

Rossella Dorati



Born in Gazzaniga (Bg) on November 10th, 1976

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Current Position

Post-doc Researcher, Department of Pharmaceutical Chemistry (Faculty of Pharmacy)
University of Pavia, Italy

Academic Degree

2007	Degree of II Level Master in "Pharmaceutical Technology & Regulatory Affairs" at University of Pavia. Thesis: Effect of gamma-ray irradiation on the structure and stability of PEGd,IPLA and PEG-PLGA multiblock copolymers
2006	Ph.D. in Chemistry and Pharmaceutical Technology, University of Pavia, Italy. Title: Study of physicochemical properties of PLGA microparticles containing ovalbumin
2002	Bachelor's Degree in Pharmaceutical Chemistry & Technology at the University of Pavia Dept. of Pharmaceutical Chemistry Thesis title: Evaluation of the effects induced by γ irradiation on PLGA microspheres containing a protein.

Research Interests

The main research topics are:

- Study of the effect of gamma and beta radiations on polylactide, polylactide-

co-glycolide, PEG-PLLA and PEG-PDLA and micro- and nanoparticulate delivery systems made of synthetic polymers and encapsulating proteins;

- Formulation, characterization and study of micro- and nanoparticulate drug delivery systems made of biodegradable poly- α -hydroxyacids such as polylactide, poly-glycolide and their copolymers intended for parenteral administration. Moreover, multiblock copolymers made of polyethyleneglicole and lactic acid (PEG-PLLA, PEG-PDLA) have been used because of their usefulness in parenteral administration;
- Study of physico-chemical properties and degradation performances of synthetic polymer based on PLA, PLGA, related co-polymers and multiblock copolymers;
- Development of a peptide-containing chewing-gum as a sustained release antiplaque antimicrobial delivery system;
- Formulation, characterization and study of nanoparticulate drug delivery systems made of chitosan for the induction of reversible hypometabolism in nonhibernating cells
- Formulation, characterization and study of nanoparticulate adjuvants for protein subunit vaccine
- Formulation and characterization of scaffolds as implantable and temporal devices in tissue engineering based on synthetic and natural polymers.

Research Training

Jan-June 2006	Visiting Scientist at Department of Pharmaceutical Science, University of Kentucky, Lexington, Kentucky (USA) Title: Development of a peptide-containing chewing-gum as a sustained release antiplaque antimicrobial delivery system. Advisor: : Prof. Patrick DeLuca
2002-2006	Ph.D. Student, Lab. Pharmaceutical Technology, Cosmetology and Nutraceuticals, Pharmaceutical Chemistry & Technology, University of Pavia
Oct 2004-June 2006	PhD Student, Dept. of Pharmaceutical Science, University of Kentucky Lexington, Kentucky (USA) Tutor: Prof. Patrick P. DeLuca
Oct 2006-Jan 2007	Degree of Master of II Level in "Pharmaceutical Technology & Regulatory Affairs" at University of Pavia

Academic Teaching (Teaching assistant)

2002-today	Tutor in the academic classes of “Galenica Clinica”, “Controlli Tecnologici delle Forme Farmaceutiche”, “Impianti” at the University of Pavia Main activities and responsibilities, Bachelor’s degree in Pharmacy Organizing and preparing practical and theoretical lessons for Pharmacy and Pharmaceutical Chemistry and Technology students
2005-today	Seminar lectures in the Academic course of Formulazione di farmaci biotecnology, Bachelor’s degree in Pharmaceutical Biotechnologies, Dept. Pharmaceutical Chemistry, University of Pavia
2009	“Parenteral Drug Formulations” Master’s degrees in “Pharmaceutical Technology & Regulatory Affairs”, Dept. Pharmaceutical Chemistry at University of Pavia

Publication list

L. Montanari, F. Cilurzo, **R. Dorati**, A. Faucitano, A. Buttafava, B. Conti, I. Genta: Irraggiamento- γ di microsfere di PLGA contenenti Ovalbumina: influenza degli eccipienti sul caricamento e rilascio in vitro Acta Technologiae et Legis Medicamenti vol. XIV, n. 2/3, Maggio/Dicembre 2003.

R. Dorati, I. Genta, L. Montanari, F. Cilurzo, A. Buttafava, A. Faucitano, B. Conti The effect of gamma irradiation on PLGA/PEG microspheres containing ovalbumin J. Controlled Release 107(1), 2005, 78-90.

R. Dorati, M.Patrini, P. Perugini, F. Pavanetto, A. Stella, T. Modena, I. Genta, B. Conti Surface characterization by Atomic Force Microscopy of sterilized PLGA microspheres Journal of Microencapsulation 23 (2), 2006, 123-133(11).

R. Dorati, I. Genta, C. Colonna, T. Modena, F. Pavanetto, P. Perugini, B. Conti: Investigation of the degradation behaviour of poly(ethylene glycol-co-d,l-lactide) copolymer Polymer Degradation and Stability 92, 2007, 1660-1668.

C. Colonna, B. Conti, P. Perugini, F. Pavanetto, T. Modena, **R. Dorati**, I. Genta: Chitosan glutamate nanoparticles for protein delivery: development and effect on prolidase stability Journal of Microencapsulation 24(6), 2007, 553-564.

C. Colonna, B. Conti, P. Perugini, F. Pavanetto, T. Modena, **R. Dorati**, P. Iadarola, I. Genta: Site-directed pegylation as successful approach to improve the enzyme replacement in the case of prolidase International Journal of Pharmaceutics 358(1-2), 2007, 230-237.

J. A. Faraj, **R. Dorati**, A. Schoubben, D. Worthen, F. Selmin, Y. Capan, K. Leung, P. P. DeLuca Development of a peptide-containing chewing-gum as a sustained release antiplaque antimicrobial delivery system. AAPS PharmSciTech 8(1), 2007, Article 26.

T. Modena, B. Conti, I. Genta, **R. Dorati**, C. Colonna Errori nell'uso dei farmaci? Meglio prevenire che curare Rassegna di diritto farmaceutico n.6/2007.

R. Dorati, I. Genta, C. Tomasi, T. Modena, C. Colonna, F. Pavanetto, P. Perugini, B. Conti: Polyethylenglycol-co-poly-d,l-lactide copolymer based microspheres: preparation, characterization and delivery of a model protein Journal of Microencapsulation 1-9, iFirst 2008.

R. Dorati, C. Colonna, M. Serra, I. Genta, T. Modena, F. Pavanetto, P. Perugini, B. Conti γ -Irradiation of PEGd,IPLA and PEG-PLGA multiblock copolymers: I. Effect of irradiation doses AAPS PharmSciTech 9(2), 2008, 718-725.

C. Colonna, B. Conti, P. Perugini, F. Pavanetto, T. Modena, **R. Dorati**, P. Iadarola, I. Genta Ex vivo evaluation of prolidase loaded chitosan nanoparticles for the enzyme replacement therapy Eu J Pharm Biopharm 70, 2008, 58-65.

R. Dorati, C. Colonna, C. Tomasi, I. Genta, T. Modena, A. Faucitano, A. Buttafava, B. Conti γ -Irradiation of PEGd,IPLA and PEG-PLGA multiblock copolymers: II. Effect of oxygen and EPR investigation AAPS PharmSciTech 9 (4), 2008, 110-1118.

B. Conti, **R. Dorati**, C. Colonna, I. Genta Effect of ionizing radiation sterilization on microparticulate drug delivery system on poly-alfa-hydroxyacids: an overview Drug Delivery Science and Technology 19(2), 2009, 73-152.

Asti, L. Visai, **R. Dorati**, B. Conti, E. Saino, S. Sbarra, G. Gastaldi, F. Benazzo Improved cell growth by Bio-Oss/PLA scaffolds for use as a bone substitute Technology and healthcare 16, 2009, 1-13.

R. Dorati, C. Colonna, I. Genta, B. Conti Poly(ethylene glycol/poly- α -ester) multiblock copolymers in the preparation of parenteral drug delivery systems BookChapter, Nova Science Publishers, NY (USA) Accepted for publication 2009.

R. Dorati, C. Colonna, I. Genta, T. Modena, B. Conti Effect of porogen on the physicochemical properties and degradation performance of PLGA scaffolds Polymer Degradation and Stability 2009 Accepted for publication

Oral communication

R. Dorati, L. Montanari, F. Cilurzo, A. Faucitano, A. Buttafava, I. Genta, B. Conti: Studio EPR di microfere di poli(d,l lattide-co-glicolide)/PEG contenenti

ovalbumina, 11-17 Settembre (2004) 4^a Scuola Avanzata per Dottorandi di Ricerca - Settore Farmaceutico Tecnologico, Arcavacata di Rende (CS, Italia).

L. Montanari, F. Cilurzo, **R. Dorati**, A. Faucitano, A. Buttafava, B. Conti, I. Genta: Effetto dell'irraggiamento gamma su microsfele di PLGA/PEG contenenti ovalbumina, 10-16 Settembre (2005) 5^a Corso della Scuola Dottorale per la Formazione Avanzata in Discipline Tecnologico-Farmaceutiche, Arcavacata di Rende (CS, Italia).

R. Dorati, I. Genta, P. Perugini, T. Modena, F. Pavanetto, C. Colonna, B. Conti: Caratterizzazione di copolimeri biodegradabili per sistemi micro particellari iniettabili, 13-15 Giugno (2007) 47° Simposio AFI 2007, Rimini (Italia).

S.D'Souza, J. Faraj, **R. Dorati**, P.P DeLuca: Accelerated in vitro release as a quality control tool for biodegradable microspheres, 22-26 Luglio (2006) 33th Annual Meeting of Controlled Release Society, Vienna.

R. Dorati: High porous composite scaffolds for use in tissue engineering Novel Drug Delivery System, 3 giugno (2008), University of Salerno, Faculty of Pharmacy, Fisciano (Italia).

R. Dorati, C. Colonna, I. Genta, P. perugini, F. Pavanetto, T. Modena, B. Conti: Realizzazione di scaffolds polimerici micro strutturati per applicazioni in ingegneria tissutale, Nanosistemi per la veicolazione di farmaci; 20 Giugno (2008) Novara (Italia).

R. Dorati, C. Colonna, I. Genta, T. Modena, M. Valli, B. Conti: Chitosan in tissue engineering: design of hybrid porous scaffolds for bone regeneration, 23-26 Maggio (2009) 9th International Conference of the European Chitin Society, EUCHIS09, Venezia (Italia).

R. Dorati, C. Colonna, P. Perugini, F. Pavanetto, T. Modena, I. Genta, B. Conti: Preparation and characterization of PLGA-chitosan multilayer scaffolds for bone regeneration 8-12 Giugno (2009) 2nd PharmSciFair 2009 – Premier European Platform for Advancing Pharmaceutical Sciences, Nizza (Francia).

R. Dorati, E. Saino, L. Visai, B. Conti, F. Benazzo: Preparation and characterization of PLGA-Orthoss[®] scaffolds for bone tissue engineering, 15-17 Giugno (2009) SIB Congresso Nazionale Biomateriali, President Hotel Terme, Salice Terme, Pavia (Italia).

R. Dorati, E. Saino, L. Visai, C. Colonna, I. Genta, B. Conti, F. Benazzo: PLGA coated Orthoss[®] scaffolds for bone tissue engineering: preparation and physicochemical characterization, 10-13 Settembre (2009) XXI SIMPOSIO ADRITELF, Cagliari (Italia).

R. Dorati: Opportunities and challenges of carbon nanotubes for the delivery of therapeutics, 28 Ottobre (2009) Mini-Symposium AltUN, Carbon Nanotubes in

Nanomedicine, Dip. Chimica Farmaceutica (Aula B) Facoltà di Farmacia,
Università di Pavia (Italia).