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Facultatea: de Chimie

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L I S T A LUCRĂRILOR ȘTIINȚIFICE

A. Teza de doctorat

A.1 “Atmospheric Degradation Mechanism of Organic Sulphur Compounds” susținută pe 14 decembrie 2001 la Bergische Universität Gesamthochschule Wuppertal, sub conducerea științifică a domnului Profesor Karl Heinz Becker

B. Cărți si capitole în cărți publicate în ultimii 5 ani (2021-2025)

C. Lucrări indexate ISI/BDI publicate în ultimii 5 ani (2021-2025)

C.1 ISI-în străinătate

C.1.1. D'Souza Metcalf, J.; Winkless, R. K.; Mapelli, C.; McElroy, C. R.; Roman, C.; Arsene, C.; Olariu, R. I.; Bejan, I. G.; Dillon, T. J.; Atmospheric breakdown kinetics and air quality impact of potential “green” solvents, the oxymethylene ethers OME3 and OME4, *Atmospheric Chemistry and Physics*, 25, 9169–9181, 2025.

C.1.2. Iancu, C., Nita, C., Soroaga, L. V., Negru, A. G., Olariu, R. I., Arsene, C., First chemical insights into airborne microbial communities isolated from ambient particulate matter in the Iasi urban area, north-eastern Romania. *Journal of Liquid Chromatography & Related Technologies*, 48(16–20), 596–611. 2025.

C.1.3. Mairean C.-P.; Roman C.; Arsene C.; Bejan I.-G.; Olariu R.-I., Gas-Phase Ozone Reaction Kinetics of a Series of cis-3-Hexenyl Esters under Simulated Atmospheric Conditions, *Journal of Physical Chemistry A*, 129, 16, 2025.

C.1.4. Amarandei C.; Negru A.G.; Iancu C.; Olariu R.I.; Arsene C., Seasonality, sources apportionment, human health risks assessments, and potential implications on the atmospheric chemistry of polycyclic aromatic hydrocarbons in size-segregated aerosols from a Romanian metropolitan area, *Chemosphere*, 368, 2024.

C.1.5. Rusu A.-M.; Roman C.; Bejan I.G.; Arsene C.; Olariu R.I., Gas-Phase Reaction Kinetic Study of a Series of Methyl-Butenols with Ozone under Atmospherically Relevant Conditions, *Journal of Physical Chemistry A*, 128, 32, 6745-6756, 2024.

C.1.6. Mairean C.-P.; Roman C.; Arsene C.; Bejan I.-G.; Olariu R.-I.*, Gas-Phase Kinetics of a Series of cis-3-Hexenyl Esters with OH Radicals under Simulated Atmospheric Conditions, 2024, *Journal of Physical Chemistry A*, 128, 30, 6274-6285, 2024.

- C1.17. Rusu Vasilache A.-M.; Roman C.; Bejan I.G.; Arsene C.; Olariu R.I.*, Gas-Phase Kinetic Investigation of the OH-Initiated Oxidation of a Series of Methyl-Butenols under Simulated Atmospheric Conditions, *Journal of Physical Chemistry A*, 128, 24, 2024.
- C1.18. Negru A.G.; Olariu R.I.; Arsene C., First insights into the new particle formation and growth at a north-eastern Romanian urban site, Iasi. Potential health risks from ultrafine particles, 2024, *Atmospheric Pollution Research*, 15, 11, 10.1016/j.apr.2024.102257; FI 3.9, Q2, 86.3 points.
- C1.19. Amarandei C., Olariu R.I., Arsene C., First insights into the molecular characteristics of atmospheric organic aerosols from Iasi, Romania: Behavior of biogenic versus anthropogenic contributions and potential implications, *Science of the Total Environment*, 877, 2023.
- C1.10. Amarandei C., Olariu R.I., Arsene C., Offline analysis of secondary formation markers in ambient organic aerosols by liquid chromatography coupled with time-of-flight mass spectrometry, *Journal of Chromatography A*, 1702, 2023.
- C1.11. Arsene, Cecilia; Bejan, Iustinian G.; Roman, Claudiu; Olariu, Romeo I.; Minella, Marco; Passananti, Monica; Carena, Luca; Vione, Davide, Evaluation of the Environmental Fate of a Semivolatile Transformation Product of Ibuprofen Based on a Simple Two-Media Fate Model, *Environmental Science and Technology*, 2022, 56, 22, 15650-15660.
- C1.12. Mapelli, Caterina; Schleicher, Juliette V.; Hawtin, Alex; Rankin, Conor D.; Whiting, Fiona C.; Byrne, Fergala; McElroy, C. Rob; Roman, Claudiu; ; Arsene, Cecilia; ; Olariu, Romeo I.; ; Bejan, Iustinian G.; Dillon, Terry J. Atmospheric breakdown chemistry of the new "green" solvent 2,2,5,5-tetramethyloxolane via gas-phase reactions with OH and Cl radicals, *Atmospheric Chemistry and Physics*, 2022, 22, 22, 14589-14602.
- C1.13. Soroaga, L.V., Borgia, C., Arsene, C., Olariu, R.I., Development and application of an analysis method for the determination of rare earth elements in silicate rich samples by Na₂O₂ sintering and ICP-MS analysis, accepted for publication in *Analytical Sciences* (10.1007/s44211-022-00172-w), 2022.
- C1.14. Soroaga, L.V., Amarandei, C., Negru, A.G., Olariu, R.I., Arsene, C., 2022. Assessment of the Anthropogenic Impact and Distribution of Potentially Toxic and Rare Earth Elements in Lake Sediments from North-Eastern Romania. *Toxics* 10, 242, 2022.
- C1.15. Grira, A., Amarandei, C., Roman, C., Bejaoui, O., Aloui, N., El Dib, G., Arsene, C., Bejan, I. G., Olariu, R. I., Canosa, A., and Tomas, A.: Gas-phase ozone reaction kinetics of C₅ –C₈ unsaturated alcohols of biogenic interest, *J. Phys. Chem. A*, 126(27):4413-4423, 2022.
- C1.16. Roman, C., Arsene, C., Bejan, I. G., and Olariu, R. I.: Investigations into the gas-phase photolysis and OH radical kinetics of nitrocatechols: implications of intramolecular interactions on their atmospheric behaviour, *Atmos. Chem. Phys.*, 22, 2203–2219, 2022.
- C1.17. Roman, C., Roman, T., Arsene, C., Bejan, I. G., and Olariu, R.I.: Gas-phase IR cross-sections and single crystal structures data for atmospheric relevant nitrocatechols, *Spectrochim. Acta- Part A Mol. Biomol. Spectrosc.*, 265, 120379, 2022.
- C1.18. Amarandei, C., Negru, A.G., Soroaga, L.V., Cucu-Man, S.M., Olariu, R.I., Arsene, C., Assessment of surfacewater quality in the Podu Iloaiei Dam Lake (North-Eastern Romania): Potential implications for aquaculture activities in the area, *Water*, 13, 2395, 2021.

C1.19. Sandu, M.C., Soroaga, L.V., Balaban, S.I., Chelariu, C., Chiscan, O., Iancu, G.O., Arsene, C., Olariu, R.I., Trace elements distribution in stream sediments of an abandoned U mining site in the Eastern Carpathians, Romania, with particular focus on REEs, *Geochemistry* 81, 125761, 2021.

C.2. ISI-națională

D. Lucrări publicate în ultimii 5 ani (2021-2025) în reviste și volume de conferințe cu referenți (neindexate)

D1. Reviste

D2. Conferințe (neindexate)

D.2.1. Negru A.G.; Roman C.; Amarandei C.; Arsene C.; Olariu R.I., Investigations of potentially harmful limonene photooxidation products under nox and nox-free atmospheric simulated conditions, 2023, International Multidisciplinary Scientific GeoConference Surveying Geology and Mining Ecology Management, (ISSN 1314-2704 ISBN 978-619-7603-65-1), SGEM, 23, 4.2, 291-298, 10.5593/sgem2023V/4.2/s19.35

D.2.2. Soroaga, L.V., Arsene, C., Olariu, R.I., The evaluation of Na₂O₂ as a sintering agent in solid state dissolution of potential secondary sources for rare earth elements, SGEM International Multidisciplinary Scientific GeoConference, 21st International Multidisciplinary Scientific GeoConference SGEM 2021.

D.2.3. Negru, A.G., Roman, C., Soroaga, L.V., Nita, C., Olariu, R.I., Arsene, C., Advanced analytical techniques suitable for field measurements of air pollutants and for fundamental studies on their atmospheric degradation, Recent Advances in Natural Sciences Yield the Future for the European Citizens and Society, Ready for Europe Conference - RARE 2024, 1st Edition, Iasi, Romania, Book of Abstracts, oral presentation, pp. 11-12, 12-13 December, 2024.

D.2.4. Roman, C., Negru, A.G., Nita, C., Arsene, C., Bejan, I.G., Olariu, R.I., Towards better organic solvents: A case study of p-cymene and its impact on the atmosphere, Recent Advances in Natural Sciences Yield the Future for the European Citizens and Society, Ready for Europe Conference - RARE 2024, 1st Edition, Iasi, Romania, Book of Abstracts, oral presentation, pp. 15-16, 12-13 December, 2024.

D.2.5. Iancu, C., Amarandei, C., Negru, A.G., Soroaga, L.V., Olariu, R.I., Arsene, C., Research tools for the investigation of bacterial and fungal communities in airborne bioaerosol particles, Recent Advances in Natural Sciences Yield the Future for the European Citizens and Society, Ready for Europe Conference - RARE 2024, 1st Edition, Iasi, Romania, Book of Abstracts, oral presentation, pp. 17-18, 12-13 December, 2024.

D.2.6. Soroaga, L.V., Nita, C., Negru, A.G., Roman, C., Arsene, C., Olariu, R.I., ICP-MS analysis of rare earths and trace elements from the atmospheric particulate matter and other various matrices, Recent Advances in Natural Sciences Yield the Future for the European Citizens and Society, Ready for Europe Conference - RARE 2024, 1st Edition, Iasi, Romania, Book of Abstracts, oral presentation, pp. 19-20, 12-13 December, 2024. https://recent-air.uaic.ro/Ready_for_Europe_Conference_2024.php

D.2.7. Nita, C., Iancu, C., Negru, A.G., Soroaga, L.V., Olariu, R.I., Arsene, C., Real-time analysis of gases at trace levels with selected ion flow tube mass spectrometry (SIFT-MS) technology, Recent Advances in Natural Sciences Yield the Future for the European Citizens and Society, Ready for Europe Conference - RARE 2024, 1st Edition, Iasi, Romania, Book of Abstracts, oral presentation, pp. 47-48, 12-13 December, 2024.

- D.2.8. Soroaga, L.V., Arsene, C., Olariu, R.I., Total metal content evaluation by ICP-MS in size-resolved inhalable particulate matter from the atmosphere, IasiCHEM 2024 Conference, 6th Edition, Iasi, Romania, Book of Abstracts, oral presentation, pp. 11, 31 October - 01 November, 2024. <https://www.chem.uaic.ro/ro/manifestari/zu-2024.html>
- D.2.9. Roman, C., Negru, A.G., Nita, C., Arsene, C., Bejan, I.G., Olariu, R.I., Study of the atmospheric degradation of selected organic solvents, IasiCHEM 2024 Conference, 6th Edition, Iasi, Romania, Book of Abstracts, oral presentation, pp. 12, 31 October - 01 November, 2024. <https://www.chem.uaic.ro/ro/manifestari/zu-2024.html>;
- D.2.10. Soroaga, L.V., Arsene, C., Olariu, R.I., The influence of collision gas flow and aerosol dilution on the LoQ of an ICP-MS method tailored for atmospheric particles analysis, CHIMIA 2024 - New trends in applied chemistry, Constanta, Romania, Book of Abstracts, Poster, 30 Mai - 01 Iunie, 2024. <https://fsai.univ-ovidius.ro/chimia2024/program.html>
- D.2.11. Roman, C., Arsene, C., Bejan, I.G., Olariu, R.I., Multi-referential relative kinetic methods versus pseudo-first method for assessing of the gas-phase ozonolysis of unsaturated volatiles in environmental sciences, National Conference of Chemistry, XXXVII Edition, Targoviste, Romania, oral presentation, pp. 27, 25-27th September, 2024.
- D.2.12. Soroaga, L.V., Negru, A.G., Arsene, C., Olariu, R.I., The rare earth elements distribution in atmospheric particles as tracers for source apportionment, National Conference of Chemistry, XXXVII Edition, Targoviste, Romania, Book of Abstracts, oral presentation, pp. 11, 25-27 September, 2024. https://icstm.ro/cnchim-2024/Schedule_CNCHIM_2024.pdf
- D.2.13. Mocanu, R.G., Movila, L.G., Roman, C., Arsene, C., Olariu, R.I., Bejan, I.G., Gas-phase kinetic study of the reaction of 2- and 3-hydroxybenzaldehydes with OH radicals and chlorine atoms, Scientific Communication Session for Undergraduate, Master and PhD Students (SCSSMD), XVth Edition, pp. 16-17, 27 June 2024, Iasi, Romania.
- D.2.14. Soroaga, L.V., Arsene, C., Olariu, R.I., The importance of tailored calibration for quadrupole ICP-MS measurements, the Vth Faculty of Chemistry Conference, IasiCHEM 5-MIT, October 26-27, 2023, Iasi.
- D.2.15. Roman, C., Amarandei, C., Negru, A.G., Arsene, C., Bejan, I.G., Tomas, A., Olariu, R.I., The atmospheric fate of a gaseous transformation product of limonene, the Vth Faculty of Chemistry Conference, IasiCHEM 5-MIT, 26-27 October 2023, Iasi.
- D.2.16. Roman, C., Humelnicu, I., Mangalagiu, I., Arsene, C., Olariu, R.I., Bejan, I., Atmospheric chemistry of aromatic compounds: from gas-phase kinetic to secondary organic aerosol formation, The 17th International Conference of Physical Chemistry ROMPHYSICHEM, pp. 31, ISSN 3008-3850; ISSN-L 2286-1327, Bucharest, Romania, 25-27 September, 2023.
- D.2.17. Movila, L.G., Roman, C., Arsene, C., Olariu, R.I., Bejan, I.G., FT-IR kinetic studies of the gas-phase reaction of the OH radical with a series of nitrotoluene compounds, Scientific Communication Session for Undergraduate, Master and PhD Students (SCSSMD), XIVth Edition, pp. 10-11, Iasi, Romania, 23 June, 2023.
- D.2.18. Mocanu, R.G., Movila, L.G., Roman, C., Arsene, C., Olariu, R.I., Bejan, I.G., Kinetic studies on the gas-phase reaction of OH radical with p-tolualdehyde, International Conference Students for Students, XIXth Edition, pp. 43, Cluj, Romania, 26-30 April, 2023.

D.2.19. Soroaga, L. V., Arsene, C., Olariu, R. I., Method assessment for the quantification by ICP-MC of rare and refractory elements from silicate-rich samples, CNChim2022 XXXVI ed., pp. 29, Călimănești-Căciulata, Romania, 04-07 October, 2022.

D.2.20. Roman, C., Arsene, C., Bejan, I. G., Vione, D., Olariu, R. I., Atmospheric break-down of 4-isobutylacetophenone, a toxic transformation product of ibuprofen, CNChim2022 XXXVI ed., pp. 86, Călimănești-Căciulata, Romania, 04-07 October, 2022

E. Brevete obținute în întreaga activitate

Data: 02-02-2026