

Dr. Raluca Anamaria Septelean

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WORK EXPERIENCE

02/2019 –

Lecturer

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

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02/2016 – 02/2019

Junior Lecturer

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

- General chemistry laboratories and seminars
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09/2014 – 09/2015

Postdoctoral researcher

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

- 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 – 01.09.2014

Assistant researcher

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

- 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

Scientific Researcher at the Institute of Analytical Instrumentation, Cluj-Napoca, Romania.

- 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** **Project Manager** of a Post-Doc research Grant from the National Council of Scientific Research from Higher Education (CNCSIS), Romania
Faculty of Chemistry and Chemical Engineering, Babes-Bolyai University, Department of Chemistry, Cluj-Napoca, Romania
- 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/ 2009** **PhD student**
Faculty of Chemistry and Chemical Engineering, Babes-Bolyai University, Department of Chemistry, Cluj-Napoca, Romania
- Synthesis of diphosphaallenes and the required organic starting materials,
 - Complete characterisation of obtained compounds
 - Theoretical calculations on unsaturated diphosphaallenic systems
 - Synthesis of coordination compounds using diphosphapropenes as ligands to transition metals.
- 10/ 2005-11/ 2015** **Teaching assistant** – General Chemistry
Faculty of Chemistry and Chemical Engineering, Babes-Bolyai University, Cluj-Napoca, Romania
- Held General Inorganic Chemistry seminars and supervised undergraduates in the laboratory; Waste management seminars; Industrial pollutants seminar

EDUCATION

- 10/ 2005 – 11/ 2009** **PhD in chemistry**
Faculty of Chemistry and Chemical Engineering, Babes-Bolyai University, Department of Inorganic Chemistry, Cluj-Napoca, Romania / Laboratoire Hétérochimie Fondamentale et Appliquée, 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 – 09/ 2005** **MS-Applied Organometallic and Coordination Chemistry**
Faculty of Chemistry and Chemical Engineering, Babes-Bolyai University, Department of Inorganic Chemistry, Cluj-Napoca, 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, Department of Inorganic Chemistry, Cluj-Napoca, Romania.

- Computational study of fluorene and mono-substituted fluorenyl derivatives.

STAYS ABROAD

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

11/ 2005 – 05/ 2006

Visiting Researcher /PhD Student

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

- Doctoral studies in a cojoint program

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

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

09/2008

Visiting Researcher/PhD Student

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

- Doctoral studies in a cojoint program

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

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

05/2012

Visiting Researcher

Laboratoire de Chimie de Coordination, Toulouse, France.

- Synthesis and characterization of silaphosphapropene - gold complexes

Scholarships

Sectoral Operational Program for the Human Resources Development 2007 – 2013 Priority axis: 1 "Education and vocational training in support of economic growth and knowledge-based development of society " Major area of intervention: 1.5 "Doctoral and postdoctoral programs in research support" Project title: "Successful young researchers - professional development in an interdisciplinary and international "Contract Code: POSDRU / 159 / 1.5 / S / 132400. Title of the Individual Research

Project: Obtaining and characterizing new coordinating compounds with unsaturated p- block ligands (2014-2015).

▪ **Eiffel Exchange of the French Government** administered by CENTER FRANCAIS POUR L'ACCUEIL ET LES ECHANGES INTERNATIONALS EGIDE (2006-2007).

Organizing skills

- 2006 – 2019 - **Member** in the following national research grants, as chemist and assistant researcher or postdoctoral researcher: CEEEX-MOLSEN; CEEEX-SUPRACOM, CEEEX-CALIXCOM, PN-II-RU-TE-4-1197, PCCE-140, PCCE-129, PN-II-ID-PCE-2012-4-0488, PNII-P4-2016-PCE-0351, ERANET-LAC-EFPC, charged with the synthesis and characterisation of a series of organic and organometallic compounds, unsaturated phosphorus derivatives and theoretical calculations. Starting with 2012 I was involved in the management of the research laboratory: 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), etc.

-**Director** of three 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 Phd students- and **PD-438**– research grant for post-doctoral fellows, **TE-2085**- research grant for young researchers, financed by the Romanian Research Council)

Technical Skills

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 of Phosphorus, Tin and Germanium.

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

COMPUTER SKILLS

Gaussian 03/09 under Linux or Windows OS

ChemOffice and ChemSketch

Shelx platform

Mestrec and MestreNova

Reaxys and Scifinder search engines

Xcalibur

Microsoft Office

Open Office

Adobe Photoshop

Windows OS and basic Linux

Additional Skills

Strong problem solving skills and excellent ability to work independently or in a team and a strong willingness to learn.

Ability to supervise other chemists and students in the laboratory

Exceptional communication, organizational and mentoring skills.

Technical writing and article authoring

Language: proficient in English, French and Romanian (first language), intermediate in Spanish, basic Italian

Trainer's professional competence diploma, 2015

Project manager diploma, 2015

Diploma of Honor of the Romanian Chemistry Society for promoting chemistry

PUBLICATIONS

Researcher ID [A-3266-2012](#)
