



## **Ida GENTA**

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**Publications:** 152

**Book chapter:** 4

**H-index (Scopus):** 36

**International Patents:** 3

**National patents:** 2

**Academic spin-off:** 1

**Congress participations:** over 150

### **Fields of investigation:**

1. Design and development of micro- and nano-particulate drug delivery systems for passive and active targeting therapeutic approaches and based on biodegradable polymers, synthetic (poly-lactides, their copolymers and PEGylated derivatives) and natural (albumin, hyaluronic acid, alginate and chitosan) intended for parenteral, intra-articular and local drug administration
2. Design and development of microfluidics-based techniques for polymeric, solid lipid and liposomal nanocarriers synthesis and intended for therapeutic and/or diagnostic purposes
3. Chemical functionalization of polymers (*i.e.* peptide-polymer conjugation, mAb-polymer). Biopolymer physical-chemical, functional and biological characterization
4. Site-directed PEGylation of proteins and their encapsulation into nano drug delivery systems based on chitosan and its derivatives
3. Smart parenteral formulations. Development of new nanoparticulate adjuvant for vaccine delivery
4. Cell microencapsulation for tissue regenerative purposes
5. Synthesis of 2D and 3D scaffolds for tissue regeneration (bone, cartilage, soft tissues) by electrospinning and 3D printing technologies
6. Study of the effect of gamma and beta radiations on polylactide, polylactide-co-glycolide, PEG-PLLA and PEG-PDLA and micro-, nano-particulate delivery systems and 3D scaffolds made of cited polymers and encapsulating drugs/proteins
7. Physico-chemical quality control on parenteral products (liquids, freeze-dried products, parenteral nutrition products) and devices (syringes, infusion sets, elastomeric stoppers).

### **Education:**

1980-1985 Master Degree in Pharmaceutical Chemistry and Technology, University of Pavia.

1985-1988 Post-graduate Master Degree in "Industrial Pharmacy", University of Pavia.

1988-1991 PhD degree in Medicinal Chemistry and Pharmaceutical Technology, University of Pavia.

### **Current job position:**

2001- up to date Associate professor at the Department of Drug Sciences, University of Pavia.

2020, National Scientific Qualification as Full Professor (SSD CHIM09)

### **Previous job positions:**

1995-2001 Assistant Professor at the Dept. Pharmaceutical Chemistry, University of Pavia.

### **Placements:**

1993-1995 Post-doctoral Research Fellowship, Dept. Pharmaceutical Chemistry, University of Pavia.

### **Main international collaborations:**

Prof. D. Lamprou, Queen's University Belfast

Prof. O. Merkel, Ludwig-Maximilians-Universität München

Prof. K. Braeckmans, Ghent University

Prof. Y. Perrie, University of Strathclyde Glasgow

Prof. C. Aleman, Universitat Politècnica de Catalunya

Prof. M. Reches, The Hebrew University of Jerusalem

Prof. G. Subra, Université de Montpellier

Prof. A. Bittner, Asociación Centro de Investigación Cooperativa en Nanociencias CIC Nanogune

Prof. A. Prina-Mello, Trinity College Dublin

Prof. A. Boccaccini, University of Erlangen-Nuremberg

Prof. E. Stratakis, Foundation for Research and Technology-Hellas, Institute of Electronic Structure and Laser

Prof. Ruis R. Reis, University of Minho

### **Other activities:**

**2022 – current** Coordinator Pharmacy course, University of Pavia

**2021 – current** Coordinator responsible for FarmaciaPLUS project, University of Pavia

**2019 – 2021** Member of the academic spin off Polymerix s.r.l. at Technical and Scientific Park (PTS), University of Pavia.

**2022 – current** Guest-Editor of the Special Issue “*Biodegradable Natural and Synthetic Polymers for Biomedical Applications*” on the open-access journal “Molecules”

**2021 - current** Guest-Editor of the Special Issue “New Era of Local Drug Delivery” on the open-access International Journal of Molecular Sciences.

**2019 – current** Guest-Editor of the Special Issue “*Drug Delivery and Scaffolding in the Era of 3D-Printing and Microfluidic Techniques: Challenges and Opportunities*” on the open-access International Journal of Molecular Sciences.

**2018** Guest-Editor of the Special Issue “*Micro and Nano encapsulation techniques*” on the open-access journal “Pharmaceutics”

**2015 - current** Board of Directors of the “Science Park (PTS)” of the University of Pavia

**2015 - current** member of MADE (Interdepartmental Research center in Advanced materials and Devices)

**2017 - current** Member of Editorial board (and from 2019 Associate Editor) of “Pharmaceutical Drug Regulatory Affairs Journal” (ISSN: 2642-6315) and “Journal of Applied Pharmaceutics” (ISSN:0975-7058); from 2018 Editorial Board member (and from January 2020 Topic Editor) of “International Journal of Molecular Sciences (Materials Science section)” (ISSN: 1422-0067)

**2017/2022** - Treasurer of Controlled Release Society -Italian Chapter

**2008 - current** Member of the Scientific Committee of Center of Health Technology (CHT, ex-Centro di Ingegneria Tissutale), interdepartmental institution of the University of Pavia

Member of ADRITELF (Italian association of pharmaceutical technology), SCI (Italian Chemical Society), PDA (Parenteral Drug Association), AFI (Association of Industrial Pharmacists), CRS (Controlled Release Society).

### **Funded active projects**

**2022-2025** H2020 HORIZON-MSCA-2021-DN-01, Proposal #101072645 – “**NANOREMEDI**: Functional Nanoscaffolds for **Regenerative Medicine**”, PI of UniPV Research Unit: prof. I. Genta. Amount granted to the research unit 518000 €.

**2021-2023** Project Ricerca Corrente 2021, IRCCS Policlinico S. Matteo Pavia, Italy, grant #08053921 - “3D-Hybrid Engineered Tubular Bioscaffold for Esophageal Tissue Regeneration: from in vitro to in vivo validation”, P.I.: prof. M. Benazzo (I. Genta research unit member). Amount granted 150000 €

- 2022-ongoing** Fondazione Cariplo per Economia Circolare 2021 – “**Cutin** from **tomato-peel waste**: green source for plurality of engineered polymer **products (CutToPro)**”, P.I. UNIPV Reserch Unit: prof. R. Dorati (I. Genta research unit member)
- 2021-ongoing** Project Ricerca Corrente 2021, IRCCS Policlinico S. Matteo, grant # 08054221 - “Effects of hypothermic oxygenated perfusion with Hepatocyte Growth Factor loaded Extracellular Vesicles on ischemic /reperfusion damage in a pig model of kidney transplantation from donor after circulatory death: a new strategy of drug delivery to condition kidney before transplantation”, PI: prof. T. Rampino (I. Genta research unit member)
- 2020-ongoing** Fondazione Cariplo 2020, Bando 2020 – Economia Circolare: ricerca per un futuro sostenibile - “Integrated platform for the sustainable production of **bio-based surfactants** from renewable resources (**BioSurf**), Rif. 2020-1094, P.I. UNIPV Reserch Unit: prof. R. Dorati (I. Genta research unit member)
- 2020-ongoing** Call “Hub Ricerca e Innovazione” cofounded by POR FESR 2014-2020 Innovazione e Competitività Fluidica Digitale per le Scienze della Vita - **DSF** (Digital Smart Fluidics), CUP E11B19000810007, 2020-ongoingProject Hub Regione Lombardia “Digital Smart Fluidics” DSF. P.I.: prof. F.Auricchio (I. Genta research unit member). Amount granted 2000000 €
- 2017-2020** Project Ricerca Corrente 2017, IRCCS Policlinico S.Matteo. Pavia, Italy, grant #12835 - “An hybrid approach to the repair of esophageal defects: from bio scaffolds engineering to in vivo validation in the porcine model”, P.I.: prof. M. Benazzo (I. Genta research unit member). Amount granted 158000 €

#### **On-going recent applications for national/international competitive projects:**

- **ERA4Health Joint Transnational Call for Proposals 2023** – Cardinov - A nano-THERAnostic tool to prevent mechanosensing-dependent pro-fibrotic evolution and failure of the Heart, THERA-Heart (PI of UNIPV Unit)
- **PRIN 2022**, PI of UniPV Unit - Nanotechnology approaches for reshaping dense tumour stroma and improving cancer cell targeting (PI of UNIPV Unit)

#### **Selected recent publications:**


- Development and optimization of microfluidic assisted manufacturing process to produce PLGA nanoparticles (**2022**). Chiesa E, Bellotti M, Caimi A, Conti B, Dorati R, Conti M, Genta I.\*, Auricchio F.\* Int. J. Pharm., 62915, 122368. doi: 10.1016/j.ijpharm.2022.122368
- CD44-Targeted Carriers: The Role of Molecular Weight of Hyaluronic Acid in the Uptake of Hyaluronic Acid-Based Nanoparticles (**2022**). Chiesa E, Greco A, Riva F, Dorati R, Conti B, Modena T, Genta I., Pharmaceuticals 15(1):103. doi: 10.3390/ph15010103.
- Hyaluronic Acid-Based Nanoparticles for Protein Delivery: Systematic Examination of Microfluidic Production Conditions (**2021**). Chiesa E, Greco A, Riva F, Dorati R, Conti B, Modena T, Genta I. Pharmaceuticals, 13(10):1565. doi: 10.3390/pharmaceutics13101565.
- Microfluidic-assisted synthesis of multifunctional iodinated contrast agent polymeric nanoplatfoms (**2021**). Chiesa E, Greco A, Dorati R, Conti B, Bruni G, Lamprou D and Genta I, Int. J. Pharm., 599, 120447. doi: 10.1016/j.ijpharm.2021.120447
- On-Chip Synthesis of Hyaluronic Acid-Based Nanoparticles for Selective Inhibition of CD44+ Human Mesenchymal Stem Cell Proliferation (**2020**). Chiesa E, Riva F, Dorati R, Greco A, Ricci S, Pisani S, Patrini M, Modena T, Conti B, Genta I. Pharmaceuticals, 12(3):260. doi: 10.3390/pharmaceutics12030260.

- Multivariate analysis for the optimization of microfluidics-assisted nanoprecipitation method intended for the loading of small hydrophilic drugs into PLGA nanoparticles (**2018**). Chiesa E, Dorati R, Modena T, Conti B and Genta I, Int. J. Pharm., 536(1), 165-177. doi: 10.1016/j.ijpharm.2017.11.044
- Hyaluronic Acid-Decorated Chitosan Nanoparticles for CD44-Targeted Delivery of Everolimus (**2018**). Chiesa E, Dorati R, Conti B, Modena T, Cova E, Meloni F, Genta I. Int J Mol Sci., 19(8):2310. doi: 10.3390/ijms19082310
- Design of smart GE11-PLGA/PEG-PLGA blend nanoparticulate platforms for parenteral administration of hydrophilic macromolecular drugs: synthesis, preparation and in vitro/ex vivo characterization (**2016**). Colzani B, Speranza G, Dorati R, Conti B, Modena T, Bruni G, Zagato E, Vermeulen L, Dakwar GR, Braeckmans K and Genta I, Int. J. Pharm., 511(2), 1112-1123. doi:10.1016/j.ijpharm.2016.08.011

According to law 679/2016 of the Regulation of the European Parliament of 27th April 2016, I hereby express my consent to process and use my data provided in this CV.

*Pavia, 01-20-2023*

Faithfully,



Prof. Ida Genta  
Dept. Drug Sciences, University of Pavia