

Universitatea Națională de Știință și Tehnologie POLITEHNICA București

Facultatea: de **Inginerie Chimică și Biotehnologii**

Departamentul: de **Chimie Anorganică, Chimie Fizică și Electrochimie**

Nume Prenume: **Secuianu Catinca**

Gradul didactic: **Profesor universitar abilitat**

L I S T A

lucrărilor științifice în domeniul disciplinelor din postul didactic

A. Teza de abilitare

Phase equilibria and thermophysical properties at ambient and high-pressures, Secuianu, C., Universitatea Politehnica din București, 2016.

B. Teza de doctorat

Echilibre între faze la presiuni ridicate în sisteme binare dioxid de carbon + alcooli monohidroxilici, Secuianu, C., Universitatea Politehnica din București, 2004.

C. Cărți și capitole în cărți publicate în ultimii 10 ani

1. Secuianu, C. (Editor), 29th European Symposium on Applied Thermodynamics ESAT 2017 Book of Abstracts, Ed. Politehnica Press, **2017** (323 pages), ISBN 978-606-515-768-2.
2. Secuianu, C., Sima, S., “*Phase Equilibria for Carbon Capture & Storage*” in *Carbon Capture*, S.A. R. Khan (Editor), Ed. IntechOpen Ltd, **2020**, ISBN 978-1-78985-853-2.

D. Lucrări indexate ISI/BDI publicate în ultimii 10 ani

1. Sima, S., Cruz-Doblas, J., Cismondi Duarte, M., **Secuianu, C.***, “High-pressure phase equilibrium calculations for carbon dioxide + cyclopentane binary system”, *Cent. Eur. J. Chem.*, **12 (9)**, 918 – 927, **2014**
2. Crișciu, A., **Secuianu, C.***, Feroiu, V.*, “Densities and Refractive Indices of 1-Hexanol + n-Pentadecane Binary System at Temperatures from (293.15 to 323.15) K”, *Rev. Chim.-Bucharest* **65 (1)**, 76 – 79, **2014**.
3. Sima, S., Crișciu, A., Feroiu, V.*, **Secuianu, C.***, “Application of refractive index mixing rules in binary systems containing n-octane, 2-hexanol or 2-octanol at 298.15 K”, *Rev. Chim.-Bucharest* **65 (2)**, 202 – 205, **2014**.
4. Sima, S., Ioniță, S., **Secuianu, C.***, Feroiu, V., Geană, D., “Fluid Phase Equilibria Modelling for Carbon Dioxide +Methanol System with Cubic Equations of State”, *Rev. Chim.-Bucharest* **65 (3)**, 272 – 279, **2014**.
5. Moga, S.A., Goga, N., Baoukina, S., **Secuianu, C.**, Hadăr, A., “Simulations on DPD Thermostat and Standard MD for Different Systems”, *Mater. Plast.* **51 (3)**, 340 – 342, **2014**.

6. Sima, S., **Secuianu, C.***, Feroiu, V.*, Geană, D., “New high-pressure vapor-liquid equilibrium data for the carbon dioxide + 2-methyl-2-propanol binary system”, *Cent. Eur. J. Chem.* **12** (9), 893 – 900, **2014**.
7. Sima, S., **Secuianu, C.***, Feroiu, V.*, Geană, D., “New high-pressure vapor-liquid equilibrium data for the carbon dioxide + 2-methyl-1-propanol (isobutanol) binary system”, *Cent. Eur. J. Chem.* **12** (9), 953 – 961, **2014**.
8. Sima, S., **Secuianu, C.***, Feroiu, V.*, Geană, D., “Phase equilibrium experiments and modeling for the carbon dioxide + ethanol system at high pressures”, *Bull. Rom. Chem. Eng. Soc.* **1** (1), 130 – 138, **2014**.
9. Ioniță, S., **Secuianu, C.***, Feroiu, V., Geană, D., “Validation of a new apparatus for determining high-pressure phase equilibrium of mixtures”, *U.P.B. Sci. Bull., Series B*, **77** (1), 31 – 40, **2015**.
10. Crișciu, A., Sima, S., Deaconu, A.-S., Chirilă, A., Deaconu, D., **Secuianu, C.***, Feroiu, V., “Modelling of the carbon dioxide + cyclohexane binary system with cubic equations of state”, *Rev. Chim.-Bucharest* **67** (10), 1984 – 1989, **2016**.
11. Sima, S., Milanese, J.M., Ramello, J.I., Cismondi, M., **Secuianu, C.***, Feroiu, V., Geană, D., “The effect of the naphthenic ring on the VLE of (carbon dioxide plus alkane) mixtures”, *J. Chem. Thermodyn.* **93**, 374 – 385, **2016**.
12. **Secuianu, C.***, Ioniță, S., Feroiu, V., Geană, D., High pressure phase equilibria of (carbon dioxide+1-undecanol) system and their potential role in carbon capture and storage, *J. Chem. Thermodyn.* **93**, 360 – 373, **2016**.
13. **Secuianu, C.***, Feroiu, V., Geană, D., “Phase behavior of the carbon dioxide + 1-dodecanol system at high pressures”, *Fluid Phase Equilib.* **428**, 62 – 75, **2016**.
14. Sima, S., Racoviță, R.C., Dincă, C., Feroiu, V., **Secuianu, C.***, Phase equilibria calculations for carbon dioxide + 2-propanol system”, *University Politehnica of Bucharest Scientific Bulletin Series B-Chemistry and Materials Science* **79** (4), 11 – 24, **2017**.
15. Racoviță, R.C., Sima, S., **Secuianu, C.***, Feroiu, V., “Phase behavior predictions for carbon dioxide + isopropanol binary system with a cubic equation of state”, *Bull. Rom. Chem. Eng. Soc.* **4** (2), 2 – 13, **2017**.
16. Sima, S., **Secuianu, C.***, Feroiu, V., “Phase equilibria of CO₂+ 1,2-dimethoxyethane at high-pressure”, *Fluid Phase Equilib.* **458**, 47 – 57, **2018**, DOI 10.1016/j.fluid.2017.11.008, WOS:000423003900006.
17. Sima, S., Ioniță, S., **Secuianu, C.***, Feroiu, V., Geană, D., “High-Pressure Phase Equilibria of Carbon Dioxide + 1-Octanol Binary System”, *J. Chem. Eng. Data* **63**(4), 1109 – 1122, **2018**, DOI 10.1021/acs.jced.7b00865, WOS:000430256400027.
18. Sima, S., Racoviță, R.C., Chirilă, A., Deaconu, D., Feroiu, V., **Secuianu, C.***, “Phase behavior calculations for the carbon dioxide + 1,2-dimethoxyethane binary system with a cubic equation of state”, *Studia UBB Chemia* **64** (3), 129 – 142, **2019**, DOI:10.24193/Subbchem.2019.3.11, WOS:000489744800012.
19. Sima, S., **Secuianu, C.***, Feroiu, V., Ioniță, S., Geană, D., “High-pressure phase equilibria of carbon dioxide+2-octanol binary system”, *Fluid Phase Equilib.* **510**, 112487, 1 – 10, **2020**, DOI 10.1016/j.fluid.2020.112487, WOS:000517657400007.
20. Racoviță, R.C., Crișciu, A.V.; Sima, S., **Secuianu, C.***, “A convenient hybrid method for obtaining liquid–liquid equilibrium data in ternary systems”, *J. Chem. Eng. Data* **65** (7), 3384 – 3392, **2020**, DOI 10.1021/acs.jced.0c00195, WOS:000550745200013.

21. Racoviță, R.C., **Secuianu, C.***, Ciuca, M.D., Israel-Roming, F., "Effects of Smoking Temperature, Smoking Time, and Type of Wood Sawdust on Polycyclic Aromatic Hydrocarbon Accumulation Levels in Directly Smoked Pork Sausages", *J. Agr. Food Chem.* **68 (35)**, 9530 – 9536, **2020**, DOI 10.1021/acs.jafc.0c04116, WOS:000569284100024.
22. Nichita, D.V.*, **Secuianu, C.***, "An Improved Reduction Method for Phase Stability Testing in the Single-Phase Region", *Open Chem.* **18(1)**, 1316-1322, **2020**, DOI 10.1515/chem-2020-0173, WOS:000600346000001.
23. Racoviță, R.C., **Secuianu, C.***, Israel-Roming, F., "Quantification and Risk Assessment of Carcinogenic Polycyclic Aromatic Hydrocarbons in Retail Smoked Fish and Smoked Cheeses", *Food Control* **121**, 107586, 1 – 9, **2021**, DOI 10.1016/j.foodcount.2020.107586, WOS:000600399600002.
24. Ioniță, M., Crișciu, A.V., Racoviță, R.C., Sima, S., **Secuianu, C.***, "Phase diagram predictions for CO₂ + different classes of organic substances at high-pressures", *University Politehnica of Bucharest Scientific Bulletin Series B-Chemistry and Materials Science*, **83 (2)**, 117 – 132, **2021**, WOS:000661663200012.
25. Sima, S., **Secuianu, C.***, "The effect of functional groups on the phase behavior of carbon dioxide binaries and their role in CCS", *Molecules*, **26 (12)**, 3733, 1 – 14, **2021**, DOI 10.3390/molecules26123733, WOS:000667004900001.
26. Ioniță, M., Sima, S., Cismondi, M., **Secuianu, C.***, "Phase equilibria for the carbon dioxide + cyclopentane + cyclohexane system at high pressures", *Rev. Roum. Chim.*, **66 (3)**, 303 – 308, **2021**, DOI: 10.33224/rrech.2021.66.3.11, WOS:000697349100013.
27. Sima, S., Cismondi, M., **Secuianu, C.***, "High-pressure phase equilibrium for carbon dioxide + ethyl *n*-butyrate binary system", *J. Chem Eng. Data*, **66 (11)**, 4094 – 4102, **2021**, <https://doi.org/10.1021/acs.jced.1c00319>, WOS:000718381300010.
28. Sima, S., **Secuianu, C.***, Nichita, D.V., "High-pressure phase equilibria of carbon dioxide + 1,4-dioxane binary system", *Fluid Phase Equilib.*, **547**, 113181, **2021**, DOI 10.1016/j.fluid.2021.113181, WOS:000696201300009.
29. Sima, S., Crișciu, A.V., **Secuianu, C.***, "Phase Behavior of Carbon Dioxide plus Isobutanol and Carbon Dioxide plus tert-Butanol Binary Systems", *Energies*, **15 (7)**, Article number 2625, **2022**, DOI: 10.3390/en15072625, WOS:000781363700001.
30. Ioniță, M., Sima, S.*, Crișciu, A.V., **Secuianu, C.***, Nichita, D.V.*, "Phase behavior of carbon dioxide + 2,4-dimethylpentane binary system at high pressures", *J. Supercrit. Fluids*, **199**, Article number 105941, **2023**, <https://doi.org/10.1016/j.supflu.2023.105941>, WOS:000988971300001.
31. Lupu, C., Secuianu, C., Lich, L.D., Consideration on RT software implementation for algorithm switching in MM structures, *27th International Conference on System Theory, Control and Computing, ICSTCC 2023 - Proceedings*, 2023, pp. 198–202, DOI: 10.1109/ICSTCC59206.2023.10308444
32. Dohrn, R., Peper, S., Secuianu, C., Fonseca, J.M.S., "High-pressure fluid-phase equilibria: Experimental methods, developments and systems investigated (2013–2016)", *Fluid Phase Equilib.*, **579**, 113978, **2024**, DOI: 10.1016/j.fluid.2023.113978.
33. **Secuianu, C.***, Jaubert, J.-N., Iovu, H., Editor's preface for the special issue "Romanian International Conference on Chemistry and Chemical Engineering", *Cent. Eur. J. Chem.* **12 (9)**, 953 – 961, **2014**.

34. **Secuianu, C.***, 19th Romanian International Conference on Chemistry and Chemical Engineering – RICCCE 19, Sibiu, Romania, *Bull. Soc. Chem. Rom.* 22 (3), 47 – 49, **2015**.
35. **Secuianu, C.***, 19th Romanian International Conference on Chemistry and Chemical Engineering (RICCCE 19), *Chem. Eng. Comm.* 203 (12), 1539 – 1539, **2016**.
36. Ferreira, L. A., Rodriguez, O., **Secuianu, C.***, Zabaloy, M. S., “Preface to the Maria Eugenia Macedo Special Issue”, *J. Chem. Eng. Data* **69** (10), 3241-3243, **2024**, DOI: 10.1021/acs.jced.4c00479, WOS:001336986700001.
37. Sima, S., **Secuianu, C.***, Nichita, D.V., “Fluid-Phase Equilibrium Experiments and Modeling for CO₂ + C₆ Binary Systems”, *J. Chem. Eng. Data*, **69** (10), 3555-3565, **2024**, DOI 10.1021/acs.jced.4c00422, WOS:001324814100001.
38. Crişciuc, A.V., Sima, S., Secuianu, C., “The influence of pure compounds' parameters on the phase behaviour of carbon dioxide+1-hexanol binary system”, *Fluid Phase Equilib.*, **589**, 11428, **2025**, DOI: 10.1016/j.fluid.2024.114281, WOS:001358493600001.
39. Heringer, J., Wapperom, M., Secuianu, C., Voskov, D., Nichita, D. V., “A robust and efficient augmented free-water flash method for CO₂-water-hydrocarbon mixtures”, *Fluid Phase Equilib.*, 594, 114378, **2025**, DOI: 10.1016/j.fluid.2025.114378, WOS:001429327600001.

E. Lucrări publicate în ultimii 10 anii în reviste și volume de conferințe cu referenți (neindexate)

1. Ioniță, S., Dincă, C., **Secuianu, C.**, Feroiu, V., Geană, D., “High-pressures phase equilibrium of carbon dioxide + 1-undecanol binary mixtures”, *27th European Symposium on Applied Thermodynamics – ESAT 2014: “Experiments meet Theory and Simulation”*, 6-9 July **2014**, Eindhoven - The Netherlands (poster).
2. Milanese, J.M., Sima, S., Cruz-Doblas, J., Cismondi, M., **Secuianu, C.**, “Effect of cyclic and branched isomers on the VLE of CO₂ + alkane mixtures”, *27th European Symposium on Applied Thermodynamics – ESAT 2014: “Experiments meet Theory and Simulation”*, 6-9 July **2014**, Eindhoven - The Netherlands (oral presentation).
3. **Moga, S.A.**, Goga, N., **Secuianu, C.**, Hadăr, A., “A proposal for Young’ modulus calculation using molecular dynamics simulation in GROMACS”, *Conference Proceedings of the Academy of Romanian Scientists Productica Scientific Sessions*, 9th May **2014**, Vol. 6 (1), pp. 51 - 58, ISSN 2067-2160 (oral presentation).
4. Sima, S., **Secuianu, C.**, Feroiu, V., Geană, D., “Phase equilibria of CO₂ + cycloalkanes + alcohols mixtures at high-pressures”, *28th European Symposium on Applied Thermodynamics – ESAT 2015: “Everything flows”*, June 11-14, 2015, Athens, Greece (poster).
5. Sima, S., **Secuianu, C.**, Feroiu, V., Geană, D., “Phase equilibria of carbon dioxide + n-heptane binary system”, *28th European Symposium on Applied Thermodynamics – ESAT 2015: “Everything flows”*, June 11-14, 2015, Athens, Greece (poster).
6. Ioniță, S., **Secuianu, C.**, Feroiu, V., Geană, D., “Phase equilibria of carbon dioxide + 1-octanol binary system”, *28th European Symposium on Applied Thermodynamics (ESAT 2015): “Everything flows”*, June 11-14, 2015, Athens, Greece (poster).
7. Sima, S., Homescu, B., Radu, M.A., Crişciuc, A., **Secuianu, C.**, Viorel Feroiu, V., “Physico-Chemical Properties of Essential and Food Oils”, *19th Romanian International Conference on Chemistry & Chemical Engineering – RICCCE 19*, Sibiu, Romania, September 2-5, 2015 (poster).

8. Sima, S., Toma, R., Crişciuc, A., **Secuianu, C.**, “The Relationship Between Some Physicochemical Parameters and Quality of Fish”, *19th Romanian International Conference on Chemistry & Chemical Engineering – RICCCCE 19*, Sibiu, Romania, September 2-5, 2015 (poster).
9. Sima, S., **Secuianu, C.**, Feroiu, V., Geană, D., “Critical Behaviour of CO₂ + Cyclopentane Binary Mixture”, *19th Romanian International Conference on Chemistry & Chemical Engineering – RICCCCE 19*, Sibiu, Romania, September 2-5, 2015 (poster).
10. Sima, S., Crişciuc, A., **Secuianu, C.***, Feroiu, V., Geană, D., “Phase Equilibria of Butanol Isomers in Supercritical Carbon Dioxide”, *14th International Conference on Properties and Phase Equilibria for Product and Process Design – PPEPPD 2016*, May 22-26, Porto, Portugal (poster).
11. **Secuianu, C.**, “High pressures phase equilibrium in systems containing supercritical carbon dioxide”, *International Conference on Supercritical Fluid Technologies And Applications “Supercritical fluids –the current state and outlook”*, 20-21 October 2016, Pulawy, Poland, **invited speaker** (oral presentation).
12. Sima, S., Rizea, G., **Secuianu, C.**, Feroiu, V., “Phase equilibria of CO₂ + 1,2-dimethoxyethane at high-pressures”, in *29th European Symposium on Applied Thermodynamics – ESAT 2017*, 18-21 May, 2017, Bucharest, Romania, Book of abstracts p. 32, ISBN: 978-606-515-768-2 (oral presentation).
13. Popescu-Săruleşteanu, V., Sima, S., Rizea, G., **Secuianu, C.**, “Phase behaviour for binary systems of CO₂ + naphthenes at high pressures”, *20th Romanian International Conference on Chemistry and Chemical Engineering – RICCCCE 20*, September 6-9, 2017, Poiana Brasov, Romania (poster).
14. Sima, S., Crişciuc, A., Ciocîrlan, O., Dincă, C., **Secuianu, C.**, Feroiu, V., “phase behaviour for binary systems containing CO₂ at high pressures of interest for carbon capture and storage”, *20th Romanian International Conference on Chemistry and Chemical Engineering – RICCCCE 20*, September 6-9, 2017, Poiana Brasov, Romania, poster.
15. Sima, S., Racoviţă, R.C., **Secuianu, C.**, Feroiu, V., “High-pressure phase equilibrium in the carbon dioxide + 1,4-dioxane system”, *30th ESAT 2018 – European Symposium on Applied Thermodynamics*, Prague, Czech Republic, June 10-13, 2018 (poster).
16. Racoviţă, R.C., Crişciuc, A.V., Ciucă, M.D., Popa, I.A., Vărzaru, A.C., Sima, S., **Secuianu, C.**, “Experimental studies of several type 1 liquid-liquid ternary systems”, *21st Romanian International Conference on Chemistry & Chemical Engineering – RICCCCE 21*, 4-7 September, 2019, Mamaia-Constanţa, Romania (oral presentation).
17. Sima, S., Ionită, M., Racoviţă, R.C., Feroiu, V., **Secuianu, C.**, “Phase equilibria and densities of carbon dioxide + 1-hexanol”, *21st Romanian International Conference on Chemistry & Chemical Engineering – RICCCCE 21*, 4-7 September, 2019, Mamaia-Constanţa, Romania (oral presentation).
18. Sima, S., Vărzaru, A.C., Racoviţă, R.C., Feroiu, V., **Secuianu, C.**, “Phase equilibria in systems of CO₂ and esters”, *21st Romanian International Conference on Chemistry & Chemical Engineering – RICCCCE 21*, 4-7 September, 2019, Mamaia-Constanţa, Romania (oral presentation).
19. Sima, S., Racoviţă, R.C., Dincă, C., Feroiu, V., **Secuianu, C.***, “Alternative Green Solvents for CO₂ Capture: Experiments and Modeling”, *21st Romanian International Conference on*

Chemistry & Chemical Engineering – RICCCE 21, 4-7 September, 2019, Mamaia-Constanta, Romania (keynote).

20. **Trusler, J.P.M.***, Cadogan, S.P., Maitland, G.C., Secuianu, C., “Measurement and modelling of mass diffusion coefficients for application in carbon dioxide storage and enhanced oil recovery”, *Diffusion Fundamentals VIII – Diffusion Phenomena Moving People*, September 1st to 5th, 2019 in Erlangen, Germany (lecture).
21. **Secuianu, C.**, “Alternative green solvents for CO₂ capture: experimental study and modelling with advanced equations of state”, *PE colloquium (invited talk)*, TU Delft, Delft, The Netherlands, May 17, 2019 (<https://www.tudelft.nl/en/events/2019/43682/april/pe-colloquium-by-catinca-secuianu-may-17/>).
22. **Ioniță, M.**, Sima, S., Secuianu, C.*, “Phase equilibria of CO₂ + organic compounds and their potential role in CCS”, 5th International Conference on Chemical Engineering. *Innovative Materials and Processes for a Sustainable Development – ICCE 2020*, “Gheorghe Asachi” Technical University of Iasi, Iasi, Romania, October 28-30, 2020 (oral communication, virtual conference).
23. Sima, S., Ioniță, M., **Secuianu, C.**, “Phase Equilibria of carbon dioxide + 2,4-dimethylpentane”, ESAT 2021 – 31st European Symposium on Applied Thermodynamics France -100% Virtual - 5-9 July 2021 (poster, virtual conference).
24. Sima, S., Ioniță, M., **Secuianu, C.**, “Phase equilibria in systems of interest for CCS”, ESAT 2021 – 31st European Symposium on Applied Thermodynamics France -100% Virtual - 5-9 July 2021 (poster, virtual conference).
25. Sima, S., Ioniță, M., Crișciuc, A., **Secuianu, C.***, Nichita, D.V., “High-pressure phase equilibrium for carbon dioxide + branched alkanes”, 32nd European Symposium on Applied Thermodynamics – ESAT 2022, 17-20 July 2022, TU Graz, Graz, Austria (oral communication).
26. Sima, S., Crișciuc, A., **Secuianu, C.***, “Clathrate hydrates – what we have learnt?”, 22nd Romanian International Conference on Chemistry and Chemical Engineering – RICCCE 22, September 7 – 9, 2022, Sinaia, Romania (keynote lecture).
27. **Sima, S.**, Ioniță, M., Crișciuc, A., Secuianu, C.*, “Experimental methods for investigating phase equilibria of clathrate hydrates”, 22nd Romanian International Conference on Chemistry and Chemical Engineering – RICCCE 22, September 7 – 9, 2022, Sinaia, Romania (oral communication).
28. **Crișciuc, A.**, Ioniță, M., Sima, S., Secuianu, C.*, “Modelling phase equilibria of clathrate hydrates”, 22nd Romanian International Conference on Chemistry and Chemical Engineering – RICCCE 22, September 7 – 9, 2022, Sinaia, Romania (oral communication).
29. Sima, S., Crișciuc, A.V., **Secuianu, C.***, “Phase equilibria of carbon dioxide and methylcyclopentane”, PPEPPD 2023 – International Conference On Properties And Phase Equilibria For Product And Process Design, La Pineda, Costa Dorada, Tarragona, Spain, May 21-25, 2023 (poster).
30. **Dohrn, R.**, Peper, S., **Secuianu, C.**, Fonseca, J.M.S., “High-Pressure Phase Equilibria: Experimental Methods, Trends and Systems Investigated”, PPEPPD 2023 – International Conference On Properties And Phase Equilibria For Product And Process Design, La Pineda, Costa Dorada, Tarragona, Spain, May 21-25, 2023 (oral communication).
31. **Secuianu, C.**, “High-pressure phase equilibria in systems of interest for CCUS”, University of Silesia in Katowice, June 22, 2023 (invited talk).

32. Sima, S., Ilie E.G., Crişciu, A.V., **Secuianu, C.**, “*High-pressures phase equilibria in carbon dioxide + branched alkanes binary systems*”, EMSF 2024 – European Meeting on Supercritical Fluids, 26-29 May 2024, Maribor, Slovenia (oral communication).
33. **Secuianu, C.**, Sima, S., Crişciu, A.V., Ilie E.G., “*25 Years of high-pressures phase equilibria at LATTP*”, ESAT 2024 - 33rd European Symposium on Applied Thermodynamics, 9-12 June 2024, Edinburgh, UK (oral communication).