CURRICULUM VITAE



1/ Personal data

Name: MUTIHAC

First name: LUCIA

Place of birth: Băile Olăneşti, Rm. Vâlcea, Romania

2/ Academic degrees

1974, B.Sc. in Chemistry, University of Bucharest, Department of Chemistry, Bucharest, Romania;

1975, M.Sc. in Analytical Chemistry, University "Politehnica" Bucharest, Department of Chemistry, Bucharest, Romania;

1977, March 30 - July 30, University "Babeş-Bolyai", Cluj-Napoca, Romania, field of specialization:

Analytical Chemistry and Automated Analysis in Industrial Processes.

1990, Ph.D. in Chemistry, Institute of Physical Chemistry, Romanian Academy, Bucharest, title of dissertation: *Separation of Amino Acids by Macrocyclic Ligands through Liquid Membranes,* supervisor Prof. Dr. C. Luca.

3/ Positions held

September 1975 – September 1978: *Chemist*, Center of Chemical Research, Rm. Vâlcea, Romania.

September 1978 – May 1989: *Chemist Researcher*, Institute of Physical Chemistry, Romanian Academy, Bucharest, Romania.

May 1989 – September 1991: *Senior Researcher*, Institute of Physical Chemistry, Romanian Academy, Bucharest, Romania.

September 1989 – September 1991: *Professor Assistant*, University of Bucharest, Faculty of Chemistry, Department of Analytical Chemistry, Bucharest, Romania.

September 1991 – October 1997: *Lecturer, Dr.*, University of Bucharest, Faculty of Chemistry, Department of Analytical Chemistry, Bucharest, Romania.

October 1997 – October 2000: *Associate Professor, Dr.*, University of Bucharest, Faculty of Chemistry, Department of Analytical Chemistry, Bucharest, Romania.

October 2000 – on: *Full Professor, Dr.*, *doctorate supervisor*, University of Bucharest, Faculty of Chemistry, Department of Analytical Chemistry, Bucharest, Romania.

September 2016 - retired

4/ University courses in charge

– Separation Methods and Trace Analysis (licence); Chemometrics (master); Analytical Biochemistry (licence); Separation Methods in Biochemistry (licence); Membrane Methods in Analytical Chemistry (licence).

5/ Other duties

– Students' superviser for licence and master studies; Research work carried out jointly on contract basis, in national and international research teams consisting of researchers, PhD students, and Master students.

6/ Fields of research

– Analytical and bioanalytical applications of supramolecular chemistry; Molecular recognition and transport through liquid membranes; Separation methods and spectrometric methods; Chemometrics in analytical chemistry.

7/ Membership and activities in professional associations

1986 – 1992: ***Executive Secretary*** of the Romanian journals in Chemistry, Publishing House of the Romanian Academy:

Revue Roumaine de Chimie;
Roumanian Chemical Reviews (discontinued).

1991 – on, member of the ***Romanian Society of Analytical Chemistry***.
1992 – on, member of the ***Romanian Society of Chemistry***.
1992 – on, member of the ***European Membrane Society***.
2000 – on, member of the ***American Chemical Society***.
Coordinator for Romania of the **Global Supramolecular Chemistry Network**.
***Member of the International Organizing Committe*e** of the **1st International Conference on Supramolecular Science & Technology**, Poland, Zakopane Sept. 23 – Oct. 3, 1998.
Member of the International Organizing Committee of the **2nd International Conference on Supramolecular Science & Technology**, Leuven, Belgium, Sept. 10 – 14, 2000.
Co-Secretary of the **7th International Symposium KAC' 2001 on Kinetics in Analytical Chemistry**, September 26 – 29, 2001, Bucharest, Romania.
***Member* of Scientific Committee, NOMARES**, **June 18-19, 2010, Bucureşti.**
Membru of *International Advisory Board*, ICSNA 2012 (International Conference on Supramolecules and Nanomaterials-Research and Applications, **February 6-8, 2012, Gujarat, India;**
***Member of International Scientific Board*, RICCCE 18**, **September 4, Sinaia, 2013;**
***Member* of Scientific Committee, NOMARES**, **1-3 Octobre 2014, Căciulata, Vâlcea;**
***Member* of Scientific Committee, NOMARES**, **28-31 August 2016, Iasi.**
***Member* of Scientific Committee, NOMARES**, **24-26 Mai 2018, Constanţa.**
Member of Organizing Board, RO-ICAC - Analytical Chemistry for a better Life, Bucharest, Romania, 1-3 Septembrie, 2018.

Referee for assessement of PhD thesis (national and international).
Editorial Board Member: Journal of Analytical & Bioanalytical Technique.

8/ Fellowships and Grants

– 1990 Institute of Analytical Chemistry**,** Hungary Science Academy**,** Budapest, Hungary**,** for the project: *Ion electrode selective and transport through membrane* (**Academic exchanges**).
– July 12 – October 29, 1993, ***Research Fellowship*** for the project: *Interactions between Macrocyclic and Macrobicyclic Hosts and Amino Acids and Other Organic Guests, Studied by Calorimetry, Potentiometry, and Conductometry,* granted by the **European Communities** in the framework of the ***Cooperation in Science and Technology with Central and Eastern European Countries* (COST)**, Contract No. ERB-CIPA-CT-93-0643, DTNW-Universität Duisburg, Germany.
– July 18 – 29, 1994, participation in **TEMPUS** Joint European Project No. JEP 4720 ***Regional Courses in Membrane Processes, Module 2***, Slovak Technical University, Department of Chemical and Biochemical Engineering, Bratislava, Slovakia.
– February 1995 – September 1997, **NATO *Collaborative Research Grant***, **SRG 941403** for the project: *Interactions between Unprotonated Amines and Polyethers, Crown Ethers, and Cryptands*, DTNW-Universität Duisburg, Germany.
– May – August 1996, **TEMPUS**, IMG-RO-2052, ***Organization of membrane education on the curricula of chemist and chem. Engineering,*** University of Calabria, Department of Chemistry and Institute of Membranes and Chemical Reactors CNR, 87030 Arcavacata di Rende (CS), Italy, Prof. Enrico Drioli.
– ***XV th Annual Summer School***, **Membrane processes in water and wastewater treatment,** Toulouse, France, July 6 – 10, 1998.

- 1999 – 2000, **NATO *Collaborative Linkage Grant* CLG 974819**: *Enantiomeric Separation of Some Amino Acids and Peptide Compounds by Chiral Receptors*, DTNW-Universität Duisburg, Germany.
- 1999 – 2000 **NATO *Science Programme, Cooperative Science and Technology Sub-Programme***: *Computer Networking Supplement*, CNS 976039, DTNW-Universität Duisburg, Germany.
- 2001 – 2002 **NATO *Collaborative Linkage Grant* CLG- 977861**: *Selective complexation and separation of some peptide compounds by water-soluble calixarenes,* 1 January 2001-31 December 2002, DTNW-Universität Duisburg, Germany.
- July 1, 2003 – August 31, 2003 ***Deutscher Akademischer Austauschdienst*** **(DAAD)**, Universität Duisburg-Essen, Germany.
- January 2003 – 2004, **NATO *Collaborative Linkage Grant* CLG-979790**: *Peptide Recognition by Cyclodextrins in aqueous solutions*, Universität Duisburg-Essen, Germany.

9/ Publications

Number of scientific papers published in refereed journals: **135** (**110** ISI indexed);
Number of oral communications and posters presented to scientific meetings > **155**;
Number of published scientific books: **8**;
Number of chapter books: **5;**
Number of patents: **1;**
Number of scientific national projects: **62;**
Number of scientific international projects: **6.**
h-index = **23**, Sum of Times Cited = **2129**

10/ Invited lectures (selective):

- Physicochemical characterization of the complexation of peptides by macrocyclic receptors. **2 nd International Conference on Supramolecular Science & Technology,** Belgium, **Leuven**, 10-14 September, 2000.
- Aspects of Peptide Separation through Liquid Membranes. **3rd European Congress of Chemical Engineering, Nürenberg**, Germany, June 2001.
- *Recognition and transport of amino acids and peptides by synthetic receptors*.
  10th International Conference on Calixarenes, Korea University, **Seoul,** S. Korea, IL6, July 13 – 16, 2009.
- *Liquid membranes in separation of relevant biological species*.
  Systems membranes-complex roadmaps toward functional devices and coupled processes. **Membrane Materials and Technologies. XXVII Summer School**, European Membrane Society, **Bucharest,** June 14 – 19, 2010.
- *Cucurbit[n]urils in molecular recognition of small biomolecules*.
  2nd International Conference on Cucurbiturils (ICCB 2011), University of **Cambridge, UK**, June 29 July 2, 2011.
- *Calix[narenes and Cucurbit[n]urils in molecular recognition of biomolecules*
  WORKSHOP - Honorary Symposium Constantin LUCA - "pH on Membrane Materials and Processes" **Sinaia,** Romania, 7-10 September, 2011.
- *Binding and transport of calixarene-biomolecule supramolecular complexes*
  18th Romanian International Conference on Chemistry and Chemical Engineering (RICCCE 18) Sinaia 4-7 September, 2013, Romania (www.riccce18.upb.ro).
- *Functionalized calixarenes used in bioanalytical applications*
  2nd International Conference on analytical chemistry – Analytical Chemistry for a better Life, Valahia University of **Târgovişte**, Romania, 17-21 September, 2014.
- *Molecular recognition of small biomolecules by calixarenes*
  L'atelier: Nouveaux materiaux por la reconnaissance electrochimique des mineraux et des especes biologiques "**NOMARES**", **Căciulata**, Vâlcea, Romania, October 1-3, 2014.
- *Advances in supramolecular analytical chemistry using cucurbit(n)urils and their derivates*
  4th International Conference on analytical chemistry- Analytical Chemistry for a better Life,

Bucharest, Romania, 1-3 Septembrie, 2018.

11/ Invited chapters in scientific text books

1. Extraction and Transport
Lucia Mutihac
In: **Comprehensive Supramolecular Chemistry II**, Vol 2, (J. L. Atwood, Ed.) pp. 369-379, 2017, **Oxford: Elsevier.** ISBN: 9780128031988.

2. **Thermodynamic Aspects of Complex Formation between Amino Acids and Peptides with Macrocyclic**
Ligands
H.-J. Buschmann and L. Mutihac
Thermodynamic of Amino Acid and Protein Solutions
Research Signpost/Transworld Network, Biological Science
(W. Kunz and J. Tsurko, Eds.) 2010, ISBN: 978-81-7895-473-8, pp. 151-180.

3. **Liquid Membranes in Separation of Relevant Biological Species**
Lucia Mutihac
Systems Membranes-Complex Roadmaps toward Functional Devices and Coupled Processes
(M. Barboiu and G. Nechifor, Eds.), Printech, ISBN 978-606-523-526-9, Bucharest, 2010, pp. 241-265.
XXVII Summer School, European Membrane Society, Bucharest, 14-19 June, 2010.

4. **Cyclodextrins Involved in Separation of Amino Acids by Liquid Membranes**
A. D. Stancu, M. Ceausescu, L. Kim, E. Diacu, L. Mutihac
Thrends in Membranology
(S. I. Voicu and G. Nechifor, Eds.), Printech, ISBN 978-606-521-525-2, Bucharest, 2010, pp.77-81.
XXVII Summer School, European Membrane Society, 14-19 June, 2010, Bucharest

5. Amino Acid Separation through Liquid Membranes
L. Mutihac and I. Patroescu
Recents Progres en Genie de Procedes
Ed. Groupe Francaise de genie des procedes, Paris, 1992, vol. 6, pp. 431-435.

12/ Books

1. ADVANCED DATA ANALYSIS IN CHEMOMETRICS (in English)
L. Mutihac, R. Mutihac
Editura Universităţii din Bucureşti, ISBN 978-973-737-585-8, Bucureşti, 2008, 400 pp.

2. APLICAŢII ANALITICE ALE RECEPTORILOR MACROCICLICI
E. Diacu, L. Mutihac
Editura PRINTECH, Bucureşti, ISBN 978-973-718-450-4, 2006, 138 pp.

3. FUNDAMENTALS OF ANALYTICAL BIOCHEMISTRY (in English)
L. Mutihac
Editura Universităţii din Bucureşti, Bucureşti, ISBN 973-737091, 2005, 194 pp.

4. ELEMENTE FUNDAMENTALE DE CHEMOMETRIE
L. Mutihac, V. David
Editura Universităţii din Bucureşti, ISBN 973-575-917-9, Bucureşti, 2004, 198 pp.

5. CHEMOMETRIE, PRINCIPII ŞI APLICAŢII ÎN CHIMIA ANALITICĂ
C. Bala, L. Mutihac
Editura Universităţii din Bucureşti, ISBN 973-575-437-1, Bucureşti, 2000, 140 pp.

6. SEPARAREA COMPUŞILOR CHIMICI ŞI BIOLOGICI PRIN MEMBRANE ŞI PROCESE MEMBRANARE
L. Mutihac, C. Bala
Editura Universităţii din Bucureşti, ISBN 973-575-301-4, Bucureşti 1999, 131 pp.

7. MECANISME DE TRANSPORT PRIN MEMBRANE LICHIDE
C. Luca, L. Mutihac, R. Mutihac, A. M. Josceanu
Editura Academiei Române, ISBN 973-27-0596-5, Bucureşti, 1998, 236 pp.

8. CHEMOMETRIE

L. Mutihac, V. David

Editura Universităţii din Bucureşti, ISBN 973-575-085-6, Bucureşti, 1997, 188 pp.

Patent

1. Patent No. 89640/30.01.1986

Procedeu de stabilizare a guaiazulenei din soluţiile de produse farmaceutice fotooxidabile (Method of Guajazulene Stabilization from Photooxidable Pharmaceutical Solutions)

T. Constantinescu, L. Mutihac, E. Negoescu, T. Marinică, M. Gheorghiu, M. Rogoşcă

13/ Articles (selective) and book reviews

A brief overview on supramolecular analytical chemistry of cucurbit[n]urils and hemicucurbit[n]urils, R.-C. Mutihac, A. A. Bunaciu, H.-J. Buschmann, L. Mutihac, **J. Incl. Phenom. Macrocycl. Chem**. 2020, https:/doi.org/10.1007/s10847-020-01019-5. *Book Review:* Monographs in Supramolecular Chemistry No 15: *Polyrotaxane and Slide-Ring Materials* by Kohzo Ito, Kazuaki Kato and Koichi Mayumi, Royal Society of Chemistry, Cambridge, UK, 2017, www.rsc.org/books L. Mutihac; **J. Incl. Phenom. Macrocycl. Chem**. 88 : 259-260, 2017. *Hemicucurbiturils as receptors in extraction and transport of some amino acids* E.I. Cucolea, H.-J. Buschmann, L. Mutihac, **Supramol. Chem**. 28: 727-732, 2016. *Interactions of cucurbit[7]uril and* β-*Cyclodextrin with some nucleobases*E.I. Cucolea, C. Tablet, H.-J. Buschmann, L. Mutihac, **J. Incl. Phenom. Macrocycl. Chem**. 83: 103-110, 2015, *Book Review: Supramolecular Systems in Biomedical Fields, Ed. H.-J.Schneider,* RSC Publishing, Cambridge, UK, 2014, www.rsc.org/books, L. Mutihac, **J. Incl. Phenom. Macrocycl. Chem**. 80: 187-188, 2014. *Anion influence on extraction and transport of amino acid methyl esters by functionalized calix[4]arene,* L. Mutihac, I. Varduca Enache, E. Diacu, R.-C. Mutihac, J. Vicens, **Supramol. Chem**. 26: 521-525, 2014. *Host-guest sensing by calixarenes on the surfaces,* H. J. Kim, M. H. Lee, L. Mutihac, J. Vicens, J. S. Kim**, Chem. Soc. Rev**. 41: 1173-1190, 2012. *Recognition of amino acids by functionalized calixarenes*, L. Mutihac, J. H. Lee, J. S. Kim, J. Vicens, **Chem. Soc. Rev**. 40: 2777-2796, 2011. *Chemiluminiscence of 5-(azo-para-phenylene-N-aza-15-crown-5)-phthalhydrazide*, R. D. Baratoiu, L. Mutihac, M. Vasilescu, M. Voicescu, A. Latus, G. Ionita, A. Beteringhe, T. Constantinescu, A. T. Balaban, **Arkivoc 2009 (xiii),** 300-310. *Extraction and transport behavior of aromatic amino acids by modified cyclodextrin,* L. Kim, A.-D. Stancu, E. Diacu, H.-J. Buschmann, L. Mutihac, **Supramol. Chem**. 21(1&2): 131-134, 2009. *The formation of alkali and alkaline earth cation complexes with cucurbit[6]uril in aqueous solution: A critical survey of old and new results,* H.-J. Buschmann, E. Cleve, L. Mutihac, E. Schollmeyer, **J. Incl. Phenom. Macrocycl. Chem**. *The formation of homogeneous and heterogeneous 2:1-complexes between dialkyl- and diarylammonium ions and* α*-cyclodextrin and cucurbit[6]uril in aqueous formic acid,* H.-J. Buschmann, L. Mutihac, E. Schollmeyer,**Thermochim. Acta** 495: 28-32, 2009. *Mining in chemometrics – Review* L. Mutihac, R. Mutihac, **Anal. Chim. Acta**. 612: 1-18, 2008. *Considerations on MS/MS detection of Bromazepam after liquid chromatographic separation from plasma samples: application to a bioequivalence study,* F. Albu, C. Georgita, F. Tache, L. Mutihac, A.Medvedovici, V. David, **Journal of Liquid Chromatography and Related Technologies** 30(18): 2699-2715, 2007. *Complexation behavior of cucurbit[6]uril with short polipeptides* H.-J. Buschmann, L. Mutihac, R.-C. Mutihac, E. Schollmeyer, **Thermochim. Acta** 430(1-2): 79-82, 2005. *Simple molecular architecture using alkylamines,*α*-Cyclodextrin, and 18-crown-6 in aqueous solution,* H.-J. Buschmann, L. Mutihac, E. Schollmeyer, **Supramol. Chem**. 17(6): 447-451, 2005. *Characteristic Extraction and Transport Properties of Crown Ethers and Cryptand [2.2.2] for Amino Acid Methylesters,* H.-J. Buschmann, L. Mutihac, **Sep. Sci.Technol**. 37(14): 3335-3347, 2002. *Heats of protonation of amines, diazacrown ethers and cryptands in methanol,* H.-J. Buschmann, E. Cleve, L. Mutihac, E. Schollmeyer, **Journal of Thermal Analysis and Calorimetry** 70: 919-925, 2002. *Calixarene derivatives as carriers in liquid membrane separation*, L. Mutihac, H.-J. Buschmann, E. Diacu, **Desalination** 148: 253-256, 2002. *Complexation, solvent extraction, and transport through liquid membrane of protonated peptides using crown ethers*, H.-J. Buschmann, L. Mutihac, **Anal. Chim. Acta** 466: 101-108, 2002. *Interaction and transport through liquid membranes of some dipeptide complexes with macrocyclic receptors*, L.Mutihac, H.-J. Buschmann, K. Jansen, A. Wego, **Materials Science & Engineering, C: Biomimetic and Supramolecular Systems**, 18(1-2): 259-264, 2001. *The influence of water molecules on the complex formation between K+ and 18-crown-6 and the cryptand (222) in chloroform* H.-J. Buschmann, G.

Wenz, E. Schollmeyer, L. Mutihac, **Inorg. Chem. Commun**. 4: 211-214, 2001. *A novel experimental method for the study of complex formation between alpha-, beta-, and gamma cyclodextrin and nearly insoluble cucurbituril-[2]rotaxanes in aqueous solution,* H.-J. Buschmann, E. Cleve, L. Mutihac, E. Schollmeyer, **Microchem. J**. 64: 99-103, 2000. *The complexation of protonated amines, diaza 18-crown-6 and cryptand (222) by 18-crown-6 in different solvents ,* H.-J. Buschmann, L. Mutihac, A. Wego, E. Schollmeyer **Polish J. Chemistry** 74: 61-66, 2000. *Physicochemical parameters of the transport of amines and amino acids through liquid membranes by macrocyclic ligands,* H.-J. Buschmann, L. Mutihac, and R. Mutihac*,* **Sep. Sci. & Technol**. 34: 331-341, 1999.

14/ Reviewer for journals : Chem.Rev.; Chem. Soc. Rev; RSC Advances; Chem. Comm.; Talanta; Biomaterials; Chirality; JACS; Supramol Chem.; J Mol Structure; Chirality;Journal of Inclusion Phenomena and Macrocyclic Chemistry; Separation Science and Technology; Journal of Membrane Science; Sensors & Actuators,B: Chemical, Polyhedron; Tetrahedron Letters; Analytica Chimica Acta; Analytical Methods; Dyes & Pygments, Isr.J.Chem, Analytical Letters; Analytical Chem.; J.Org.Chem.; Carbohydrate Polymers; Spectrochimica Acta Part A; Electroanalysis; Electrochemistry Comm.; Frontiers in Chemistry; J. Electrochemical Society.

Bucureşti, 2023 *Prof. Dr. Lucia Mutihac*