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Raluca Septelean

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Date of birth: 22/11/1981 **Nationality:** Romanian

WORK EXPERIENCE

Babes-Bolyai University, Faculty of Chemistry and Chemical Engineering, Chemistry Department

City: Cluj-Napoca | **Country:** Romania

[02/2019 – Current] **Senior lecturer in chemistry**

Babes-Bolyai University, Faculty of Chemistry and Chemical Engineering, Chemistry Department

City: Cluj-Napoca | **Country:** Romania

[02/2016 – 02/2019] **University teaching assistant**

Babes-Bolyai University, Faculty of Chemistry and Chemical Engineering, Chemistry Department

City: Cluj-Napoca | **Country:** Romania

[09/2014 – 09/2015] **Post-doctoral researcher**

- 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

Babes-Bolyai University, Faculty of Chemistry and Chemical Engineering, Chemistry Department

City: Cluj-Napoca | **Country:** Romania

[07/2012 – 09/2014] **University research assistant**

- 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

Institute of Analytical Instrumentation

City: Cluj-Napoca | **Country:** Romania

[04/2013 – 04/2014] **Scientific Researcher**

- 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.

Babes-Bolyai University, Faculty of Chemistry and Chemical Engineering, Chemistry Department

City: Cluj-Napoca | **Country:** Romania

[07/2010 – 07/2012] **Project Manager**

- 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

Babes-Bolyai University, Faculty of Chemistry and Chemical Engineering, Chemistry Department

City: Cluj-Napoca | **Country:** Romania

[10/2005 – 11/2015] **Teaching assistant – General Chemistry**

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

EDUCATION AND TRAINING

[10/2005 – 11/2009] **PhD in Chemistry**

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

City: Cluj-Napoca | **Country:** Romania | **Field(s) of study:** chemistry

- 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.

[10/2005 – 11/2009] **PhD in Chemistry**

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

City: Toulouse | **Country:** 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] **MS-Applied Organometallic and Coordination Chemistry**

Faculty of Chemistry and Chemical Engineering, Babes-Bolyai University

City: Cluj-Napoca | **Country:** Romania |

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

Field(s) of study: Chemistry | **Thesis:** Computational study of fluorene and mono-substituted fluorenyl derivatives

- 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

LANGUAGE SKILLS

Mother tongue(s): Romanian

Other language(s):

English

LISTENING C2 **READING** C2 **WRITING** C2

SPOKEN PRODUCTION C2 **SPOKEN INTERACTION** C2

French

LISTENING C1 **READING** C1 **WRITING** B2

SPOKEN PRODUCTION C1 **SPOKEN INTERACTION** C1

Spanish

LISTENING B1 **READING** B2 **WRITING** B1

SPOKEN PRODUCTION B1 **SPOKEN INTERACTION** B1

Italian

LISTENING B2 **READING** B2 **WRITING** A1

SPOKEN PRODUCTION A2 **SPOKEN INTERACTION** A2

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

SKILLS

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

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 Universitad 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 phosphaallene derivatives for the preparation of the MS defence thesis

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 (^{1}H, ^{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 Awarding institution:** The Romanian Society of Chemistry

[2023] **"Professor Excelentia" award Awarding institution:** Babes Bolyai University Student Council

SCHOLARSHIPS

[2014 – 2015] **Programul Operaţional Sectorial Dezvoltarea Resurselor Umane 2007 – 2013**

Axa prioritară: 1 „Educaţia şi formarea profesională în sprijinul creşterii economice şi dezvoltării societăţii bazate pe cunoaştere" Domeniul major de intervenţie: 1.5 „Programe doctorale şi postdoctorale în sprijinul cercetării" Titlul proiectului: "Tineri cercetători de succes – dezvoltare profesională în context interdisciplinar şi internaţional" Cod Contract: POSDRU/159/1.5/S/132400

Titlul Proiectului Individual de Cercetare: Obţinerea şi caracterizarea unor noi compuşi coordinativi cu liganzi nesaturaţi 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

Co-author of 36 isi - indexed publications (2024)

ORGANISATIONAL SKILLS

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

- CEEX-MOLSEN;
- CEEX- SUPRACOM,
- CEEX-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.

7 noiembrie 2025