Curriculum vitae

Dr. Bînduşa Alina PETRE

1. General Information

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Code Brainmap: U-1700-035S-7072
Code Orcid: https://orcid.org/0000-0002-0208-6560



2. Education: - information about the degrees and diplomas

2008 - 2011 **Postdoctoral Researcher** at NIH Biomedical Mass Spectrometry Laboratory at Washington University, St. Louis, MO, USA (*supervisor Prof. Dr. Michael Gross*) and Laboratory of Analytical Chemistry and Biopolymer Structure Analysis, Department of Chemistry, University of Konstanz, Germany;

2003 - 2008 **PhD student**, Laboratory of Analytical Chemistry and Biopolymer Structure Analysis, Department of Chemistry, University of Konstanz, **Dissertation title**: "*Analytical Development and Biochemical Application of Mass Spectrometry in Combination with Immunoaffinity Methods for Identification and Structural Characterisation of Protein Nitration*",(supervised by *Prof. Dr. Michael Przybylski*). *"**Magna cum laude**" distinction obtained on 28th of May 2008*.

2000 – 2002 **Master student**, *Enzymology and Biotechnology*, "Al. I. Cuza" University of Iași, and **Socrates - MSc. Student,** *Laboratory of Analytical Chemistry, University of Konstanz*. **Master thesis**: "*Isolation and structural characterisation of porin ion channel protein by electrophoretic and mass spectrometric methods*", supervised by *Prof. Dr. M. Przybylski, graduating –September 2002*.

1996 - 2000 **Bachelor student,** Faculty of Chemistry, "***Summa cum laude***", "Al. I. Cuza" University of Iași, Romania, **Thesis title**: "*Enzymatic Biosensor*", supervised by *Prof. Dr. Viorica Dulman/ graduating –June2000.*

3. Professional experience

10/2026- to date **Professor** at Faculty of Chemistry, Al. I. Cuza University of Iași, Romania (i) Teaching course of *Medical Biochemistry Metabolic Biochemistry*, *Toxicology*, *Immunology* and *Modern Biochemical Techniques in Forensic Investigations*;

02/2025-to date **PhD supervisor**/ Habilitation at Doctoral School in Chemistry, "Al. I. Cuza" University of Iași, Romania,

07/2021-09/2026 **Associate Professor** "Department of Chemistry & Biomolecular Science,University Clarkson, Potsadam, NY, USA.

10/2020-to date **Associate Professor** at Faculty of Chemistry, Al. I. Cuza University of Iași, Romania (i) Teaching course and laboratory of *Medical Biochemistry* and *Metabolic Biochemistry*;

2014 –2020 **Lecturer** at Faculty of Chemistry, Al. I. Cuza University of Iași, Romania (i) Teaching course and laboratory of *Medical Biochemistry* and laboratories of Biochemistry and Enzymology;

2013- 2014 **Assistant Professor** at Faculty of Chemistry, Al. I. Cuza University of Iași, Romania (i) Teaching course and laboratory of *Synthesis and characterization of polypeptides* and laboratories of *Biochemistry and Toxicology*;

4. Complementary Academic and Leadership Roles

10/2022-07/2024 **Scientific collaborator** LC-MS/MS Facility at *SC Investigații Medicale Praxis SRL,* Iași;

11/2016 - to date **Scientific researcher**, TRANSCEND Center-Regional Institute of Oncology, Iasi, - Proteomics Laboratory Coordinator;

07/2020 – to date **Representative** of "Alexandru Ioan Cuza" University within the **STEM** working group of the international university association Coimbra;

11/2018 – 06/2020 **Representative** of "Alexandru Ioan Cuza" University within the RSO working group (**Research support Officers**) of the international university association Coimbra;

2015 – 2018 **Vice-chair** for **STEM** (*Science, Technology, Engineering and Mathematics*) working group at international universities **Coimbra Group**;

2015 – 2017 **Scientific researchers** and **young team coordinator** at Faculty of Chemistry, Al. I. Cuza University of Iași. **Project leader** of project: "*The characterization of pathophysiological protein modifications by bio-affinity mass spectrometric methods*", supported by UEFSCDI, RO, (**PN-II-RU-TE- 2014-4-0920**);

2011- 2014 **Scientific researcher** and **young team coordinator** at Faculty of Chemistry, Al. I. Cuza University of Iași. **Project leader** of the project entitle: „*New Mass-Spectrometric-based Approaches to Elucidation of Oxidative Modifications in Proteins*", supported by UEFSCDI - CNCS RO, (**PN-II-RU-TE-2011-3-0038**);

2017, 2018, 2019 **Main organizer** of three editions of the international **Summer school**: "*Proteomics from introduction to clinical applications"* at Al. I. Cuza University of Iași;

2003 - 2011 **Supervisor** for Master students research practicals in Peptide chemistry, Protein chemistry and Mass spectrometry, at the *Laboratory of Analytical Chemistry and Biopolymer Structure Analysis, University of Konstanz*.

2003 – 2008 **Co-organizer and practical instructor at German Chemical Society** (GDCh) **course**: "*High Resolution Biopolymer Mass Spectrometry*", at University of Konstanz;

5. Selected publications

1. A. Lupu, L. M. Gradinaru, M. Balan-Porcarasu, L. Darie-Ion, B.-A. Petre, V.-R. Gradinaru, The hidden power of a novel collagen octapeptide: Unveiling its antioxidant and cofactors releasing capacity from polyurethane based systems, Reactive and Functional Polymers, 207, 2025, 106131 https://doi.org/10.1016/j.reactfunctpolym.2024.106131;
2. A. Medjour, B-A. Petre*, M. Hammadi, I. Salhi, M. Dbara and M. A. Hamidechi, Impact of breeding system transition on camel milk caseins, Int. J. of Dairy Technology, (2024), https://doi.org/10.1111/1471-0307.13075;
3. L. Grigore-Gurgu, M. Cotârleț, M. Pihurov, B. Păcularu-Burada, A. M. Vasile, E. Enachi, C. L. Chițescu, B.A. Petre, L. Dumitrașcu, D. Borda, N. Stănciuc, G.-E. Bahrim, Lactiplantibacillus plantarum and Lactiplantibacillus paraplantarum postbiotics: Assessment of the biotic-derived metabolites with cytocompatibility and antitumoral potential, Food Bioscience, 2024, 59, 103863, doi.org/10.1016/j.fbio.2024.103863;

4. Jitaru, S.-C.; Enache, A.-C.; Cojocaru, C.; Drochioiu, G.; Petre, B.-A.; Gradinaru, V.-R. Self-Assembly of a Novel Pentapeptide into Hydrogelated Dendritic Architecture: Synthesis, Properties, Molecular Docking and Prospective Applications. Gels 2024, 10, 86. https://doi.org/10.3390/gels10020086
5. Jayathirtha, M.; Jayaweera, T.; Whitham, D.; Sullivan, I.; Petre B.A.*; Darie, C.C.; Neagu, A.-N. Two-Dimensional-PAGE Coupled with nLC-MS/MS-Based Identification of Differentially Expressed Proteins and Tumorigenic Pathways in MCF7 Breast Cancer Cells Transfected for JTB Protein Silencing. Molecules, 2023, 28, 7501. https://doi.org/10.3390/molecules28227501
6. L. Darie-Ion, M. Jayathirtha, G. E. Hitruc, M.-M. Zaharia, R. V. Gradinaru, C. C. Darie, A. Pui and B. A. Petre*, A Proteomic Approach to Identify Zein Proteins upon Eco-Friendly Ultrasound-Based Extraction, Biomolecules, **(2021**), 11, 1838;
7. P.A. Postu, L. Ion, G. Drochioiu, **B.A. Petre***& M. O. Glocker[#], (**2019**), "Mass Spectrometric Characterization of the Zein Protein Composition in Maize Flour Extracts upon Protein Separation by SDS-PAGE and 2 D Gel Electrophoresis", *Electrophoresis*, doi: 10.1002/elps.201900108;
8. L. Ion and **B.A. Petre***, (**2019**), Immuno – affinity Mass Spectrometry: A Novel Approaches with Biomedical Relevance in *Advances in experimental medicine and biology* – Springer, 1140:377-388. doi: 10.1007/978-3-030-15950-4_21;
9. R. Ionita, P. A. Postu, G. J. Beppe, M. Mihasan, **B. A. Petre***, M. Hancianu, O. Cioanca, L. Hritcu, (**2017**), Cognitive-enhancing and antioxidant activities of the aqueous extract from Markhamiatomentosa (Benth.) K. Schum. stem bark in a rat model of scopolamine, *Behav. Brain Funct.* 13(1):5, doi: 10.1186/s12993-017-0123-6;
10. Postu, J. Noumedem, O. Cioanca, M. Hancianu, M. Mihasan, **B. A. Petre**, L. Hritcu, (**2017**), Lactucacapensis ameliorate beta-amyloid induced memory impairment and oxidative stress in animal model of Alzheimer's disease, *J. Cell. Mol. Med*. 22(1):111-122, DOI: 10.1111/jcmm.13299;

6. Selected attended conferences

- Conferința Națională „Prevenție, comunicare, malpraxis în sănătate", Direcţia de Sănătate Publică, Judeţul NEAMŢ, 2023, 2024, 2025;
- CONFER 2023 & 2024 (Conferințele Institutului Regional de Oncologie Iași);
- Clinical & Translational Omics Symposium, organizat de Segal Cancer Proteomics Centre, McGill University, 4-5noiembrie 2023, Protaras, Cyprus;
- The 70th ASMS Conference on Mass Spectrometry and Allied Topics (ASMS 2022), Minneapolis, Minnesota, USA;
- The 69th ASMS Conference on Mass Spectrometry and Allied Topics (ASMS 2021), Philadelphia, PA, USA.
- 21st Romanian International Conference on Chemistry and Chemical Engineering, 4-7 septembrie 2019, Constanta RO;
- Annual International Conference of the Romanian Society of Biochemistry and Molecular Biology, 26-27 Septembrie 2019, Iasi, RO;
- 67th American Socienty for Mass Spectrometry (ASMS) Conference, 2-6 iunie 2019, Atlanta, GE, USA;
- 52nd Annual DGMS Conference, 10 – 13 March, 2019**,** Rostock, Germany;
- Affinity – Mass spectrometry – New Methods and Application to Protein Therapeutics Rüsselsheim am Main, Rüsselsheim am Main, Germany, November 14th – 15th, 2016;

- 47. Jahrestagung der Deutschen Gesellschaft für Massenspektrometrie (DGMS), Frankfurt, DE, 2 – 5 March, 2014;
- Affinity-Mass Spectrometry in Life Sciences Dignostics & Therapy Development of Lysosomal Diseases, Rüsselsheim, DE, 24-25 Noiembrie, 2014;
- 46.Jahrestagung der Deutschen Gesellschaft für Massenspektrometrie (DGMS), Berlin, DE, 10 – 13 March 2013;
- 59th American Socienty for Mass Spectrometry (ASMS) Conference, Denver, CO, USA June 5 - 9, 2011;
- Swiss Proteomics Society (SPS), Lausanne 2007;
- Oxidative post-translational modifications of proteins in cardiovascular disease (OPTM Conference), Boston, USA - 2008 & 2006;

7. Research Fellowships and international academic mobilities

08-12/2025	Fulbright Fellow at Biochemistry & Proteomics Group, Department of Chemistry & Biomolecular Science, Clarkson University, Potsdam, NY;
08-11/2021	Fulbright Fellow at Biochemistry & Proteomics Group, Department of Chemistry & Biomolecular Science, Clarkson University, Potsdam, NY;
09/2019	Research internship at Skoltech, Moscow within the EU-FTIC-MS project;
05/2019	ERASMUS Teaching stage at Clakson University, NY, USA;
09-10/2014	DAAD fellowship at University of Konstanz, Germany;
10/2013 – 06/2014	ARTIE- Romanian-American Foundation (RAF) fellowship award at "P. Poni" Institute of Macromolecular Chemistry, Iasi;
07- 08/ 2013	DAAD fellowship at University of Konstanz, Germany;
10/2010 – 01/2011	DAAD fellowship at Washington University in St. Louis, MO, USA
05/2010 – 07/2011	NSF fellowship at Washington University St. Louis, MO, USA;
07/2007 – 09/2008	WIN-Kolleg fellowship of Heidelberger Academy of Sciences, Germany;

8. Synergistic Activities

Member in scientific national and international organizations:
Romanian Society of Chemistry;
Deutsche Gesellschaft für Massenspektrometrie;
Affinity-Mass Spectrometry: special interest group.
American Society for Mass Spectrometry;

Reviewer for: *Journal of Peptide Science*; *Central European Journal of Chemistry; European Journal of Mass spectrometry*; *ChemMedChem*; *Trends in Analytical Chemistry*.

9. Scientific skil

- Result oriented chemist with a Ph.D. in the field of biological mass spectrometry.
- Over 20 years of hands-on-research experience in protein chemistry and proteomics, peptide chemistry, using various ionization techniques and mass analyzers.

- Over 20 years' experience in protein separation techniques (e.g. 1-D and 2-D gel electrophoresis, HPLC), immunoprecipitation, western blotting, and chemical/enzymatic protein digestion methods.
- Over 20 years' experience in mass spectrometry – based footprinting methods and bioaffinity – mass spectrometry.
- Ability to find, analyzes, and solves scientific and technical problems.
- Accurate in the scientific work and reporting.
- Excellent networking, communication, and interpersonal skills. Demonstrated ability to work in a team and also productive leader abilities.

Date: 01.10.2026

Prof. dr. habil. Brînduşa - Alina PETRE

Appendix I – Complete Publication List

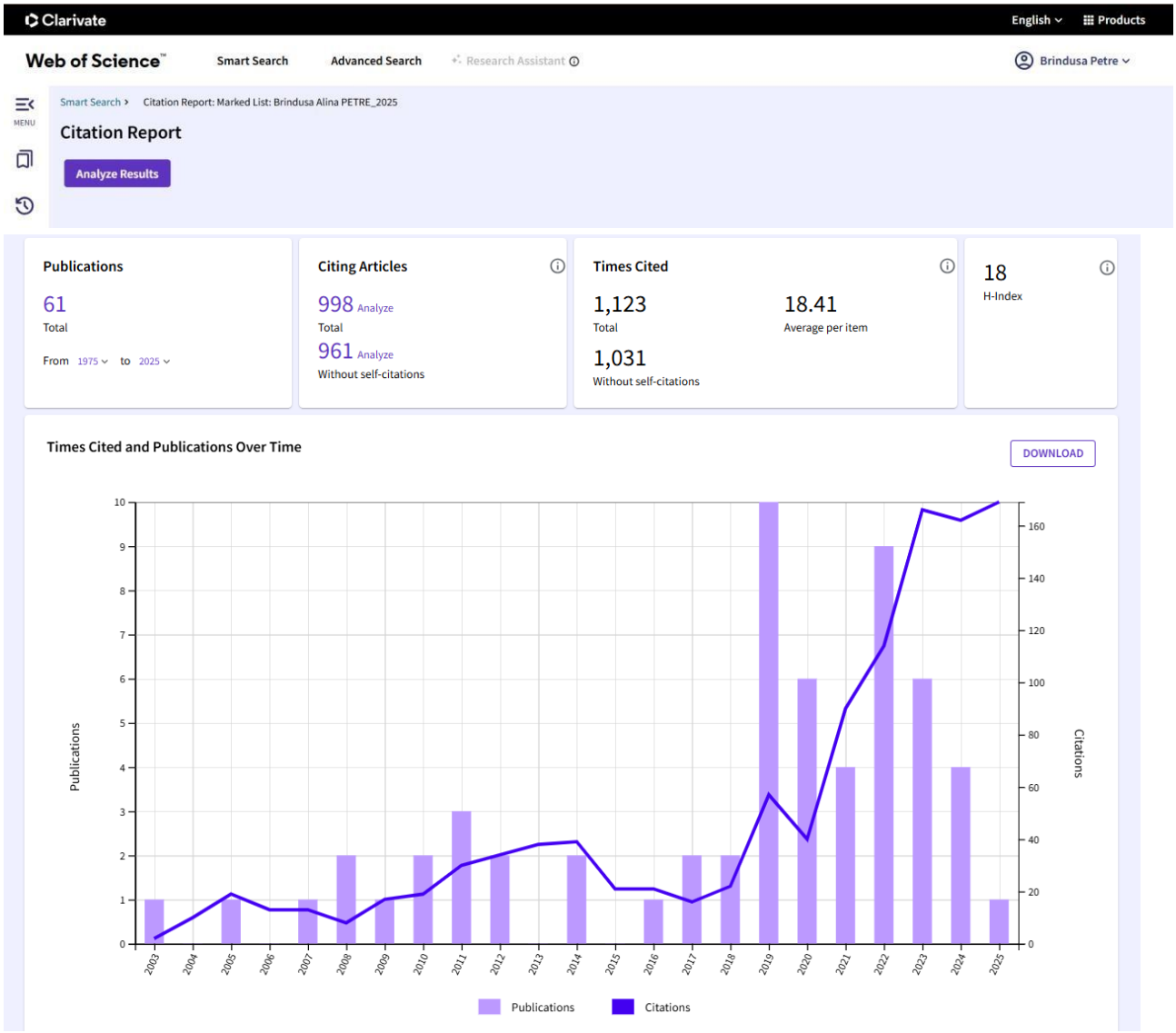
No	Peer-reviewed publications
1	Gradinaru, V.R.; Bercea, M.; Gradinaru, L.M.; Puiu, A.; Lupu, A.; **Petre, B.A.** Targeting Injectable Hydrogels: The Role of Diphenylalanine Peptide Derivative in the Gelation Dynamics of Pluronic® F127, **Polymers 2025**, 17, 930. https://doi.org/10.3390/polym17070930;
2	Lupu, L. M. Gradinaru, M. Balan-Porcarasu, L. Darie-Ion, **B.-A. Petre**, V.-R. Gradinaru, The hidden power of a novel collagen octapeptide: Unveiling its antioxidant and cofactors releasing capacity from polyurethane based systems, Reactive and Functional Polymers, 207, 2025, 106131 https://doi.org/10.1016/j.reactfunctpolym.2024.106131;
3	N. N. Condurache, I. Aprodu, L. Grigore-Gurgu, **B. A. Petre**, E. Enachia, G. Râpeanua, G. E. Bahrima, N. Stănciuc, Fluorescence spectroscopy and molecular modeling of anthocyanins binding to bovine lactoferrin peptides, ***Food Chemistry,*** (**2020**), 318, 126508,https://doi.org/10.1016/j.foodchem.2020.126508
4	G. Drochioiu, C. I. Ciobanu, S. Bancila, L. Ion, **B. A. Petre**, C. Andries, R. V. Gradinaru, M. Murariu, "Ultrasound-based protein determination in maize seeds", ***Ultrasonics Sonochem.*** (**2016**), 29, 93–103. https://doi.org/10.1016/j.ultsonch.2015.09.007
5	R. S. Boiangiu, M. Mihasan, L. D. Gorgan, B. A. Stache**, B. A. Petre**, L. Hritcu, Cotinine and 6-hydroxy-L-nicotine reverses memory deficits and reduces oxidative stress in Aβ25-35-induced rat model of Alzheimer's disease, ***Antioxidants (Basel),*** (**2020**), 9(8): 768, https://doi.org/10.3390/antiox9080768
6	Darie-Ion L, **Petre BA***, "An update on multiplexed mass spectrometry- based lysosomal storage disease diagnosis." ***Mass Spectrometry Reviews, (2023)***, 1-15, https://doi.org/10.1002/mas.21864
5	Jayathirtha, M.; Jayaweera, T.; Whitham, D.; **Petre, B.A**.; Neagu, A.-N.; Darie, C.C. "Two-Dimensional Polyacrylamide Gel Electrophoresis Coupled with Nanoliquid Chromatography–Tandem Mass Spectrometry-Based Identification of Differentially Expressed Proteins and Tumorigenic Pathways in the MCF7 Breast Cancer Cell Line Transfected for Jumping Translocation Breakpoint Protein Overexpression." ***Int. J. Mol. Sci. 2023***, 24, 14714. https://doi.org/10.3390/ijms241914714
8	L. Darie-Ion, M. Jayathirtha, G. E. Hitruc, M.-M. Zaharia, R. V. Gradinaru, C. C. Darie, A. Pui and B. **A. Petre***, A Proteomic Approach to Identify Zein Proteins upon Eco-Friendly Ultrasound-Based Extraction, **Biomolecules**, (**2021**), 11, 1838. https://doi.org/10.3390/biom11121838
9	Grigore-Gurgu L, Crăciunescu O, Aprodu I, Bolea CA, Iosăgeanu A, **Petre BA**, Bahrim GE, Oancea A, Stănciuc N. Tailoring the Health-Promoting Potential of Protein Hydrolysate Derived from Fish Wastes and Flavonoids from Yellow Onion Skins: From Binding Mechanisms to Microencapsulated Functional Ingredients**,** ***Biomolecules*** (**2020**), 7;10(10):1416. https://doi.org/10.3390/biom10101416
10	S. C. Jitaru, A. Neamtu, G. Drochioiu, L. Darie-Ion, I. Stoica, **B.-A. Petre***, V.-R. Gradinaru, A diphenylalanine based pentapeptide with fibrillating self-assembling properties, ***Pharmaceutics 2023***, 15(2), 371; https://doi.org/10.3390/pharmaceutics15020371
11	Postu, J. Noumedem, O. Cioanca, M. Hancianu, M. Mihasan, **B. A. Petre**, L. Hritcu, Lactuca capensis reverses memory deficits in Aβ1-42-induced an animal model of Alzheimer's disease,***J. Cell. Mol. Med.*** (**2018**), 22(1), 111-122, https://doi.org/10.1111/jcmm.13299
12	R. Ionita, P. A. Postu, G. J. Beppe, M. Mihasan, **B. A. Petre*,** M. Hancianu, O. Cioanca, L. Hritcu, "Cognitive-enhancing and antioxidant activities of the aqueous extract from Markhamia tomentosa (Benth.) K. Schum. stem bark in a rat model of scopolamine", ***Behavioral and Brain Functions,*** (**2017**), 13:5, https://doi.org/10.1186/s12993-017-0123-6
13	Ulrich*, M., **Petre A***., N. Youhnovski, D. Worlitzsch, M. Schirle, M. Schumm J. Lee, J. Checkel, M. Dinauer, P. Schmid, F. Ratjen, M. Przybylski, G. Döring, "Post-translational tyrosine nitration of eosinophil granule toxins mediated by eosinophil peroxidase", ***J. Biol. Chem.*** (**2008**), 283 (42): 28629-28640. https://doi.org/10.1074/jbc.M801196200
14	Schmidt P., Youhnovski N., Daiber A., **Balan (Petre) A**., Arsic M., Przybylski M. Ullrich V., "Specific nitration at tyrosine-430 revealed by high resolution mass spectrometry as basis for redox regulation of bovine prostacyclin synthase", ***J. Biol. Chem***, (**2003**), 278: 12813-12819. https://doi.org/10.1074/jbc.M208080200
15	Jitaru, S.-C.; Enache, A.-C.; Cojocaru, C.; Drochioiu, G.; **Petre, B.-A**.; Gradinaru, V.-R. "Self-Assembly of a Novel Pentapeptide into Hydrogelated Dendritic Architecture: Synthesis, Properties, Molecular Docking and Prospective Applications." ***Gels 2024***, 10, 86. https://doi.org/10.3390/gels10020086
16	Iavorschi, M.; Lupăescu, A.-V.; Darie-Ion, L.; Indeykina, M.; Hitruc, G.E.; **Petre, B.A.*** Cu and ZnInteractions with Peptides Revealed by High-Resolution Mass Spectrometry. ***Pharmaceuticals, (2022)***, 15, 1096. https://doi.org/10.3390/ph15091096

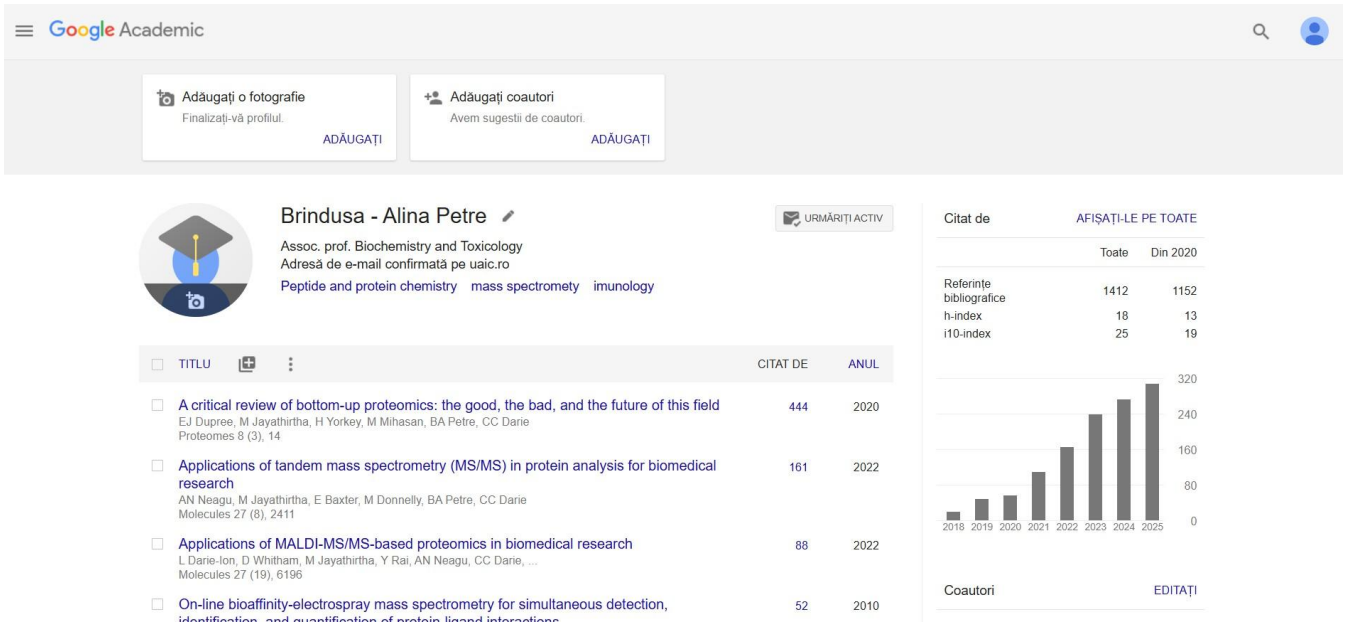
17	Jayathirtha, M.; Jayaweera, T.; Whitham, D.; Sullivan, I.; **Petre B.A.***; Darie, C.C.; Neagu, A.-N. "Two-Dimensional-PAGE Coupled with nLC-MS/MS-Based Identification of Differentially Expressed Proteins and Tumorigenic Pathways in MCF7 Breast Cancer Cells Transfected for JTB Protein Silencing." ***Molecules, 2023***, 28, 7501. https://doi.org/10.3390/molecules28227501
18	Darie-Ion, L.; Whitham, D.; Jayathirtha, M.; Rai, Y.; Neagu, A.-N.; Darie, C.C.; **Petre, B.A.*** Applications of MALDI-MS/MS-Based Proteomics in Biomedical Research, ***Molecules (2022)***, 27, 6196https://doi.org/10.3390/molecules27196196
19	A.-N. Neagu, M. Jayathirtha, E. Baxter, M. Donnelly, **B. A. Petre** and C. C. Darie, Applications of Tandem Mass Spectrometry (MS/MS) in Protein Analysis for Biomedical Research, ***Molecules (2022)***, 27, 2411https://doi.org/10.3390/molecules27082411
20	D.-A. Blaj, M. Balan-Porcarasu**, B. A. Petre**, V. Harabagiu, C. Peptu, MALDI mass spectrometry monitoring of cyclodextrin-oligolactide derivatives synthesis, **Polymer (2021)**, 233, https://doi.org/10.1016/j.polymer.2021.124186
21	C. S. Mocanu, L. Darie-Ion, **B. A. Petre**, V. R. Gradinaru, G Drochioiu, A computational study of metal ions interaction with amyloid-b 1–42 peptide structure in hyperpyrexia: Implications for Alzheimer disease, ***Journal of King Saud University Science*** 34 (**2022**) 102184, https://doi.org/10.1016/j.jksus.2022.102184
22	Drochioiu G., Manea M., Dragusanu M., Murariu M., Dragan E.S., **Petre B.A.** Mezo G., Przybylski M., "Interaction of beta-amyloid (1-40) peptide with pairs of metal ions: An electrospray ion trap mass spectrometric model study", ***Biophysical Chemistry***, (**2009**), 144(1-2) 9-20. https://doi.org/10.1016/j.bpc.2009.05.008
23	Schreier V. N., Pethő L, Orbán E., Marquardt A., **Petre B.A**., Mező G. and Manea M., "Protein expression profile of HT-29 human colon cancer cells after treatment with a cytotoxic daunorubicin-GnRH-III derivative bioconjugate", ***PLoS ONE***, (**2014**), 9(4):e94041 https://doi.org/10.1371/journal.pone.0094041
24	C. S. Mocanu, **B. A. Petre**, L. Darie Ion, G. Drochioiu, M. Niculaua, I. Stoica, M. Homocianu, L. E. Nita, and V. R. Gradinaru, Structural Characterization of a New Collagen Biomimetic Octapeptide with Nanoscale Self-assembly Potential: Experimental and Theoretical Approaches, **ChemPlusChem**, (**2021**), https://doi.org/10.1002/cplu.202100462
25	A-N. Neagu, M. Jayathirtha, D. Whitham, P. Mutsengi, I. Sullivan, **B-A. Petre**, C. C. Darie, "Proteomics-Based Identification of Dysregulated Proteins in Breast Cancer", ***Proteomes (2022)***, 10, 35. https://doi.org/10.3390/proteomes10040035
26	EJ. Dupree, M. Jayathirtha, H Y., **B-A. Petre***, M. Mihasan, C. C. Darie, "A critical review of bottom-up proteomics: the good, the bad, and the future of this field", ***Proteomes, (2020)***, 8(14).https://doi.org/10.3390/proteomes8030014
27	Vlad C., Lindner K., Karreman C., Schildknecht S., Leist M., Tomczyk N., Rontree J., Langridge J., Danzer K., Ciossek T., **Petre A**., Gross M., Hengerer B., Przybylski M. "Autoproteolytic Fragments are Intermediates in the Oligomerization- Aggregation of Parkinson's Disease Protein Alpha-Synuclein as Revealed by Ion Mobility Mass Spectrometry", ***ChemBioChem*(2011)**, 12(18):2740-4https://doi.org/10.1002/cbic.201100569
28	**Petre* B.A**., Ulrich M., Stumbaum M., Bernevic ., Moise A., Döring G., Przybylski M. When is Mass Spectrometry Combined with Affinity Approaches Essential? A Case Study of Tyrosine Nitration in Proteins, ***J. Am. Soc. Mass Spectrom***, (**2012**), 23(11): 1831-1840. https://doi.org/10.1007/s13361-012-0461-4
29	M. Drăguşan, **B.A Petre**, S. Slamnoiu, T. Tu, M. Gross, M. Przybylski "Online bioaffinity–electrospray mass spectrometry for structure identification and quantification of protein-ligand interactions", ***J. Am. Soc. Mass Spectrom.*** (**2010**), 21(10): 1643-8. https://doi.org/10.1016/j.jasms.2010.06.011
30	Tu T., Drăguşanu M., **Petre B.A.,** Rempel D., Przybylski M., Gross M., "Protein-peptide affinity determination using an H/D exchange dilution strategy: Application to antigen-antibody interactions", ***J. Am. Soc. Mass Spectrom.*** (**2010**), 21(10):1660-7. https://doi.org/10.1016/j.jasms.2010.03.030
31	P.A. Postu, L. Ion, G. Drochioiu, **B.A. Petre***, and M. O. Glocker, "Mass Spectrometric Characterization of the Zein Protein Composition in Maize Flour Extracts upon Protein Separation by SDS-PAGE and 2 D Gel Electrophoresis", ***Electrophoresis***, (**2019**), 40, 2747–2758, https://doi.org/10.1002/elps.201900108
32	M. Jayathirtha, E. J. Dupree, Z. Manzoor, B. Larose, Z. Sechrist, A. Neagu, **B-A. Petre**, C. C. Darie, Mass Spectrometric (MS) Analysis of Proteins and Peptide, **Current Protein & Peptide Science**, (**2021**),https://doi.org/10.2174/1389203721666200726223336
33	Darie-Ion, A. Neamtu, R. Iliescu, **B. A. Petre***, Immuno-Affinity Study of Oxidative Tyrosine Containing Peptides, 2022,***International Journal of Peptide Research and Therapeutics (2022)*** 28:41,https://link.springer.com/article/10.1007/s10989-021-10329-2; https://doi.org/10.1007/s10989-021-10329-2
34	Habasescu, L., Jureschi, M., **Petre, B. A.,** Mihai, M.,Gradinaru, RV., Murariu, M.,Drochioiu, G., "Histidine-Lacked A beta(1-16) Peptides: pH-Dependent Conformational Changes in Metal Ion Binding". ***Int. J. Peptide Research and Therapeutics.*** (**2020**), https://doi.org/10.1007/s10989-020-10048-0

35	A. Lupaescu, M. Jureschi, C.-I. Ciobanu, L. Ion, G Zbancioc, **B.A. Petre**, G. Drochioiu, "FTIR and MS Evidence for Heavy Metal Binding to Anti-amyloidal NAP-Like Peptides, ***Int.J. Peptide Research and Therapeutics***, (**2019**), *25, 303–309https://doi.org/10.1007/s10989-018-9672-2*
36	Maeser S, **Petre BA*,** Ion L, Rawer S, Kohlschütter A, Santorelli FM, Simonati A, Schulz A, Przybylski M., Enzymatic diagnosis of neuronal lipofuscinoses in dried blood spots using substrates for concomitant tandem mass spectrometry and fluorimetry. ***J Mass Spectrom.*** (**2021**), 29:e4675. https://doi.org/10.1002/jms.4675
37	Dragusanu M., **Petre B.A.,** Przybylski M. Epitope motif of an anti-nitrotyrosine antibody specific for nitrotyrosine- modified peptides revealed by affinity-mass spectrometry, ***J. Pept. Sci.*** (**2011**), 17(3): 184-191. https://doi.org/10.1002/psc.1298
38	C. A. Okai, M. Wölter, M. Russ, C. Koy**, B.A. Petre**, W. Rath, U. Pecks, M. O. Glocker, Profiling of intact blood proteins by matrix-assisted laser desorption/ionization mass spectrometry without the need for freezing – Dried serum spots as future clinical tools for patient screening. ***Rapid Commun Mass Spectrom. (2021)***, 35:e9121, https://doi.org/10.1002/rcm.9121
39	Bernevic B., **Petre B.A**., Galetskiy D., Werner C., Wicke M., Schellander K., Przybylski M., "Degradation and oxidation postmortem of myofibrillar proteins in porcine skeleton muscle revealed by high resolution mass spectrometric proteome analysis", ***Int.*J. Mass Spectrom.** (**2011**), 305 (2-3):217-227 https://doi.org/10.1016/j.ijms.2010.11.010
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1	M. Jureschi, A. V. Lupaescu, L. Ion, **B. A. Petre***, and G. Drochioiu, Stoichiometry of Heavy Metal Binding to Peptides Involved in Alzheimer's Disease: Mass Spectrometric Evidence, **Advances in experimental medicine and biology – Springer, (2019)**, 401-415; doi.org/10.1007/978-3-030-15950-4_23
2	Ion Laura, and **Brînduşa Alina Petre*,** "Immuno-Affinity Mass Spectrometry: A Novel Approaches with Biomedical Relevance." **Advances in experimental medicine and biology– Springer, (2019)**: 377-388.
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4	**Petre B. A**., Drăguşanu M., Przybylski M. (2008), Molecular recognition specificity of anti-3-nitrotyrosine antibodies revealed by affinity- mass spectrometry and immunoanalytical methods in: "Applications of Mass Spectrometry in Life Sciences", Springer - ISBN 978-1-4020-8811-7, page 55-67.

Appendix II – Citation Metrics / h-index

h index 18 (Web of Science source - 1031 citation); **h index 19** (Google scholars' source- 1412 citation);





Appendix III – Research projects

9 research grants, including 2 competitively awarded as Project Director and 7 as team member:

1. Project Director: “Characterization of pathophysiological protein modifications using bio-affinity mass spectrometric methods”, UEFISCDI – CNCS Romania (PN-II-RU-TE-2014-4-0920), 2015–2017.
2. Project Director: “New mass spectrometric approaches for elucidating oxidative modifications in proteins”, UEFISCDI – CNCS Romania (PN-II-RU-TE-2011-3-0038), 2011–2014.
3. Team Member: PN-IV-P1-PCE2023-0678, “New cell penetrating peptides to study interaction of cell membrane receptors with ligands for dual targeted cancer therapy”;
4. Team Member: “DECIDE – Development through entrepreneurial education and innovative doctoral and postdoctoral research”, “Ștefan cel Mare” University of Suceava, Romania, 2022.
5. Team Member: “Design of modern peptide platforms inspired by living systems – Bio-PASCAL”, UEFISCDI Romania (PN-III-P2-2.1-PED-2019-2484), 2020–2022.
6. Team Member: “Impact of heavy metal accumulation on the environment and productivity of forestry ecosystems: Non-conventional remediation technologies for contaminated forests”, PN-II-PT-PCCA-2013-4-1149, UEFISCDI Romania, 2014–2017.
7. Team Member: “Process for one-step production of two different high-quality corn flours by low-cost screening and eco-friendly chemical separation (QUALIFARIN)”, “Petru Poni” Institute of Macromolecular Chemistry, Iași; Funding: Romanian–American Foundation – ARTIE POC Program, 2014.
8. Team Member: “Metal- and pH-induced conformational changes in peptides associated with neurodegenerative pathologies”, UEFISCDI – CNCS Romania (PN-II-ID-PCE-2011-3-0628), 2011–2014.
9. Team Member: “Identifizierung und Struktur-/Funktionsanalyse der Protein-Nitrierung in eosinophilen Granulozyten und in chronisch entzündetem murinem und humanem Lungengewebe”, German Research Foundation (DFG), University of Konstanz, Germany, 2008–2012.

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