

CURRICULUM VITAE

First name: Rossella **Last name:** De Marco

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Education

01.01.2009-31.12.2011 Ph.D. in Chemical Sciences; title of the thesis: "Synthesis of modified amino acids and insertion of peptides and mimetics. Structural aspects and impact on biological activity", supervisor Prof. L. Gentilucci, Dept. of Chemistry "G. Ciamician", University di Bologna

01.07.2010-01.12.2010 Visiting PhD student at laboratories of Prof. Floris P.J.T. Rutjes, University of Nijmegen (Netherlands), "Synthesis of peptidomimetic inhibitors of MCH1 receptor"

07.03.2007 Degree in Chemistry and Pharmaceutical Technologies, University of Bologna. Discussing the Thesis "Bioisosters and models of xanthone derivatives as aromatase inhibitors", under the supervision of Prof.ssa A. Bisi.

Experiences

28.11.2019 – at today RTD b (Assistant Professor) at University of Udine, Dep. of Agricultural, Food, Environmental and Animal Sciences (DI4A)

01.04.2019 - 01.10.2019 Determination of gliadins from flour. Felsineo s.p.a.

11.02.2018 - 11.09.2018 Marco Polo fellowship at the laboratory of Prof. N.S. Kehr University of Münster (Germany). Project: "Preparation of new devices for application in tumor and inflammatory disease"

01.01.2014-31.01.2018 Post-doc fellowship of University of Bologna for "Synthesis of active ingredient precursors"

01.01.2013-31.12.2013 Post-Doc fellowship "Young Investigator Programme-year 2013" by Umberto Veronesi Foundation Milan-Rome, project: "Tryptophan: Investigation and synthesis of new molecules for pain treatment in patients with stages advance of cancer"

31.01.2012-31.12.2012 Post-Doc fellowship of the University of Bologna, for "Study of peptidomimetics based on 2D-NMR analysis"

2008-2009 project "Development of new syntheses of peptides with green chemistry methods by means of automated SPPS in combination with polymers of the latest generation", financed by Spinner/ASTER

Other Experiences

2020-2021 Topic editor of Journal Frontier Chemistry in the Medicinal and Pharmaceutical Chemistry section, title of research topic: "Integrin Ligands and their Bioconjugate Systems: Synthetic Strategies, Conformational Aspects and Biological Activity"

2018 Member of the organizing committee of the International Congress: "RiminiPeptides2018" treasurer with P.IVA

2017 Studies for the development of functionalized polymeric materials for biomedical applications, commissioned by Democenter-TPM Tecnopolo Mirandola

2016 Member of the organizing committee of the International Congress: "BolognaPeptides2016" treasurer with P.IVA

2009 Collaboration with Stepbio Srl for the "Development of automated procedures for the synthesis of peptides"

Project management

2008-2009 project "Development of new syntheses of peptides with green chemistry methods by means of automated SPPS in combination with polymers of the latest generation", financed by Spinner/ASTER, host Institution the University of Bologna.

Participation to collaborative projects

2021 Project Active ageing financed by Foundation Regione Friuli Venezia Giulia

2018 "Agonisti orexinergici sintetici fusi con la proteina virale TAT come terapia proteica innovativa della narcolessia di tipo I", financed by Almaidea

2018 Clinical validation of nanostructured devices for the analysis of immune cells in pediatric patients (IntegrAL), financed by Del Monte Foundation.

2017-2018 "Innovative orexinergic agonists for narcolepsy therapy" funded by AIN Italian Narcolepsy Association

2017 Studies on Gliadin α for celiac disease in collaboration with Felsineo srl

2017 Studies for the development of functionalized polymeric materials for biomedical applications, commissioned by Democenter-TPM Tecnopolo Mirandola

2016-2018 Project Prin 2015 "Tumor targeting peptidomimetics: synthesis and biomedical applications", MIUR.

2015-2017 " *AsthmaZoè*: Nanostructured materials for detection of markers of asthma and other correlated inflammatory diseases", financed by CHIESI Foundation, Parma.

2012-2013 "TRYPTOIDS: development of new therapeutic agents of natural origins for pain management and sedation in patients with advanced stages of cancer", financed by Umberto Veronesi Foundation, Milan-Rome.

2011-2013 "Project high significance Italia-Mexico (MAE) "Inhibitors of chronic inflammatory processes associated with the development of tumors" in collaboration with Prof. E. Juaristi, CINVESTAV, Mexico City.

2010-2014 Project Prin2010, entitled: "Synthesis and biomedical applications of tumor-targeting peptidomimetics", financed by MIUR

2009 Progetto PIU', Chamber of Commerce, Bologna "Synthesis of peptide-hormones in multigram-scale"

2008 PRIN 2006 "Synthesis and biological evaluation, and diagnostic applications of integrins ligands"

Other qualifying activities

2018 Member of the organizing committee of the International Congress: "RiminiPeptides2018 - Peptides and conjugates for tumor targeting, therapy and diagnosis". 16-19 June 2018, Rimini

2017 Member of Editorial Board of the Journal of Medicinal Chemistry and Drug Discovery

2017 Member of Editorial Board of the Journal of Biochemistry and Chemical Sciences

2016 Member of the organizing committee of the International Congress: "BolognaPeptides2016 - Synthesis and biomedical applications of tumor-targeting peptidomimetics", 14-16 February 2016, Bologna.

2009 Collaboration with Stepbio Srl for the "Development of automated procedures for the synthesis of peptides"

Member of the Italian Chemistry Society (SCI), European Peptide Society (EPS) and Italian Peptide Society (ItPS)

Research activity

RDM is the author of 45 printed papers on journals with IF, reviews included. Initially, her research was dedicated to the asymmetric synthesis of amino acids to prepared small-size heterocycles oxazolidinones, oxazolidin-2-ones, imidazolidinones, and their introduction into biologically active peptide and mimetics, in particular opioid peptides and

integrin inhibitors. More recently, she started studying new nanomaterials derived from organic waste for applications in diagnostic and drug delivery.

Technical expertise

She is extremely skilled in a wide range of organic reactions and procedures, preparation of nanoparticles/nanomaterials. She is competent with instruments for the identification and analysis of organic compounds and nanomaterials: mono and 2D-dimensional NMR, MW-Synthesis, Solid Phase Peptide Synthesis (SPPS), LC-MS, chiral HPLC, preparative HPLC, FT-IR, GC-MS, Zeta Potential, DLS, fluorescence microscopy, protein separation gel acrylamide, MTT assay. She is competent with all word-processing software (Word, Openword), presentation tools (Powerpoint), bibliographic databases (Scifinder, Beilstein, Endnote, Reaxys, WOS, Scopus).

Teaching activities

2019-at today responsible course of organic chemistry for biotechnology students

2020-at today co-responsible course of biochemistry for biotechnology students

2015-2017 Seminars on the synthesis of peptides for chemistry students

2015-2017 Seminars on the synthesis of peptides for biotechnology students

2011-2013 Tutorship for the "Laboratory of Organic Chemistry" practices of the Chemistry students.

2009, 2012, and 2013-2016, Tutorship for the "Laboratory of Chemistry" practices of the Biotechnology students.

2009-2012 Member of the group "Knowing Chemistry", that holds demonstrative lessons of Chemistry to both high school students and adults, in the aim of orienting young audience toward scientific studies and improving the knowledge about scientific topics in adult audience.

She is author of 45 papers.

She participated to 15 International Congresses and 19 National Congresses.

She is supervisor of 31 degree thesis from 2011 at today.

Rossella De Marco