



ROMÂNIA  
UNIVERSITATEA BABEŞ-BOLYAI CLUJ-NAPOCA

Str. Mihail Kogălniceanu, nr. 1, 400084 Cluj-Napoca  
Tel. (00) 40 - 264 - 40.53.00\*; 40.53.01; 40.53.02 ; 40.53.22  
Fax: 40 - 264 - 59.19.06  
E-mail: [staff@staff.ubbcluj.ro](mailto:staff@staff.ubbcluj.ro)

RECTORATUL

## Universitatea Babeş-Bolyai Competiția Excelenței 2010

### Dosar individual

**Notă: Toate datele se referă la perioada 2005-2009**

Nume, prenume, grad did.	SÂRBU COSTEL, CONFERENȚIAR
Facultatea, Catedra	Facultatea de Chimie și Inginerie Chimică, Catedra de chimie analitică
Domeniul științific	CHIMIE
Adresa paginii web personale	<a href="http://www.chem.ubbcluj.ro/pagini/analitica/sarbu/default.html">http://www.chem.ubbcluj.ro/pagini/analitica/sarbu/default.html</a>
Adresa e-mail	csarbu@chem.ubbcluj.ro

### Criteriaul I – Output

**1. Articole științifice publicate în reviste indexate ISI (cu menționare factorului de impact în cazul celor cotate)**

1. Horovitz, O. and Sârbu, C., Characterization and Classification of Lanthanides by Multivariate Analysis Methods, *Journal of Chemical Education*, **2005**, 82/3, 473-483.

2. Sârbu, C. and Pop, H., Principal Component Analysis versus Fuzzy Principal Component Analysis A Case Study: The Quality of Danube Water (1985–1996), *Talanta*, **2005**, 65, 1215-1220.

3. Furtos, G., Cosma, V., Prejmerean, C., Moldovan, M., Brie, M., Colceriu, A., Vezsenyi, L., Silaghi Dumitrescu Luminița and Sârbu, C., Fluoride Release from Dental Resin Composites, *Materials Science and Engineering C*, **2005** 25 (2), 231-236.

4. Sârbu, C., Szczepaniak, K., Astel, A. and Biziuk, M., Fuzzy Soft Modeling of Environmental Data. A Study of the Impact of Phosphatic Fertilizer Plant on the Adjacent Environment in Gdansk, *Ecological Chemistry and Engineering*, **2005**, 12, 587-603.

5. Tatjana LJ. Djakovic-Sekulic, C. Sârbu and Nada U. Persic-Janjic, A Comparative Study of the Lipophilicity of Benzimidazole and Benzotriazole Derivatives by RPTLC, *Journal Planar Chromatography-Modern TLC*, **2005**, 18, 432-436.

6. Rainska, E., Biziuk, M., Sârbu, C., Szczepaniak, K., Frontasyeva, M.V., Culicov, O., Bode, P., Astel, A., Assessment of Phosphatic Fertilizer Production Impact on Occupational Staff Based on NAA of Hair, Nails, and Inhaled Particles, *Journal of Environmental Science and Health - Part A Toxic/Hazardous Substances and Environmental Engineering*, **2005**, 40, 2137-2152.

7. Sârbu, C., Fuzzy clustering and its applications in analytical chemistry, *Current Analytical Chemistry*, **2005**, 5, 89-100.

8. Szczepaniak, K., Sârbu, C., Astel, A., Rainska, E., Biziuk, M., Culicov, O., Frontasyeva, M. V., Bode, P., Assessment of the Impact of a Phosphatic Fertilizer Plant on the Adjacent Environment Using Fuzzy Logic, *Central European Journal of Chemistry*, **2006**, 4(1), 29-55.
9. Simeonova, P., Sârbu, C., Sspanov, T., Simeonov, V. and Tsakovski, S., An Advanced Multivariate Statistical Approach to Study Coastal Sediment Data, *Central European Journal of Chemistry*, **2006**, 4(1) 68-80.
10. Tiperciuc, B., Sârbu C., Prediction of the Chromatographic Retention (lipophilicity) of Some New Methyl-Thiazole-Oxadiazoline Derivatives by Multivariate Regression Methods, *Journal Liquid Chromatography & Related Technologies*, **2006**, 29(15) 2257-2270.
11. Sârbu C., Tiperciuc, B., Modeling, by Multivariate Regression Methods, of the Chromatographic Retention (Lipophilicity) of New Oxadiazoline Derivatives, *Journal Planar Chromatography-Modern TLC*, **2006**, 19, 342-347.
12. Szczepaniak, K., Astel, A., Bode, P., Sârbu C., Biziuk, M., Rainska, E., Gos, K., Assessment of Atmospheric Inorganic Pollution in the Urban Region of Gdansk, Northern Poland, *Journal of Radioanalytical and Nuclear Chemistry*, **2006**, 270, 35-42.
13. Sârbu, C., Zehl, Katharina and Einax, J. W., Fuzzy Divisive Hierarchical Clustering of Soil Data Using Gustafson-Kessel Algorithm, *Chemometrics and Intelligent Laboratory Systems*, **2007**, 86, 121-129.
14. Poša, M., Kevrešan, S., Mikov, M., Ćirin-Novta, Vera, Sârbu, C. and Kuhajda, Ksenija, Determination of critical micellar concentrations of cholic acid and its keto derivatives, *Colloids and Surfaces B: Biointerfaces*, **2007**, 59, 179-183.
15. Djaković-Sekulić, Tatjana, Perišić-Janjić, Nada, Sârbu, C. and Lozanov-Crvenković, Z., Partial Least-Squares Study of the Effects of Organic Modifier and Physicochemical Properties on the Retention of Some Thiazoles, *Journal Planar Chromatography-Modern TLC*, **2007**, 20, 65-71.
16. Sârbu, C., Jürgen W. E., Study of Traffic-Emitted Lead Pollution of Soil and Plant Using Different Fuzzy Clustering Algorithms, *Analytical and Bioanalytical Chemistry*, **2008**, 390, 1293-1301.
17. Soponar, F., Moț, A. C., Sârbu, C., Quantitative Determination of Some Food Dyes Using Digital Processing of Images Obtained by Thin-Layer Chromatography, *Journal of Chromatography A*, **2008**, 1188, 295-300.
18. Sârbu, C., Onișor, C., Posa, M., Kevresan, S., Kuhajda, K., Modeling and Prediction (Correction) of Partition Coefficients of Bile Acids and Their Derivatives by Multivariate Regression Methods, *Talanta*, **2008**, 75, 651-657.
19. Klimaszewska, K., Sârbu, C., Polkowska, Z., Błaś, M., Sobik, M., Namiesnik, J., Rime Samples Characterization and Comparison Using Classical and Fuzzy Principal Components Analysis, *Central European Journal of Chemistry*, **2008**, 6, 208-215.
20. Onișor, C. Kovala-Demertzi, D., Demertzis, M.A., Sârbu, C., Diudea, M. V., QSPR Modeling of Molecular Lipophilicity of Some Formyl and Acetylpyridine-3-thio-semicarbazones by Topological Descriptors, *MATCH*, 60(3), **2008**, 1007-1020.
21. Djakovic Sekulic, Tatjana, Sârbu, C., Perisic Janjic, Nada, and Crvenkovic, Z.L., Quantitative Structure-Retention Study of Some 2,4-dioxotetrahydro-1,3-thiazole Derivatives Using Partial Least Squares Method, *Turkish Journal of Chemistry*, **2009**, 33, 149-157.
22. Soponar, F., Moț, A. C., Sârbu, C., Quantitative Evaluation of Paracetamol and Caffeine from Pharmaceutical Preparations Using Image Analysis and RP-TLC, *Chromatographia*, **2009**, 69, 151-155.

23. Pop, H.F, Einax, J.W., Sârbu, C., Classical and Fuzzy Principal Component Analysis of Some Environmental Samples Concerning the Pollution with Heavy Metals, *Chemometrics and Intelligent Laboratory Systems*, **2009**, 97(1), 25-32.
24. Briciu, Rodica Domnica, Kot-Wasik, Agata, Namiesnik, J. and Sârbu, C., A Comparative Study of Molecular Lipophilicity Indices of Vitamins A, E and Some Precursors of Vitamin A Estimated by HPLC and by Different Computation Methods, *Acta Chromatographica*, **2009**, 21(2), 237–250.
25. Klimaszewska, Kamila, Sârbu, C., Polowska, Zaneta, Lech, D., Paslawski, P., Małek, S. and Namiesnik, J., Application of Linear Discriminant Analysis to the Study of Dew Chemistry on the Basis of Samples Collected in Poland (2004–2005), *Central European Journal of Chemistry*, **2009**, 7, 20–30.
26. Astel, A., Sârbu, C., Biziuk, M., Hard Tissue Samples as a Markers of Occupational Exposure in Phosphatic Fertilizer Plant, *International Journal of Environment and Health*, **2009**, 3, 1-21.
27. Casoni, Dorina, Kot-Wasik, Agata, Namiesnik, J. and Sârbu, C., Lipophilicity data for some Preservatives estimated by reversed-phase liquid chromatography and different computation methods, *Journal of Chromatography A*, **2009**, 1216, 2456-2465.
28. Klimaszewska, Kamila, Sârbu, C., Polkowska, Zaneta, Walna, Barbara and Namiesnik, J., Characterisation and classification of hoarfrost samples collected in Poland (2003-2005) by discriminant analysis, *Chemistry and Ecology*, **2009**, 25(2), 87-97.
29. Briciu, Rodica Domnica, Kot-Wasik, Agata, Namiesnik, J., Sârbu, C., The lipophilicity indices of flavonoids estimated by reversed-phase liquid chromatography using different computation methods, *Journal of Separation Science*, **2009**, 32(12), 2066-2074.
30. Casoni, Dorina, Sârbu, C., The lipophilicity of parabens estimated on reverse phases chemically bonded and oil-impregnated plates and calculated using different computation methods, *Journal of Separation Science*, **2009**, 32(14), 2377-2384.
31. Casoni, Dorina, Sârbu, C., Lipophilicity of Some Preservatives Estimated by RP-TLC Using Stationary Phases with Different Polarity, *Chromatographia*, **2009**, 70(7-8), 1277-1282.
32. Moț, A.C., Damian, G., Sârbu, C., Silaghi-Dumitrescu, R., Redox reactivity in propolis: direct detection of free radicals in basic medium and interaction with hemoglobin, *Redox Report*, **2009**, 14(6), 267-274.
33. Sârbu, C., Rus, L. L. și Tomuța, I., Analiza spectrofotometrică simultană a amestecului format din acid ascorbic și rutin prin metode de regresie bazate pe analiza componentelor principale, *Revista de Chimie(Bucharest)*, **2005**, 56, 581-587.
34. Beldean-Galea, M. S., Mocan, A. și Sârbu, C., Studiul comparativ privind determinarea unor tocoferoli prin cromatografia de gaze directă și cu derivatizare, *Revista de Chimie(Bucharest)*, **2006**, 57, 125-129.
35. Horovitz, O. and Sârbu, C., Characterization and Classification of Oxides by Multivariate Analysis Methods, *Revista de Chimie(Bucharest)*, **2006**, 57, 413-423.
36. Sârbu, C., Pop, H. F., Raluca-Stefania Elekes and Georgeta Covaci, Intelligent Disease Identification based on Discriminant Analysis of Clinical Data, *Revista de Chimie(Bucharest)*, **2008**, 59, 1237-1241.
37. Moț, A. C., Soponar, F., Casoni, Dorina, Cobzac, Codruța Simona, Sârbu, C., Simultaneous Spectrophotometric Determination of Some Food Dyes from Mixture Using Principal Component Regression, *Revista de Chimie(Bucharest)*, **2009**, 60(7), 647-652.
38. Onișor, C. Kovala-Demertzi, D., Demertzis, M.A., Sârbu, C., A comparative study of molecular lipophilicity indices of some formyl- and acetylpyridine-3-thiosemicarbazone derivatives and various computed descriptors, *Revista de Chimie*, **2009**, 60(10), 1039-1046.

39. S. L. Dunca, M. Kulcsar, A. Silvestru, C. Silvestru and C. Sârbu, Study of the chromatographic retention of some new organoselenium and organotellurium compounds containing intramolecular interactions by HPTLC, *Studia Univ. "Babes-Bolyai", Chemia*, **2009**, 54(3), 71-80.

Nr. crt.	Titlul revistei	Nr. articole	Factor de impact
1	<i>Journal of Chromatography A</i>	2	3.756
2	<i>MATCH</i>	1	3.500
3	<i>Analytical Bioanalytical Chemistry</i>	1	3.328
4	<i>Talanta</i>	2	3.206
5	<i>Journal of Separation Science</i>	2	2.746
6	<i>Colloids and Surfaces B: Biointerfaces</i>	1	2.593
7	<i>Redox Report</i>	1	2.013
8	<i>Chemometrics and Intelligent Laboratory Systems</i>	2	1.940
9	<i>Materials Science and Engineering C</i>	1	1.812
10	<i>Chromatographia</i>	2	1.312
11	<i>Journal Liquid Chromatography &amp; Related Technologies</i>	1	1.026
12	<i>Journal of Environmental Science and Health - Part A Toxic/Hazardous Substances and Environmental Engineering</i>	1	1.002
13	<i>Journal Planar Chromatography-Modern TLC</i>	3	0.982
14	<i>Chemistry and Ecology</i>	1	0.838
15	<i>Central European Journal of Chemistry</i>	4	0.741
16	<i>Turkish Journal of Chemistry</i>	1	0.727
17	<i>Journal of Radioanalytical and Nuclear Chemistry</i>	1	0.659
18	<i>Acta Chromatographica</i>	1	0.621
19	<i>Journal of Chemical Education</i>	1	0.538
20	<i>Revista de Chimie</i>	6	0.389

## 2. Articole științifice publicate în ISI proceedings

### 3. Articole științifice indexate în BDI (din lista CNCSIS)

#### 4. Alte articole științifice/capitole publicate în reviste/volume cu referenți (peer-reviewed)

1. Sârbu, C., "Fuzzy Soft-Computing Methods and Their Applications in Analytical Chemistry" in *Chemometric Aspects of Environmental Analytics (Proceedings)*, J. Namiesnik, W. Chrzanowski and Patrycja Szpinek (eds.), Centre of Excellence, Gdansk, **2005**, Chapt. 5, 43-67. Proceedings, ISBN: 83-919081-9-4

2. Djakovic-Sekulik, T., Sârbu, C. and Perisic-Janjic, N., Study of the Lipophilicity of Some Benzimidazole and Benzotriazole Derivatives by RPTLC, *Planar Chromatography 2005, Milestones in Instrumental TLC*, Siofok, Hungary, 29-31 May **2005**, 309-315.

3. Sârbu, C., Characterization and Classification of Romanian and German Mineral Waters by Fuzzy Clustering, *10th International Conference on Environmental Science and Technology, GlobalNEST*, Kos, Greece, 5- 7 September, **2007**, A1295-A-1302.

#### 5. Cărți științifice publicate în edituri internaționale

1. Sârbu, C., "Fuzzy Clustering and its Applications in Chemistry" in *Chemometrics: Methods and Applications*, D. Zuba, and A. Partczewski (eds.), Institute of Forensic Research Publishers, Kraków, **2006**, Chapt. 1, 17-47. (427 pagini), ISBN: 83-87425-72-9

6. Cărți științifice publicate în edituri naționale acreditate
7. Editor de volume publicate în edituri naționale și internaționale
8. Brevete internaționale
9. Brevete naționale
10. Impact tehnologic al brevetelor: resurse financiare extrabugetare atrase în relație cu economia
11. Realizări artistice naționale și internaționale (Domeniul Arte)  
(Expoziții, spectacole, concerte, publicații, filme, înregistrări)

## **Criteriul II – Prestigiu profesional**

### **1. Citări ale articolelor ISI listate la Criteriul I**

Scopus

EXPORT DATE: 16 March 2010

1. She, Y., Cui, B., Sha, J.  
Analysis on the sustainable utilization of water resources in China  
(2009) 3rd International Conference on Bioinformatics and Biomedical Engineering, iCBBE 2009, art. no. 5162366.
2. Yang, J., WangLin, Huang, X., Wang, C.  
Assessment of surface and groundwater water quality at regional scale: A case study of Laoshan District, China (2009) 3rd International Conference on Bioinformatics and Biomedical Engineering, iCBBE 2009, art. no. 5162419.
3. Szyrkowska, M.I., Pawlaczyk, A., Leśniewska, E., Paryjczak, T.  
Toxic metal distribution in rural and urban soil samples affected by industry and traffic  
(2009) Polish Journal of Environmental Studies, 18 (6), pp. 1141-1150.
4. Hoffmann, E.A., Rajkó, R., Fekete, Z.A., Körtvélyesi, T.  
Quantum chemical characterization of Abraham solvation parameters for gas-liquid chromatographic stationary phases (2009) Journal of Chromatography A, 1216 (48), pp. 8535-8544.
5. Levei, E., Frentiu, T., Ponta, M., Senila, M., Miclean, M., Roman, C., Cordos, E., Characterisation of soil quality and mobility of Cd, Cu, Pb and Zn in the baia mare area Northwest Romania following the historical pollution (2009) International Journal of Environmental Analytical Chemistry, 89 (8-12), pp. 635-649.
6. Ioele, G., De Luca, M., Oliverio, F., Ragno, G.  
Prediction of photosensitivity of 1,4-dihydropyridine antihypertensives by quantitative structure-property relationship (2009) Talanta, 79 (5), pp. 1418-1424.
7. Diacu, E., Ene, C.P.  
Simultaneous determination of Tartrazine and Sunset Yellow in soft drinks by liquid chromatography (2009) Revista de Chimie, 60 (8), pp. 745-749.
8. Wu, M.-L., Wang, Y.-S., Sun, C.-C., Wang, H., Dong, J.-D., Han, S.-H.  
Identification of anthropogenic effects and seasonality on water quality in Daya Bay, South China Sea (2009) Journal of Environmental Management, 90 (10), pp. 3082-3090.
9. Rezaie, K., Dehghanbaghi, M., Ebrahimipour, V.  
Performance evaluation of manufacturing systems based on dependability management indicators-case study: Chemical industry (2009) International Journal of Advanced Manufacturing Technology, 43 (5-6), pp. 608-619.
10. Frentiu, T., Ponta, M., Mihaltan, A., Cordos, E., Frentiu, M., Lazaroiu, G., Traista, L., Indries, R.  
Qualitative assessment of heavy metals sources in pitcoal/biomass briquettes combustion using multivariate statistical analysis (2009) Journal of Optoelectronics and Advanced Materials, 11 (5), pp. 697-704.
11. Morlock, G.E., Oellig, C.  
Rapid planar chromatographic analysis of 25 water-soluble dyes used as food additives  
(2009) Journal of AOAC International, 92 (3), pp. 745-756.
12. Komsta, Ł.

- Suppressing the charged coupled device noise in univariate thin-layer videoscans: A comparison of several algorithms (2009) *Journal of Chromatography A*, 1216 (12), pp. 2548-2553.
- 13.** Hoffmann, E.A., Fekete, Z.A., Rajkó, R., Pálinkó, I., Körtvélyesi, T.  
Theoretical characterization of gas-liquid chromatographic stationary phases with quantum chemical descriptors (2009) *Journal of Chromatography A*, 1216 (12), pp. 2540-2547.
- 14.** Kazi, T.G., Arain, M.B., Jamali, M.K., Jalbani, N., Afridi, H.I., Sarfraz, R.A., Baig, J.A., Shah, A.Q.  
Assessment of water quality of polluted lake using multivariate statistical techniques: A case study (2009) *Ecotoxicology and Environmental Safety*, 72 (2), pp. 301-309.
- 15.** Varol, M., Şen, B.  
Assessment of surface water quality using multivariate statistical techniques: A case study of Behrimaz Stream, Turkey (2009) *Environmental Monitoring and Assessment*, 159 (1-4), pp. 543-553.
- 16.** Podunavac-Kuzmanović, S.O., Barna, D.J., Cvetković, D.D.  
Quantitative structure-activity relationships to predict antibacterial effect of some benzimidazole derivatives (2008) *Acta Periodica Technologica*, 39, pp. 181-191.
- 17.** Yang, C., Lu, L., Lin, H., Guan, R., Shi, X., Liang, Y.  
A fuzzy-statistics-based principal component analysis (FS-PCA) method for multispectral image enhancement and display (2008) *IEEE Transactions on Geoscience and Remote Sensing*, 46 (11), art. no. 4686032, pp. 3937-3947.
- 18.** Podunavac-Kuzmanović, S.O., Cvetković, D.D., Barna, D.J.  
The effect of lipophilicity on antifungal activity of some 2-amino and 2-methylbenzimidazole derivatives (2008) *Chemické Listy*, 102 (15 SPEC. ISS.), pp. s753-s756.
- 19.** Sherma, J.  
Planar chromatography (2008) *Analytical Chemistry*, 80 (12), pp. 4253-4267. Cited 5 times.
- 20.** LI, W.-X., ZHANG, X.-X., WU, B., SUN, S.-L., CHEN, Y.-S., PAN, W.-Y., ZHAO, D.-Y., CHENG, S.-P.  
A Comparative Analysis of Environmental Quality Assessment Methods for Heavy Metal-Contaminated Soils 1 Project supported by the PhD Fund of the National Education Ministry of China (No. 20030284038) and the International Foundation for Science (No. W/4215). (2008) *Pedosphere*, 18 (3), pp. 344-352.
- 21.** Perišić-Janjić, N.U., Podunavac-Kuzmanović, S.O.  
RPTLC study of QSRR and QSAR for some benzimidazole derivatives (2008) *Journal of Planar Chromatography - Modern TLC*, 21 (2), pp. 135-141.
- 22.** Abadpour, A., Alfa, A.S., Diamond, J.  
Video-on-demand network design and maintenance using fuzzy optimization (2008) *IEEE Transactions on Systems, Man, and Cybernetics, Part B: Cybernetics*, 38 (2), pp. 404-420.
- 23.** Rao, C.R.M., Sahuquillo, A., Lopez Sanchez, J.F.  
A review of the different methods applied in environmental geochemistry for single and sequential extraction of trace elements in soils and related materials (2008) *Water, Air, and Soil Pollution*, 189 (1-4), pp. 291-333.
- 24.** Bacon, J.R., Davidson, C.M.  
Is there a future for sequential chemical extraction? (2008) *Analyst*, 133 (1), pp. 25-46.
- 25.** Shrestha, S., Kazama, F., Nakamura, T.  
Use of principal component analysis, factor analysis and discriminant analysis to evaluate spatial and temporal variations in water quality of the Mekong River (2008) *Journal of Hydroinformatics*, 10 (1), pp. 43-56.
- 26.** Kalivas, J.H.  
Progression of chemometrics in research supportive curricula: Preparing for the demands of society (2007) *ACS Symposium Series*, 970, pp. 140-156.
- 27.** Li, Y.-F., Hui, X.-F.  
Evaluation indexes selection of stocks' investment value based on fuzzy clustering (2007) *2007 International Conference on Wireless Communications, Networking and Mobile Computing, WiCOM 2007*, art. no. 4340763, pp. 3992-3995.
- 28.** Abadpour, A., Alfa, A.S., Diamond, J.  
Fuzzy design of a video-on-demand network (2007) *ISSPIT 2007 - 2007 IEEE International Symposium on Signal Processing and Information Technology*, art. no. 4458005, pp. 491-496.
- 29.** Aoki, S., Toyozumi, K., Tsuji, H.  
Visualizing method for data envelopment analysis

(2007) Conference Proceedings - IEEE International Conference on Systems, Man and Cybernetics, art. no. 4413784, pp. 474-479.

30. Héberger, K.

Quantitative structure-(chromatographic) retention relationships (2007) *Journal of Chromatography A*, 1158 (1-2), pp. 273-305.

31. Vončina, E., Vončina, D.B., Mirkovič, N., Novič, M.

Chemometric characterisation of the quality of ground waters from different wells in Slovenia (2007) *Acta Chimica Slovenica*, 54 (1), pp. 119-125.

32. Wang, S., Ma, H.-Q., Sun, Y.-J., Qiao, C.-D., Shao, S.-J., Jiang, S.-X.

Fingerprint quality control of *Angelica sinensis* (Oliv.) Diels by high-performance liquid chromatography coupled with discriminant analysis (2007) *Talanta*, 72 (2), pp. 434-436.

33. Astel, A.

Chemometrics based on fuzzy logic principles in environmental studies (2007) *Talanta*, 72 (1), pp. 1-12.

34. Shrestha, S., Kazama, F.

Assessment of surface water quality using multivariate statistical techniques: A case study of the Fuji river basin, Japan (2007) *Environmental Modelling and Software*, 22 (4), pp. 464-475.

35. Ge, Z., Song, Z.

Process monitoring based on independent Component Analysis-Principal Component Analysis (ICA-PCA) and similarity factors (2007) *Industrial and Engineering Chemistry Research*, 46 (7), pp. 2054-2063.

36. Pyka, A., Babuška, M., Šliwiok, J.

Use of liquid chromatography and theoretical computational methods to compare the lipophilicity of selected cortisone derivatives (2006) *Journal of Planar Chromatography - Modern TLC*, 19 (112), pp. 432-437.

37. Abdel-Moghny, T., Ahmed Gad, E., Mostafa, Y.

Effect of interfacially active fractions of some Egyptian crude oils on their emulsion stability (2006) *Journal of Dispersion Science and Technology*, 27 (1), pp. 133-141.

38. Laing, M.

Properties of the lanthanide metals: Correlations and discontinuities (2005) *Journal of Chemical Education*, 82 (11), p. 1623.

## 2. Alte citări ale lucrărilor listate mai sus

### 3. Citări în perioada 2005-2009 ale articolelor anterioare anului 2005

Scopus/EXPORT DATE: 16 March 2010

1. Chen, B., Li, B., Pan, Z.

Robust location estimation with possibilistic clustering (2009) 2009 Second ISECS International Colloquium on Computing, Communication, Control, and Management, CCCM 2009, 3, art. no. 5268066, pp. 312-315.

2. Heo, G., Gader, P., Frigui, H.

Robust kernel PCA using fuzzy membership (2009) *Proceedings of the International Joint Conference on Neural Networks*, art. no. 5178888, pp. 1213-1220.

3. Roy, A., Sural, S.

A fuzzy inferencing system for gait recognition (2009) *Annual Conference of the North American Fuzzy Information Processing Society - NAFIPS*, art. no. 5156479, .

4. Astel, A., Malłek, S., Krakowian, K.

Multivariate exploration and classification applied to the chemical composition of spring waters in sanctuary forest areas (2009) *International Journal of Environmental Analytical Chemistry*, 89 (8-12), pp. 597-620.

5. Oros, Gy., Cserháti, T.

Reversed phase thin layer chromatographic behavior of some acylanilide fungicides (2009) *Journal of Liquid Chromatography and Related Technologies*, 32 (9), pp. 1317-1330.

6. Dalkilic, T.E., Tank, F., Kula, K.S.

Neural networks approach for determining total claim amounts in insurance (2009) *Insurance: Mathematics and Economics*, 45 (2), pp. 236-241.

7. Petruczynik, A.

Optimization of Chromatographic Systems for Determination of Lipophilicity for Selected Isoquinoline Alkaloids (2009) *Journal of Liquid Chromatography and Related Technologies*, 32 (15), pp. 2265-2280.

- 8.** Fimognari, C., Lenzi, M., Cantelli-Forti, G., Hrelia, P.  
Apoptosis and modulation of cell cycle control by bile acids in human leukemia T cells (2009) *Annals of the New York Academy of Sciences*, 1171, pp. 264-269.
- 9.** Heo, G., Gader, P., Frigui, H.  
RKF-PCA: Robust kernel fuzzy PCA (2009) *Neural Networks*, 22 (5-6), pp. 642-650.
- 10.** Atrrog, A.A.B., Natić, M., Tosti, T., Milojković-Opsenica, D., Dordević, I., Tešević, V., Jadranin, M., Milosavljević, S., Lazić, M., Radulović, S., Tešić, Ž.  
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#### **4. Distincții, premii și alte recunoașteri naționale și internaționale**

**5. Studenți naționali atrași (activități de coordonare științifică și didactică)**

- **Îndrumare lucrări de licență (număr lucrări susținute)**

12 lucrări de licență susținute în perioada 2005-2009

- **Îndrumare lucrări de disertație (număr lucrări susținute)**

15 lucrări de disertație susținute în perioada 2005-2009

**6. Studenți internaționali atrași (activități de coordonare științifică și didactică)**

**7. Membru în comitetul de redacție la reviste ISI**

**8. Membru în comitetul de redacție la reviste BDI**

**9. Participări la programe/granturi de cercetare finanțate din sursă internațională (se menționează și valoarea)**

1. Physicochemical characterization of new synthesized potentially active compounds”, Provincial Secretariat for Science and Technological Development, Universitatea din Novi Sad (Serbia) (Director de proiect Prof. Dr. Nada Perisic-Janjic) (20.000 EUR), 2005-2007.

**10. Participări la programe/granturi finanțate din sursă națională (se menționează și valoarea)**

1. Complecsi de incluziune ai unor derivați ai metalelor tranzitionale cu ciclodextrine, (2004-2007) 1 miliard, Nr. 4-62

2. Compuși organometalici hipervalenți ai elementelor din grupele principale (Sn, Pb, Sb, Bi, Se, Te), (2005-2008), 15 miliarde, Nr. Cex-05-D11-16

3. Chimia organometalică a compușilor cu legătură homo și hetero metal-metal – HOHEORGMET, (2006-2008) 2 miliarde, PR-D11-PT00-42

**11. Coordonări de programe/granturi finanțate din sursă internațională (se menționează și valoarea)**

**12. Coordonări de programe/granturi finanțate din sursă națională (se menționează și valoarea)**

1. Modelarea proprietatilor fizico-chimice ale unor noi clase de compusi si predictia activitatii biologice prin metode chemometrice robuste, (2007-2008) -suma 191890 lei, Cod CNCSIS 1457

2. Modelarea proprietatilor fizico-chimice si predictia activitatii biologice a unor clase de compusi de interes deosebit pentru calitatea si securitatea alimentara, (2007-2010)-suma 1.000.000 lei, Cod CNCSIS 560

**13. Profesor invitat la universitati de prestigiu, cu titlu oficial**

1. Sârbu, C., Classical Principal Component Analysis vs Fuzzy principal Component Analysis, **Universitatea din Jena și Magdeburg**, mai 2008.

2. Sârbu, C., Fuzzy Sets and Fuzzy Logic and Their Applications in Chemistry, **Universitatea din Edinburgh** (iulie 2008).

3. **Universitatea Tehnica din Gdansk**, august 2005

**14. Membru în comisii profesionale relevante, cu titlu oficial**

Expert evaluator CNCSIS

Expert evaluator INTAS Brussels

**15. Conferințe invitate internaționale**

1. III Conference “Chemometrics-Methods and Applications”, Zakopane 19-22 October, 2006, Poland

2. “45<sup>st</sup> Meetings of the Serbian Chemical Society”

3. Workshop “Chemometrics Aspects of Environmental Analysis”, Gdansk, 1-7 August, Poland

**16. Membru în comitete de organizare sau științifice ale unor conferințe internaționale**

1. III Conference “Chemometrics-Methods and Applications”, Zakopane 19-22 October, 2006, Poland

### **III. Realizare remarcabilă**

(Descrieți într-o manieră cât mai accesibilă (în maximum 1 pagină) cea mai importantă realizare științifică/tehnică/artistică din ultimii 5 ani și impactul acesteia.)

Dezvoltarea unor metode chemometrice robuste privind determinarea unor noi scări de lipofilicitate prin cromatografia de lichide de înaltă performanță, folosind plăci de silicagel chimic legate, plăci impregnate (ulei de parafină, uleiuri minerale, grasimi animale, inclusiv grasime umană) și amestecuri metanol-apa ca fază mobilă, a unor clase de compuși de interes deosebit (medicamente, aditivi alimentari, îndulcitori naturali și sintetici, pesticide și clase noi de compuși potențial biologic activi). Aceste materiale (faze staționare inverse) constituie modele potrivite pentru simularea barierelor lipofile pe care o substanță, ce prezintă activitate biologică, trebuie să le străbată pentru a ajunge la celula țintă. Valorile recomandate în literatura de specialitate, obținute prin analiza de regresie liniară clasică pe baza datelor de retenție cromatografică, au fost comparate cu valorile obținute aplicând pentru prima dată statistica rangurilor, precum și cu scorurile obținute prin aplicarea analizei componentelor principale (PCA) la aceleași date cromatografice. Relevanța valorilor obținute prin metoda rangurilor, precum și a scorurilor obținute de-a lungul primei componente principale, ca noi indici de lipofilicitate, a fost validată prin studii comparative cu valorile experimentale obținute prin metoda clasică, precum și cu diferiți descriptori moleculari (topologici, geometrici, electrostatici, cuantici etc.) calculați cu programe complexe. Corelarea semnificativă a rezultatelor cromatografice cu datele calculate prin metode computaționale moderne a permis elaborarea unor modele predictive semnificative din punct de vedere statistic privind activitatea biologică sau toxicitatea compusilor chimici indiferent de structura chimică a acestora. În plus, scorurile după prima componentă principală obținute cu ajutorul analizei componentelor principale pot constitui un suport mult mai obiectiv pentru scara de lipofilicitate. De asemenea, s-au definit noi scări de lipofilicitate bazate pe statistica rangurilor și s-a folosit cu succes metoda PCA în studiile de tipul structură-activitate pentru diverse clase de compuși. Mai mult, harta de lipofilicitate descrisă de primele două componente principale, precum și spațiul de lipofilicitate descris de primele trei componente principale au avut ca un prim efect separarea efectivă a compusilor, din punctul de vedere al activității biologice, în grupuri congenerice bine delimitate. Pe baza rezultatelor experimentale obținute, se poate aprecia că plăcile chimic legate, precum și plăcile impregnate cu diferite uleiuri minerale și grasimi animale constituie suporturi (modele) foarte potrivite pentru simularea barierelor hidrofobe pe care o substanță, ce prezintă activitate biologică, trebuie să le străbată pentru a ajunge la celula țintă. În plus, mediile și rangurile marimilor de retenție și mai ales scorurile după prima componentă principală, obținute cu ajutorul analizei componentelor principale, pot constitui un suport mult mai obiectiv pentru scara de lipofilicitate. Rezultatele obținute au fost validate prin lucrări științifice publicate în reviste internaționale prestigioase și prin numărul de citări ale articolelor respective.

Data:

16.03.2010

Semnătura:

Conf. Dr. Costel Sârbu

#### **Certific validitatea datelor prezentate**

Sef de catedră,

Conf. Dr. Tiberiu Frențiu