <i>Computer Aided Chemical Engineering</i> , 2017, 40, 2623-2628.	0.3	4
57	Design of a wheat straw supply chain network in Lower Saxony, Germany through optimization. <i>Computer Aided Chemical Engineering</i> , 2017, , 871-876.	0.3	5
58	Model-based Optimization of Battery Energy Storage Systems. <i>Computer Aided Chemical Engineering</i> , 2017, , 2563-2568.	0.3	0
59	Multi-objective optimization of energy networks under demand uncertainty. <i>Computer Aided Chemical Engineering</i> , 2016, , 2319-2324.	0.3	3
60	Using product driven process synthesis in the biorefinery. <i>Computers and Chemical Engineering</i> , 2016, 91, 257-268.	2.0	13
61	Pilot-scale production process for high internal phase emulsions: Experimentation and modeling. <i>Chemical Engineering Science</i> , 2016, 148, 32-43.	1.9	17
62	Product-driven process synthesis for the extraction of oil bodies from soybeans. <i>Journal of Food Engineering</i> , 2016, 185, 26-34.	2.7	7
63	Modelling of packed bed adsorption columns for the separation of green tea catechins. <i>Separation Science and Technology</i> , 2016, 51, 2339-2347.	1.3	4
64	Polyphenol extraction from fresh tea leaves by pulsed electric field: A study of mechanisms. <i>Chemical Engineering Research and Design</i> , 2016, 109, 586-592.	2.7	48
65	A Supply Chain Optimization Framework For CO <sub>2</sub> Emission Reduction: Case Of The Netherlands. , 2016, , .		0
66	Multi-objective optimization for the production of fructose in a simulated moving bed reactor. <i>Computer Aided Chemical Engineering</i> , 2015, , 347-352.	0.3	0
67	Using Product Driven Process Synthesis in the Biorefinery. <i>Computer Aided Chemical Engineering</i> , 2015, , 1253-1258.	0.3	0
68	Solvent Swing Adsorption for the Recovery of Polyphenols from Black Tea. <i>Industrial &amp; Engineering Chemistry Research</i> , 2015, 54, 434-442.	1.8	19
69	A Process Synthesis Approach for Isolation of Isoflavones from Okara. <i>Industrial &amp; Engineering Chemistry Research</i> , 2015, 54, 691-699.	1.8	9
70	Integrated Product and Process Design for the Optimization of Mayonnaise Creaminess. <i>Computer Aided Chemical Engineering</i> , 2015, , 1133-1138.	0.3	6
71	Sustainable Design and Operation of a Reactive Distillation System Used for the Production of Cosmetic Ingredients. <i>Computer Aided Chemical Engineering</i> , 2015, 36, 85-107.	0.3	2
72	Process Design for Extraction of Soybean Oil Bodies by Applying the Product Driven Process Synthesis Methodology. <i>Computer Aided Chemical Engineering</i> , 2014, , 193-198.	0.3	1

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73	Population balances combined with Computational Fluid Dynamics: A modeling approach for dispersive mixing in a high pressure homogenizer. <i>Chemical Engineering Science</i> , 2014, 117, 376-388.	1.9	15
74	Modeling and optimization of green tea precipitation for the recovery of catechins. <i>Separation and Purification Technology</i> , 2014, 129, 129-136.	3.9	12
75	Entrainment Reduction in a Static-Mixer Settler Setup by Electric Field Enhanced Coalescence. <i>Separation Science and Technology</i> , 2014, 49, 186-196.	1.3	0
76	Integrating Planning and Scheduling in an Oil Refinery with a Rolling Horizon Approach. <i>Computer Aided Chemical Engineering</i> , 2014, 33, 439-444.	0.3	3
77	A combined lossy capacitor population balance model (LCPBM) for calculating the influence of frequency on electric field enhanced coalescence in a static-mixer settler setup. <i>Chemical Engineering Science</i> , 2013, 104, 727-741.	1.9	6
78	Evaluation of configuration alternatives for multi-product polyester synthesis by reactive distillation. <i>Computers and Chemical Engineering</i> , 2013, 52, 193-203.	2.0	9
79	Experimental density, viscosity, interfacial tension and water solubility of ethyl benzene- $\pm$ -methyl benzyl alcohol-water system. <i>Journal of Chemical Thermodynamics</i> , 2013, 63, 31-37.	1.0	8
80	Influence of Physical Properties and Process Conditions on Entrainment Behavior in a Static-Mixer Settler Setup. <i>Industrial &amp; Engineering Chemistry Research</i> , 2013, 52, 2958-2968.	1.8	14
81	Chemicals from biomass: integrating bioprocesses into chemical production complexes for sustainable development. <i>Green Processing and Synthesis</i> , 2013, 2, .	1.3	0
82	A Modeling Approach for Dispersive Mixing of Oil in Water Emulsions. <i>Computer Aided Chemical Engineering</i> , 2013, 32, 841-846.	0.3	2
83	Enhanced configurations for polyesters synthesis by reactive distillation. <i>Computer Aided Chemical Engineering</i> , 2013, 32, 457-462.	0.3	0
84	Integrated Operation and Design of a Simulated Moving Bed Reactor. <i>Computer Aided Chemical Engineering</i> , 2012, 30, 642-646.	0.3	2
85	Methodology for Assessment and Optimization of Industrial Eco-Systems. <i>Challenges</i> , 2012, 3, 49-69.	0.9	2
86	Pilot-scale experimental validation of unsaturated polyesters synthesis by reactive distillation. <i>Chemical Engineering Journal</i> , 2012, 213, 175-185.	6.6	13
87	A systematic framework for the feasibility and technical evaluation of reactive distillation processes. <i>Chemical Engineering and Processing: Process Intensification</i> , 2012, 60, 55-64.	1.8	64
88	Scheduling in the FMCG Industry: An Industrial Case Study. <i>Industrial &amp; Engineering Chemistry Research</i> , 2012, 51, 7800-7815.	1.8	20
89	Gas Holdup, Axial Dispersion, and Mass Transfer Studies in Bubble Columns. <i>Industrial &amp; Engineering Chemistry Research</i> , 2012, 51, 14268-14278.	1.8	46
90	Cyclic distillation - towards energy efficient binary distillation. <i>Computer Aided Chemical Engineering</i> , 2012, , 697-701.	0.3	4

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91	Linking Scheduling to Control in an Oil Refinery. <i>Computer Aided Chemical Engineering</i> , 2012, , 887-891.	0.3	0
92	Sustainable design of a reactive distillation system. <i>Computer Aided Chemical Engineering</i> , 2012, 30, 61-65.	0.3	0
93	Extended rate-based model validation for polyester synthesis by reactive distillation. <i>Computer Aided Chemical Engineering</i> , 2012, 30, 1182-1186.	0.3	3
94	A Neural Network Application in the Design of Emulsion-Based Products. <i>Computer Aided Chemical Engineering</i> , 2012, , 692-696.	0.3	0
95	Integrated optimization of the adsorption of theaflavins from black tea on macroporous resins. <i>Computer Aided Chemical Engineering</i> , 2012, 31, 725-729.	0.3	0
96	Influence of liquid back mixing on a kinetically controlled reactive distillation process. <i>Chemical Engineering Science</i> , 2012, 68, 184-191.	1.9	18
97	Probabilistic design approach to build the liveness in an integrated process scheme. <i>Computer Aided Chemical Engineering</i> , 2012, 31, 720-724.	0.3	0
98	Design of an Optimal Biorefinery. <i>Computer Aided Chemical Engineering</i> , 2011, , 371-376.	0.3	6
99	Synthesis tool for separation processes in the pharmaceutical industry. <i>Computer Aided Chemical Engineering</i> , 2011, 29, 276-280.	0.3	1
100	Modeling the liquid back mixing characteristics for a kinetically controlled reactive distillation process. <i>Computer Aided Chemical Engineering</i> , 2011, 29, 11-15.	0.3	1
101	Ice Cream Scheduling. <i>Computer Aided Chemical Engineering</i> , 2011, 29, 915-919.	0.3	0
102	Optimal design of a multi-product biorefinery system. <i>Computers and Chemical Engineering</i> , 2011, 35, 1752-1766.	2.0	144
103	Reactive Distillation: An Attractive Alternative for the Synthesis of Unsaturated Polyester. <i>Macromolecular Symposia</i> , 2011, 302, 46-55.	0.4	4
104	Simultaneous Optimization of Planning and Scheduling in an Oil Refinery. <i>Computer Aided Chemical Engineering</i> , 2011, 29, 925-929.	0.3	2
105	Integrated optimization of a waste water treatment plant using statistical analysis. <i>Journal of Hazardous Materials</i> , 2010, 179, 480-487.	6.5	5
106	Energy optimization in the process industries: Unit Commitment at systems level. <i>Computer Aided Chemical Engineering</i> , 2010, 28, 931-936.	0.3	8
107	Methods for Integrating and Handling Complex Optimization Problems in the Process Industries. <i>Recent Patents on Chemical Engineering</i> , 2010, 2, 123-127.	0.5	0
108	Phenol extraction with Cyanex 923: Kinetics of the solvent impregnated resin application. <i>Reactive and Functional Polymers</i> , 2009, 69, 264-271.	2.0	26

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109	Taking green anti-fouling strategies in dead-end ultrafiltration to the next level. Chemical Engineering Research and Design, 2009, 87, 1589-1595.	2.7	1
110	Methods for Integrating and Handling Complex Optimization Problems in the Process Industries. Recent Patents on Chemical Engineering, 2009, 2, 123-127.	0.5	0
111	Modeling Techniques For Integration Of Process Systems. , 2009, , .		0
112	Modeling and optimization of a sequence of chemical cleaning cycles in dead-end ultrafiltration. Journal of Membrane Science, 2008, 308, 207-217.	4.1	20
113	Modeling and optimization of membrane lifetime in dead-end ultra filtration. Journal of Membrane Science, 2008, 322, 46-51.	4.1	19
114	Development of a multi-objective coagulation system for long-term fouling control in dead-end ultrafiltration. Journal of Membrane Science, 2008, 325, 823-830.	4.1	12
115	Dynamic optimization of chemical cleaning in dead-end ultra filtration. Journal of Membrane Science, 2008, 307, 309-313.	4.1	19
116	Development of a dynamic model for cleaning ultra filtration membranes fouled by surface water. Journal of Membrane Science, 2007, 289, 26-31.	4.1	29
117	Statistical analysis of data from accelerated ageing tests of PES UF membranes. Journal of Membrane Science, 2007, 300, 111-116.	4.1	37
118	Evaluation of different cleaning agents used for cleaning ultra filtration membranes fouled by surface water. Journal of Membrane Science, 2007, 304, 40-49.	4.1	157