

Curriculum Vitae

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Year of birth: 1980

Nationality: Romanian

Work experience

2013-2014: lecturer, Facultatea de Chimie și Inginerie Chimică, Universitatea Babeș-Bolyai

2008-2013: junior lecturer, Facultatea de Chimie și Inginerie Chimică, Universitatea Babeș-Bolyai

Teaching

- *Introduction in Inorganic Chemistry* – course offered in the academic year 2009-2010 to 1st year Bachelor students, specialization: Chemistry
- *The Chemistry of Nonmetallic Elements*– course offered starting from the academic year 2009-2010 to 1st year Bachelor students, specialization: Chemistry
- *Molecular Modelling and Design*- course offered starting with 2013 to 2nd year Master students, specialization: ICAP , Advanced Chemistry
- Laboratory work for *General Chemistry, Inorganic Chemistry I, and The Chemistry of Nonmetallic Elements*
- seminars in *General Chemistry, Introduction in Inorganic Chemistry, Inorganic Chemistry I and Molecular Modelling and Design*

Research

- member in the team of 6 national research grants from 2007 to 2013
- scientific manager of Partner 4, project CNCSIS-PCCE 129- NANOBIOFUN, 2010 – 2013
- member in the team of 2 international research grants from 2009 to 2013

Education

2003-2007: PhD in Chemistry, co-directed thesis between Universitatea Babeș-Bolyai and Université Paul Sabatier III Toulouse; title of the thesis: *Phosphaalkenes, Phosphaallenes: Synthesis, Structure and Theoretical Investigations*

2002-2003: Master in Applied Organometallic and Coordination Chemistry, Facultatea de Chimie și Inginerie Chimică, Universitatea Babeș-Bolyai

1998-2002: Bachelor in Chemistry, Facultatea de Chimie și Inginerie Chimică, Universitatea Babeș-Bolyai

Fellowships, stays abroad

October 2003 - July 2004: Laboratoire Hétérochimie Fondamentale et Appliquée, Université Paul Sabatier, Toulouse, France, Erasmus scholarship;

February 2005 – May 2005: University of Leipzig, Germania, Marie Curie fellowship;

October 2005 - July 2006: Laboratoire Hétérochimie Fondamentale et Appliquée, Université Paul Sabatier, Toulouse, Eiffel fellowship;

July - August 2009: University of Pecs, Hungary.

Known languages

English, French (advanced)

Publication list

1. A Novel Disiloxanediolato - Derivative of Tin(IV), P. M. Petrar, G. Cretiu Nemes, I. Silaghi-Dumitrescu, *Studia Univ. Babeş-Bolyai, Chemia*, **2004**, XLIX(2), 209-216.
2. New halo compounds of silicon and tin, potential precursors of >E=C=P- heteroallenic systems, P. M. Petrar, G. Nemes, I. Silaghi-Dumitrescu, L. Silaghi-Dumitrescu, *Studia Univ. Babeş-Bolyai, Chemia*, **2006**, LI (1), 77-82.
3. Synthesis of new bromo-stannanes: toward unsaturated tin derivatives, P. M. Petrar, G. Nemes, I. Silaghi-Dumitrescu, L. Silaghi-Dumitrescu, *Studia Univ. Babeş-Bolyai, Chemia*, **2006**, LI (2), 33-39.
4. 1,3-Digermacyclobutanes with exocyclic CLP and CLPLS double Bonds, P. M. Petrar, G. Nemes, I. Silaghi-Dumitrescu, H. Ranaivonjatovo, H. Gornitzka, J. Escudie, *Chem. Commun.*, **2007**, 40, 4149–4151.
5. Synthesis and Characterization of the First Arsanilbis(methylene)phosphorane (Me₃Si)₂C=P(Mes*)=C(Cl)-As(F)Mes*, P. M. Petrar, G. Nemes, L. Silaghi-Dumitrescu, I. Silaghi-Dumitrescu, J. Escudie, H. Gornitzka, H. Ranaivonjatovo, *Rev. Roum. Chim.*, **2007**, (1), 45-49.
6. Secondary interactions in heteroallenic system with P=C=E units, G. Nemes, I. Silaghi-Dumitrescu, P. M. Petrar, R. Septelean, L. Silaghi-Dumitrescu, *Studia Univ. Babeş-Bolyai, Chemia*, **2007**, LII (1), 3-10.
7. Towards the new double-bonded organophosphorus derivative of C=P=C=P type, G. Nemes, R. Şeptelean, P. M. Petrar, L. Silaghi-Dumitrescu, I. Silaghi-Dumitrescu, *Studia Univ. Babeş-Bolyai, Chemia*, **2007**, LII (4), 91-96.
8. vic-Dichlorodiphosphopropanes –Synthesis and coordination ability, R. Septelean, G. Nemes, Jean Escudie, I. Silaghi-Dumitrescu, H. Ranaivonjatovo, P. Petrar, H. Gornitzka, L. Silaghi-Dumitrescu, N. Saffon, *Eur. J. Inorg. Chem*, **2009**, 628-634.
9. Ascorbate Binding To Globins, F. V. Deac, A. Todea, A. M. Bolfa, P. Podea, P. Petrar, R. Silaghi-Dumitrescu, *Rom. J. Biochem.*, **2009**, 46(2), 115-121.
10. Narrow-Rim Alkenyl Calix[n]Arene Synthesis and Spectral Characterization, A. Saponar, E. J. Popovici, N. Popovici, E. Bica, G. Nemes, P. Petrar, I. Silaghi-Dumitrescu, *Rev. de Chimie*, **2009**, 60, 278-282.

11. An Insight into the Structure of Model Germaphosphaallenes, P.M. Petrar, G. Nemes, I. Silaghi-Dumitrescu, J. Escudie, H. Ranaivonjatovo, *Mol. Phys.*, **2009**, 107, 1161-1167.
12. Lower Rim Silyl Substituted Calix[8]Arenes, N. Fleuret, S. Paic, G. Nemes, R. Septelean, P. Petrar, I. Silaghi-Dumitrescu, *Studia Univ. Babeş-Bolyai, Chemia*, **2009**, LIII, 81-87.
13. Theoretical Aspects of Main Group Multiple Bonded Systems, I.Silaghi-Dumitrescu, P. Petrar, G. Nemeş, R. B. King, *Computational Inorganic and Bioinorganic Chemistry*, E. I. Solomon (Editor), R. A. Scott (Co-Editor), R. B. King (Co-Editor), John Wiley & Sons, pp.1-13, **2009**, ISBN: 978-0-470-69997-3.
14. Exploring the structure of arsaallene ylides – a theoretical approach, P. M. Petrar, G. Nemes, R. Septelean, L. Silaghi-Dumitrescu, J. Escudie, *Rev Roum Chimie*, **2010**, 55 (11-12), 1061-1072.
15. Structural study of new cyclo-1,3-diphosphabutane, R. Septelean, P. M. Petrar, I. Coman, G. Nemes, *Studia Univ. Babeş-Bolyai, Chemia*, **2010**, 55(3), 223-234.
16. A theoretical approach on the structure of arssaallenes $-\text{As}=\text{C}=\text{C}<$ and arsaphosphaallenes $-\text{As}=\text{C}=\text{P}-$, P. Petrar, G. Nemes, L. Silaghi-Dumitrescu, *Studia Univ. Babeş-Bolyai, Chemia*, **2010**, LV(2), 25-35.
17. Theoretical investigation on the PCP(O) moiety: how to stabilize the diphosphaallenic derivatives, R. Septelean, P. M. Petrar, G. Nemes, J. Escudié, I. Silaghi-Dumitrescu, *Phosphorus, Sulfur, and Silicon and the Related Elements*, **2011**, 186, 2321-2331.
18. Theoretical study of structural patterns in CH₂OP₂ isomers, R. Septelean, P. Maria Petrar, G. Nemes, J. Escudie, I. Silaghi-Dumitrescu, *J Mol Model*, **2011**, 17, 1719-1725.
19. Designing bis(phosphaalkenyl)germylenes and their tungsten complexes – a theoretical study, T.-G. Kocsor, P. M. Petrar, G. Nemeş, A. Castel, J. Escudié, N. Deak, L. Silaghi-Dumitrescu, *Comp. Theor. Chem.*, **2011**, 974, 117-121.
20. Theoretical study of P(III)=C-P(V) type diphosphapropenes coordinated to transition metals, R. Septelean, P.M. Petrar, G. Nemes, *Studia Univ. Babeş-Bolyai, Chemia*, **2011**, LVI(4), 131-141.
21. Chalcogeno[bis(phosphaalkenyl)] germanium and tin compounds, T.-G. Kocsor, D. Matioszek, G. Nemes, A. Castel, J. Escudie, P. M. Petrar, N. Saffon-Merceron, I. Haiduc, *Inorg Chem.*, **2012**, 51, 7782–7787.
22. One step away from phosphastannaalenes; experimental and in silico investigation on phosphastannapropenes, A. Lini, P.M. Petrar, G. Nemes, R. Septelean, L. Silaghi-Dumitrescu, H. Ranaivonjatovo, *Rev. Roum. Chimie*, **2012**, 57(4-5), 287-292.
23. Novel Phosphagermapropenes, Precursors for Heteroallenes Stabilized through Intramolecular Coordination, P. M. Petrar, R. Septelean, A. Bartok, N. Deak, G. Nemes, *Studia Univ. Babeş-Bolyai, Chemia*, **2012**, LVII(2), 119-127.
24. Ab initio calculations of electronic interactions in inclusion complexes of calix- and thiacalix[n]arenes and block cations, J. Barroso-Flores, I. Silaghi-Dumitrescu, P. M. Petrar, S. Kunsagi-Mate, *J. Incl. Phenom. Macrocycl. Chem.*, **2013**, 75(1), 39-46.
25. Au₁₀²⁺: A Tetrahedral Cluster Exhibiting Spherical Aromaticity, P. M. Petrar, M. B. Sárosi, R. B. King, *J. Phys. Chem. Lett.*, **2012**, 3 (22), 3335–3337.

26. New silyl-substituted phosphalkenes $\text{Mes P}=\text{C}(\text{Cl})\text{-Si}(\text{Cl})\text{PhR}$, promising building blocks in silicon and phosphorus chemistry, A. Bartok, R. Septelean, P. M. Petrar, G. Nemes, L. Silaghi-Dumitrescu, H. Ranaivonjatovo, S. Mallet-Ladeira, N. Saffon, C. Hemmert, H. Gornitzka, *J. Organomet. Chem.*, **2013**, 724, 200-205.
27. In Silico Quest for Stable Phosphastannaallenes, P. M. Petrar, A. Bartok, G. Nemes, L. Silaghi-Dumitrescu, J. Escudie, *Comptes Rendus Chimie*, **2013**, 16(2), 153-158.
28. A Theoretical Approach on the Structure and Reactivity of Model Phosphastannapropenes, A. Bartok, P. M. Petrar, G. Nemes, L. Silaghi-Dumitrescu, *Studia Univ. Babeş-Bolyai, Chemia*, **2013**, LVIII(1), 133-140.
29. Density functional study of bare gold clusters: the ten-vertex neutral system, M. B. Sárosi, P. M. Petrar, R. B. King, *J. Mol. Mod.*, **2013**, 19(10), 4585-4590.
30. Calix[n]arene-based drug carriers: A DFT study of their electronic interactions with a chemotherapeutic agent used against leukemia, R. Galindo-Murillo, A. Olmedo-Romero, E. Cruz-Flores, P. M. Petrar, S. Kunsagi-Mate, J. Barroso-Flores, *Comp. Theor. Chem.*, **2014**, 1035, 84-91.