

a) lista celor maximum 10 lucrări considerate de candidat a fi cele mai relevante pentru realizările profesionale proprii;

1. V.C. Sandu, A.D. Selejan, C.C. Cormos, A. Pop, A.M. Cormos, High-temperature dolomite decomposition: An integrated experimental and computational fluid dynamics analysis for calcium looping and industrial applications, *Applied Thermal Engineering*, 253 (2024) 123742. [Q1]
2. V.C. Sandu, C.C. Cormos, A.M. Cormos, Multiscale CFD modelling of syngas-based chemical looping combustion in a packed bed reactor with dynamic gas switching technology, *Journal of Environmental Chemical Engineering*, 11 (2023) 111381. [Q1]
3. V.C. Sandu, A.M. Cormos, I.D. Dumbrava, A. Imre-Lucaci, R. de Boer, J. Boon, S.N. Sluijter, Assessment of CO<sub>2</sub> capture efficiency in packed bed versus 3D-printed monolith reactors for SEWGS using CFD modelling, *International Journal of Greenhouse Gas Control*, 111 (2021) 103447. [Q1]
4. V.C. Sandu, C.C. Cormos, A.M. Cormos, CFD simulation of syngas chemical looping combustion with randomly packed ilmenite oxygen carrier particles, *Clean Technologies and Environmental Policy*, 26 (2024) 129–147. [Q2]
5. V.C. Sandu, C.C. Cormos, A.M. Cormos, Green hydrogen production via chemical looping: fuel reactor modeling with iron-based oxygen carriers, *Clean Technologies and Environmental Policy*, 27 (2025) 8193–8207. [Q2]
6. V.C. Sandu, A.C. Bozonc, A.M. Cormos, S.M. Nazir, P. Cobden, CFD particle model and optimization of the reaction of sulfidic pellets with hydrogen, *Studia Universitatis Babeş-Bolyai Chemia*, 71 (2026) 1. [Q4]
7. V.C. Sandu, A.M. Cormos, C.C. Cormos, Fuel reactor CFD multiscale modelling in syngas-based chemical looping combustion with ilmenite, *Energies*, 14 (2021) 6059. [Q3]
8. A.C. Bozonc, V.C. Sandu, C.C. Cormos, A.M. Cormos, Multiscale 3D CFD Modeling of CO<sub>2</sub> Methanation over Ni/Al<sub>2</sub>O<sub>3</sub> in a Lab-Scale Sabatier Fixed-Bed Reactor, *Fuels*, 6 (2025) 79. [Q2]
9. A.D. Selejan-Ciubancan, V.C. Sandu, A.M. Cormos, L. Petrescu, C.C. Cormos, Energy, Economic, and Environmental (3E) Analysis of Green Hydrogen Production Based on Biogas Steam Reforming, *Industrial & Engineering Chemistry Research*, 65 (2026) 5547–5562. [Q2]
10. S.N. Sluijter, J. Boon, J. James, S. Krishnamurthy, A. Lind, K.A. Andreassen, R. Blom, A.M. Cormos, V.C. Sandu, R. de Boer, 3D-printing of adsorbents for increased productivity in carbon capture applications (3D-CAPS), *International Journal of Greenhouse Gas Control*, 112 (2021) 103512. [Q1]

b) teza sau tezele de doctorat;

1. Teză de doctorat în domeniul ingineriei chimice cu titlul în limba română, respectiv limba engleză: “Aplicații de modelare matematică pentru sistemele termo-chimice gaz-solid de conversie a energiei cu captarea dioxidului de carbon”, “Modelling approaches for thermo-chemical gas-solid systems applied to energy conversion processes with carbon dioxide capture”.

c) brevete de invenție și alte titluri de proprietate industrială;

Nu este cazul.

d) cărți și capitole în cărți;

Nu este cazul.

e) articole/studii, publicate în reviste din fluxul științific internațional principal;

1. A.D. Selejan-Ciubancan, V.C. Sandu, A.M. Cormos, L. Petrescu, C.C. Cormos, Energy, Economic, and Environmental (3E) Analysis of Green Hydrogen Production Based on Biogas Steam Reforming, *Industrial & Engineering Chemistry Research*, 65 (2026) 5547–5562. [Q2]
2. V.C. Sandu, A.C. Bozonc, A.M. Cormos, S.M. Nazir, P. Cobden, CFD particle model and optimization of the reaction of sulfidic pellets with hydrogen, *Studia Universitatis Babeş-Bolyai Chemia*, 71 (2026) 1. [Q4]
3. A.C. Bozonc, V.C. Sandu, A.M. Buzila, A.M. Cormos, Multiscale 3D CFD Modeling of CO<sub>2</sub> Methanation over Ni/Al<sub>2</sub>O<sub>3</sub> in a Lab-Scale Sabatier Fixed-Bed Reactor, *Fuels*, 6 (2025) 79. [Q2]
4. A.C. Bozonc, V.C. Sandu, S. Dragan, A.M. Cormos, Mathematical modeling of interconnected absorber-desorber hollow-fiber membrane contactors for CO<sub>2</sub> capture using MEA solution, *Clean Technologies and Environmental Policy*, 27 (2025) 8249–8265. [Q2]
5. V.C. Sandu, C.C. Cormos, A.M. Cormos, Green hydrogen production via chemical looping: fuel reactor modeling with iron-based oxygen carriers, *Clean Technologies and Environmental Policy*, 27 (2025) 8193–8207. [Q2]
6. V.C. Sandu, A.D. Selejan, C.C. Cormos, A. Pop, A.M. Cormos, High-temperature dolomite decomposition: An integrated experimental and computational fluid dynamics analysis for calcium looping and industrial applications, *Applied Thermal Engineering*, 253 (2024) 123742. [Q1]
7. A.C. Bozonc, V.C. Sandu, C.C. Cormos, A.M. Cormos, 3D-CFD Modeling of Hollow-Fiber Membrane Contactor for CO<sub>2</sub> Absorption Using MEA Solution, *Membranes*, 14 (2024) 86. [Q2]

8. F.M. Ilea, A.M. Cormos, S. Dragan, V.C. Sandu, C.C. Cormos, Performance of industrially implemented turbulent contact absorbers – A comparative study, *Chemical Engineering Research & Design*, 203 (2024) 346–356. [Q2]
9. V.C. Sandu, C.C. Cormos, A.M. Cormos, CFD simulation of syngas chemical looping combustion with randomly packed ilmenite oxygen carrier particles, *Clean Technologies and Environmental Policy*, 26 (2024) 129–147. [Q2]
10. V.C. Sandu, C.C. Cormos, A.M. Cormos, Multiscale CFD modelling of syngas-based chemical looping combustion in a packed bed reactor with dynamic gas switching technology, *Journal of Environmental Chemical Engineering*, 11 (2023) 111381. [Q1]
11. S.C. Galusnyak, L. Petrescu, V.C. Sandu, C.C. Cormos, Environmental impact assessment of green ammonia coupled with urea and ammonium nitrate production, *Journal of Environmental Management*, 343 (2023) 118215. [Q1]
12. S.N. Sluijter, J. Boon, J. James, S. Krishnamurthy, A. Lind, K.A. Andreassen, R. Blom, A.M. Cormos, V.C. Sandu, R. de Boer, 3D-printing of adsorbents for increased productivity in carbon capture applications (3D-CAPS), *International Journal of Greenhouse Gas Control*, 112 (2021) 103512. [Q1]
13. V.C. Sandu, A.M. Cormos, C.C. Cormos, Fuel reactor CFD multiscale modelling in syngas-based chemical looping combustion with ilmenite, *Energies*, 14 (2021) 6059. [Q3]
14. V.C. Sandu, A.M. Cormos, I.D. Dumbrava, A. Imre-Lucaci, C.C. Cormos, R. de Boer, J. Boon, S.N. Sluijter, Assessment of CO<sub>2</sub> capture efficiency in packed bed versus 3D-printed monolith reactors for SEWGS using CFD modelling, *International Journal of Greenhouse Gas Control*, 111 (2021) 103447. [Q1]
15. 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. [Q1]
16. A.M. Cormos, S. Dragan, L. Petrescu, V.C. Sandu, C.C. Cormos, Techno-Economic and Environmental Evaluations of Decarbonized Fossil-Intensive Industrial Processes by Reactive Absorption & Adsorption CO<sub>2</sub> Capture Systems, *Energies*, 13 (2020) 1268. [Q3]
17. 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) 205–217. [Q4]
18. A.C. Soit, I.D. Dumbrava, V.C. Sandu, A.M. Cormos, Modelling and Simulation of Water Gas Shift Reactor Using COMSOL Multiphysics, *Studia Universitatis Babeş-Bolyai Chemia*, 64 (2019) 19–29. [Q4]

19. V.C. Sandu, A.M. Cormos, C.C. 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. [Q4]

f) publicații in extenso, apărute în lucrări ale principalelor conferințe internaționale de specialitate;

1. A.D. Selejan, V.C. Sandu, A.M. Cormos, S. Dragan, C.C. Cormos, CFD Analysis of a Packed Bed Reactor for Green Hydrogen Production by Biogas Reforming, *Chemical Engineering Transactions*, 103 (2023) 337–342.
2. S.N. Sluijter, J. Boon, J. James, S. Krishnamurthy, A. Lind, K.A. Andreassen, R. Blom, A.M. Cormos, V.C. Sandu, R. de Boer, 3D-Printing of adsorbents for increased productivity in carbon capture applications (3D-CAPS), *Proceedings of the 15th Greenhouse Gas Control Technologies Conference (GHGT-15)*, 2021.
3. C.C. Cormos, S. Dragan, A.M. Cormos, L. Petrescu, I.D. Dumbrava, V.C. Sandu, Evaluation of calcium looping cycle as a time-flexible CO<sub>2</sub> capture and thermo-chemical energy storage system, *Chemical Engineering Transactions*, 88 (2021) 19–24.
4. C.C. Cormos, S. Dragan, A.M. Cormos, L. Petrescu, V.C. Sandu, I.D. Dumbrava, Application of Carbonate Looping Cycle as an Energy-efficient Decarbonization Process of Key Fossil-intensive Industrial Applications, 2021 10th International Conference on ENERGY and ENVIRONMENT (CIEM), 2021, 1–5.
5. V.C. Sandu, C.C. Cormos, A.M. Cormos, Dynamic Simulation of Chemical Looping Combustion in Packed Bed Reactors, *Computer Aided Chemical Engineering*, 48 (2020) 601–606.
6. V.C. Sandu, I.D. Dumbrava, A.M. Cormos, A. Imre-Lucaci, C.C. Cormos, P. Cobden, R. de Boer, Computational Fluid Dynamics of Rectangular Monolith Reactor vs. Packed-Bed Column for Sorption-Enhanced Water-Gas Shift, *Computer Aided Chemical Engineering*, 46 (2019) 751–756.
7. A.M. Cormos, S. Dragan, L. Petrescu, D.A. Chisalita, S. Szima, V.C. Sandu, C.C. Cormos, Reducing Carbon Footprint of Energy-Intensive Applications by CO<sub>2</sub> Capture Technologies: An Integrated Technical and Environmental Assessment, *Chemical Engineering Transactions*, 76 (2019) 1033–1038.

g) alte lucrări și contribuții științifice sau, după caz, din domeniul creației artistice.

Nu este cazul.