

Flaminia ALIBERTI

Medical and Pharmaceutical Biotechnology



ABOUT ME

Research fellow at Genetic and Cardiovascular Diseases laboratory at I.R.C.C.S. Policlinico San Matteo of Pavia and currently PhD student in Bioinformatics, Bioengineering and Health Technologies at the University of Pavia.

Master's degree in Medical and Pharmaceutical Biotechnology at the University of Pavia (Italy). Bachelor's degree in Biotechnology at the University of Tor Vergata (Rome, Italy). Erasmus project of one academic year at the Universidad de Leòn (Spain).

Enthusiastic about the course of study undertaken, extremely curious and particularly interested in the of stem cell field. Currently part of a research project on regenerative medicine and 3D printing for skeletal muscle regeneration at the Department of Public Health, Experimental and Forensic Medicine, Human Anatomy section at the University of Pavia. Strong aptitude for teamwork, sense of responsibility and dedication to work. Cheerful and sociable, interested in study and work experience abroad.

MAIN RESEARCH INTERESTS

Stem cells for skeletal and cardiac muscle regeneration. Regenerative medicine. Tissue engineering. 3D bio-printing.

SCIENCE SKILLS

3D and 2D cell cultures of adult and embryonic stem cells (iPSC - ECS); muscle 3D Bioprinting; Cell-biomaterial interaction; Transgene expression; Cultures of murine cell lines (C2C12); Histological and morphological analysis; hematoxylin and eosin; Paraffin inclusion; Cryostat; Microtome; Ultramicrotome; Immunohistochemistry / Immunofluorescence; Optical and confocal microscopy; Live / Dead assay; DNA and RNA extraction; Electrophoresis of nucleic acids and proteins; PCR; qRT-PCR; Animal handling (mice, rats, rabbits, zebrafish); Cytotoxicity assays (XTT); Bradford biochemical assays and spectrophotometry.

DIGITAL SKILLS

Good knowledge of the Windows operating system and of the programs of the Office package (Excel, Microsoft Word, Power Point). Knowledge of R (reprogramming language).

RESEARCH AND SCIENTIFIC ACTIVITIES

August 2020 – now:	Research fellow at Genetics – Transplantation and Cardiovascular Diseases Laboratory, Department of Medical Sciences and Infectious Diseases, I.R.C.C.S. Policlinico San Matteo, Pavia, Italy.
January 2019 - January 2020:	Degree Internship on 3D Bioprinting and Skeletal Muscle Regeneration at Experimental Cardiomyology and Regenerative Medicine Lab, Department of Public Health, Experimental and Forensic Medicine at University of Pavia with Prof. Maurilio Sampaolesi and Prof. Gabriele Ceccarelli.
January 2017 - May 2017:	Degree Internship at Physiology and Plant Biotechnology Laboratory, Department of Biology, University of Tor Vergata, Rome with Prof.ssa Sabina Visconti.
February 2015 - April 2015:	Laboratory activity with final exam of Microbiology Laboratory, Faculty of Biological and Environmental Sciences, Department of Molecular Biology, Universidad de Leòn, Spain.
October 2014 - November 2014:	Laboratory activity of Reproductive Biotechnology, Faculty of Biological and Environmental Sciences, Department of Molecular Biology, Universidad de Leòn, Spain.
October 2014 - December 2014:	Laboratory activity with final exam of Chemistry Laboratory Faculty of Biological and Environmental Sciences, Department of Chemistry and Applied Physics, Universidad de Leòn, Spain.
November 2014 – December 2014:	Laboratory activity with final exam of Virology Laboratory, Faculty of Biological and Environmental Sciences, Department of Molecular Biology, Universidad de Leòn, Spain.
November 2014 - December 2014:	Laboratory activity of Handling and Welfare of Laboratory Animals, Faculty of Veterinary, Department of Medicine, Surgery and Veterinary Anatomy, Universidad de Leòn, Spain.

ACADEMIC ACTIVITY

Tutor of Medical and Pharmaceutical Biotechnology Master's Degree and Bachelor's Degree students, at University of Pavia; Anatomy Tutor of Harvey and Golgi Medicine and Surgery course at University of Pavia.

EDUCATION

October 2020 -now	PhD Student at Experimental Cardiomyology and Regenerative Medicine Lab, Department of Public Health, Experimental and Forensic Medicine at University of Pavia
July 2020:	Professional Biologist License, at the University of Salento (Italy).
March 2020 - July 2020:	Winner of the Erasmus Traineeship project at the University K.U. Leuven (Belgium), 2019-2020. Research topic: "Culture of embryonic stem cells and IPS" Postponed due to COVID-19 emergency.
October 2017 - February 2020:	Master's Degree in Medical and Pharmaceutical Biotechnology, at Experimental Myocardiology Laboratory, Department of Public Health, University of Pavia, Italy. Thesis Title: "Comparative analysis of biocompatible hydrogels for 3D printing of murine myoblasts". Final Grade: 110/110 <i>cum laude</i> .
October 2012 - May 2017:	Bachelor's Degree in Biotechnology, Physiology and Plant Biotechnology Laboratory, Department of Biology, University of Tor Vergata, Rome, Italy. Thesis Title: "The role of CRPK1 protein kinase and 14-3-3 proteins in the regulation of CBF signaling during the cold response" Final Grade: 103/110.
October 2014 - June 2015:	Erasmus project, Faculty of Natural, Biological and Environmental Sciences, Degree Course in Biotechnology, Universidad de Leòn, Spain. Certificates Issued: By Prof. Luis M. Mateos, Microbiology Laboratory, Faculty of Biological and Environmental Sciences, Department of Molecular Biology, Universidad de Leòn, Spain; By Prof. Paulino de Paz Cabello, Reproductive Biotechnology Laboratory, Faculty of Biological and Environmental Sciences, Department of Molecular Biology, Universidad de Leòn, Spain;

October 2014 - June 2015: By Prof.ssa Inmaculada Diez Prieto, Handling and Welfare of Laboratory Animals, Faculty of Veterinary, Department of Medicine, Surgery and Veterinary Anatomy, Universidad de Leòn, Spain.

By Prof. Luis M. Mateos, Virology Laboratory, Faculty of Biological and Environmental Sciences, Department of Molecular Biology, Universidad de Leòn, Spain.

By Prof. Josè Cruz Feo Manga, Chemistry Laboratory, Faculty of Biological and Environmental Sciences, Department of Chemistry and Applied Physics, Universidad de Leòn, Spain.

LANGUAGES

Italian: Native

Spanish: Proficient

English: Advanced (C1 of the Common European Framework.)

French: Elementary

REFERENCES

Prof. Maurilio Sampaolesi, PhD

Translational Cardiomyology Laboratory

Stem Cell Biology and Embryology

Dept. of Development and Regeneration

University of Leuven - Belgium

Tel.: +32-(0)163(73132)

[E-mail: maurilio.sampaolesi@kuleuven.be](mailto:maurilio.sampaolesi@kuleuven.be)

Gabriele Ceccarelli, PhD

Assistant Professor of Human Anatomy

Department of Public Health, Experimental Medicine and Forensic

Center for Health Technologies (C.H.T.)

Human Anatomy unit

Via Forlanini, n.8, 27100 Pavia

University of Pavia

Tel: +390382987661

E-mail: gabriele.ceccarelli@unipv.it

Prof. Maria Gabriella Cusella De Angelis, MD, PhD

Department. of Public Health, Experimental and Forensic Medicine

University of Pavia

Via Forlanini n. 8 27100 Pavia

Tel: +39-0382-987652

Fax: +39-0382-987647

E-mail: cusella@unipv.it

CONGRESS AND SCHOOLS

- VI Workshop edition titled “Research and Nanomedicine 2022” as speaker, titled speech “Different 3D bioprinted scaffold and hydrogel designs for skeletal muscle tissue engineering”, Pavia, 14th June 2022
- XL Annual Bioengineering School: “Biofabrication: an integrated bioengineering approach for the automated fabrication of biological structures for clinical and research applications”, Brixen, 13th-16th September 2021;
- III third Centro 3R Annual Meeting “The era of the 3Rs: in silico, in vitro and in vivo models to promote translational research”, Turin, 30th September – 1st October 2021;
- 74° National Congress of S.I.A.I., Hybrid Edition, Bologna, 24th -25th September 2021.
- Stem cells and 3D bioprinting: a promising combination in Regenerative Medicine CELLINK Collaborative Partnership Conference, Milan, 10th May 2019;
- II Workshop di Bioprinting: “From print set-up to laboratory analysis”, Department of Industrial and Information Engineering, University of Pavia 20th February 2019.

PUBLICATIONS

Flaminia Aliberti, Elisa Paolin, Laura Benedetti, Gabriella Cusella and Gabriele Ceccarelli, “3D bioprinting and Rigenera® micrografting technology: A possible countermeasure for wound healing in spaceflight”, *Tissue Engineering and Regenerative Medicine*, a section of the journal *Frontiers in Bioengineering and Biotechnology* 30 August 2022, DOI 10.3389/fbioe.2022.937709

Flavio L. Ronzoni*, **Flaminia Aliberti***, Franca Scocozza, Laura Benedetti, Ferdinando Auricchio, Maurilio Sampaolesi, Gabriella Cusella, Itedale Namro Redwan, Gabriele Ceccarelli and Michele Conti, “Myoblast 3D bioprinting to burst in vitro skeletal muscle differentiation”. *J Tissue Engineering and Regenerative Medicine* 2022 May;16(5): 484-495. DOI: 10.1002/term.3293. Epub 2022 Mar 4. (*co-first author).

Alessandro Di Toro, Antonio Bozzani, Guido Tavazzi, Mario Urtis, Lorenzo Giuliani, Roberto Pizzoccheri, **Flaminia Aliberti**, Viola Fergnani, and Eloisa Arbustini, “Long COVID: long-term effects?”. *European Heart Journal Supplements*, Volume 23, Issue Supplement, October 2021, Pages E1–E5, DOI: 10.1093/eurheartj/suab080

Alessandro di Toro, Mario Urtis, Lorenzo Giuliani, Roberto Pizzoccheri, **Flaminia Aliberti**, Alexandra Smirnova, Maurizia Grosso, Eliana Disabella, Eloisa Arbustini. “Spectrum of phenotype of ventricular noncompaction in adults”. *Progress in Pediatric Cardiology*, Volume 62, September 2021, 101416 (2021). <https://doi.org/10.1016/j.ppedcard.2021.101416>

Flaminia Aliberti, Lorenza Rinvenuto, Giada Loi, Laura Benedetti, Franca Scocozza, Flavio Lorenzo Ronzoni, Maurilio Sampaolesi, Gabriella Cusella, Michele Conti and Gabriele Ceccarelli. “3D bioprinting of different hydrogels and scaffolds: rational design strategies in skeletal muscle tissue engineering”. Presentato in 74° Congresso Nazionale SIAI, Edizione Ibrida (Bologna, 24-25 Settembre 2021).

Flaminia Aliberti, Lorenza Rinvenuto, Giada Loi, Laura Benedetti, Franca Scocozza, Flavio Lorenzo

Ronzoni, Maurilio Sampaolesi, Gabriella Cusella, Michele Conti and Gabriele Ceccarelli "*Comparative analysis of different hydrogels for the in vitro skeletal muscle models*". Biomedical Science and Engineering 2021; volume 4(s1):146 . <https://doi.org/10.4081/bse.2021.146>