europass Curriculum vitae

PERSONAL INFORMATION

Francesca Oltolina

17 [redacted] elli (Italy)

[redacted]

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Skype: francesca.oltolina

[redacted]

STUDIES APPLIED FOR

Postdoctoral position in medical life sciences and biotechnologies

WORK EXPERIENCE

Apr 2017–Jun 2017

Abroad fellowship sponsored by Assuni

Departemento de Micobiologia - Facultad de Ciencias, Universidad de Granada - UGR
Avenida de la Fuente Nueva, 18071 Granada (Spain)

Purification of recombinant protein MamC for its use in biomineralization process of magnetite nanoparticles

Business or sector Research fellowship under the supervision of Prof. Concepción Jiménez López

Oct 2016–Jun 2016

Assistance to Histology Discipline

School of Medicine, University of Piemonte Orientale
17, via Solaroli, 28100 Novara (Italy)

Support to students, assistance during exams and didactical laboratories

Business or sector Part-time collaboration fellowship under the supervision of Dr. Simone Merlin

Oct 2016–Sep 2017

Postdoc Fellowship: Hydroxyapatite Nanoparticles as Multifunctional Platforms for "Targeted Delivery" of siRNA hTERT to Cancer Cells

School of Medicine, University of Piemonte Orientale
17, via Solaroli, 28100 Novara (Italy)

Functionalization of hydroxyapatite nanoparticles with siRNA to selectively downregulate the expression of hTERT in cancer cells

Business or sector Research fellowship under the supervision of Prof. Maria Prat

Nov 2015–Nov 2016

DiaSorin s.p.a Collaborator

School of Medicine, University of Piemonte Orientale
17, via Solaroli, 28100 Novara (Italy)

Production of high affinity monoclonal antibodies to difficult targets using genetic immunization technology

Business or sector Research fellowship under the supervision of Prof. Maria Prat and Dott. Deborah Ferrante

Nov 2015–Nov 2016

Postdoc Fellowship: Gene Therapy of Hemophilia A

School of Medicine, University of Piemonte Orientale
17, via Solaroli, 28100 Novara (Italy)

Study of Factor VIII promoter involved to identify the best cell type in terms of protein synthesis

Business or sector Research fellowship under the supervision of Prof. Antonia Follenzi

May 2014–May 2015

Assistance to Applied Biology Discipline

School of Medicine, University of Piemonte Orientale
17, via Solaroli, 28100 Novara (Italy)

Support to students, assistance during exams and didactical laboratories

Business or sector Part-time collaboration fellowship under the supervision of Dr. Chiarella Bozzo

Jun 2013

Internship

Laboratorio de Estudios Cristalográficos IACT (CSIC-UGR)
4, Av. de las Palmeras 18100 Armilla – Granada (Spain)

Preparation of nanocrystalline apatite nanoparticles, nanoparticles functionalization and characterization: Dynamic light scattering, X-ray diffraction.

Business or sector Research Internship under the supervision of Dr. Jaime Gómez Morales

Nov 2012–Jun 2016

PhD Internship

Department of Health Science, Lab of Histology, University of Piemonte Orientale
17, via Solaroli, 28100 Novara (Italy)

Engineered nanoparticles for tumour targeting and imaging: production, biocompatibility, functionalization (mAb, fluorescent dye, chemotherapeutic drug) and interactions of nanocrystalline apatite and magnetic nanoparticles with human cell lines and in a tumour mice model. Tumour associated markers, oncoproteins in human tumours and production of monoclonal antibodies against them.
Isolation of human cardiac progenitor cells (hCPCs) from human auricula biopsy. Culture, characterization of human hCPCs for cardiac tissue engineering: generation and characterization (immunophenotyping, gene expression and cell migration ability) of *in vivo* implantable cells spheroids by a methylcellulose scaffold-less system.

Business or sector Research Internship under the supervision of Prof. Maria Prat

Jul 2011

Group Leader at University of Hull – Euro Master Studio

Cottingham Rd, HU6 7RX Hull (United Kingdom)

Look after italian students (12-18 years old) during summer holidays. Plan daily excursions and guide the students during trips.

Business or sector Seasonal Collaboration for English Summer Curses

Oct 2010–Oct 2012

Master Internship

Department of Health Science, Lab of Histology, University of Piemonte Orientale
17, via Solaroli, 28100 Novara (Italy)

Isolation of human cardiac progenitor cells (hCPCs) from human auricula biopsy and evaluation of their possible use as biological source for *ex vivo* tissue engineering for cardiac regeneration. Culture, characterization of human hCPCs, evaluation of electric currents (mono and biphasic stimuli) on cellular viability, proliferation, and induction of electrical activity in hCPCs, modifications in expression and in cellular localizations of specific proteins involved in cardiac commitment.

Business or sector Research Internship under the supervision of Prof. Maria Prat

Jul 2010 **Group Leader at University College of Dublin – Euro Master Studio**

4, Stillorgan Rd., D04 V1W8 Dublin (Ireland)

Look after italian students (12-18 years old) during summer holidays. Plan daily excursions and guide the students during trips.

Business or sector Seasonal Collaboration for English Summer Curses

Jul 2009 **Group Leader at University of Bristol – Euro Master Studio**

Senate House, Tyndall Avenue, BS8 1TH, Bristol (United Kingdom)

Look after italian students (12-18 years old) during summer holidays. Plan daily excursions and guide the students during trips.

Business or sector Seasonal Collaboration for English Summer Curses

Oct 2006–Oct 2010 **Bachelor Internship**

Department of Health Science, Lab of Histology, University of Piemonte Orientale
17, via Solaroli, 28100 Novara (Italy)

Production of a Lentiviral Vector (LV) for the green fluorescent protein (GFP) expression under the control of the alpha myosin heavy chain (α-MyHC) promoter, specific for mature muscle tissue. C2C12 cell line (murine myoblasts) transduction with the LV, differentiation of myoblasts in myotubes, evaluation of GFP expression by immunofluorescent microscope and RT-PCR. Production of a Lentiviral Vector (LV) for the green fluorescent protein (GFP) expression under the control of the alpha myosin heavy chain (α-MyHC) promoter, specific for mature muscle tissue. C2C12 cell line (murine myoblasts) transduction with the LV, differentiation of myoblasts in myotubes, evaluation of GFP expression by immunofluorescent microscope and RT-PCR.

Business or sector Research Internship under the supervision of Prof. Maria Prat

EDUCATION AND TRAINING

Nov 2012–Jun 2016 **PhD in Biotechnologies for Human Health**

School of Medicine, University of Piemonte Orientale
17, via Solaroli, 28100 Novara (Italy)

Nanoparticles for cancer therapy, Drug delivery systems (DDS), Monoclonal Antibody for tumour associated markers, Regenerative Medicine applied to the myocardium

Oct 2010–Oct 2012 **Master's Degree in Medical Biotechnologies** 110/110 cum laude

School of Medicine, University of Piemonte Orientale
17, via Solaroli, 28100 Novara (Italy)

Regenerative Medicine, Cell Biology, Molecular Biology, Functional Biochemistry

Oct 2006–Jul 2010 **Bachelor in Biotechnologies** 97/110

School of Medicine, University of Piemonte Orientale
17, via Solaroli, 28100 Novara (Italy)

Cell Biology, Molecular Biology, Functional Biochemistry, DNA recombination techniques, Microbiology

Sep 2005–Jul 2010 **Lyceum Diploma in Languages School** 100/100

Liceo Linguistico – Istituto Rosa Stampa
48, Corso Italia, 13100 Vercelli (Italy)

Italian, English, French and German literature, Mathematics, Biology, Chemistry, Science, Physics

PERSONAL SKILLS

Mother tongue(s) Italian

Other language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	B2	C1	B2	B2	C1
French	B2	B2	B2	B2	B2
German	A2	A2	A2	A1	A1

Levels: A1 and A2: Basic user - B1 and B2: Independent user - C1 and C2: Proficient user
Common European Framework of Reference for Languages

Certifications English certifications: PET, TRINITY 8th level
French certification: DELF

Communication skills
- Good ability to adapt to multicultural environments gained through my studies, work experiences and summer courses abroad
- Good communication skills improved by lab meeting and by poster session in international congress experiences

Organisational / managerial skills
- Ability in gaining objectives, active in team-work and at the same time in possession of good working autonomy developed with the lab work experience
- Good sense of organisation
- Good attitude in interpersonal relationship

Job-related skills
- Cellular biology (culture of established cell lines, isolation and culture of primary cells including human adult stem/progenitor cells, *in vitro* differentiation of human adult stem cells)
- Monoclonal antibodies production
- Functionalization of nanoparticles with different types of molecules (chemotherapeutic agent, monoclonal antibodies, cell penetrating peptides – CPP, fluorophores);
- Molecular biology techniques (DNA extraction, RNA extraction, PCR, RT-PCR, enzyme digestion, plasmid construction and purification, maxipreparation of plasmids, cloning, design and production of lentiviral vectors);
- Basal techniques and instruments used in chemical laboratories;
- Immunochemical techniques (Immunofluorescence, Immunoprecipitation, SDS-PAGE, Western Blot, ELISA, Flow Cytometry);
- Biological assays (MTT, Crystal violet, Wound Healing, Zymographic Assay, Array);
- Cryostate and microtome cutting of embedded samples and haematoxylin-eosin and Perl's blue staining;
- Handling and basic microsurgery techniques in experimental animals (mice).

Digital competence

SELF-ASSESSMENT				
Information processing	Communication	Content creation	Safety	Problem solving
Proficient user	Proficient user	Independent user	Independent user	Independent user

Digital competences - Self-assessment grid

- PC operating systems - Windows (all versions up to and including 8);
- Competent with Microsoft Office programmes (Word, Excel, PowerPoint, Publisher);
- Good Internet surfing and browsers (Explorer, Chrome) knowledge;
- Principal databases (PubMed, Medline);
- Reference manager and PDF organizer (Mendeley);
- Image processing (ImageJ, Leica Confocal Software, Adobe Photoshop);
- Cytometry data analysis software (CellQuest Pro, Cyflogic);
- Vector graphic editor software (Inkscape)

Driving licence B1

ADDITIONAL INFORMATION

Publications

- Prat M, **Oltolina F**, Antonini S, Zamperone A. Isolation of Stromal Stem Cells from Adipose Tissue. Methods Mol Biol. 2017; 1553:169-182. doi:10.1007/978-1-4939-6756-8_13
- Martinez-Casado FJ*, Gómez Morales J*, Delgado López JM, Iafisco M, Martínez Benito C, Ruiz Pérez C, Colangelo D, **Oltolina F**, Prat M. Bio-inspired citrate-apatite nanocrystals doped with divalent transition metal ions. Crystal Growth & Design 2016, 16 (1), pp 145–153. DOI: 10.1021/acs.cgd.5b01045
- **Oltolina F***, Zamperone A*, Colangelo D, Gregoletto L, Reano S, Pietronave S, Merlin S, Talmon M, Novelli E, Diena M, Nicoletti C, Musarò A, Filigheddu N, Follenzi A, Prat M. Human Cardiac Progenitor Cell Spheroids Exhibit Enhanced Engraftment Potential. PLOS ONE 2015 Sep 16;10(9): e0137999. doi: 10.1371/journal.pone.0137999. eCollection 2015.
- **Oltolina F***, Gregoletto L*, Colangelo D, Gómez-Morales J, Delgado-López JM, Prat M. Monoclonal antibody-targeted fluorescein-5-isothiocyanate-labeled biomimetic nanoapatites: a promising fluorescent probe for imaging applications. Langmuir. 2015 Feb 10;31(5):1766-75. doi: 10.1021/la503747s. Epub 2015 Jan 30. PMID: 25602940
- Prat M, **Oltolina F**, Basilico C. Monoclonal Antibodies against the MET/HGF Receptor and Its Ligand: Multitask Tools with Applications from Basic Research to Therapy. Biomedicines 2014, 2(4), 359-383; doi:10.3390/biomedicines2040359 - published 3 December 2014
- Pietronave S*, Zamperone A*, **Oltolina F**, Colangelo D, Follenzi A, Novelli E, Diena M, Pavesi A, Consolo F, Fiore GB, Soncini M, Prat M. Monophasic and biphasic electrical stimulation induces a precardiac differentiation in progenitor cells isolated from human heart. Stem Cells Dev. 2014 Apr 15;23(8):888-98. doi: 10.1089/scd.2013.0375. Epub 2014 Jan 24. PMID: 24328510

Text Book

- Nanocrystalline Apatites Functionalized with Monoclonal Antibodies for Targeted Cancer Therapies (Maria Prat, Francesca Oltolina, Luca Gregoletto, José Manuel Delgado-López and Jaime Gómez-Morales, Dipartimento di Scienze della Salute, Università del Piemonte Orientale, Novara, Italy). Apatite: Synthesis, Structural Characterization and Biomedical Applications (Michele Iafisco and José Manuel Delgado-López), Nova Publisher, 2014; ISBN: 978-1-6332-536-8

Oral Presentations

- Oltolina F, Zamperone A, Colangelo D, Gregoletto L, Reano S, Merlin S, Talmon M, Novelli E, Diena M, Nicoletti C, Musarò A, Filigheddu N, Follenzi A, Prat M. Human Cardiac Progenitor Cells Spheroids exhibit enhances engraftment potential. VII meeting Stem Cell Research Italy, June 21-23, 2016, Bologna, Italy
- Oltolina F, Gregoletto L, Gómez Morales J, Delgado-López JM, Viano I, Prat M, Colangelo D. Trasporto e targeting selettivo della doxorubicina mediante nanoparticelle di idrossiapatite funzionalizzate con anticorpi. 28° Congresso Nazionale della Società Italiana di Chemioterapia, November 26-28, 2015, Firenze, Italy.

Honours and awards

- Prof. Andrea Facchini Young Investigator Award for the oral presentation entitled: "Human Cardiac Progenitor Cells Spheroids exhibit enhances engraftment potential". VII meeting Stem Cell Research Italy, Bologna, June 21-23, 2016;
- ImmunoTools special Award 2014;
- 1st Prize Poster Competition and accommodation grant at 4th International School on Biological Crystallization, Granada, Spain 2013.

Congress/Conferences

- **Oltolina F**, Delgado-López JM, Colangelo D, Antonini S, Gómez-Morales J, Prat M. Targeted Drug Delivery Through Multifunctional Hydroxyapatite Nanoparticles. Basic to Translational Medicine 2016 focus on Cancer, October 6-7, 2016, Novara, Italy.
- **Oltolina F**, Gregoletto L, Colangelo D, Iafisco M, Gómez-Morales J, Delgado-López JM, Prat M. Multifunctional fluorescent-labelled hydroxyapatite nanoparticles for monoclonal antibody-targeted delivery of doxorubicin to cancer cells. International Conference on Molecular Oncology "From Signal Transduction to Cancer Precision Medicine", June 5-6, 2015, Candiolo, Italy.
- Borroni E, Catalano E, Ferraris S, Cochis A, Miola M, **Oltolina F**, Vernè E, Prat M, Novak S, Rimondini L, Follenzi A. Development of Engineered Iron-Oxide Nanoparticles by Lentiviral Vectors for Target Cancer Therapy and Hyperthermia. EURO BioMAT 2015, April 21-22, 2015, Weimar, Germany.
- Catalano E, Cochis A, Ferraris S, Miola M, Verné E, **Oltolina F**, Prat M, Novak S, Rimondini L and Follenzi A. Static and Dynamic In Vitro Cytocompatibility Evaluation of Iron-Oxide Nanoparticles. TERMIS EU 2014, June 10-13, 2014, Genova, Italy.
- **Oltolina F**, Zamperone A, Gregoletto L, Antonini S, Novelli E, Diena M, Nicoletti C, Musarò A and Prat M. Generation and Characterization of Implantable Spheroids Made of Human Cardiac Progenitors Cells by a Novel Methylcellulose Hydrogel-Based System. TERMIS EU 2014, June 10-13, 2014, Genova, Italy.
- **Oltolina F**, Ferraris S, Miola M, Vernè E, Bruno M, Catalano E, Rimondini L, Prat M and Follenzi A. Development of Engineered Magnetic Nanoparticles for Cancer Therapy. 8th NANOSMAT 2013, September 22-25, Granada, Spain.
- **Oltolina F**, Gregoletto L, Delgado-Lopez JM, Gomez-Morales J and Prat M. Functionalized Biomimetic Apatite Nanocrystals for Targeted Cancer Therapy. International School on Biological Crystallization, May 26-31, 2013, Granada, Spain.