



Raluca Septelean

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● WORK EXPERIENCE

02/2019 – CURRENT Cluj-Napoca, Romania

SENIOR LECTURER IN CHEMISTRY BABES-BOLYAI UNIVERSITY, FACULTY OF CHEMISTRY AND CHEMICAL ENGINEERING, CHEMISTRY DEPARTMENT

02/2016 – 02/2019 Cluj-Napoca, Romania

UNIVERSITY TEACHING ASSISTANT BABES-BOLYAI UNIVERSITY, FACULTY OF CHEMISTRY AND CHEMICAL ENGINEERING, CHEMISTRY DEPARTMENT

09/2014 – 09/2015 Cluj-Napoca, Romania

POST-DOCTORAL RESEARCHER BABES-BOLYAI UNIVERSITY, FACULTY OF CHEMISTRY AND CHEMICAL ENGINEERING, CHEMISTRY DEPARTMENT

- Synthesis and characterization of phosphorus and tin unsaturated compounds, coordination ability and stability of the obtained derivatives
- Managing a research laboratory and mentoring undergrad students and PhD students

07/2012 – 09/2014 Cluj-Napoca, Romania

UNIVERSITY RESEARCH ASSISTANT BABES-BOLYAI UNIVERSITY, FACULTY OF CHEMISTRY AND CHEMICAL ENGINEERING, CHEMISTRY DEPARTMENT

- Synthesis and characterization of phosphorus and tin unsaturated compounds, coordination ability and stability of the obtained derivatives
- Synthesis and characterization of calixarenes and substituted calixarenes
- Use of Bruker 300, 400 and 600 MHz NMR spectrometers, Perkin-Elmer Lambda UV-Vis spectrophotometer, Bruker FT IR, Vector 22 spectrophotometers and Shimadzu QP-2010 PLUS GC-MS Spectrometer.
- Managing a research laboratory and mentoring undergrad students and PhD students

04/2013 – 04/2014 Cluj-Napoca, Romania

SCIENTIFIC RESEARCHER INSTITUTE OF ANALYTICAL INSTRUMENTATION

- GC Analysis of Natural Gases and calculation of calorific parameters according to ISO standards, validation and report writing;
- Water and soil sample preparation for the analysis of organic contaminants (long chain hydrocarbons, halogens, detergents) and metals.
- Gravimetric determination of suspensions and chemical oxygen demand in water samples.

07/2010 – 07/2012 Cluj-Napoca, Romania

PROJECT MANAGER BABES-BOLYAI UNIVERSITY, FACULTY OF CHEMISTRY AND CHEMICAL ENGINEERING, CHEMISTRY DEPARTMENT

- Synthesis and characterization of diphosphapropenes and their use as metal ligands to transition metals.
- Synthesis of organic precursor to phosphorus compounds, their separation and characterization

10/2005 – 11/2015 Cluj-Napoca, Romania

TEACHING ASSISTANT – GENERAL CHEMISTRY BABES-BOLYAI UNIVERSITY, FACULTY OF CHEMISTRY AND CHEMICAL ENGINEERING, CHEMISTRY DEPARTMENT

General Inorganic Chemistry seminars and supervised undergraduates in the laboratory; Waste management seminars; Industrial pollutants seminar

● EDUCATION AND TRAINING

10/2005 – 11/2009 Cluj-Napoca, Romania

PHD IN CHEMISTRY Babes-Bolyai University, Cluj-Napoca, Romania /Université Paul Sabatier, Toulouse, France.

- Synthesis of organic, organometallic and coordination compounds; separation and characterization through usual spectroscopic methods (NMR, GC-MS, IR, single crystal X-Ray diffraction). Most of the work related to the subject was done under inert conditions through the usual Schlenk techniques.
- Computational study of unsaturated diphosphaallenic model.
- Synthesis of coordination compounds using diphosphapropenes as ligands to transition metals.

Field of study chemistry

10/2005 – 11/2009 Toulouse, France

PHD IN CHEMISTRY Universitatea Babes-Bolyai, Cluj-Napoca, Romania/Université Paul Sabatier, Toulouse, France.

- Synthesis of organic, organometallic and coordination compounds; separation and characterization through usual spectroscopic methods (NMR, GC-MS, IR, single crystal X-Ray diffraction). Most of the work related to the subject was done under inert conditions through the usual Schlenk techniques.
- Computational study of unsaturated diphosphaallenic model.
- Synthesis of coordination compounds using diphosphapropenes as ligands to transition metals.

10/2004 – 10/2005 Cluj-Napoca, Romania

MS-APPLIED ORGANOMETALLIC AND COORDINATION CHEMISTRY Faculty of Chemistry and Chemical Engineering, Babes-Bolyai University

Synthesis of phosphorus unsaturated compounds under inert conditions, characterization and stability study.

10/2000 – 07/2004

BS - CHEMISTRY Faculty of Chemistry and Chemical Engineering, Babes-Bolyai University

- occupational techniques (making of standard breads, fancy breads, cakes and pastries)
- science applied to food and equipment (microbiology, biochemistry, hygiene)
- occupational technology (basic principles, hygiene and safety)
- knowledge of business and its economic, legal and social context

Field of study Chemistry | **Thesis** Computational study of fluorene and mono-substituted fluorenyl derivatives

● LANGUAGE SKILLS

Mother tongue(s): **ROMANIAN**

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
ENGLISH	C2	C2	C2	C2	C2
FRENCH	C1	C1	C1	C1	B2
SPANISH	B1	B2	B1	B1	B1
ITALIAN	B2	B2	A2	A2	A1

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

● **DIGITAL SKILLS**

Microsoft Office package: Microsoft Word, Excel, PowerPoint, Access | Spartan | mestrenova | ChemBioOffice / ChemOffice Perkin Elmer | ChemDraw, ChemsSketch, Chemcraft, Gaussian, Putty, Origin, Mendeley, Anydesk

● **ADDITIONAL INFORMATION**

STAYS ABROAD

05/2012 – 05/2012

Visiting Researcher

Laboratoire de Chimie de Coordination, Toulouse, France.

- Synthesis and characterization of silaphosphapropene - gold complexes

06/2011 – 07/2011

Visiting Researcher

Laboratoire de Chimie de Coordination, Toulouse, France.

- X-ray diffraction studies and solving molecular structure by the ShelX platform

05/2010 – 06/2010

Visiting Researcher

University of Pecs, Pecs, Hungary

- Theoretical studies on the barrier to rotation of substituted phenols and the solvent influence on the hindrance of the rotation of the -OH group

09/2008 – 09/2008

Visiting Researcher/PhD Student

Laboratoire Hétérochimie Fondamentale et Appliquée, Université Paul Sabatier, Toulouse, France.
Doctoral studies in a cojoint program

12/2007 – 01/2008

Visiting Researcher /Phd Student Exchange Cooperation

Laboratory Inorganica 2, Pontificia Universidad Catolica, Santiago de Chile, Chile

- Synthesis of bimetallic coordination compounds featuring transition metals (Ru and Rh) and indacene ligand

10/2006 – 07/2007

Visiting Researcher/PhD Student – (Eiffel scholarship of the French Ministry)

Laboratoire Hétérochimie Fondamentale et Appliquée, Université Paul Sabatier, Toulouse, France.

- Doctoral studies in a cojoint program

11/2005 – 05/2006

Visiting Researcher /PhD Student

Laboratoire Hétérochimie Fondamentale et Appliquée, Université Paul Sabatier, Toulouse, France

- Doctoral studies in a cojoint program

02/2005 – 07/2005

Visiting Researcher/MS Student – Socrate-Erasmus Scholarship

Laboratoire Hétérochimie Fondamentale et Appliquée, Université Paul Sabatier, Toulouse, France

- Synthesis and characterisation of phosphallene derivatives for the preparation of the MS defence thesis

ORGANISATIONAL SKILLS

Member in the following national research grants, as chemist and assistant researcher or postdoctoral researcher

- CEEEX-MOLSEN;
- CEEEX- SUPRACOM,
- CEEEX-CALIXCOM,
- PN-II-ID-PCE-2012-4-0488,
- PN-II-RU-TE-4-1197

financed by the Romanian Research Council) between 2006-2016; charged with the synthesis and characterization of a series of organic and organometallic compounds, including theoretical calculations.

- PCCE-140/2008
- PCCE-129/2008
- PCCE - 312/2008
- PN-III-P4-PCE-2016-0351

in charge with the synthesis and characterization of unsaturated phosphorus derivatives together with the acquisition of all needed laboratory equipment and materials; overseeing the activity in the research laboratory of several young researchers (bachelor and master degree level).

Director of three research projects Director of two research projects for young researchers (the research teams consisted of only one person); responsible for the administrative management together with the synthesis and characterization of heteropropenic and heteroalenic compounds (**TD-418** – research grant for young Phdstudents- and **PD-438**– research grant for post-doctoral fellows - financed by the Romanian Research Council)

Project manager of one national research project (PN-III-1.1-TE-2019-2-85 BIMEPHOS, 2020-2022) for young researchers, conducting a research team of 4 members.

TECHNICAL SKILLS

CURRENT

Skills and experience

- Strong skills in organic, organometallic and inorganic synthesis, separation (Flash chromatography, preparative HPLC, preparative TLC) and characterization; strong skills in reactivity study of low coordinated compounds.
- Use of glove-box and Schlenk techniques for the synthesis and handling of air sensitive compounds.
- Use of 300, 400 and 600 MHz Avance Bruker NMR spectrometers for different nuclei (^1H , ^{13}C , ^{31}P , ^{119}Sn , ^{19}F , ^{29}Si) in mono- and bidimensional experiments
- Use of Shimadzu QP-2010 PLUS GC-MS Spectrometer and Agilent 7890 GC

Certificates

- Radiological Protection in RDG, SD and RDT for MN, AASD, RAD and TSD (from CNCAN), 2022
- Postgraduate program of permanent education, professional development of adults, specialization Psychopedagogy: knowledge transfer methods adapted to Generation Z, 2022
- Project manager - 2015
- Trainer course - 2015

Other skills

- Strong problem-solving abilities.
- Excellent independent or teamwork capabilities.
- Strong will to learn.
- Exceptional communication skills.
- Strong organizing and mentoring skills.
- Technical and article writing skills.

HONOURS AND AWARDS

2019

Diploma of Honor for promoting chemistry – The Romanian Society of Chemistry

2023

"Professor Excelentia" award – Babes Bolyai University Student Council

SCHOLARSHIPS

2014 – 2015

Programul Operațional Sectorial Dezvoltarea Resurselor Umane 2007 – 2013

Axa prioritară: 1 „Educația și formarea profesională în sprijinul creșterii economice și dezvoltării societății bazate pe cunoaștere” Domeniul major de intervenție: 1.5 „Programe doctorale și postdoctorale în sprijinul cercetării” Titlul proiectului: “Tineri cercetători de succes – dezvoltare profesională în context interdisciplinar și internațional” Cod Contract: POSDRU/159/1.5/S/132400

Titlul Proiectului Individual de Cercetare: Obținerea și caracterizarea unor noi compuși coordinativi cu liganzi nesaturați din blocul p (2014-2015).

10/2006 – 07/2007

Eiffel Scholarship

Eiffel Scholarship of the French Ministry administered by CENTRE FRANCAIS POUR L'ACCUEIL ET LES ECHANGES INTERNATIONALS EGIDE (2006-2007).

RESEARCH ACTIVITY

Researcher ID A-3266-2012
