

## **Adriana IORDACHE**

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Born: July 17, 1983-Bucharest, Romania  
Nationality: Romanian



### **Education**

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**2011-Present: Postdoctoral Researcher** in Prof. Luisa De Cola's group, at Physikalisches Institut, Westfälisches-Wilhelms Universität, Münster - Germany

**2007-2010: Ph.D. Student in Chemistry**, at the Department of Molecular Chemistry of Grenoble - France (defense date – 3<sup>rd</sup> November 2010)

**2006-2007: Master degree**, in Chemistry, major in Organic Chemistry, at the Joseph Fourier University of Grenoble - France, graduated 3<sup>rd</sup> out of 10

**2001-2006: Chemical Engineer diploma**, major in Organic Chemistry, at the Engineering School of Bucharest - Romania, valedictorian

**2001: Bachelor degree**, Chemistry-Biology major

### **Research Activity**

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**2011-Present:** design, synthesis and characterization of new triplet emitters with short excited lifetime

**PI:** Prof. Luisa de Cola  
[decola@uni-muenster.de](mailto:decola@uni-muenster.de)

**2007-2010:** Ph.D., at the Joseph Fourier University, Department of Molecular Chemistry, Grenoble, France (“Activation by electron transfer: applications to switchable systems and to molecular engineering”)

- Syntheses of ferrocene-based molecular rotors
- Syntheses and characterization of redox switchable cofacial Pacman porphyrins
- Molecular switches based on  $\pi$ -dimerizable organic fragments
- Electrochemical syntheses of expanded porphyrins

**Advisors:** Prof. Eric Saint-Aman and Dr. Christophe Bucher  
[eric.saint-aman@ujf-grenoble.fr](mailto:eric.saint-aman@ujf-grenoble.fr) and [christophe.bucher@ujf-grenoble.fr](mailto:christophe.bucher@ujf-grenoble.fr)

**2007-6 months:** Master 2 Research training at the Department of Molecular Chemistry, Grenoble, France (“Syntheses of expanded porphyrins by anodic coupling of pyrrole based

synthons”) (This work was continued after this research training, it represent also an important part of my Ph.D.)

- Syntheses of pyrrole oligomers
- Electrochemical synthesis of [24]Hexaphyrin(1.0.1.0.0.0) from a linear hexapyrrolic precursor

**Advisors:** Prof. Jean-Claude Moutet and Dr. Christophe Bucher  
[jean-claude.moutet@ujf-grenoble.fr](mailto:jean-claude.moutet@ujf-grenoble.fr) and [christophe.bucher@ujf-grenoble.fr](mailto:christophe.bucher@ujf-grenoble.fr)

**2006-4 months:** Engineering training at the “BIOBASIC Environnement”, Clermont Ferrand, France (“Factors affecting the bioavailability of polycyclic aromatic hydrocarbons (PAHs)”)

- Extraction and identification of PAHs from contaminated sites

**Advisor:** Dr. Cédric Vachelard  
[cvachelard@biobasicenvironnement.com](mailto:cvachelard@biobasicenvironnement.com)

**2004-1 month:** Engineering training at the ENSIACET, INP Toulouse, France (“Lignin extraction from wheat straw and its reactivity”)

- Lignin extraction

**Advisor:** Dr. Bouchra Benjelloun – Mlayah  
[bouchra.mlayahbenjelloun@ensiacet.fr](mailto:bouchra.mlayahbenjelloun@ensiacet.fr)

### ***Teaching Experience***

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**2007-2009:** Teaching assistant at the Joseph Fourier University - Grenoble

- Second year training courses in organic chemistry
- First year training courses in general chemistry

**2009-3 months:** Supervision training of a master student

### ***Skills***

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**Chemistry:** Organic and organometallic multi-step syntheses, coupling reaction (Suzuki, Sonogashira, Negishi), pyrrole and porphyrin chemistry, porphyrin analogues, viologen chemistry, ferrocene chemistry, syntheses under controlled atmosphere (glovebox, Schlenk techniques)

**Electrochemistry:** Molecular electrochemistry, Spectroelectrochemistry, Electrosyntheses

**Instrumental experimental techniques:** NMR, IR, UV-Vis, Fluorescence, HPLC, MS, ESR and flash chromatography

**Computer:** Use of different software Chemdraw, Isis Draw, WinNMR, TOPSPIN, SciFinder, Origin, AspectPlus, Mercury, Avogadro, WinEPR

**Languages:** Romanian and French spoken read and written as native languages, English – scientific level

## *Publications*

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### ***“Electrochemically Driven Intramolecular Ring Closure of a Linear Hexapyrrole”***

Adriana Iordache, Patricia Melfi, Christophe Bucher, Mihai Buda, Jean-Claude Moutet and Jonathan L. Sessler, *Org. Letters*, **2008**, *10*, 425.

### ***“Electrochemical Syntheses of Cyclo[n]pyrrols”***

Mihai Buda, Adriana Iordache, Christophe Bucher, Jean-Claude Moutet, Guy Royal, Eric Saint-Aman and Jonathan L. Sessler, *Chemistry, A European Journal* **2010**, 6810.

### ***“Redox control of rotary motions in ferrocene-based elemental ball bearing units”***

Adriana Iordache, Mircea Oltean, Anne Milet, Eric Saint-Aman, Guy Royal, Fabrice Thomas, and Christophe Bucher, in preparation.

### ***“Redox responsive porphyrin based molecular Tweezers”***

Adriana Iordache, Marius Retegan, Eric Saint-Aman, Guy Royal and Christophe Bucher, in preparation.

### ***“Electrochemical synthesis of a thiophene containing cyclo[9]pyrrol”***

Thanh-Tuan Bui, Adriana Iordache, Zhongrui Chen, Vladimir V. Roznyatovskiy, Eric Saint-Aman, Jean-Claude Moutet, Jonathan L. Sessler, Christophe Bucher, in preparation.

## *Oral presentations and posters*

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Adriana Iordache, Mircea Oltean, Anne Milet, Eric Saint-Aman, Guy Royal, Fabrice Thomas, Christophe Bucher, “*Activation by electron transfer: application to switchable systems*”, *ElecMol’10*, Grenoble, France, 6-10 December 2010, Poster presentation

Adriana Iordache, Mircea Oltean, Anne Milet, Eric Saint-Aman, Guy Royal, Fabrice Thomas, Christophe Bucher, “*Synthesis, characterization and dynamic properties of redox-switchable architectures controlled by  $\pi$ -dimerization processes*”, *Gecom-Concoord 2010*, Lyon, France, 30 may-4 june 2010, Oral presentation

Adriana Iordache, Mihai Buda, Christophe Bucher, Jean-Claude Moutet, Guy Royal, Eric Saint-Aman, Jonathan L. Sessler, “*Easy syntheses of expanded porphyrins*”, *Gecom-Concoord 2010*, Lyon, France, 30 may-4 june 2010, Poster

Adriana Iordache, Christophe Bucher, Mihai Buda, Eric Saint-Aman, Guy Royal, Jean-Claude Moutet, Jonathan L. Sessler, “*Electrochemically driven synthetic strategies towards expanded porphyrins*”, *Journées d’électrochimie 2009*, Sinaia, Romania, 6-10 July, Oral presentation

Adriana Iordache, Mircea Oltean, Anne Milet, Eric Saint-Aman, Guy Royal, Christophe Bucher, “*Toward Redox Controllable Ferrocene-based Rotors*”, *Journées d’électrochimie 2009*, Sinaia, Romania, 6-10 July, Poster

Adriana Iordache, Mircea Oltean, Anne Milet, Eric Saint-Aman, Guy Royal, Christophe Bucher, “*Synthèse, caractérisation et propriétés dynamiques de rotors à base de ferrocène*”, *Journée de l’école doctorale*, Grenoble, France, 16 June 2009, Poster

Adriana Iordache, Mircea Oltean, Anne Milet, Eric Saint-Aman, Guy Royal, Christophe Bucher, “*Synthesis characterization and dynamic properties of ferrocene-based rotors*”, *Journées de printemps de la SCF*, Lyon, France, 11 June 2009, Poster

Adriana Iordache, Mircea Oltean, Anne Milet, Eric Saint-Aman, Guy Royal, Christophe Bucher, “*Toward Redox Controllable Ferrocene-based Rotors*”, *ElecMol’08*, Grenoble, France, 8-12 December 2008, Poster presentation (Best poster award)

## References

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Prof. Eric Saint-Aman  
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Dr. Mihai Buda  
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and Electrochemistry  
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Materials Science  
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