Cristian Andrei Spînu

Date of birth: 14/11/1993 | **Email address:** cristisp93@gmail.com | **Address:** Bucharest, Romania (Home)

WORK EXPERIENCE

RESEARCH ASSISTANT – INSTITUTE OF ORGANIC AND SUPRAMOLECULAR CHEMISTRY "COSTIN D. NENIȚESCU" – 2021 – Current – BUCHAREST, ROMANIA

Website: icoscdn.ro

Laboratory of Metallosupramolecular Chemistry and Crystal Engineering

- Design and synthesis of ligands and coordination compounds;
- Purification of organic compounds by column chromatography;
- Crystallization of the obtained molecules;
- Physico-chemical characterization of the molecules;
- Maintaining the laboratory and the workspace neat, clean and organized;
- Reading, understanding and applying safety and protection rules in the laboratory.

ERASMUS+ INTERNSHIP – UNIVERSITY OF TOULOUSE III PAUL SABATIER, LABORATORIE DE CHIMIE DE COORDINATION DU CNRS – 03/2020 – 05/2020 – TOULOUSE, FRANCE

Website: lcc-toulouse.fr

Internship theme:
"Metal coordination compounds containing nitronyl nitroxide organic stable radicals"

Tasks performed during the internship:
- Synthesis of metal complexes using nitronyl nitroxide radicals and hexafluoroacetylacetonates of 3*d* and 4*f* metals;
- Synthesis of lanthanide chlorides starting from their metal oxides;
- Synthesis of lanthanide hexafluoroacetylacetonates and their purification by recrystallization from hexane;
- Systematic investigation of complexes containing stable radicals by crystallization from different solvent mixtures;
- Use of aldehydes, used as precursors in obtaining radicals, for the synthesis of Shiff bases and their complexation with 3*d* metal ions;
- Investigation of compounds obtained by infrared spectroscopy and X-ray diffraction;
- Maintaining the laboratory and workspace neat, clean and organized;
- Supplying the solvent cabinet with new bottles of solvents from the warehouse, taking into account the protection rules;
- Reading, understanding and applying the safety and protection rules in the laboratory.

INTERNSHIP – NATIONAL INSTITUTE OF MATERIALS PHYSICS – 10/2016 – 04/2017 – MĂGURELE, ROMANIA

Website: infim.ro

Thermogravimetric analysis, differential scanning calorimetry and X-ray powder diffraction for organic germanium compounds.

INTERNSHIP – INSTITUTE OF PHISICAL CHEMISTRY "ILIE MURGULESCU" – 05/2015 – 06/2015 – BUCHAREST , ROMANIA

Website: icf.ro

Various activities in the Quantum Chemistry and Molecular Structure Laboratory.

EDUCATION AND TRAINING

2017 – CURRENT Bucharest, Romania
PHD STUDENT Faculty of Chemistry, University of Bucharest

2015 – 2017 Bucharest, Romania
CHEMISTRY OF ADVANCED MATERIALS - MASTER Faculty of Chemistry, University of Bucharest

2012 – 2015 Bucharest, Romania
PSYCHO-PEDAGOGICAL MODULE Faculty of Psychology and Educational Sciences, University of Bucharest

2012 – 2015 Bucharest
CHEMISTRY - BACHELOR Faculty of Chemistry, University of Bucharest

2008 – 2012 Bucharest, Romania
HIGH SCHOOL "C. A. Rosetti"

2000 – 2008 Bucharest, Romania
MIDDLE SCHOOL "Maria Rosetti" no.10

LANGUAGE SKILLS

Mother tongue(s): **ROMANIAN**

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
ENGLISH	B2	B2	B2	B2	B2

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

CONFERENCES AND SEMINARS

Conferences

• CoFRO II: Coordination Chemistry between France and Romania 2026, Babes-Bolyai University, Cluj-Napoca, Romania
"Nitronyl nitroxide stable radicals derived from nitro-o-vanillin and bisphenol A as ligands towards 3d and 4f metal ions"

• Zi de Chimie - Sesiune de Comunicări Științifice, Coaching și Bune Practici in Cercetare, Grădina Botanică "Dimitrie Brânză" 2024, University of Bucharest, Bucharest, Romania
"*Heterodispin 2p-3d and heterotrispin 2p-3d-4f complexes derived from nitronyl nitroxide ligands obtained from nitro-o-vanillin and bisphenol A*"

• CoFRO : Coordination Chemistry between France and Romania 2024, Université de Rennes, Rennes, France
"Heterodispin 2p-3d and heterotrispin 2p-3d-4f complexes derived from nitronyl nitroxide ligands obtained from nitro-o vanillin and bisphenol A"

• Conferința tinerilor cercetători din școlile de chimie bucureștene 2024, Bucharest, Romania
"Sinteza și caracterizarea complecșilor metalici care conțin liganzi nitronil nitroxid proveniți de la nitro-o-vanilină și bisfenol A"

• Gheroghe Spacu 140 de ani de la naștere 2023, Romanian Academy, Bucharest, Romania
"*Sinteza si caracterizarea complecșilor metalici care conțin liganzi nitronil nitroxid proveniți de la nitro-o-vanilină și bisfenol A*"

• 120 de ani de la nașterea Academicianului Costin D. Nenițescu 2022, Romanian Academy, Bucharest, Romania
"Sinteza si caracterizarea complecșilor metalici care conțin liganzi nitronil nitroxid proveniți de la nitro-o-vanilină"

• European Conference on Molecular Magnetism 2022, Couvent des Jacobins - Rennes, France
"Heterodispin 2p-3d and heterotrispin 2p-3d-4f complexes derived from nitro-o-vanillin nitronyl nitroxide ligand"

• Students Scientific Communications Session 2021, București, România
"Synthesis and characterization of nitronyl nitroxide metal complexes derived from nitro-o-vanillin"

• Young Researchers' International Conference on Chemistry and Chemical Engineering (YRICCCE III) 2021, Cluj-Napoca, România

"Synthesis and characterization of nitronyl nitroxide metal complexes derived from nitro-o-vanillin"

- Romanian International Conference on Chemistry and Chemical Engineering 2019, Constanța - Mamaia, România

"Nitronyl Nitroxide Ligand Derived from o-Vanillin"

- International Conference Students for Students 2017, Cluj-Napoca, România

"Structure and thermal analysis of organo-germanium compounds"

- Students Scientific Communications Session 2016, București, România

"Fluoromanganese (III) chain complex. Synthesis and structural analysis."

- ACS on Campus 2016, București, România

"Fluoromanganese (III) chain complex. Synthesis and structural analysis."

COURSES

Courses

Rigaku School for Practical Crystallography
Coursera.org, "A Look at Nuclear Science and Technology"
Coursera.org, "Introduction to Molecular Spectroscopy"

SUMMER SCHOOLS

Summer schools

- University of Groningen, 2016 COST Action CM1305 Summer School

"Theory and practice in Spectroscopy and Electrochemistry"
The school was focused on DFT and LF-DFT methods, Electrochemistry, Multidimensional NMR spectroscopy, Mössbauer spectroscopy and EPR spectroscopy.

SCIENTIFIC ARTICLES

Scientific articles

6. O. T. A. D. Martins , C. A. Spinu, A. Sheveleva, M. Hillebrand, F. Tuna, M. Andruh, “Investigation of hyperfine interactions in molecular spin qubits constructed from a nitronyl-nitroxide ligand and transition metal ions”, *Inorg. Chem.*, **2026**, *65*, 12, 6544-6553. https://doi.org/10.1021/acs.inorgchem.5c05585

5. C. A. Spinu, G. Novitchi, M. Hillebrand, T. Mocanu, G. Ionita, A. Hanganu, V. Tecuceanu, M. Andruh, “Design of a new nitronyl-nitroxide biradical and its complexes: synthesis, crystal structures and magnetic properties”, *CrystEngComm*, **2025**, *27*, 6462-6472. https://doi.org/10.1039/D5CE00795J

4. C. A. Spinu, T. Mocanu, M. Hillebrand, J.-P. Sutter, F. Tuna, M. Andruh, “Two new 2*p*–3*d* metal complexes with a nitronyl-nitroxide ligand derived from *o*-vanillin: synthesis, crystals structures and magnetic properties”, *Magnetochemistry*, **2024**, *10*, 86, 1-12. https://doi.org/10.3390/magnetochemistry10110086

3. A. Dumbrava, C. Maxim, C. A. Spinu, M. Andruh, A mixed-anion complex of nickel(II) with monoethanolamine, *Rev. Roum. Chim.*, **2023**, *68*, 10-12, 589-594. 10.33224/rrch.2023.68.10-12.12

2. M. Răducă, D. O. T. A. Martins, C. A. Spinu, M. Hillebrand, F. Tuna, G. Ionita, A. M. Mădălan, C. Lecourt, J.-P. Sutter, M. Andruh, A New Nitronyl-Nitroxide Ligand for Designing Binuclear LnIII Complexes: Syntheses, Crystal Structures, Magnetic and EPR Studies, *Eur. J. Inorg. Chem.*, **2022**, e202200128. https://doi.org/10.1002/ejic.202200128

1. C. A. Spinu, C. Pichon, G. Ionita, T. Mocanu, S. Calancea, M. Raduca, J.-P. Sutter, M.Hillebrand, M. Andruh, Synthesis, crystal structure, magnetic, spectroscopic, and theoretical investigations of two new nitronyl-nitroxide complexes, *J. Coord. Chem.*, **2021**, *74*, 1-3, 279-293. https://doi.org/10.1080/00958972.2021.1871900