

Publication list

Prof. Dr. Eng. Cormos Calin-Cristian

1. Books

1. **C.C. Cormos**, *Decarbonizarea combustibililor fosili solizi prin gazeificare*, Presa Universitară Clujană, 2008, 345 pp.
2. **C.C. Cormos**, *Ingineria Reacțiilor Chimice, Aplicații practice pentru studiul reactoarelor omogene și eterogene gaz-lichid*, Presa Universitară Clujană, 2014, 129 pp.
3. **C.C. Cormos**, *IGCC with carbon capture and storage*, Encyclopedia of Sustainable Technologies, 2017, 327-338.

2. Articles

1. A.M. Cormos, I. Dumbrava, **C.C. Cormos**, *Evaluation of techno-economic performance for decarbonized hydrogen and power generation based on glycerol thermo-chemical looping cycles*, Applied Thermal Engineering, 179, 2020, 115728
2. **C.C. Cormos**, *Techno-economic implications of flexible operation for super-critical power plants equipped with calcium looping cycle as a thermo-chemical energy storage system*, Fuel, 280, 2020, 118293
3. D.A. Chisalita, L. Petrescu, **C.C. Cormos**, *Environmental evaluation of european ammonia production considering various hydrogen supply chains*, Renewable and Sustainable Energy Reviews, 130, 2020, 109964
4. C. Dinca, N. Slavu, **C.C. Cormos**, *Clean energy from poplar and plastic mix valorisation in a gas turbine with CO₂ capture process*, 6th International Conference on Contemporary Problems of Thermal Engineering - CPOTE 2020, Kraków, Poland, 20-24 September 2020
5. **C.C. Cormos**, A.M. Cormos, I. Dumbrava, *Assessment of innovative carbon capture technologies applied for flexible energy vectors poly-generation*, 30-th European Symposium on Computer Aided Process Engineering - ESCAPE30, Milan, Italy, 31 August - 2 Septembrie 2020
6. L. Petrescu, S.C. Galusnyak, D.A. Chisalita, **C.C. Cormos**, *Modeling and simulation of methanol production and conversion into various chemical intermediates and*

- products*, 30-th European Symposium on Computer Aided Process Engineering - ESCAPE30, Milan, Italy, 31 August - 2 September 2020
7. V.C. Sandu, **C.C. Cormos**, A.M. Cormos, *Dynamic simulation of chemical looping combustion in packed bed reactors*, 30-th European Symposium on Computer Aided Process Engineering - ESCAPE30, Milan, Italy, 31 August - 2 September 2020
 8. L. Petrescu, S.C. Galusnyak, D.A. Chisalita, **C.C. Cormos**, *Modelling and simulation of biodiesel production process using innovative technologies*, International Conference on Biomass - ICONBM 2020, Firenze, Italy, 26 - 29 April, 2020
 9. A.M. Cormos, S. Dragan, L. Petrescu, V.C. Sandu, **C.C. Cormos**, *Technical and environmental evaluations of key decarbonized fossil-intensive industrial processes by reactive absorption & adsorption CO₂ capture systems*, *Energies*, 13, 2020, 1268
 10. A.M. Cormos, V.C. Sandu, **C.C. Cormos**, *Assessment of main energy integration elements for decarbonized gasification plants based on thermo-chemical looping cycles*, *Journal of Cleaner Production*, 259, 2020, 120834
 11. V.C. Sandu, I.D. Dumbrava, A.M. Cormos, A. Imre-Lucaci, **C.C. Cormos**, P. Cobden, R. de Boer, *Modeling of a rectangular channel monolith reactor for sorption-enhanced water-gas shift*, *Environmental Engineering and Management Journal*, 19, 2020, 2
 12. **C.C. Cormos**, *Energy and cost efficient manganese chemical looping air separation cycle for decarbonized power generation based on oxy-fuel combustion and gasification*, *Energy*, 191, 2020, 116579
 13. S. Szima, **C.C. Cormos**, *Techno - economic assessment of flexible decarbonized hydrogen and power co-production based on natural gas dry reforming*, *International Journal of Hydrogen Energy*, 44, 2019, 31712-31723
 14. D.A. Chisalita, **C.C. Cormos**, *Techno-economic assessment of hydrogen production processes based on various natural gas chemical looping systems with carbon capture*, *Energy*, 181, 2019, 331-344
 15. S. Szima, S.M. Nazir, S. Cloete, S. Amini, S. Fogarasi, A.M. Cormos, **C.C. Cormos**, *Gas switching reforming for flexible power and hydrogen production to balance variable renewables*, *Renewable and Sustainable Energy Reviews*, 110, 2019, 207-219
 16. D.A. Chisalita, L. Petrescu, P. Cobden, H.A.J van Dijk, A.M. Cormos, **C.C. Cormos**, *Assessing the environmental impact of an integrated steel mill with post-combustion*

- CO₂ capture and storage using the LCA methodology*, Journal of Cleaner Production, 211, 2019, 1015-1025
17. L. Petrescu, D.A. Chisalita, **C.C. Cormos**, G. Manzolini, P. Cobden, H.A.J. van Dijk, *Life cycle assessment of SEWGS technology applied to integrated steel plants*, Sustainability, 11, 2019, 1825
 18. V.C. Sandu, **C.C. Cormos**, A.M. Cormos, *Assessment of various water-gas-shift process configurations applied to partial oxidation energy conversion processes with carbon capture*, Studia Universitatis Babeş-Bolyai Chemia, 64, 2019, 371-381
 19. S. Szima, **C.C. Cormos**, *Exergoeconomic analysis for a flexible dry reforming power plant with carbon capture for improved energy efficiency*, 29-th European Symposium on Computer Aided Process Engineering - ESCAPE29, Eindhoven, The Netherlands, 16 - 19 June 2019
 20. **C.C. Cormos**, L. Petrescu, A.M. Cormos, D.A. Chisalita, *Chemical looping technology - An energy efficient way for reducing carbon footprint of fossil-based industrial processes*, 21-st Romanian International Conference on Chemistry and Chemical Engineering - RICCCE21, Mamaia, Romania, 4 - 7 September 2019
 21. V.C. Sandu, A.M. Cormos, **C.C. Cormos**, *Evaluation of energy integration aspects for IGCC power plant equipped with CO₂ capture feature based on reactive gas-solid systems*, 14th Conference on Sustainable Development of Energy, Water and Environment Systems (SDEWES), Dubrovnik, Croatia, 1 - 6 October 2019
 22. D.A. Chisalita, L. Petrescu, **C.C. Cormos**, *Environmental comparison of various ammonia production plants with carbon capture and storage*, 14th Conference on Sustainable Development of Energy, Water and Environment Systems (SDEWES), Dubrovnik, Croatia, 1 - 6 October 2019
 23. A.M. Cormos, S. Dragan, L. Petrescu, D.A. Chisalita, S. Szima, V. Sandu, **C.C. Cormos**, *Reducing the carbon footprint of power generation systems and other energy-intensive industrial applications by CO₂ capture and utilization technologies: An integrated technical & environmental assessment*, 22-nd Conference on Process Integration. Modelling, and Optimisation for Energy Saving and Pollution Reduction - PRES 19, Crete, Greece, 20 - 23 October 2019
 24. **C.C. Cormos**, *Techno-economic evaluations of copper-based chemical looping air separation system for oxy-combustion and gasification power plants with carbon capture*, Energies, 11, 2018, 1-17

25. D.A. Chisalita, L. Petrescu, A.M. Cormos, **C.C. Cormos**, *Assessing energy and CO₂ emission reduction from ammonia production by chemical looping as innovative carbon capture technology*, 28-th European Symposium on Computer Aided Process Engineering - ESCAPE28, Graz, Austria, 10 - 13 June 2018, published in Computer Aided Chemical Engineering, 43, 2018, 1269-1274
26. S. Szima, A.M. Cormos, **C.C. Cormos**, *Flexible hydrogen and power co - generation based on dry methane reforming with carbon capture*, 28-th European Symposium on Computer Aided Process Engineering - ESCAPE28, Graz, Austria, 10 - 13 June 2018, published in Computer Aided Chemical Engineering, 43, 2018, 1281-1286
27. **C.C. Cormos**, *Assessment of copper-based chemical looping air separation system for energy efficiency improvements of oxy-combustion and gasification power plants*, Applied Thermal Engineering, 130, 2018, 120-126
28. S. Szima, **C.C. Cormos**, *Improving methanol synthesis from carbon-free H₂ and captured CO₂: A techno-economic and environmental evaluation*, Journal of CO₂ Utilization, 24, 2018, 555-563
29. A.M. Cormos, C. Dinca, L. Petrescu, D.A. Chisalita, S. Szima, **C.C. Cormos**, *Carbon capture and utilisation technologies applied to energy conversion systems and other energy-intensive industrial applications*, Fuel, 211, 2018, 883-890
30. C. Dinca, N. Slavu, **C.C. Cormos**, A. Badea, *CO₂ capture from syngas generated by a biomass gasification power plant with chemical absorption process*, Energy, 149, 2018, 925-936
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32. **C.C. Cormos**, A.M. Cormos, L. Petrescu, *Assessing the CO₂ Emissions Reduction from Cement Industry by Carbon Capture Technologies: Conceptual Design, Process Integration and Techno-economic and Environmental Analysis*, 27-th European Symposium on Computer Aided Process Engineering - ESCAPE27, Barcelona, Spain, 1 - 5 Octombrie 2017
33. **C.C. Cormos**, S. Dragan, L. Petrescu, D.A. Chisalita, S. Szima, A.M. Cormos, *Assessment of chemical & calcium looping technologies as promising carbon capture options applied to energy-intensive industrial applications*, 10-th World Congress of Chemical Engineering - WCCE10, Barcelona, Spain, 1 - 5 Octombrie 2017

34. **C.C. Cormos**, L. Petrescu, A.M. Cormos, *Chemical & Calcium Looping Systems: Heat Integration Analysis for Improvement the Energy Efficiency of Various Industrial Processes*, 13th International Conference on Heat Transfer, Fluid Mechanics and Thermodynamics - HEFAT2017, Portoroz, Slovenia, 17-19 July 2017
35. A.M. Cormos, D.A. Chisalita, L. Bizo, H. Lisei, **C.C. Cormos**, *Model of Heat Transfer in Circulating Fluidized Beds Applied for CO₂ Capture by Calcium-looping Process*, 13th International Conference on Heat Transfer, Fluid Mechanics and Thermodynamics - HEFAT2017, Portoroz, Slovenia, 17-19 July 2017
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38. **C.C. Cormos**, C. Dinca, L. Petrescu, A.M. Cormos, *Carbon capture and utilisation technologies applied to energy conversion systems and other energy-intensive applications*, 8th Clean Coal Technologies conference - CCT2017, 8 - 12 May 2017, Cagliari, Sardinia, Italy
39. L. Petrescu, **C.C. Cormos**, *Environmental assessment of IGCC power plants with pre-combustion CO₂ capture by chemical & calcium looping methods*, Journal of Cleaner Production, 158, 2017, 233-244
40. S. Fogarasi, **C.C. Cormos**, *Assessment of coal and sawdust co-firing power generation under oxy-combustion conditions with carbon capture and storage*, Journal of Cleaner Production, 142, 2017, 3527-3535
41. **C.C. Cormos**, *Chemical Looping with Oxygen Uncoupling (CLOU) concepts for high energy efficient power generation with near total fuel decarbonisation*, Applied Thermal Engineering, 112, 2017, 924-931
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47. **C.C. Cormos**, *Evaluation of reactive absorption and adsorption systems for post-combustion CO₂ capture applied to iron and steel industry*, Applied Thermal Engineering, 105, 2016, 56-64
48. **C.C. Cormos**, *Oxy-combustion of coal, lignite and biomass: A techno-economic analysis for a large scale Carbon Capture and Storage (CCS) project in Romania*, Fuel, 169, 2016, 50-57
49. L. Petrescu, **C.C. Cormos**, *Waste reduction (WAR) algorithm applied for environmental impact assessment of coal gasification with carbon capture and storage*, Journal of Cleaner Production, 104, 2015, 220-235
50. S. Fogarasi, **C.C. Cormos**, *Technico-economic assessment of coal and sawdust co-firing power generation with CO₂ capture*, Journal of Cleaner Production, 103, 2015, 140-148
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52. Z. Tasnadi-Asztalos, **C.C. Cormos**, P.S. Agachi, *Hydrogen-based power generation from bioethanol steam reforming*, 10th International Conference Processes in Isotopes and Molecules, Cluj-Napoca, Romania, 23 - 25 September 2015

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54. L. Petrescu, C.R. Müller, **C.C. Cormos**, *Life Cycle Assessment (LCA) of Integrated Gasification Combined Cycle plants with pre-combustion CO₂ capture by chemical & calcium looping*, 6th High Temperature Solid Looping Cycles Network Meeting, Milan, Italy, 1 - 2 September 2015
55. S. Fogarasi, **C.C. Cormos**, *Clean Power Generation Based on Coal and Sawdust co-firing with Carbon Capture and Storage (CCS)*, 19th Romanian International Conference on Chemistry and Chemical Engineering, Sibiu, Romania, 2 - 5 September 2015
56. **C.C. Cormos**, A.M. Cormos, *Assessment of CO₂ capture by calcium looping from Natural Gas Combined Cycle (NGCC) power plants*, 18th Conference on Process Integration, Modelling and Optimisation for Energy Saving and Pollution Reduction - PRES 2015, Kuching, Sarawak, Malaysia, 23 - 27 August 2015
57. **C.C. Cormos**, *Post-combustion CO₂ capture technologies*, International Sulcis CCS Summer School, 13 - 17 July 2015
58. **C.C. Cormos**, A.M. Cormos, P.S. Agachi, *Evaluation of energy integration aspects for advanced chemical looping systems applied for energy vectors poly-generation*, Computer Aided Chemical Engineering, 37, 2015, 2237-2242
59. **C.C. Cormos**, *Assessment of energy vectors poly-generation concepts based on solid fuel direct chemical looping systems*, 7th Clean Coal Technologies Conference - CCT 2015, Krakow, Poland, 17-21 May 2015
60. **C.C. Cormos**, *Biomass direct chemical looping for hydrogen and power co-production: Process configuration, simulation, thermal integration and techno-economic assessment*, Fuel Processing Technology, 137, 2015, 16 - 23
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4. Research projects

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