



## Curriculum Vitae

### Personal information

**First name / Surname** Adina Magdalena MUSUC

**Occupational field** Physical Chemistry

### Work experience

**Dates** 2019-present  
**Occupation or position held** Head of the Chemical Kinetics Department

**Name and address of employer** Romanian Academy, Ilie Murgulescu Institute of Physical Chemistry,  
202 Spl. Independentei, 060021 Bucharest, Romania

**Type of business or sector** Management/Laboratory/Administrative/Scientific Academic Research within the Romanian Academy

**Dates** 2016-present  
**Main activities and responsibilities** Senior Researcher II  
Scientific Research

**Name and address of employer** Romanian Academy, Ilie Murgulescu Institute of Physical Chemistry,  
202 Spl. Independentei, 060021 Bucharest, Romania

**Type of business or sector** Academic research within the Romanian Academy

**Dates** 2019 - March 2024  
**Occupation or position held** Researcher Assistant

**Main activities and responsibilities** Scientific Research as project director of Proof of concept "Biocompatible photoluminescent ceramic nanomaterials" (PHOTONANOBIOCER) and project member in "Innovative biomaterials for treatment and diagnosis" (BIONANOINOVO)—P3 grant number PN-IIIIP1-1.2-PCCD-I2017-0629.  
**Name and address of employer** Faculty of Chemical Engineering and Biotechnologies  
National University of Science and Technology Politehnica of Bucharest  
313 Spl. Independentei, 060042 Bucharest, Romania

**Type of business or sector** Research

**Dates** 2008-2016

**Occupation or position held** Senior Researcher III

**Main activities and responsibilities** Scientific Research

**Name and address of employer** Romanian Academy, Ilie Murgulescu Institute of Physical Chemistry,  
202 Spl. Independentei, 060021 Bucharest, Romania

**Type of business or sector** Academic research within the Romanian Academy

<b><u>Dates</u></b>	2002-2008
<b>Occupation or position held</b>	Scientific Researcher
<b>Main activities and responsibilities</b>	Scientific Research
<b>Name and address of employer</b>	Romanian Academy, Ilie Murgulescu Institute of Physical Chemistry, 202 Spl. Independentei, 060021 Bucharest, Romania
<b>Type of business or sector</b>	Academic research within the Romanian Academy
<b><u>Dates</u></b>	2000-2002
<b>Occupation or position held</b>	Researcher Assistant
<b>Main activities and responsibilities</b>	Scientific research
<b>Name and address of employer</b>	Romanian Academy, Ilie Murgulescu Institute of Physical Chemistry, 202 Spl. Independentei, Bucharest, Romania
<b>Type of business or sector</b>	Academic research within the Romanian Academy
<b><u>Dates</u></b>	1999-2000
<b>Occupation or position held</b>	Trainee Researcher Assistant
<b>Main activities and responsibilities</b>	Scientific research
<b>Name and address of employer</b>	Romanian Academy, Ilie Murgulescu Institute of Physical Chemistry, 202 Spl. Independentei, Bucharest, Romania
<b>Education</b>	
<b><u>Dates</u></b>	2023
<b>Title of qualification awarded</b>	Habilitation, Chemistry domain (awarded by the Romanian Ministry of Education and Research, nr. 6356/27.09.2023)
<b><u>Dates</u></b>	2007
<b>Title of qualification awarded</b>	PhD, Chemistry domain (awarded by the Romanian Ministry of Education and Research, nr. 1418/29.06.2007)
<b>Name and type of organization providing education and training</b>	University of Bucharest, Faculty of Chemistry, Bucharest, Romania
<b>Title of thesis</b>	Kinetic of explosive decomposition of solids (Supervisor Prof. Dr. Dumitru Oancea)
<b><u>Dates</u></b>	2001
<b>Title of qualification awarded</b>	MSc, Environmental quality control domain
<b>Name and type of organization providing education and training</b>	University of Bucharest, Faculty of Chemistry, Bucharest, Romania
<b><u>Dates</u></b>	1999
<b>Title of qualification awarded</b>	BSc in Physical Chemistry
<b>Name and type of organization providing education and training</b>	University of Bucharest, Faculty of Chemistry, Bucharest, Romania
<b>Principal subjects/occupational skills covered</b>	Synthesis, and characterization of coordination compounds with isatin ligands (Supervisor Prof. Dr. Angela Kriza)
<b>Training/ acquiring skills:</b>	
<b><u>Dates</u></b>	2024

<b>Title of qualification awarded</b>	Advanced training / Certificate OH no. 001969
<b>The main studied disciplines / acquired professional competencies</b>	Communication in public administration
<b>Name and type of educational institution/training provider</b>	APSAP training center - National register of continuing education providers
<b>Certification:</b>	The Ministry of Labor and The Ministry of Education
<b><u>Dates</u></b>	2024
<b>Title of qualification awarded</b>	Advanced training / Certificate ON no. 035814
<b>The main studied disciplines / acquired professional competencies</b>	Financial accounting of public institutions
<b>Name and type of educational institution/training provider</b>	APSAP training center - National register of continuing education providers
<b>Certification:</b>	The Ministry of Labor and The Ministry of Education
<b><u>Dates</u></b>	2023
<b>Title of qualification awarded</b>	Advanced training / Certificate OH no. 001384
<b>The main studied disciplines / acquired professional competencies</b>	Accessing the European PNRR funds, operational programs, Norwegian funds
<b>Name and type of educational institution/training provider</b>	APSAP training center - National register of continuing education providers
<b>Certification:</b>	The Ministry of Labor and The Ministry of Education
<b><u>Dates</u></b>	2023
<b>Title of qualification awarded</b>	Certificate
<b>The main studied disciplines / acquired professional competencies</b>	2nd International CASA Training Courses on Technologies for the Analysis of Carbon Data
<b>Name and type of educational institution/training provider</b>	CASA International Training Courses
<b><u>Dates</u></b>	2023
<b>Title of qualification awarded</b>	Certificate of Achievement and Recognition
<b>The main studied disciplines / acquired professional competencies</b>	Successful Completion of the Course Online Cyber Hygiene Training to Protect Your Institution Against Cybertheft of Research and Intellectual Property (IP)
<b>Name and type of educational institution/training provider</b>	CRDF Global
<b><u>Dates</u></b>	2021
<b>Title of qualification awarded</b>	Certificate
<b>The main studied disciplines / acquired professional competencies</b>	iS50 Training: Basic Theory and Operation FTIR online qualification course certificate
<b>Name and type of educational institution/training provider</b>	Thermo Fisher Scientific

<b>Dates</b>	2021
<b>Title of qualification awarded</b>	Advanced training / Certificate AP no. 012143
<b>The main studied disciplines / acquired professional competencies</b>	Internal/managerial control system
<b>Name and type of educational institution/training provider</b>	APSAP training center - National Register of Continuing Education Providers
<b>Certification:</b>	The Ministry of Labor and The Ministry of Education
<b>Dates</b>	2012
<b>The main studied disciplines / acquired professional competencies</b>	Thermal Analysis and Calorimetry Techniques Workshop
<b>Name and type of educational institution/training provider</b>	Institute of Physical Chemistry "Ilie Murgulescu", Romanian Academy, Bucharest, Romania, organized by SETARAM.
<b>Dates</b>	1999
<b>The main studied disciplines / acquired professional competencies</b>	Introductory course on the Internet
<b>Name and type of educational institution/training provider</b>	Center for Advanced Research in Automatic Learning, Natural Language Processing and Conceptual Modeling, Romanian Academy, Department of Science and Information Technology.
<b>Summer schools</b>	<ul style="list-style-type: none"> <li>- Lyon, France 10 – 15 June 2012 "School of Calorimetry. Calorimetry and thermal methods in catalysis".</li> <li>- "The Combustion Institute Summer School 2013" 19 - 23 August 2013 Lund University, Sweden.</li> <li>- Short Summer School on TA&amp;C, SSS on TA&amp;C, 27th of August 2013, Vilnius, Lithuania.</li> <li>- NETZSCH-Gerätebau GmbH – Individual training seminar, Selb, Germania, February 2018.</li> <li>- The International Combustion Institute Summer School ICISS on Near-Wall Reactive Flows, Virtual summer school, June 7th-10th, 2021, TU Darmstadt, Germany</li> <li>- The 2021 Virtual Session of Princeton-CI Summer School Princeton- Combustion Institute Summer School on Combustion, June 20 to June 25, 2021.</li> <li>- Smart Feed International Winter School Insects and Microalgae as novel feed for Sustainable Livestock Production Digital edition Period: February 15, 23-24th 2022.</li> <li>- Joint European Summer School for Fuel Cell, Electrolyser and Battery Technologies, JESS 2022, Greece 18-24.09.2022.</li> <li>- CoEC Combustion Autumn School 2023, Sofia, Bulgaria, 23-26 October 2023.</li> </ul>
<b>Principal subjects/occupational skills covered</b>	Research activity in the field of Chemical kinetics in homogeneous and heterogeneous systems; Combustion and flames of gases; Flammability of gaseous mixtures in air; Safety recommendations, for closed and open systems where deflagrations may occur, Nanomaterials for biomedical applications, materials chemistry, nanocomposites, thermal properties, environmental chemistry, carbohydrates physical and chemical characterization techniques, chemical kinetics, green chemistry; biomass; hydrogels chemistry and development; pharmaceutical product development and characterization, drug delivery, materials for cancer pathology, nutrition.
<b>Available experimental techniques</b>	Methods for measuring the ignition and propagation parameters characteristic for gaseous fuel-oxidant mixtures; Methods for synthesis and characterizations of nanomaterials for biomedical applications; Methods of thermal analysis: Thermogravimetry, Differential Scanning Calorimetry, Microcalorimetry, Simultaneous Thermal Analysis; Structural and morphological characterizations of materials: Fourier Transform Infrared Spectroscopy, X-Ray Diffraction, Dynamic light scattering technique; Kinetics; Methods for determining the explosive parameters of solids.
<b>Awards</b>	<ul style="list-style-type: none"> <li>- Nicolae Teclu awarded in 2014 by the Romanian Academy, for scientific papers included in the topic "Experimental study and modelling of explosive reactions in gaseous and condensed systems" issued in 2012.</li> <li>- Gheorghe Spacu award for the scientific career and for the activities to promote chemistry in Romania, issued in 2015, by the Romanian Chemical Society.</li> <li>- Honorary diploma for contributing to the activities of the Romanian Chemical Society to promote chemistry in Romania, issued in 2018, by the Romanian Chemical Society</li> </ul>

<b>Recognition</b>	- the activity in the thermal analysis field has been recognized by the scientific community, the name being included (without payment) in the encyclopedia "Who's Who in Thermal Analysis and Calorimetry 2014", Eds. Imre Miklós Szilágyi and György Liptay, Springer, Budapest 2014, ISBN 978-3-319-09485-4.				
<b>Personal skills and competencies</b>					
<b>Mother tongue</b>	Romanian				
<b>Other language(s)</b>	English, French				
<b>Self-assessment</b>	Understanding		Speaking		Writing
<b>European level (*)</b>	Listening	Reading	Spoken interaction	Spoken production	
<b>English</b>	C1	C1	B2	B2	C1
<b>French</b>	B1	B1	A1	A1	A1
	(*) <i>Common European Framework of Reference for Languages</i>				
<b>Fields of professional competencies</b>	Inorganic Chemistry, Polymer Chemistry, Explosive Condensed Compounds, Green Chemistry, Chemistry of Carbonaceous Materials, Hydrothermal Carbonization, Environmental protection, Pyrolysis of biomass, Bioenergy, Pharmacy, Carbon nanocomposites, Biomedical application, Bioactive materials, Biocompatible materials, Materials for energy, Advanced functional materials, Waste biomass, Hydrocarbon fuel, Drug delivery systems, Biopolymers, Biodegradation, Bioenergy, Hydrogels, Biomedicine, Pharmaceuticals.				
<b>Experimental Techniques</b>	Thermal Analysis Techniques (TG, DTG, DSC, STA), Fourier Transform Infrared Spectroscopy, X-ray diffraction, and Dynamic light scattering technique.				
<b>Social skills and competencies</b>	Good teamwork, adaptability, flexibility, responsibility, mediation, and good communication skills. Ability to work efficiently under pressure and ability to interact and communicate.				
<b>Computer skills and competencies</b>	Various dedicated computing programs, Microsoft Office package (Word, Excel, PowerPoint, Publisher, etc.); Internet; access to bibliographic databases; Simulation/optimization programs; Advanced data processing.				
<b>Driving licence</b>	B class (2005)				
<b>Additional information</b>					
<b>Other skills and competencies</b>					
<b>Organizational/management skills and competencies</b>	<p>PhD supervisor, IOSUD-SCOSAAR, Chemistry domain (Romanian Academy)</p> <p>Head of Chemical Kinetics Department (leadership skills currently responsible and successfully managed a team of more than 10 researchers); good experience in the field of project management and scientific research.</p> <p>Experienced Administrative Manager with 5+ years of expertise in providing administrative support in Laboratory coordination.</p> <p>Managed the scientific team's daily workflow, ensuring timely task completion.</p> <p>Developed strong relationships with national and international collaborators.</p> <p>Member in the Scientific Council of Institute of Physical Chemistry – Ilie Murgulescu, Romanian Academy, with over 5+ years' experience.</p> <p>Vice-president of Romanian Society of Chemistry - Bucharest 3, from 2010</p> <p>Secretary of Section - Physical Chemistry of Romanian Society of Chemistry, between 2015-2019</p> <p>Vice-president of Section - Physical Chemistry of Romanian Society of Chemistry, from 2020</p>				
<b>Expert evaluator</b>	<p>Expert evaluator for National Programs</p> <ul style="list-style-type: none"> <li>- (PNCDI III, SP 1.2, Institutional development projects - Complex Projects realized in RDI consortia - 2017 Call;</li> <li>- PNCDI III, SP 1.1, Research Projects for Young Independent Teams TE-2019, "Transfer project to the economic operator "</li> <li>- PTE 2023 within Program 5.7 - Partnership for Innovation, Subprogramme 5.7.1 Partnerships for competitiveness organized by MCID and UEFISCDI</li> </ul> <p>Expert evaluator for European (M-Era Net, EIC accelerator program, SME, Marie Curie fellowship) projects.</p>				

<b>National Register of Experts</b>	Member in the experts' groups from the National Register of Experts for the certification of research and development activity (following the selection process, based on Ministerial Order no. 20242/13.02.2023)
<b>Reviewer</b>	Reviewer for <i>Inorganica Chimica Acta</i> / Elsevier, <i>Journal of Thermal Analysis and Calorimetry</i> / Springer, <i>Journal of Material Research</i> / Cambridge, <i>Dalton Transactions</i> / Royal Society of Chemistry, <i>Materials</i> / MDPI, <i>Composites Part B: Engineering</i> / Elsevier, <i>Journal of Drug Delivery Science and Technology</i> /Science Direct, <i>Sensors</i> /MDPI, etc.), Pharmaceuticals, Water, Energies, Pharmaceutics, Polymers, Foods, Nanomaterials, Processes, Coating, Materials, <i>International Journal of Molecular Sciences</i> , <i>Membranes</i> , <i>Antioxidants</i> , <i>Nutrients</i> , <i>Water</i> , <i>Gels</i> , <i>Atmosphere</i> , <i>Fluids</i> , <i>Antioxidants</i> , <i>Metabolites</i> , <i>Applied Sciences</i> /MDPI; <i>Journal of Thermal Analysis and Calorimetry</i> ; <i>Arabian Journal of Chemistry</i> ; <i>Environmental Nanotechnology, Monitoring &amp; Management</i> ; <i>International Journal of Hydrogen Energy</i> ; <i>International Journals of Biological Macromolecules</i> ; <i>Applied Catalysis B: Environment and Energy</i> ; <i>Applied surface science</i> ; <i>Arabian Journal Of Chemistry</i> ; <i>Bioactive Materials</i> ; <i>Food and Bioproducts Processing</i> ; <i>Composites Part B: Engineering</i> ; <i>Environmental Nanotechnology, Monitoring and Management</i> ; <i>Food and Bioproducts Processing</i> ; <i>Journal of Proteomics</i> ; <i>Nano-Structured \$ Nano-Objects</i> , <i>ChemistrySelect</i> ; <i>Journal of Taibah University for Science</i> ; <i>Biomedicines</i> ; <i>Bioactive materials</i> ; <i>Food and Bioproducts Processing</i> .
<b>Editorial Boards</b>	<p><b>Editorial board</b></p> <p>American Journal of Chemical Engineering (Science PG) 2020 – 2022  Member of the editorial board of Bull Soc de Chim (ISSN 2066-2971) 2022- present  Member of Editorial Board of Processes, IF – 3.5, 2024  Section Board Member of Processes, IF – 3.5, 2024</p> <p><b>Topical Advisory Panel Member</b></p> <ul style="list-style-type: none"> <li>- Applied Sciences, MDPI - ISI Journal - 2020 -present</li> <li>- Processes, MDPI - ISI Journal, 2021- January 2024</li> <li>- International Journal of Molecular Science, MDPI ISI Journal, 2024-present</li> </ul> <p><b>Guest editor</b></p> <ul style="list-style-type: none"> <li>- Special Issue - Eco-friendly Synthesized Nanocomposite Materials, <i>Applied Sciences</i> (ISSN 2076-3417) (2020-2021)</li> <li>- Special issue - Green Synthesis, Processing and Application of Nanocomposite Materials 2021, <i>Applied Sciences</i> (ISSN 2076-3417) (2021-2022)</li> <li>- Special Issue - Natural and Synthetic pharmaceutical ingredients: Physico-Chemical Characterization and Drug Development, <i>Applied Sciences</i> (ISSN 2076-3417) (2022-present)</li> <li>- Special Issue - Bio-Based Composite Hydrogels for Biomedical Applications, <i>Processes</i> (ISSN 2227-9717) IF – 3.352 (2022-present)</li> <li>- Special Issue - Biomass-Burning, Fire (ISSN 2571-6255) IF – 2.726 (2022-present)</li> <li>- Special Issue - Recent Advances in Drug and Medical Device Formulations Used for Improving the Quality of Life, <i>Life</i> (2023)</li> <li>- Special issue - New Trends in Nutritional Therapy for Antiaging Management, <i>Nutrients</i> (2023-2024)</li> <li>- Special issue - Processes in 2023, <i>Processes</i> (2023-2024)</li> <li>- Special issue - Hydrogel for Sustained Delivery of Therapeutic Agents, <i>Gels</i> (2023) (ISSN: 2310-2861) (2023-present)</li> <li>- Special issue - Hydrogel for Sustained Delivery of Therapeutic Agents 2<sup>nd</sup> edition, <i>Gels</i> (2023) (ISSN: 2310-2861) (2023-2024)</li> <li>- Special Issue "Natural and Synthetic Biomaterials in Biomedical Applications", <i>International Journal of Molecular Sciences</i> (ISSN: 1422-0067) IF – 5.6 (2024)</li> <li>- Special Issue of "Polysaccharide Gels: Application in Drug Delivery" <i>Gels</i> (2023) (ISSN: 2310-2861) (present)</li> </ul>
<b>Technical editing activities</b>	Techno-editor of Bulletin of the Romanian Chemical Society ISSN 2066-2971; No. 2 and 3/2021
<b>Memberships of scientific societies</b>	2000 – present - Member, Romanian Society of Chemistry 2005 - present – Member, European Chemical Sciences (EuCheMS) 2002 – present - Member, Romanian Society of Catalysis 2002 – present – Member, European Federation of Catalysis Societies.

<b>Member in organizing/scientific committee</b>	<p><b>2013</b> – International Conference of Physical Chemistry RomPhysChem 15, 11-13 September 2013, Bucharest, Romania</p> <p><b>2016</b> – International Conference of Physical Chemistry RomPhysChem 16, 21-23 September 2016, Galati, Romania</p> <p><b>2018</b> – 12<sup>th</sup> European Symposium on Thermal Analysis and Calorimetry (ESTAC12), 27-30 August 2018, Brasov, Romania</p> <p><b>2022</b> – workshop - Good practices in gastronomy-Healthy cooking techniques, Carol Davila University of Medicine and Pharmacy, Bucharest 2 June 2022, Romania</p> <p><b>2023</b> - the X International Workshop on Medical Imaging Clinical Data Capture and Integration held at the Faculty of Computer Science of the University of A Coruña on 26/01/2023, organized by the Research Group RNASA-IMEDIR, Spain (hybrid event)</p> <p><b>2023</b> – International Conference of Physical Chemistry RomPhysChem 17, 25-27 September 2023, Bucharest, Romania</p> <p><b>2023</b> –the 4th International Electronic Conference on Applied Sciences, Part of the International Electronic Conference on Applied Sciences series, 27 Oct–10 November 2023 (online event)</p> <p><b>2023</b> – Integrative and personalized medicine conference, 3<sup>rd</sup> Edition, 18-19 October 2023 (online)</p> <p><b>2024</b> - 9<sup>th</sup> Global Webinar on Materials Science and Engineering April 03-04, 2024 (online event)</p> <p><b>2024</b> - The 3rd International Electronic Conference on Processes Green and Sustainable Process Engineering and Process Systems Engineering, Part of the International Electronic Conference on Processes (ECP) series, 29–31 May 2024 (online event)</p> <p><b>2024</b> – the 5th International Electronic Conference on Applied Sciences, Part of the International Electronic Conference on Applied Sciences series, 4–6 Dec 2024 (online event)</p>
<b>Involvement in research grants/projects/theme</b>	<ul style="list-style-type: none"> <li>- 5 projects as Project leader/manager: 2 grants awarded by UEFISCDI, project leader/manager at 2 Mobility Grants awarded by UEFISCDI, project leader/manager at 1 UPB-Proof of Concept awarded by UPB.</li> <li>- research team member of 19 grants national and international projects.</li> <li>- leader of 23 research themes from the internal plan of Ilie Murgulescu Institute of Physical Chemistry (2009 - present).</li> <li>- leader of a research project “Kinetics of thermal behavior of multifunctional compounds” from internal plan of “Ilie Murgulescu” Institute of Physical Chemistry (2024)</li> <li>- co-leader of “Chemical kinetics” research program from the internal plan of “Ilie Murgulescu” Institute of Physical Chemistry (2024)</li> <li>- sponsorship contracts No. 1921/26.06.2018 – awarded by Sartorum.</li> <li>- responsible for extrabudgetary contracts - Service contract for scientific research activities, 24.06.2019 with automatic renewal with Labormed-Pharma SA, contract manager.</li> <li>- responsible for student practice collaboration protocol - Responsible and Mentor Collaboration protocol regarding internships of doctoral students and postdoctoral researchers between UPB, ICECON S.A. and ICF.</li> </ul>
<b>International cooperation agreements</b>	<ul style="list-style-type: none"> <li>- Agreement of Cooperation with University A Coruña, Spain – “Artificial Intelligence prediction models for anti-cancer nanoparticles” – (leader).</li> <li>- Agreement of Cooperation with PTB (Physikalische-Technische Bundesanstalt), Braunschweig, Germany</li> <li>- Safety Characteristics of Gaseous Mixtures - (member).</li> <li>- Agreement of cooperation with BAM (Bundesanstalt für Materialforschung und -prüfung), Berlin, Germany - Flammability of Fuel/Inert/Oxidant Gaseous Mixtures (member).</li> </ul>
<b>Invitations - expert groups</b>	<p>01.10.2018 - European Innovation Council - EIC Experts Day – Brussels, Belgium</p> <p>07.11.2023 - 08.11.2023 – as the representative on the Strategic Expert Group workshop in M-ERA.NET 3 consortium – Madrid, Spain</p>
<b>Patents (total)</b>	4 national patents (3 national patents awarded; 1 national patent application in 2022)
<b>Books and book chapters</b>	4 book chapters
<b>Published papers (total)</b>	105 scientific papers: <b>95 papers published in ISI journals (55 as main author)</b> ; 6 papers in non-ISI journals; 4 papers in Proceedings.
<b>h-index</b>	18 According to Scopus ( <a href="https://www.scopus.com/authid/detail.uri?authorId=14519647700">https://www.scopus.com/authid/detail.uri?authorId=14519647700</a> ) 20 according to Google Scholar ( <a href="https://scholar.google.ro/citations?hl=ro&amp;user=fORkllcAAAAJ">https://scholar.google.ro/citations?hl=ro&amp;user=fORkllcAAAAJ</a> )
<b>Citations</b>	972 citations according to Scopus 1206 citations according to Google Scholar
<b>Scientific communicated papers</b>	111 presentations (oral presentations and posters) and 3 extended abstracts to National and International Conferences
<b>Volunteer activities</b>	Volunteer in the Bucharest Chemistry Festival, October 15-16, 2022 (Certificate of participation)
<b>ISI-Thomson Researcher ID</b>	C-2485-2011
<b>ORCID ID</b>	0000-0002-6935-8065

04.08.2024

Adina Magdalena Musuc



## List of Scientific Contributions

### Book chapters:

1. M. Chelu, **A. M. Musuc**, "Biomaterials-based hydrogels for therapeutic applications" in "Biomaterials in Microencapsulation" edited by Ashutosh Sharma, IntechOpen, 2024 doi: 10.5772/intechopen.1004826.
2. D. Gheorghe, E.A. Ozon, **A.M. Musuc**, Comparative analysis of structure-activity relationships of methyl- $\beta$ -cyclodextrin and hydroxypropyl- $\beta$ -cyclodextrin inclusion complexes with some drugs, X International Scientific Conference «ACTUAL PROBLEMS OF SOLID STATE PHYSICS» (APSSP-2023) May 22-26, 2023, Minsk (Belarus). Actual Problems of Solid-State Physics: [Electronic resource]: proc. book X Intern. Scient. Conf., Minsk, 22-26 May, 2023 / SSPA «Scientific-Practical Materials Research Centre of NAS of Belarus»; ed.: V. M. Fedosyuk (chairman) [et al.]. – Minsk: Publisher A.Varaksin, 2023. – 1 electronic optical disc (CD-ROM). ISBN 978-985-7202-53-09, pp. 432-435.
3. **A.M. Musuc**, B. S. Vasile, Chapter 6 - Therapeutic polymer gel system in neural tissue engineering, Editor(s): Oguzhan Gunduz, Cem Bulent Ustundag, Mustafa Sengor, In Woodhead Publishing Series in Biomaterials, Biomaterials for Neural Tissue Engineering, Woodhead Publishing, 2023, Pages 151-172, ISBN 9780323905541, <https://doi.org/10.1016/B978-0-323-90554-1.00014-8>.
4. **A.M. Musuc**, V.T.Popa, Chapter 3. Rosmarinus officinalis: A Natural Additive in Active and Biodegradable Food Packaging in Agricultural Research Updates. Volume 25, pp. 91-125, Prathamesh Gorawala and Srushti Mandhatri Editors, ISBN: 978-1-53614-790-2 (eBook), ISSN: 2160-1739, 2019, Nova Science Publishers, Inc New York.

### Paper in Scientific Journals:

#### ISI papers:

95. F. A. Joita#, E. Oprea#, **A. M. Musuc#**, M. Mititelu\*, F. Marinescu, D. Lupuliasa, L. Hincu, A. C. Rosca, S. C. Boroghina, I. A. Popescu, Development of antimicrobial hydrogels using alginate-chitosan matrix enhanced with essential oils, *Farmacia*, **2024**, 72(4), 906-916. <https://doi.org/10.31925/farmacia.2024.4.19>.
94. Burloiu, A.M.; Ozon, E.A. \*; **Musuc, A.M. \***; Anastasescu, M.; Socoteanu, R.P. \*; Atkinson, I.; Culita, D.C.; Anuta, V.; Popescu, I.A.; Lupuliasa, D.; et al. Porphyrin Photosensitizers into Polysaccharide-Based Biopolymer Hydrogels for Topical Photodynamic Therapy: Physicochemical and Pharmacotechnical Assessments. *Gels* **2024**, 10, 499. <https://doi.org/10.3390/gels10080499>. I.F. - 5 (**Corresponding author**)
93. F.A. Joita#, M.Mititelu#, **A.M.Musuc#**, E.Oprea, F.Marinescu, D.Lupuliasa, L.Hincu, T.O.Nicolescu, A.L.Pop, I.A.Popescu, Investigation of antimicrobial activity and rheological properties of chitosan- and alginate- based hydrogels enriched with volatile oils for biomedical applications, *Farmacia*, **2024**, 72(3), <https://doi.org/10.31925/farmacia.2024.3.7>. I.F. -1.4
92. E.A.Ozon, E.Mati, O. Karampelas, V. Anuta\*, I. Sarbu\*, **A.M.Musuc\***, R.-A. Mitran, D.C.Culita, I. Atkinson, M.Anastasescu, D. Lupuliasa, M.A.Mitu, The development of an innovative method to improve the dissolution performance of rivaroxaban, *Heliyon*, **2024**, 10(12), E33162. <https://doi.org/10.1016/j.heliyon.2024.e33162>. I.F. – 3.4 (**Corresponding author**)
91. Neacșu, S.M.; Mititelu, M.; Ozon, E.A.; **Musuc\***, **A.M.**; Iuga, I.D.M.; Manolescu, B.N.; Petrescu, S.; Pandele Cusu, J.; Rusu, A.; Surdu, V.-A.; et al. Comprehensive Analysis of Novel Synergistic Antioxidant Formulations: Insights into Pharmacotechnical, Physical, Chemical, and Antioxidant Properties. *Pharmaceuticals* **2024**, 17, 690. <https://doi.org/10.3390/ph17060690>. I.F. – 4.3 (**Corresponding author**)
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## **Research grants**

### **Leader of the research project:**

„ Kinetics of thermal behaviour of multifunctional compounds” from the internal plan of “Ilie Murgulescu” Institute of Physical Chemistry, Bucharest (2024).

### **Research grants as Project Director**

1. Proof of concept, Biocompatible photoluminescent ceramic nanomaterials (PHOTONANOBIOCER), University POLITEHNICA of Bucharest, project director Dr. Adina Musuc, 01.02.2021 - 31.03.2024.
2. Human Resources - Mobility projects for researchers, 2019, PN-III-P1-1.1-MC-2019-1254, project director Dr. Adina Musuc.
3. Human Resources - Mobility projects for researchers, 2017, PN-III-P1-1.1-MC-2017-1941, project director Dr. Adina Musuc.
4. Grant of the Romanian National Authority for Scientific Research, CNCS – UEFISCDI, project number PN-II-RU-PD-2011-3-0057 "Rapid evaluation of the biodegradability of biopolymers by thermal analysis methods", project director Dr. Adina Musuc, 2011 - 2013, postdoctoral research project – PD type, no. 35/05/10/2011.
5. Grant type TD, code CNCSIS 194/2003 "Kinetics of explosive decomposition of solids", project director A.M. Musuc, 2003-2005.