

CARLOTTA MONDADORI

curriculum vitae



Personal Information

Date of Birth: 5 April 1990
Citizenship: Italian
E-mail: carlotta.mondadori@polimi.it
carlotta.mondadori@grupposandonato.it

Education

- November 2016 so far
Ph.D. Student
Bioengineering – Politecnico of Milan (Italy)
Cell and Tissue Engineering Laboratory – IRCCS Galeazzi Orthopaedic Institute, Milan (Italy)
- February 2013 – July 2015
Master of Science Degree in Biomedical Engineering – Cells, Tissues and Biotechnology
Politecnico of Milan, Milan (Italy)
Graduation Thesis title: “*In situ* cardiovascular tissue engineering: study of MCP-1 delivery by Mesoporous Silica Nanoparticles and *in vitro* evaluation of response to chemokine releasing scaffolds”
Final grades: 110/110 magna cum laude
- September 2009 – February 2013
Bachelor of Science Degree in Biomedical Engineering
Politecnico of Milan, Milan (Italy)
Graduation Thesis title: “Quantitative assessment of obese adolescent ambulatory strategy and evaluation of degenerative process of obesity”
Final grades: 99/110
- September 2004 – July 2009
Secondary School Diploma
Liceo Classico “Virgilio”, Mantua (Italy)
Secondary school specializing in humanities
Final Grades: 84/100

Master Thesis

- Title: “*In situ* cardiovascular tissue engineering: study of MCP-1 delivery by Mesoporous Silica nanoparticles and *in vitro* evaluation of response to chemokine releasing scaffolds”
- Supervisors: Prof. Silvia Farè (Politecnico of Milan),
Prof. Carlijn Bouten (Eindhoven University of Technology – TU/e),
PhD candidate Shraddha Thakkar (Eindhoven University of Technology – TU/e)
- Thesis summary: My thesis was part of the research project “Cardiovascular *in situ* tissue engineering” at TU/e. The goal was to create an electrospun scaffold that could be directly implanted in the human body to exploit the body’s native regenerative potential. The process of *in situ* regeneration is guided by monocytes (Mo) that are attracted by monocyte chemoattractant protein-1 (MCP-1) through the process of chemotaxis. Attracted Mo infiltrate inside the scaffold and start to differentiate towards macrophages promoting the *in situ* regeneration. The main aim of the thesis was the development of a drug delivery system using Mesoporous Silica Nanoparticles (MSN) to obtain a controlled release of MCP-1 and to evaluate how Mo recruitment was influenced by the release of MCP-1. The second aim of the study was to evaluate the recruitment of Mo both in static and dynamic conditions in response to the controlled release of MCP-1 obtained using MSN and the *burst* release of MCP-1

Publications

- S Lopa, **C Mondadori**, V Mainardi, G Talò, M Costantini, C Candrian, W Swieszkowski, M Moretti
“Translational application of microfluidics and bioprinting for stem cell-based cartilage repair”. Review
Stem Cells International. Submitted on 14/07/2017. Under Review
- S Lopa, M Bongio, M Gilardi, S Bersini, **C Mondadori**, M Moretti
“Generation of a 3D bone remodeling model combining human osteoblast and osteoclast precursors in a vascularized matrix enriched with CaP nanoparticles”
Abstract accepted as oral presentation at the Tissue Engineering and Regenerative Medicine International Society 2016 (TERMIS-EU 2016)
Published as part of the “TERMIS-EU 2016 Proceedings” in “European Cells and Materials

Certifications

TOEIC (2012) - Score: 755

Work experience, stages, studies abroad

- November 2016 so far
Ph.D. Student
Bioengineering – Politecnico of Milan (Italy)
Cell and Tissue Engineering Laboratory – IRCCS Galeazzi Orthopaedic Institute, Milan (Italy)
- March 2016 – October 2016
Clinical Engineer
Biomedicale Srl, Milan (Italy)
Management of acceptance and safety testing of electrical medical equipment according to IEC 62353 standard
Management of electrical medical device inventory at ULSS 6 Vicenza
- September 2015– March 2016
Internship
Primavera Srl, Milan (Italy)
Management of acceptance testing and electrical medical device inventory at ULSS 6 Vicenza and Sant'Antonio Abate hospital in Gallarate
- August 2015
Research Internship
Cell and Tissue Engineering Laboratory – IRCCS Galeazzi Orthopaedic Institute, Milan (Italy)
Research activity related to the development of 3D miniaturized models of musculo-skeletal tissues
- October 2014 – May 2015
Research Internship - Master thesis project abroad with the scholarship "Thesis abroad"
Laboratory for Cell and Tissue Engineering at TU/e, Eindhoven (The Netherlands)
Research activity related to the development of a bioactive scaffold for in situ cardiovascular tissue engineering
- July 2006
English Summer School organized by Study Tours
University of St Andrews, St Andrews (Scotland)
Attendance of lectures, conversation sessions and workshops to improve my speaking skills

Languages

- **English**
Writing: Excellent – Speaking: Good
- **Spanish**
Writing: Elementary – Speaking: Elementary

Social skills and competences

- Good interpersonal skills
- Ability to communicate with people from different cultures and backgrounds
- Predisposition to team-working with good collaborative skills
- Ability to work independently
- Good adaptability to unexpected and/or negative situations

Organisational skills and competences

- Well-developed critical thinking and analytical skills
- Strong motivation to reach the goals
- Problem-solving and decision-making skills
- Good planning skills with ability to prioritize tasks
- Predisposition and willingness to acquire new scientific competences

Technical skills and competences

- Laboratory skills:
 - Electrospinning technique
 - Biaxial testing
 - Microfluidics Techniques
 - Cell culture
 - ELISA (Enzyme-Linked ImmunoSorbent Assay)

- Chemotaxis assays
- Flow cytofluorimetry
- RT PCR
- Fluorescent cell staining
- Use of confocal microscope
- Basic knowledge of scanning electron microscopy (SEM)
- Basic knowledge of Ibidi pump
- Good command of Microsoft Office™ tools: Word™, Excel™ and PowerPoint™
- Statistical software: GraphPad Prism 5
- Software: Comsol Multiphysics, AutoCAD
- Programming languages : C++, MATLAB

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