

**Marilena Ferbinteanu Cimpoesu**

**Curriculum Vitae**



<b>Nume</b>	<b>CIMPOESU (FERBINTEANU)</b>
<b>Prenume</b>	<b>MARILENA</b>
<b>Data si locul nasterii</b>	<b>Bucuresti, 30.07.1968</b>
<b>Grad didactic</b>	<b>Lector</b>
<b>Titlul stiintific</b>	<b>Doctor</b>
<b>Afilier</b>	<b>-Universitatea din Bucuresti, Facultatea de Chimie, Catedra de Chimie Anorganica -Membru al Societatii de Chimie din Romania -Membru al Societatii de Chimie din Japonia (CSJ-The Chemical Society of Japan) -Membru al clubului "Alexander von Humboldt", Romania, in calitate de fost bursier Humboldt, Germania</b>
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**Domenii de cercetare:**

**Chimie coordinativa mono- si polinucleara:** Sinteza sistemelor mono si polinucleare cu particularitati structurale relevante analitic (afinitatea mutuala a liganzilor, sisteme cu liganzi micsti, efecte ale chelarii, tensiunea in ciclu si topologia coordinarii). Proprietati speciale: Cromotropism, Magnetism (lanturi alternate cu proprietati de magneti "single-chain"). Metode speciale si strategii de sinteza in chimia coordinativa si organometalica. Tehnici de masurare (SQUID) si interpretare a datelor magnetice (susceptibilitate, magnetizare, DC, AC anizotropie, RPE). Analiza structurala, cristalografica si rutine specifice metodelor de structura electronica (particularizare pe concepte ca legatura coordinativa curba, dezalinierea perechii de electroni neparticipanti, hibridizare, aromaticitatea ciclurilor chelatice).

**Chimia clusterilor si chimie organometalica:** Investigarea edificiilor moleculare aparent contrare regulilor HSAB, ca strategii de obtinere a proprietatilor speciale. Rationalizarea structurilor si reactiilor prin termeni esentiali ca Electronegativitate,

Hardness, Hibridizare, Aromaticitate tridimensionala. Teorii electronice moderne (Tensor Surface Harmonics Theory) aplicate in investigarea structurala a clusterilor.

**Chimia starii solide:** Termocromism si reactii in faza solida ale compusilor coordinativi. Analiza termica si cinetica neizoterma. Studii experimentale si teoretice, modelarea reactiilor in faza solida cu multiple etape initiate termic.

**Analiza spectrala** (spectre electronice, RPE, RMN, MS) a compusilor anorganici. interpretare si modelare.

### **Carti (1-2 titluri):**

1. Marilena Ferbinteanu, Fanica Cimpoesu, **2003**, *Compusi coordinativi cu proprietati speciale*, Editura Universitatii, Bucuresti, 220 pagini, ISSN 973-575-674-9.
2. Marilena Ferbinteanu, Fanica Cimpoesu, **2002**, *Aspecte teoretice si practice in chimia clusterilor, polimerilor si ciclurilor anorganice*, Editura Universitatii, Bucuresti, 150 pagini, ISSN 973-575-672-2.

### **Articole principale (lucrari reprezentative):**

1. *Ferromagnetic Single-Chain Magnet with Mn<sup>III</sup>-Mn<sup>III</sup>-Fe<sup>III</sup> Pattern Made by a Mn Salen Analogue and Hexacyanoferrat*, Marilena Ferbinteanu, H. Miyasaka, K. Nakata, F. Cimpoesu, K. Hirao, K. Sugiura, and M. Yamashita, *J. Am. Chem. Soc.* **2004**, submitted.
2. *Mechanism of Ferromagnetic Coupling in Copper(II)-Gadolinium(III) Complexes*, J. Paulovic, F. Cimpoesu, Marilena Ferbinteanu, and K. Hirao, *J. Am. Chem. Soc.* **2004**, 126, 3321-3331.
3. *Synthesis and Structural Studies of Two New Base Adducts of Bis (2,4-pentanedionato)cobalt(II)*, S. Tanase, E. Bouwman, J. Reedijk, W. L. Driessen, Marilena Ferbinteanu, M. Huber, A. M. Mills, and A. L. Spek, *Eur. J. Inorg. Chem.* **2004**, 1963-1969.
4. *Special Structural Features of Chelating Nitrite and  $\beta$ -diketonate Ligands in New Nickel(II) Mixed Ligand Complexes.*, Marilena Ferbinteanu, K. Miyamoto, S. Tanase, T. Tanaka, E. Horn and Y. Fukuda, the monography "Progress in Coordination and Bioinorganic Chemistry", Eds. M. Melnik and A. Sirota, Slovak Tech. Univ. Press, Bratislava, **2003**, 21-26.
5. *Syntheses, Structures, and Surface Aromaticity of the new Carbaalane [(AlH)<sub>6</sub>(AlNMe<sub>3</sub>)<sub>2</sub>(CCH<sub>2</sub>R)<sub>6</sub>] (R = Ph, CH<sub>2</sub>SiMe<sub>3</sub>) and a Stepwise Functionalization of the Inner and Outer Sphere of the Cluster*, A. Stasch, Marilena Ferbinteanu, J. Prust, W. Zheng, F. Cimpoesu, H. W. Roesky, J. Magull, H.-G. Schmidt, M. Noltemeyer, *J. Am. Chem. Soc.* **2002**, 124, 5441-5448.
6. *New Aspects of the Coordination Chemistry of Triazolato Ligands in The First ( $\mu_4$ -Oxo)-Tetranuclear Magnesium Compound*, N. C. Mösch-Zanetti, Marilena Ferbinteanu, J. Magull, *Eur. J. Inorg. Chem.* **2002**, 950-956.

7. *The First Basic Carboxylate with an Oxo-Centered Trinuclear Pattern of Aluminum:  $[Al_3(\mu_3-O)(\mu-O_2CCF_3)_6THF]_3[(Me_3Si)_3CAI(O_2CCF_3)_3] \cdot C_7H_8$* , H. Hatop, Marilena Ferbinteanu, H. W. Roesky, F. Cimpoesu, M. Schiefer, H.-G. Schmidt, M. Noltemeyer, *Inorg. Chem.* **2002**, 41, 1022-125.

8. *New Synthetic and Structural Aspects in the Chemistry of Alkylaluminum-fluorides. The Mutual Influence of Hard and Soft Ligands and the Hybridization as Rigorous Structural Criterion*, Marilena Ferbinteanu, H W. Roesky, F. Cimpoesu, M. Atanasov, S. Köpke, R. Herbst-Irmer, *Inorg. Chem.* **2001**, 40, 4947-4955.

9. *Perspectives of the Bonding Effects in New Titanium-nitrogen Coordination Compounds*, Marilena Ferbinteanu, F. Cimpoesu, H. W. Roesky, G. Bai, N. C. Mösch-Zanetti, in the monography "Challenges for Coordination Chemistry in the New century", Eds. M. Melnik and A. Sirota, Slovak Tech. Univ. Press, Bratislava, **2001**, 127-132.

10. *Synthesis, crystal structure and magnetic properties of the cyano-bridged heteropolynuclear complex  $[(Cu(dien))_2Co(CN)_6]_n[Cu(dien)(H_2O)Co(CN)_6]_n \cdot 5nH_2O$* , Marilena Ferbinteanu, S. Tanase, M. Andruh, Y. Journaux, F. Cimpoesu, I. Strenger, E. Riviere, *Polyhedron* **1999**, 18(23), 3019-3025.

#### **Comunicari stiintifice internationale:**

1. *Single Chain Magnets*, Marilena Ferbinteanu, H. Miyasaka, M. Yamashita and F. Cimpoesu, 4<sup>th</sup> International Conference of the Chemical Societies of the South-East European Countries on Chemical Sciences in Changing Times: Visions, Challenges and Solutions, Belgrade, Serbia and Montenegro, 18-21 July 2004, oral.

2. *The Mechanism of Ferromagnetic Coupling in Cu(II)-Gd(III) Complexes*, F. Cimpoesu, Marilena Ferbinteanu, K. Hirao, 4<sup>th</sup> International Conference of the Chemical Societies of the South-East European Countries on Chemical Sciences in Changing Times: Visions, Challenges and Solutions, Belgrade, Serbia and Montenegro, 18-21 July 2004, poster.

3. *New Orbital Mechanisms for Exchange Coupling in Jahn-Teller Type Complexes. Vibronic and Spin Coupling. Models and Applications*, F. Cimpoesu, K. Hirao H. Miyasaka, M. Ferbinteanu, M. Yamashita, 1<sup>th</sup> Asian Pacific Conference on Chemistry, Okazaki, Japan, 12-15 May 2004, poster.

4. *A Novel Single-Chain Magnet of Mn(III) Schiff-base Complex with Hexacyanometalate (III)*, Marilena Ferbinteanu, H. Miyasaka, K. Nakata, K. Sugiura, M. Yamashita, 84<sup>th</sup> Conference of the Japanese Chemical Society, Osaka, Japan, 26-29 March 2004, poster.

5. *A Novel Single-Chain Magnet of Mn(III) Schiff-Base Complex with Hexacyanometalate(III)*, Marilena Ferbinteanu, invited lecture in the 36<sup>th</sup> Symposium of Inorganic Materials, organizer Prof. Masahiro Yamashita, Tokyo Metropolitan University, Department of Chemistry, Graduate School of Science, Tokyo, Japan, 27 January 2004.

6. *Chemical and Structural Particularities of New Complexes with Chelating Nitrite Ligand*, Marilena Ferbinteanu, K. Miyamoto, A. Shinohara, E. Horn, Y. Mitsutsuka and Y. Fukuda, 53<sup>rd</sup> International Conference on Coordination Chemistry, Yamagata, Japan, 24-26 September 2003, oral.
7. *Synthesis and Chromotropic behaviour of Nickel (II) Mixed Ligand Complexes*, M. Sakamoto, K. Miyamoto, M. Ferbinteanu, C. Tanaka, E. Horn and Y. Fukuda, 53<sup>rd</sup> International Conference on Coordination Chemistry, Yamagata, Japan, 24-26 September 2003, poster.
8. *Structural studies on rigid nitrogen ligand bis[N-(2,6-diisopropylphenyl)imino]acetone and its complexes with  $d^{10}$  metal ions*. U. El-Ayaan, Marilena Ferbinteanu, S. Yamada and Y. Fukuda, 53<sup>rd</sup> International Conference on Coordination Chemistry, Yamagata, Japan, 24-26 September 2003, oral.
9. *Particular Structural and Spectroscopic Properties in Distorted Coordination Compounds*. F. Cimpoesu, Marilena Ferbinteanu, Y. Fukuda, Y. Mitsutsuka and K. Hirao International Conference on Molecular Spectroscopy, Kyoto, Japan, 24-27 September 2003, poster.
10. *Perspectives of the bonding effects in new coordination compounds with ligands providing a small-bite angle*, Marilena Cimpoesu, invited lecture in the 19<sup>th</sup> Symposium of Inorganic Materials, organizer Prof. Masahiro Yamashita Tokyo Metropolitan University, Department of Chemistry, Graduate School of Science, Tokyo, Japan, 21 August 2003.
11. *Experimental Organometallic and Coordination Chemistry in the Key of Revisited Fundamental Theoretical Concepts: Hybridisation, Aromaticity, Misdirected Lone Pairs*, Marilena Cimpoesu, invited lecture in the Seminar of Inorganic Chemistry, organizer Prof. Norimichi Kojima, The University of Tokyo, Graduate School of Arts and Sciences, Tokyo, Japan, 26 July 2003.
12. *Special Structural Features of Chelating Nitrite and  $\beta$ -Diketonate Ligands In The New Nickel(II) Mixed Ligand Complexes*, Marilena Ferbinteanu, K. Miyamoto, S. Tanase, C. Tanaka, E. Horn and Y. Fukuda, 19<sup>th</sup> International Conference On Coordination And Bioinorganic Chemistry, Smolenice, Slovakia, 2-6 June 2003, oral.
13. *Synthesis And Characterization (In Solid State and Solution) of Ni(II) Mixed Ligand Complexes with N-alkylated Ethylenediamine (diam),  $\beta$ -diketonate(dike) and Halide Anion (X), Ni(diam)(dike)X.n(solvent)*, M. Sakamoto, K. Miyamoto, Marilena Ferbinteanu, C. Tanaka, E. Horn and Y. Fukuda, 19<sup>th</sup> International Conference On Coordination And Bioinorganic Chemistry, Smolenice, Slovakia, 2-6 June 2003, oral.
14. *Structural Aspects in Distorted Coordination Compounds Formed with Small bite angle Ligands*, Marilena Ferbinteanu, invited lecture, Workshop, organizer Prof. Ernst Horn, Rikkyo University, Faculty of Chemistry, Department of Chemistry, Tokyo, Japan, 23 May 2003.
15. *Inorganic Polymers Through a Spectacular Case of Breaking C-O Bond by Lewis Acidity of aluminum*, Marilena Ferbinteanu, F. Cimpoesu, Herbert W. Roesky, 3<sup>rd</sup> International Conference of the Chemical Societies of the South-Eastern European

Countries on "Chemistry in the New Millennium-an Endless Frontier", Bucharest, Romania, 22-25 September 2002, poster.

16. *The Thermochromic Properties of the Coordination Compounds*, Marilena Cimpoesu, invited lecture in the Symposium of the Ochanomizu University, Tokyo, Japan, 20 June 2002.

17. *Perspectives of the Bonding Effects in New Titanium-Nitrogen Coordination Compound*, Marilena Cimpoesu, F. Cimpoesu, H. W. Roesky, G. Bai, N. C. Mösch-Zanetti, 18<sup>th</sup> International Conference on Coordination and Bioanorganic Chemistry, Smolenice, Slovakia, 4-8 June 2001, oral.

18. *Hard and Soft Interactions in the Chemistry of Organo-Fluoro Metalates*, Marilena Ferbinteanu, H. W. Roesky, A. Stasch, F. Cimpoesu, S. Köpke, III<sup>rd</sup> International Conference on Progress in Inorganic and Organometallic Chemistry, Polanica Zdroj, Poland, 17-22 September 2000, oral.

19. *A Random Walk in the properties of metal Ion Compounds*, Marilena Cimpoesu invited lecture in the Professor H. W. Roesky's Group Seminar, Institut für Anorganische Chemie, Göttingen, Deutschland, 19 June 2000.

20. *Hard and Soft Interactions for Generating New Catalysts*, Marilena Cimpoesu, invited lecture, Alexander von Humboldt, Chemie und Geowissenschaften Symposium, Düsseldorf, Deutschland, 18-23 Februar 2000.