



## Europass Curriculum Vitae

### Personal information

First name(s) / Surname(s) **Zaharie MOLDOVAN**  
Address(es)  
Telephone(s) +40 264 584 037, extention 140  
Fax(es) +40 264 420042  
E-mail  
Nationality Romanian  
Date of birth  
Gender Male

### Work experience

Dates 2005-present  
Occupation or position held Senior researcher, grade I, PhD  
Head of department of Mass Spectrometry, Chromatography and Applied Physics  
Main activities and responsibilities Manager of Department Mass Spectrometry, chromatography and Applied Physics, Organizing scientific activities, Paper publications, Instruments purchase, Laboratory personal training, Project manager and proposal.  
Name and address of employer National Institute for Research and Development of Isotopic and Molecular Technologies  
Type of business or sector Scientific Research, 35 year experience

Dates 2002-2004  
Occupation or position held Scientific researcher, grade II  
Main activities and responsibilities Application of high performance liquid chromatography (HPLC), high resolution mass spectrometry (HRMS) and coupled gas chromatography – mass spectrometry (GC/MS) methods for structural determination of new synthesized compounds, pollutants and foodstuff  
Name and address of employer National Institute for Research and Development of Isotopic and Molecular Technologies  
Type of business or sector Scientific Research

Dates 2000-2001  
Occupation or position held Scientific researcher, grade II  
Main activities and responsibilities Qualitative and quantitative investigation of organic pollutant by different ionization process (EI-MS si CI-MS)  
Name and address of employer Instituto de Investigaciones Quimicas y ambientales, Barcelona, Spain  
Type of business or sector Scientific Research

Dates 1995-1999  
Occupation or position held Scientific researcher, grade II  
Main activities and responsibilities GC/MS determination of organic pollutant structures  
Development of extraction methods for pollutants from complex matrices  
Name and address of employer National Institute for Research and Development of Isotopic and Molecular Technologies  
Type of business or sector Scientific Research

Dates	November 1993 – December 1995
Occupation or position held	Scientific researcher, grade II
Main activities and responsibilities	Study of molecular biodegradation process High performance liquid chromatographic determination of molecule from biodegradation process
Name and address of employer	Escuela Universitaria Politécnica de Sevilla, Grupo de tratamiento de aguas residuales, Sevilla, Spain
Type of business or sector	Scientific Research
Dates	November 1992-October 1993
Occupation or position held	Scientific researcher, grade II
Main activities and responsibilities	Gas chromatographic and mass spectrometry application for organic compounds determination from soil
Name and address of employer	Instituto de Recursos Naturales y Agrobiología, Sevilla, Spain
Type of business or sector	Scientific Research
Dates	1976-1992
Occupation or position held	Scientific researcher, grade III
Main activities and responsibilities	Induced molecular dissociation studies under electron impact, Ionized molecule internal energy distribution determination
Name and address of employer	National Institute for Research and Development of Isotopic and Molecular Technologies
Type of business or sector	Scientific Research
Dates	1972-1976
Occupation or position held	Physicist, research assistant
Main activities and responsibilities	Organic mass spectrometry, mass spectrometry determination of stable isotope labelled compound
Name and address of employer	National Institute for Research and Development of Isotopic and Molecular Technologies
Type of business or sector	Scientific Research

### Education

Dates	1974-1982
Title of qualification awarded	Ph.D. in Physics
Principal subjects/occupational skills covered	Study of collision processes in polyatomic molecules through mass spectrometry
Name and type of organisation providing education and training	Faculty of Physics, Babes-Bolyai University
Dates	1967-1972
Title of qualification awarded	Degree in physics
Principal subjects/occupational skills covered	Spectroscopy, Quantum mechanics, Atomic and molecular physics, Determination of molecule structure.
Name and type of organisation providing education and training	Faculty of Physics, Babes-Bolyai University

### Training

Dates	26.10.1990 – 3.11.1990
Title of qualification awarded	Liquid Chromatography-Mass Spectrometry
Principal subjects/occupational skills covered	Theory and practice on coupled system HPLC-MS/MS, environmental and biological application
Name and type of organisation providing education and training	ETH University, Switzerland
Dates	February 1994 – June 1994
Title of qualification awarded	Analytical methods by GC/MS
Principal subjects/occupational skills covered	Application of gas chromatographic and mass spectrometric techniques in environmental and food safety field

Name and type of organisation providing education and training : Sevilla University, Spain

Dates : September 2001

Title of qualification awarded : Specialization course in Solid Phase Microextraction

Principal subjects/occupational skills covered : Practical details on application of SPME methods in analytical field

Name and type of organisation providing education and training : Investigation Institute CSIC Barcellona, Spain

Other language(s) :

Self-assessment

European level (\*)

Language

Language

Understanding				Speaking				Writing	
Listening		Reading		Spoken interaction		Spoken production			
B 2	English	B 2	English	B 2	English	B 2	English	B 2	English
C 1	Spanish	C 1	Spanish	C 1	Spanish	C 1	Spanish	C 1	Spanish

(\*) *Common European Framework of Reference for Languages*

Member of professional societies : Romanian Mass Spectrometry Society (Societatea Romana de Spectrometrie de Masa)- **president**  
Romanian Physics Society (Societatea Română de Fizică)  
Romanian Chemistry Society (Societatea de Chimie din Romania)  
International Association of Environmental Analytical Chemistry (IAEAC)  
Inclus in "Who's Who in the World", Sixth edition, 1982/1983,

Social skills and competences : Dynamic, Sociable, Good organizer, Department manager

Organisational skills and competences : Organizer of several workshops once with end of national and international projects.  
Organizer of international conferences: "Processes in Isotopes and Molecules, PIM"

Technical skills and competences : Mass spectrometry instruments, gas chromatography instruments and HPLC instruments

Computer skills and competences : XCalibur, MassLab, Microsoft Office,

Driving licence : B category

**Annexes**

1. List of publications (91 published paper)
2. National / International research projects and patents (2) list

Date:  
26. 04 .2016.

Name:  
Zaharie Moldovan

**Annex 1.**  
**List of publication**

1. Z. Moldovan, I. Bratu, C. Marutoiu, Irina Kacso, Laura Trosan, Daniela Pop-Toader, Olivia Florena Nemes and C. Tanaselia, Characterization of an Eighteenth Century Wooden Icon from the Ethnographic Museum of Transylvania, accepted in *Analytical Letters*, 2016
2. Gabriella R. Schmutzer, Dana Alina Magdas, Zaharie Moldovan & Valentin Mirel, Characterization of the Flavor Profile of Orange Juice by Solid-Phase Microextraction and Gas Chromatography – Mass Spectrometry accepted in *Analytical Letters*, 2016, DOI:10.1080/00032719.2015.1131707
3. Gabriella Schmutzer, Alina Magdas, Leontin David & Zaharie Moldovan, *Analytical Letters* (2014, in Press, ID: 88669 DOI:10.1080/00032719.2014.886694), Determination of the Volatile Components of Apple Juice using Solid Phase Microextraction and Gas Chromatography - Mass Spectrometry
4. Bratu, Z. Moldovan, I. Kacso, C. Marutoiu, Laura Trosan, V. C. Marutoiu, *REV. CHIM.* . 64 (No. 5, 2013), 524-528, A Transylvanian Diptych Wooden Icon: Wooden Support and Painting Materials Investigations
5. Tița, B., Măruțoiu, O.F., Tița, D., Măruțoiu, C., Soran, M., Moldovan, Z. (2012) *Journal of Planar Chromatography - Modern TLC*, 25 (6), pp. 523-527. Separation and identification of some non-steroidal anti-inflammatory drugs using TLC and HPLC-MS
6. Gabriella Schmutzer, Veronica Avram, Virginia Coman, L. David, Z. Moldovan, *Rev. Chim.* 63 (9), (2012), 855-859, Determination of Phenolic Compounds from Wine Samples by GC/MS System
7. G. Schmutzer, I. Feher, O. Marincas, V. Avram, M. Kovacs, L. David, V. Danciu, Z. Moldovan, *STUDIA UBB CHEMIA, LVII*, 3 (2012), 15–21, Photodegradation Study of Some Indoor Air Pollutants in the Presence of UV-VIS Irradiation and TiO<sub>2</sub> Photocatalyst
8. Z. Moldovan, V. Avram, O. Marincas, P. Petrov. Th. Ternes, *J. Chromatography A*, 1218 (2011) 343-349, The determination of the linear alkylbenzene sulfonate isomers in water samples by gas-chromatography/mass spectrometry
9. Arne Wick, Olivian Marincas, Zaharie Moldovan, Thomas A. Ternes, *Water Research* 45 (2011) 3638-3652, Sorption of biocides, triazine and phenylurea herbicides, and UV-filters onto secondary sludge
10. Marieta Muresan-Pop, Irina Kacso, Carmen Tripon, Z. Moldovan, Gh. Borodi, S. Simon and I. Bratu, *J Therm Anal Calorim* (2011) 104:299–306, DOI 10.1007/s10973-010-1171-4, Spectroscopic and structural study of the ambazone hydrochloride
11. I. Bratu, G. Borodi, Irina Kacso, Z. Moldovan, C. Filip, Felicia Dragan, M. Vasilescu and S. Simion, *Spectroscopy* 25 (2011) 53-62, New solid form of Norfloxacin: Structural studies
12. Baciuc A, Moldovan Z., Bratu I., Marutoiu O. F., Kacso I., Glajar I., Hernanz, A., Marutoiu, C., *CURRENT ANALYTICAL CHEMISTRY*, 6, 2010, 53-59, Comparative Study of the Painting Materials of a Series of Orthodox Icons on Wooden and Glass Support from Transylvania
13. Lucian Daniel Rusu, Constantin Marutoiu, Mihai Lucian Rusu, Andreea Simionescu, Margareta Rusu, Zaharia Moldovan and Cristina Barbu, *Asian Journal of Chemistry*, 22, ( 6), 2010, 4209-4213, HPTLC and MS for Separation and Identification of Some beta-Blockers in Urine
14. Heath E., Kosjek T., Andersen H.R., Holten Lützhøft H.-C., Adolfson Erici M., Coquery M., Düring R.-A., Gans O., Guignard C., Karlsson P., Manciot F., Moldovan Z., Patureau D., Cruceru L., Sacher F., Ledin A, *Env. Pollution*, 158 (2010), 658-662 Interlaboratory exercise on steroid estrogens in aqueous samples
15. Florina Tusa, Z. Moldovan and M. Vlasiu, *Journal of Physics: Conference Series* 182 (2009) 012043, Identification and measurement of pesticide contaminants in food products by electron impact GC/MS
16. Z. Moldovan, *Journal of Physics: Conference Series* 182 (2009) 012041, Structural Elucidation of organic contaminants by chemical ionisation mass spectrometry
17. Ioana C. Glajar and Z. Moldovan, *Journal of Physics: Conference Series* 182 (2009) 012039, Photodegradation of indoor organic pollutants by UV irradiation using TiO<sub>2</sub> catalysts
18. O. Marincas, P. Petrov, T. Ternes, V. Avram and Z. Moldovan, *Journal of Physics: Conference Series* 182 (2009) 012040, The improvement of removal effects on organic pollutants in Wastewater Treatment Plants (WWTP)
19. Z. Moldovan, R. Chira, A. C. Alder, *Environ. Sci. Pollut. Res.* 16 (2009) S46-S54, Environmental exposure of pharmaceuticals and musk fragrances in Somes River before and after upgrading the municipal wastewater treatment plant Cluj-Napoca,

20. Z. Moldovan, R. Chira and A. C. Alder, *Bulletin of the International Association for Danube Research, Danube New, No 17 (2008)*, 4-5. Occurrence and behaviour of pharmaceuticals and musk fragrance in Somes River before and after upgrading the municipal WWTP Cluj-Napoca,
21. Z. Moldovan, Gabriella Schmutzer, Florina Tusa, Roxana Calin and A. C. Alder, *Geo-Eco-Marina 14, (2008)*, 49-57. Pharmaceuticals and Personal Care Products in the Somes River Basin, Romania
22. Z. Moldovan, R. Chira and A. C. Alder, *Norman Network Newsletter, Issue 4, 2008, p 14*, Occurrence and behaviour of pharmaceuticals and musk fragrance in the Somes River before and after upgrading the municipal wastewater treatment plant of Cluj-Napoca,
23. Alfredo C. Alder and Z. Moldovan, *The Swiss Federal Institute of Aquatic Science and Technology (EAWAG), Annual Report 2007, p.16* Caffeine: a marker indicating the need for water protection
24. Daniela Curşeu, Monica Popa, Dana Sirbu, Zaharie Moldovan, *IEEE AQTR 2008, International Conference on Automation, Quality and Testing, Robotics, (AQTR'08), May 22-25, Cluj-Napoca, Romania, IEEE Catalog Number: CFP08AGT-CDR, ISBN: 978--4244-2577-81* Evaluation of Groundwater Contamination and Protection Measures in a Rural Area
25. I. Stoian, G.Ungureanu, M.Mircea1, Z. Moldovan, M.V.Cristea , A.Imre, *IEEE AQTR 2008, International Conference on Automation, Quality and Testing, Robotics, (AQTR'08), May 22-25, Cluj-Napoca, Romania, IEEE Catalog Number: CFP08AGT-CDR, ISBN:978--4244-2577-81* Rivers Water Quality Monitoring Modeling and Simulation of Pollutants Propagation
26. Z. Moldovan, Gabriella Schmutzer, Florina Tusa, Roxana Calin and Alfredo C. Alder, *J. Env. Monitoring, 2007, 9, 986-993* A first overview of pharmaceuticals and personal care products contamination along of the river Somes watershed, Romania,
27. Daniela Curşeu, Monica Popa, Dana Sirbu, Z. Moldovan, Elisabeta Czuczi , *Proceedings of the 10th International Water Technology Conference, (23-25.03.2006), Alexandria, Egipt, vol.III, pp. 1185-1192, ISBN 977-5069-93-9, 2006.* Water Pollution in the Copşa-Mică Region after the Romanian Revolution
28. Dana Sirbu, Daniela Curşeu, Monica Popa, A. Achimaş Cădariu, Z. Moldovan, *Proceedings of the 10th International Water Technology Conference, (23-25.03.2006), Alexandria, Egipt, vol.III, pp.1151-1172, ISBN 977-5069-93-9, 2006.* Environmental Risk of Pharmaceuticals and Personal Care Products in Water
29. Monica Popa, Dana Sirbu, Daniela Curşeu, M.S. Popa, Z. Moldovan, *Proceedings of the 10th International Water Technology Conference (23-25.03.2006), Alexandria, Egipt, vol.II, pp.541-548, ISBN 977-5069-93-9, 2006.* Approaches on Water Quality and Management in Romania
30. R. Meza, I. Stoian, M. Mircea, S. Ignat, Z. Moldovan, M. V. Cristea, A. Imre, *Proceedings of 2006 IEEE-TTTC International Conference on Automation, Quality and Testing, Robotics, pg. 171-175, May 25-28, 2006, Cluj-Napoca, An Intelligent System for Rivers Water Quality Assessment, based on Pollutants Propagation Modeling and Simulation*
31. Z. Moldovan, Gabriella Schmutzer, A. Alder, *Proceedings of 2006 IEEE-TTTC International Conference on Automation, Quality and Testing, Robotics, pg. 205-207, May 25-28, 2006, Cluj-Napoca Assurance of Quality Control in Analytical Procedures Using Mass Spectrometry.*
32. Zaharie Moldovan, *Chemosphere, 64 (2006) 1808-1817*, Occurrences of pharmaceutical and personal care products as micropollutants in rivers from Romania
33. N. Palibroda, Z. Moldovan, A. Pamula, V. Zaharia:, *Studia Universitatis Babes-Bolyai, Physica, L, 4b, 2005, 554-557*, Electron ionisation mass spectra of some 5-(2-phenyl-thiazol-4-yl)-3-mercapto-[1,2,4]-triazole and 5-(2-phenyl-4-methyl-thiazol-5-yl)-3-mercapto-[1,2,4]-triazole derivatives
34. N. Palibroda, Z. Moldovan, A. Pamula, V. Zaharia: *Studia Universitatis Babes-Bolyai, Physica, L, 4b, 2005, 550-553*, Electron ionisation mass spectra of some sulphonyl-hydrazino-thiazoles,
35. N. Palibroda, Z. Moldovan, A. Pamula, V. Zaharia:, *Studia Universitatis Babes-Bolyai, Physica, L, 4b, 2005, 546-549*, Electron ionisation mass spectra of some substituted chalcones
36. Simona Nicoara, Z. Moldovan, N. Palibroda, M. Culea, O. Cozar, I. Fenesan: *Studia Universitatis Babes-Bolyai, Physica, L, 4b, 2005, 536-541* Study of the kinetic energy release in some n-methyl p-arylsulfonamido thiophosphororganic derivatives
37. Zaharie Moldovan: *Studia Universitatis Babes-Bolyai, Physica, L, 3, 2005, 309-315*, Determination of organic pollutants structure detected in river sediment by gas chromatography/mass spectrometry
38. S. Cuna, C. Cuna, Z. Moldovan and V. Cosma, *Elemente de monitorizare a mediului*, Editura NAPOCA STAR 2005, ISBN 973-647-350-3,
39. M. Filip, V. Coman, R. Grecu, K. Albert and Z. Moldovan, *J. Planar Chromatogr. 17 (2004) 424-430*. Characterization of Some Chemically Modified Acidic Alumina T for TLC
40. Z. Moldovan and Florina Tusa, *Studia Universitatis Babes-Bolyai, Physica, Special Issue 1, XLVIII, 457 (2003)*, The separation of polycyclic aromatic hydrocarbons (PAHs) by high resolution gas chromatography
41. Virginia Coman, Veronica Avram, Loredana Soran, Rodica Grecu, Z. Moldovan and Hajnalka Farkas, *Studia Universitatis Babes-Bolyai, Physica, Special Issue 1, XLVIII, 427 (2003)*, HPLC Determination of some antibiotics

42. Z. Moldovan, Virginia Coman, and Miuta Filip, *Studia Universitatis Babes-Bolyai, Physica, Special Issue 1, XLVIII, 420 (2003)*, Mass spectrometry characterization of some n-octadecyl chemical modified adsorbents used as stationary phases in TLC
43. S. Nicoara, N. Palibroda, Z. Moldovan, M. Culea, O. Cozar, I Fenesan, *Studia Universitatis Babes-Bolyai, Physica, Special Issue 1, XLVIII, 411 (2003)*, Kinetic energy release in some thiophosphorylic p-carboxybenzene sulfonamides
44. Z. Moldovan, Ph. Betten, N. Palibroda and Ileana Chirtoc, *Studia Universitatis Babes-Bolyai, Physica, Special Issue 1, XLVIII, 408 (2003)*, Determination of chemical structure of polymers by Py-GC/MS
45. Z. Moldovan, Corina Ionescu, Florina Tusa, N. Palibroda and A. Pamula, *Studia Universitatis Babes-Bolyai, Physica, Special Issue 1, XLVIII, 403 (2003)*, The structural characterisation of fossil resins based on mass spectra obtained in GC/MS mode on pyrolysed sample
46. Z. Moldovan and J. M. Bayona, *Studia Universitatis Babes-Bolyai, Physica, Special Issue 1, XLVIII, 218-221 (2003)*, - Characterisation of organic pollutants detected in Somes River by GC/MS
47. Simona Nicoara, Z. Moldovan, N. Palibroda, M. Culea, I. Fenesan, R. Popescu and C. Bele, *Studia Universitatis Babes-Bolyai, Physica, XLVII, 1, 2002*, Metastable ion studies in the characterisation of some p-X substituted arylsulfonamides of the o,o-diphenylthiophosphoric acid
48. Simona Nicoara, Z. Moldovan, I. Fenesan and O. Cozar, *Studia Universitatis Babes-Bolyai, Physica, XLVII, 1, 2002*, Electron impact Mass Spectral Study of some s-methyl p-arylsulfonamides of the Dimethylamidocyclohexylphosphonic Acid
49. Z. Moldovan, E. Jover and J. M. Bayona, *Analytica Chimica Acta, 465, 359-378(2002)*, Gas chromatographic and mass spectrometric methods for characterisation of long chain fatty acids. Application to wool wax extracts
50. E. Jover, Z. Moldovan and J. M. Bayona, *J. Chromatogr. A, 970(2002) 249-258*, Complete characterisation of lanolin steryl esters by sub-ambient pressure gas chromatography mass spectrometry in the electron impact and chemical ionisation modes
51. Virginia Coman, Z. Moldovan and C. Marutoiu, *Acta Universitatis Cibiniensis, Seria F Chemia 4(2002) 51-58*, Mass Spectrometry Characterisation of n-Alkyl Chemically Modified Silica Gel Used as Stationary Phases in RP-TLC
52. Z. Moldovan, E. Jover and J. M. Bayona, *J. Chromatogr. A, 952(2002) 193-204*, Systematic characterisation of long-chain aliphatic esters of wool wax by gas chromatography/mass spectrometry in the electron impact mode
53. I. Fenesan, R. Popescu, C. T. Supuran, S. Nicoara, M. Culea, N. Palibroda, Z. Moldovan, O. Cozar, *Rapid Comm. Mass Spectrom. 15, 721-729 (2001)*, Electron Impact Mass Spectral Interpretation for some thiophosphoryl-p-acetylamino benzensulfonamides
54. Virginia Coman and Z. Moldovan, *Journal of High Resolution Chromatography, 23, 699-701(2000)*. RP-HPLC method for the separation of some phenol derivatives using gradient elution and UV Detection
55. Z. Moldovan and J. M. Bayona, *Rapid Comm. Mass Spectrom. 14 (6), 379-389 (2000)*, Determination of novel aromatic amines in environmental samples by Gas Chromatography/Mass Spectrometry
56. P. Ardeleanu, C. Cuna, F. Dunca, S. Cuna, Z. Moldovan, C. Ardelean, D. Ioanoviciu, D. Ursu, A. Pamula, P. Vegh, *Roumanian Reports in Physics, 51(7), 935, 1999*
57. P. Ardeleanu, C. Cuna, Firuta Dunca, Stela Cuna, Z. Moldovan, D. Ursu si A. Pamula, *Asociatia pentru Colaborari Interdisciplinare a Specialistilor din Transilvania, Buletin Informativ Nr. 3, 7 (1999)*, Studiul poluantilor gazosi ai aerului
58. Z. Moldovan and V. O. Garlea, *Asociatia pentru Colaborari Interdisciplinare a Specialistilor din Transilvania, Buletin Informativ Nr. 3, 15 (1999)*, Ionizarea prin impact electronic (EI) si ionizarea chimica (CI), procese complementare in spectrometria de masa
59. Monica Culea, N. Palibroda, Z. Moldovan, Simona Nicoara, I. Fenesan, Rodica Popescu, Viorica Muresan, Eugenia Postoiu and V. Znamirovski, *Rapid Commun. Mass Spectrom., 12, 1808-1812 (1998)*, Mass Spectral Study of the Fragmentation Pathways for Some New Thiophosphororganic Molecules
60. Z. Moldovan, O. Garlea, Teodora Panea, Alina Pop, Daniela Zinveliu and Lucia Bodochi, *Rapid Commun. Mass Spectrom., 12, 1313-1318 (1998)*, The Mass Spectral Analysis of several Hydrazine Derivatives
61. Z. Moldovan, N. Palibroda and A. Pamula, *Rom. J. Phys., 43(suppl.) 437-442*, Determination of some Atmospheric Pollutants by Gas Chromatography/Mass Spectrometry Methods
62. Z. Moldovan, Cristina Maldonado and J. M Bayona, *Rapid Commun. Mass Spectrom. 11, 1077-1082 (1997)*, Electron Ionisation and Positive-ion Chemical Ionisation Mass Spectra of N-(2-Hydroxyethyl)alkylamides
63. Z. Moldovan, Maria V. Delgado Luque, Emilia Otal Salaveri, Ana Suarez, R. Androozzi, A. Insola, J. Lebrato Martinez, *Journal of Chromatography A, 723(1996) 243-249*, Determination of Polyethylene Glycol in Water by Reversed Phase High Performance Liquid Chromatograph
64. Z. Moldovan, S. Nicoara, M. Culea, O. Cozar, I. Fenesan, P. Vegh, and J. J. Rios, *Journal of Molecular Structure, 348: 393-396 (1995)*, Mass spectra interpretation of some thiophosphororganic compounds

65. Z. Moldovan, J. Lebrato Martinez, M. V. Delgado Luque, E. Ota Salavery, *J. Liquid Chromatogr.*, 18(8), 1633 (1995). HPLC method for the study of anaerobic degradation of polyethylene glycols
66. R. Popescu, V. Muresan, M. Culea and Z. Moldovan, *Phosphorus Sulfur and Silicon*, 91, 9 (1994), Etude par Spectrometrie de Masse de quelques esters O-(3-oxo 2-Phenyl 2H-Pyridazine-6 yl) thiophosphororganiques
67. M. Culea, N. Palbroda, M. Chiriac, Z. Moldovan, N. Mlu P. T. Frangopol, *Roumanian J. Biophys.* 1(1), 43 (1994), (15)-N-Glycine Absorption on Chronic Enteropaty and Hepatic Diseases
68. Z. Moldovan, M. Culea, N. Palbroda, R. Popescu, V. Muresan and O. Musat, *The Science of the Total Environment*, 132, 147 (1993), Fragmentation of organophosphorus compounds under electron impact I
69. P. Ardeleanu and Z. Moldovan, *Rev. Roum. Phys.*, 37, 267 (1992), The dissociative ionisation of the methane
70. Z. Moldovan, M. Culea, N. Palbroda, I. Fenesan and R. Popescu, *Organic Mass Spectrometry*, 26, 840 (1991), Electron Impact Mass Spectrometry of Phenyl Thiophosphororganic Amides
71. M. Culea, N. Palbroda, Z. Moldovan and M. Chiriac, *Rev. Roum. Biochim.*, 28, 61-66, (1991), Determination of some aminoacids in biological extracts using the isotope dilution mass spectrometry method
72. M. Culea, N. Palbroda, M. Chiriac, Z. Moldovan, A. D. Abraham and P. T. Frangopol, *Biolog. Mass Spectrometry* 20, 740 (1991), Isotope Dilution Mass Spectrometry for Procaine Determination in Biological Samples
73. M. Culea, N. Palbroda, M. Chiriac and Z. Moldovan, *Biomedical Environmental Mass Spectrometry*, 19, 360 (1990), Serum Theophylline Analysis by Isotope Dilution Mass Spectrometry
74. R. Popescu, I. Opreanu, N. Palbroda et Z. Moldovan, *Studia Universitatis Babes Bolyai, Ser. Chem.*, 34(1), 23 (1989), Etude en Spectrometrie de Masse des Arylsulfonamides de l'acide diphenylthiophosphinique
75. M. Culea, N. Palbroda, Z. Moldovan, A. D. Abraham and P. T. Frangopol, *Chromatographya*, 28, 23 (1989), Gas-Chromatography Study of Some Local Anaesthetics
76. Z. Moldovan, N. Palbroda, M. Culea, I. Fenesan and A. Hantz, *Org. Mass Spectrom.*, 24, 81-85 (1989), Electron Impact Fragmentation of Some Cyclohexylthiophosphororganic Amides
77. M. Culea, Z. Moldovan, N. Palbroda and P. Vegh, *Rev. Roumain Biochim.*, 26, 4, 271 (1989), Dissociation of procaine and tetracaine by Electron Impact Mass Spectrometry
78. A. Salontai, N. Tofana, U. Stanescu si Z. Moldovan, *Buletin IACN (Bulletin of Agriculture Institute Cluj-Napoca)* 1, 42 (1988), The dynamics of the alfa-acids accumulation in the plant
79. N. Palbroda, M. Culea, D. Chiriac, F. Atanasiu, L. Fetu, Z. Moldovan, *Seminars in Biophysics*, vol. 5, p. 87, (1988), Determination of Aminoacids from Trofopar by Gas Chromatography/Mass Spectrometry Method
80. R. Popescu, I. Opreanu, N. Palbroda et Z. Moldovan, *Studia Universitatis Babes-Bolyai, Ser. Chem.*, 33(1), 54 (1988), Arylsulfonamides de l'acide diethylthiophosphinique
81. M. Culea, N. Palbroda, Z. Moldovan, P. Vegh and D. Abraham, *Rev. Roumain Biochim.*, 25, 255 (1988), Determination of procaine in rat liver and brain tissues by Capillary Gas Chromatography and GC/MS
82. Z. Moldovan, M. Culea, N. Palbroda, E. Gross, R. Nutiu and I. Gross, *Org. Mass Spectrom*, 22, 474 (1987), Mass Spectra of some Alkyl-2-Ethyl Hexanoates
83. Z. Moldovan, N. Palbroda, V. Mercea and G. Mihailescu, *Org., Mass Spectrom.*, 20, 7 (1985), Kinetic Energy Release in Metastable Ions from Beta-Keto Esters.
84. M. Chiriac, V. Mercea, D. Abraham, D. Axente si Z. Moldovan, *Rev. Chimie*, 33 (11), 1018 (1982), Obtinerea si purificarea CF3I, CF3Br, CF3D pentru separari izotopice laser
85. Z. Moldovan, N. Palbroda, V. Mercea, G. Mihailescu, M. Chiriac and M. Vlasa, *Organic Mass Spectrometry* 16, 195 (1981), Mass Spectrometry of some Beta-Keto Esters. A High Resolution Study
86. Munteanu, N. Mosescu, G. Kalmuzki, N. Palbroda, I. Chirtoc, Z. Moldovan, *Selected Papers of the Institute of Chemistry Technology, Praga, D 24, p 203 (1980)*, The utilisation of the mass spectrometry methods on mineral oils analysis
87. F. Kerek, Z. Moldovan, I. Kiss and G. Racz, *Note Botanice(Tirgu Mures)*, XV, 3-8 (1979), The Analysis of some Natural Products by GC/MS Methods
88. Gh. Ciuraru, Z. Moldovan and I. Opreanu, *Monatshefte fur Chemie*, 109, 79 (1978), Fragmentation of some imidazoles under electron impact
89. M. Bologa, N. Palbroda, Z. Moldovan and G. Ciuraru, *Organic Mass Spectrometry*, 12, 562 (1977), Mass Spectrometry of Quaternary Heterocyclic iodides under electron impact

90. V. Crisan, Z. Moldovan, *Studia Universitatis Babes-Bolyai, Sec. Physica*, 1, 3 (1977), The fragmentation of Molecules with Nitrogen under Electron Impact
91. Vancea, D. Ursu and Z. Moldovan, *St. Cerc. Fiz.*, 26, 3, 337 (1973). The Isotopic Analysis of the Deuterated Benzene by Mass Spectrometry



**Annex 2**  
**National/ International research projects and patents list**

1. **612/2005, SEPOL (Director of Project):** Integrated system for the evaluation of the propagation of pollutant agents in river water and estimation of the impact on population health in the zone
2. **Project FP6, NEPTUNE, Contract no.: 036845 (Partner responsible):** New sustainable concepts and processes for optimization and upgrading municipal wastewater and sludge treatment.
3. **92-095/2008 – CONSIGNON (Project Director):** Modern method for authentication and value establishing of art objects from Ethnographic Museum of Transylvania.
4. **51-072/2007 – BEVCOLOR (Partner responsible):** Development of performant methods for determination of colorants in beverage for food security and safety.
5. **Project: BIOTECH, MET-PERF-CAL-VIN, Contract no: 141, (Partner responsible):** Elaboration of Some Performant Determination Methods of Sweeteners and Colors from Wine, which are Prohibited by Law, to Ensure the Quality and Chemical Safety of the Wine,
6. **Project: MATNANTECH, NANOTICATPOL, Contract no: 23, (Partner responsible):** TiO<sub>2</sub> Based Nanomaterials and Nanostructured Films with Applications in the Field of Photocatalytic Degradation of Environmental Polluting Organic Contaminants,
7. **PROJECT 71-136/2007 – MATDECON (Partner responsible):** Application of the inovative photocatalytic materials for chemical and microbiological decontamination
8. **FP5 (EV 5V-CT93-0249)(Participant):** Integrated Chemical and Biological Treatment of Industrial Wastewaters.
9. **PN II/2008-CLEWA (participant):** Determination of the mechanism by which the toxic pollutants can entry in aqueous environment in the Cluj and Salaj cantry.

**Cooautor in patents**

1. **Patent Spain:** Title: Production of lanolin and wool free of non contaminating agents consists of application of carbon dioxide and cosolvent giving rapid pollution free extraction  
Patent Number(s): **WO2002100990-A; WO2002100990-A1; ES2204240-A1...**  
Assignee: CONSEJO SUPERIOR INVESTIGACIONES CIENTIF; UNIV CATALUNYA POLITECNICA  
Inventor(s): BAYONA TERMENS J M; ERRA SERRABASA P; MOLDOVAN Z, et al.
2. **Patent Romania:** Title: PROCESS FOR PHOTOCATALYSIS MINERALIZATION OF ORGANIC CONTAMINANTS IN WASTE WATER  
Patent Number(s): RO122840-B1  
Assignee: UNIV CLUJ-NAPOCA BABES-BOLYAI  
Inventor(s): COSOVEANU V; DANCIU V; MOLDOVAN Z, et al.

Date:

10.01.2013

26.04.2014

Name  
Zaharie Moldovan

