

Violeta RODRIGUEZ-RUIZ

PharmaD, PhD in Catalysis (Chemistry)
Lecturer in Biomaterials and Drug Delivery

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EDUCATION AND RESEARCH EXPERIENCE

- 2015-now** **Lecturer in Biomaterials and Drug Delivery**, University of Cergy-Pontoise
Department of Biology, ERRMECe Laboratory, Biomaterials for health
research group.
Key words: biomaterials, bioactive delivery systems, hydrogels,
nanostructured lipid carriers, micro-/nanoparticles, wound dressing.
- 2014-2015** **Temporary Lecturer and Research Assistant**, INSERM U1148,
Laboratory for Vascular Translational Science, Institut Galilée - Université
Paris 13.
Key words: antioxidants, biomaterials, oxidative stress, cardiovascular
bioengineering.
- 2012-2014**
(22 months) **Postdoctoral stay**, CNRS-UMR 8182, LCM/ICMMO, Faculté de Sciences,
Université Paris-Sud, Orsay (France).
LABEX Project supervised by Pr. Giang Vo-Thang: *Synthesis of chiral
reversible ionic liquids (RevILs) from accessible biomass products and their
applications in asymmetric catalysis and glycochemistry.*
ANR Project supervised by Dr. Richard Gil: *Elaboration and study of novel
chiral rare earth complexes and their applications as catalysts for C-C, C-N
and C-O bond formation.*
- 2011-2012**
(18 months) **Marie Curie Experienced Researcher**, CNRS-UMR 8612, “Institut Galien
Paris-Sud”, Faculté de Pharmacie, Université Paris-Sud (France).
Marie Curie ITN Project supervised by Dr. Ruxandra Gref: *Iron-Trimesate
MOF nanoparticles (with imaging properties) as suitable nanocarriers for
challenging water-soluble anticancer drugs.*
- 2005-2010** **PhD “cum laude” in Chemistry**, Technical Institute of Chemistry (ITQ),
Polytechnic University of Valencia and Spanish National Research Council
(UPV-CSIC), Valencia (Spain).
Ph.D Project Dr. Maria José Sabater (Prof. Corma’s group): *Gold catalysts
for hydroalcoxylation, acetalization reactions and one-pot reactions: An
efficient approximation to “green” chemistry.*
- 2009** **Chemist**, Technical Institute of Chemistry (ITQ).
Chemical project supervised by Pr. Avelino Corma: *Gold solid catalysts in
oxidation/esterification reactions. Intermediate step towards synthesis of
fragrances.*

- 2008**
(3 months) **PhD stay**, Dept. of Chemistry at Columbia University (NY, US)
Ph.D stay project supervised by Prof. Scott A. Snyder: *Total Synthesis of Diverse Carbogenic Complexity within the Resveratrol Class from a Common Building Block.*
- 2005-2007** **M.Sc. in Chemistry**, Technical Institute of Chemistry (ITQ) (UPV-CSIC), Valencia (Spain)
Research Work supervised by Dr. Maria José Sabater: *Cascade Reaction as a synthetic strategy in Catalysis.*
- 2004-2005** **Employee in a pharmacy office as a Pharmacist**, Valencia (Spain)
- 1998-2003** **B. Sc. and PharmaD in Pharmacy**, University of Valencia (Spain)

ADDITIONAL EDUCATION

- 2006-2007** Postgraduate certificate in Education from Polytechnic University of Valencia (Spain)
- 1987-1997** Classical dance and Flamenco degree: Music, Theatre and Dance School

LANGUAGES

Spanish (Mother tongue), **English, French and Catalan** (fluent in all of them)

RESEARCH INTERESTS

My research activity focuses on the development of novel bioactive delivery systems. One of the main topics concerns the development of a polysaccharide and lipid colloidal-based gel as bioactive delivery system for wound dressing applications. I am also interested in physicochemical characterization and formation/degradation and entrapment/release studies of delivery systems such as hydrogels and micro-/nanoparticles.

TEACHING ACTIVITIES

Levels: MEng Biomaterials (CMI-BioSan), B.Sc. in Biology and Biochemistry and M. Sc. in Biomaterials.

Courses: Biomaterial Sciences; Drug Delivery Systems, Nanomedicine and Nanoparticles; Biochemistry; Bioethics.

SERVICES AND RESPONSABILITES

Research: French Local Chapter Representative of the Young Scientist Forum - European Society for Biomaterials (since 2017)

Teaching: Head of Pedagogy (co-responsibility) of the Integrated Master Degree in Engineering (5 years) specialized in Biomaterials for Health (CMI-BioSan)

PUBLICATIONS (LAST 5 YEARS)

ARTICLES

- A. Barzegari *et al.*, Gut microbiome dysbiosis and myocardial infarction, **2017** (*Submitted*)
- V. Rodriguez-Ruiz and A. Maksimenko *et al.*, Positively charged cyclodextrins as effective molecular transporters of active phosphorylated forms of gemcitabine into cancer cells. *Scientific Reports*, **2017**, (13th July 17, ASAP).

- M. Dhahri et V. Rodriguez-Ruiz *et al.*, *In vitro* and *in vivo* haemocompatibility evaluation of a new dermatan sulfate-modified PET patch for vascular repair surgery. *J. Biomed Mater Res Part B*, **2016**, DOI: 10.1002/jbm.b.33733.
- V. Rodriguez-Ruiz and A. Barzegari *et al.*, Potential of aqueous extract of saffron (*Crocus sativus* L.) to block oxidative stress by modulation of signal transduction in human vascular endothelial cells. *Journal of Functional Foods*, **2016**, 26, 123-134.
- A. Aillerie *et al.*, Asymmetric Assisted Tandem Catalysis: Hydroamination followed by Asymmetric Friedel-Crafts reaction from a single chiral N, N, N', N'-tetradentate pyridylmethylamine-based ligand. *ChemCatChem.*, **2016**, 8, 2455-2460.
- V. Rodriguez-Ruiz *et al.*, Efficient “green” encapsulation of a highly hydrophilic anticancer drug in metal–organic framework nanoparticles. *J. Drug Target.*, **2015**, 23, 759–767.
- V. Rodriguez-Ruiz *et al.*, Recent developments in alkene hydrofunctionalisation promoted by homogeneous catalysts based on earth abundant elements: Formation of C-N, C-O and C-P bond. *Dalton Trans.*, **2015**, 44, 12029.
- P. Régnier *et al.*, Astaxanthin from *Haematococcus pluvialis* prevents oxidative stress on human endothelial cells without toxicity, *Mar. Drugs*, **2015**, 13, 2857-2874.
- V. Agostoni *et al.*, Green F-free Mesoporous Iron (III) Trimesate Nanoparticles for Drug Delivery, *Green Materials*, **2013**, 1, (4), 209-217.

PATENTS

- R. Gref *et al.*, Improved organic-inorganic hybrid solid having a modified outer surface WO2013178954 A1.

ORAL PRESENTATIONS

- International Symposium on Biomaterial & Smart Systems, Cergy (France). Flash poster presentation (2nd prize poster). Rodriguez-Ruiz V *et al.*, Antioxidant-loaded carrier for cardiovascular therapy, October **2014**.

POSTERS

- 2nd Annual Formulation & Drug Delivery Congress: V. Rodriguez-Ruiz and V. Gueguen *et al.*, Antioxidant activity and biocompatibility studies of astaxanthin-loaded nanostructured lipid carriers. (London, UK), May **2016**.
- BIOMAT'2015: M. Reveiller *et al.*, Engineering of a biomimetic, hierarchically structured bone substitute based on a hybrid composite scaffold containing human bone particles. (Sainte Marie de Ré, France), October **2015**.
- Workshop du Pole de Médecine Régénératrice de Bordeaux: V. Rodriguez-Ruiz *et al.*, Astaxanthin : a powerful tool in cardiovascular diseases, (Talence, France), November **2014**.
- CHARM₃AT scientific symposium 2014: V. Rodriguez-Ruiz *et al.*, Synthesis and characterization of novel chiral reversible ionic liquids from CO₂ and natural amino acids, (Cachan, France), June **2014**.
- JCO 2013: V. Rodriguez-Ruiz *et al.*, Synthesis and reactivity of chiral pyridylmethylamine-based rare earth complexes, (Ecole polytechnique, Palaiseau, France), Septembre **2013**
- nanoPDT conference 2013: Z. Fülöp *et al.*, Novel nanoparticles combining phosphate drugs, quantum dots and lanthanide ions for multimodal theranostics, (Gothenburg, Sweden), April **2013**.