

Curriculum Vitae



Personal information

First name and Surname

Elita Montanari

E-mail

elita.montanari@uniroma1.it ; elita.montanari@manchester.ac.uk

Nationality

Italian

Biography

In 2012 Elita obtained her Master's degree in Pharmaceutical Chemistry & Technology at the University of Rome "Sapienza" (Italy). In the same year she commenced her Ph.D in the Department of Drug Chemistry & Technology of the same University. Her research project focuses on the development of hyaluronic acid-based nanoparticles for drug delivery purposes and involves collaborations with the Departments of Biochemistry and of Microbiology. For the period 9/2014-9/2015 Elita has joined the Nanomedicine Laboratory of Prof. Kostas Kostarelos (Institute of Inflammation & Repair, University of Manchester) as a visiting researcher and during that period she has also collaborated with the group of Prof. Nicola Tirelli in the same Institute. In 11/2015 Elita followed the Laboratory of Polymers and Biomaterials of Prof. Nicola Tirelli to the University of Manchester as a Research Associate in bio-nanomaterials, focusing on the use of hyaluronic acid for the intracellular delivery of bioactive molecules/macromolecules.

Research field

Drug delivery, pharmaceuticals, nanoparticles, natural polymers

Education and training

2015-2016

Associate Researcher in the Laboratory of Polymers and Biomaterials, The University of Manchester (United Kingdom).

2016

European Ph.D in Pharmaceutical Sciences, University Sapienza (Italy).

2014-2015

Visiting Ph.D Student, University of Manchester, Institute of Inflammation & Repair, Nanomedicine Lab and Laboratory of Polymers and Biomaterials, Manchester (United Kingdom).

2012 - 2014

Ph.D Student in Pharmaceutical Sciences, "Sapienza" University of Rome, Department of Drug Chemistry and Technology, Rome (Italy).

2006 - 2012 Master's degree in Pharmaceutical Chemistry and Technology, "Sapienza" University of Rome (Italy).
Final year thesis: "Hyaluronan-based nanogel for the delivery of Bovine Serum Amine Oxidase enzyme.

Research

Development and physico-chemical characterisation of nano-carriers for targeted and responsive delivery; specifically, formulation of hyaluronic acid-based nanoparticles for the intracellular delivery of antibiotics or polypeptides.

Knowledge of drug delivery, polymer chemistry, biochemistry and pharmaceutical chemistry.

Skills and Competences

Languages

Italian: mother tongue

English: fluent

Spanish: basic

Social and organisational skills

Active member in interdisciplinary team groups. Supervision of graduate and undergraduate students. Project management and collaboration maintenance, meeting deadlines, developing creative solutions. Efficient, organized, inquiring and highly motivated.

Technical skills and competences

Polymer and colloid characterisation: Size exclusion chromatography, dynamic light scattering, fluorescence spectroscopy, UV-VIS spectroscopy, thermogravimetry, FT-IR spectroscopy.

Microscopy: Atomic force microscopy, Raman microscopy, optical microscopy.

Characterisation of organic molecules: High performance liquid chromatography, capillary electrophoresis, flow chemistry systems, nuclear magnetic resonance.

Bioconjugation techniques: Derivatisation of polymers (e.g. esterification and amidation of hyaluronic acid) with small molecules and peptides, boronic acid, diols coupling, click reaction (e.g. click of proteins to biopolymers).

Cell culture and biochemistry: Cell biology, cell vitality assays, protein activity and enzymatic kinetics, PAGE (polyacrylamide gel electrophoresis), ELISA.

Microbiology: MIC and MBC assays

Computer skills

Microsoft Office, Origin, GraphPad, ChemDraw, CorelDraw.

Publications on peer-reviewed journals

1. **E.Montanari**, S.Capece, C.Di Meo, M.Meringolo, T.Coviello, E.Agostinelli, P.Matricardi, "Hyaluronic acid nanohydrogels as a useful tool for BSAO immobilization for the treatment of melanoma cancer cells", *Macromol. Biosci.*, 13 (9),1185-1194, 2013 (front cover of the journal).
 2. **E.Montanari**, G.D'Arrigo, C.Di Meo, A.Virga, T.Coviello, C.Passariello, P.Matricardi, "Chasing bacteria within the cells using levofloxacin-loaded hyaluronic acid nanohydrogels", *Eur. J. Pharm. Biopharm.*, 87 (3), 518-523, 2014.
 3. **E.Montanari**, M.C.De Rugeriis, C.Di Meo, T.Coviello, F.Alhaique, P.Matricardi, "One-step formation and sterilization of gellan and hyaluronan nanohydrogels using autoclave", *J. Mater. Sci. Mater. Med.*, 26 (1), 53-62, 2015
 4. C.Di Meo, **E.Montanari**, L.Manzi, C.Villani, T.Coviello, P.Matricardi, "Highly versatile nanohydrogel platform based on riboflavin-polysaccharide derivatives useful in the development of intrinsically fluorescent and cytocompatible drug delivery systems", *Carbohydr. Pol.*, 115, 502-509, 2015.
 5. F.Alhaique, P.Matricardi, C.Di Meo, T.Coviello, **E.Montanari**, "Polysaccharide-based self-assembling nanohydrogels: An overview on 25-years research on pullulan", *J. Drug Deliv. Sci. Tec.*, 30 (B), 300-309, 2015.
 6. M.A.Casadei, C.Cencetti, T.Coviello, C.Di Meo, P.Matricardi, **E.Montanari**, S.Pacelli, P.Paolicelli, "From macro to nano polysaccharide hydrogels: an opportunity for the delivery of drugs", *J. Drug Deliv. Sci. Tec.*, 32 (B), 88-99, 2016.
 7. **E. Montanari**, C. Di Meo, S. Sennato, A. Francioso, AL. Marinelli, F. Ranzo, S. Schippa, T. Coviello, F. Bordi, P. Matricardi, "Hyaluronan-cholesterol nanohydrogels: Characterisation and effectiveness in carrying alginate lyase", *N. Biotechnol.*, DOI: 10.1016/j.nbt.2016.08.004, 2016.
 8. **E. Montanari**, A. Gennari, M.Pelliccia, C. Gourmel, E. Ozores, P. Matricardi, A. MacBain, N. Tirelli, "Hyaluronan/tannic acid nanoparticles via catechol/boronate complexation as a smart antibacterial system", *Macromol. Biosci.*, accepted.
-
1. M.C. De Rugeriis, **E. Montanari**, C. Di Meo e P. Matricardi "Method for preparing nanohydrogels", IB2014/062138, 2014.

Patents

1. P. Matricardi, C. Di Meo, G. D'Arrigo, **E. Montanari**, C. Cencetti, T. Coviello "*Polysaccharide Nanohydrogels as Drug Delivery Platforms*", in Biomaterials: from drug delivery to tissue engineering, Controlled Release Society, Italian chapter, Palermo (Italy), November, 2012.
2. P. Matricardi, C. Di Meo, G. D'Arrigo, **E. Montanari**, C. Cencetti, T. Coviello "*Polysaccharide nanohydrogels as drug carriers*" in Nanomedicine: from molecules to diagnosis and therapy, Rome (Italy), October, 2012.
3. **E. Montanari**, S. Capece, C. Di Meo, M. Meringolo, T. Coviello, E. Agostinelli, P. Matricardi "*BSAO immobilized in self-assembled hyaluronic acid nanohydrogels induces cytotoxicity on melanoma cancer cells*", 7th AltUN Annual Meeting, Perugia (Italy), March, 2013.
4. **E. Montanari**, G. D'Arrigo, C. Di Meo, A. Virga, T. Coviello, C. Passariello, P. Matricardi "*Levofloxacin-loaded hyaluronic acid nanohydrogel for the treatment of intracellular bacterial infections*", in Doctoral School in Materiali per applicazioni farmaceutiche: caratterizzazione chimico-fisica e tecnologica (Materials for pharmaceutical applications: physico-chemical and technological characterisation), Arcavacata (Italy), September, 2013.
5. **E. Montanari**, S. Capece, C. Di Meo, M. Meringolo, T. Coviello, E. Agostinelli, P. Matricardi "*BSAO immobilized in self-assembled hyaluronic acid nanohydrogels induces cytotoxicity on melanoma cancer cells*" in 3rd Conference on innovation in drug delivery: advances in local drug delivery, Pisa (Italy), September 2013.
6. P. Matricardi, C. Di Meo, **E. Montanari**, G. D'Arrigo, G. Manzi, T. Coviello, "*Polysaccharide nanohydrogels as drug carriers*", 10th International Conference on Polysaccharides-Glycoscience, Prague (Czech Republic), October, 2014.
7. **E. Montanari**, G. D'Arrigo, C. Di Meo, A. Virga, T. Coviello, C. Passariello, P. Matricardi "*Levofloxacin-loaded hyaluronic acid nanohydrogel for the treatment of intracellular bacterial infections*" in Antibiotic alternatives for the new millennium, London (United Kingdom), November 2014. **Poster prize winner**
8. P. Matricardi, C. Di Meo, **E. Montanari**, G. D'Arrigo, G. Manzi, T. Coviello, "Polysaccharide nanohydrogels as drug carriers", 7th Annual Thematic Workshop of CRS Italy Chapter, Nanomedicine: pharmacokinetic challenges, targeting and clinical outcomes, Florence (Italy) November, 2014.
9. P. Matricardi, C. Di Meo, G. D'Arrigo, **E. Montanari**, T. Coviello, F. Alhaique, "*Self-assembled polysaccharide nanohydrogels: a tool for drug solubilization and delivery*", 10th Central European Symposium on Pharmaceutical Technology, Portorož (Slovenia), September, 2014.
10. Chiara Di Meo, Giorgia D'Arrigo, **Elita Montanari**, Giuliana Manzi, Tommasina Coviello, Pietro Matricardi, "Polysaccharide nanohydrogels as drug carriers", BIOHYDROGELS WORKSHOP, From polymer network to regenerative medicine, Nantes (France), March, 2015.
11. P. Matricardi, C. Di Meo, **E. Montanari**, C. Cencetti, S. Laserra, G. Manzi, T. Coviello, F. Alhaique, "*Polysaccharide-based nanohydrogel systems for drug delivery applications*", 55° Simposio AFI, Rimini, Italy, Reims, France (June), April, 2015. **Poster prize winner**.
12. C. Di Meo, **E. Montanari**, T. Coviello, P. Matricardi "*HA-based nanohydrogels as drug carriers*", in ISHAS, 10th International conference hyaluronan 2015, Florence (Italy), June, 2015.
13. C. Meo, **E. Montanari**, G. Manzi, T. Coviello, P. Matricardi, "*Polysaccharide-based nanohydrogels as drug carriers*", ESBP2015 - 8th European Symposium on Biopolymers, Rome (Italy), September, 2015.

14. P. Matricardi, C. Di Meo, **E. Montanari**, C. Cencetti, S. Laserra, G. Manzi, T. Coviello, F. Alhaique, "Self-aggregates of hydrophobized polysaccharides: nanohydrogels as drug delivery systems", XXIII Congresso National Meeting in Medicinal Chemistry (NMMC2015), Salerno (Italy), September, 2015.

15. **E. Montanari**, A. Gennari, M. Pelliccia, A. McBain, N. Tirelli, "Hyaluronan/tannic acid nanoparticles via catechol/boronate complexation", AFPM2016 – Advanced Functional Polymers for Medicine, University of Twente (The Netherlands), June, 2016. **Poster prize winner**

16. **E. Montanari**, M. Pelliccia, R. Donno, L. Manzi, A. Gennari, N. Tirelli, "Tyrosinase-mediated bioconjugation: clicking a tag-peptide to hyaluronan", 30th Conference of the European Colloid and Interface Society (ECIS2016), University Sapienza, Rome (Italy), September, 2016.

17. **E. Montanari**, A. Gennari, M. Pelliccia, R. Donno, L. Manzi, N. Tirelli "Hyaluronan bound boronate for bioconjugation purposes", NoWCADD Project event, Museum of Science and Industry Manchester (United Kingdom), September, 2016.

Conference attendance

1. "Nanomedicine: from molecules to diagnosis and therapy", Rome (Italy), October, 2012.
2. Epigenetic Rome Training School, University Sapienza, Rome (Italy), May, 2013.
3. Scuola dottorale "Materiali per applicazioni farmaceutiche: caratterizzazione chimico-fisica e tecnologica", Arcavacata di Rende (Italy), September, 2013.
4. Nanoforum, Rome (Italy), September, 2013.
5. CRS Workshop "Design and industrial development of advanced drug delivery systems", University of Pavia (Italy), November, 2013.
6. 9th World Meeting on pharmaceuticals, biopharmaceuticals and pharmaceutical technology, Lisbon, (Portugal), March, 2014.
7. XXXV Convegno-Scuola AIM "Mario Farina", "Caratterizzazione di materiali polimerici: tecniche per polimeri in soluzione", Gargnano (Italy), May, 2014.
8. NowCADD International workshop, "Frontiers in drug delivery: Biological targets and advanced nanocarriers", The University of Manchester, Manchester, (United Kingdom), March, 2016.

