

ERSILIA FORNETTI

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RESEARCH EXPERIENCE

- **From October 2024**

Type A Researcher at the International Medical University UniCamillus.

- **From July 2022**

Post-doc in the Nanotechnologies and Neuroscience laboratory, Center for Life Nano- & Neuro-Science (CLNS) at the Italian Institute of Technology (IIT).

- **April 2021 – June 2022**

Post-doc in the laboratory of Comparative Anatomy, Regeneration and Stem Cells of Dr. Cesare Gargioli at the University of Rome “Tor Vergata”.

- **June 2017 - December 2017**

Postgraduate scholarship at the International Clinical Research Center (ICRC) of St. Anne’s University Hospital in Brno (Czech Republic), with a project regarding co-culture of human skeletal muscle progenitors (Pericytes) and iPSCs-derived motoneurons.

- **January 2017 - May 2017**

Postgraduate scholarship at the Comparative Anatomy laboratory of the University of Rome “Tor Vergata”, with the project “Muscle Perivascular Stem Cells for Advanced Skeletal Muscle Tissue Regenerative Approaches”.

- **November 2016 - December 2016**

Postgraduate scholarship at the International Clinical Research Center (ICRC) of St. Anne’s University Hospital in Brno (Czech Republic).

- **October 2015 - October 2016**

Internship at the Comparative Anatomy laboratory of the University of Rome “Tor Vergata”, in collaboration with the Tissue Engineering laboratory of the University “Campus Bio-Medico” of Rome, for the Master’s Degree thesis “3D Bioprinting for Biofabrication of Synthetic Skeletal Muscle”.

- **October 2013 - Genuary 2014**

Internship at the Molecular Genetics laboratory of the University of Rome “Tor Vergata” for the Bachelor’s Degree thesis “Metformin effects on Cell Cycle, Differentiation and Apoptosis proteins of Muscle Cells”.

EDUCATION

• December 2017 – March 2021

PhD in Cellular and Molecular Biology at the University of Rome “Tor Vergata” in the laboratory of Comparative Anatomy, Regeneration and Stem Cells under the supervision of Professor Stefano Cannata. PhD project had involved microfluidics technology, iPSCs neural differentiation and skeletal muscle cells culture for the reproduction of the human neuromuscular junction *in vitro* in physiological and pathological conditions.

• October 2014 – October 2016

Master’s Degree in Cellular and Molecular Biology and Biomedical Science at the University of Rome “Tor Vergata”. Final grade 110 out of 110 cum laude.

• October 2010 - July 2014

Bachelor’s Degree in Biological Sciences at the University of Rome “Tor Vergata”. Final grade of 103 out of 110.

HONORS AND AWARDS

- **Travel grant**, 65th GEI Meeting, June 2019 (Ancona, Italy).
- **Best poster award**, 64th GEI Meeting, June 2018 (L’Aquila, Italy).
- **Best talk award**, 15th IIM Meeting, October 2017 (Assisi, Italy).

From October 2017, member of the **Young Scientific Committee** of the Italian Interuniversity Institute of Myology (IIM).

LANGUAGES

Mother tongue | - **Italian**
Other language | - Fluency in **English**

PUBLICATIONS

Fornetti E, Testa S, De Paolis F, Fuoco C, Bernardini S, Pozo Devoto V, Stoking GB, Giannitelli SM, Rainer A, Bigot A, Zoccali C, Baldi J, Sandonà D, Rizzi R, Bearzi C, Forte G, Cannata S, Gargioli C. Dystrophic Muscle Affects Motoneuron Axon Outgrowth and NMJ Assembly. *Advanced Materials Technologies*. 2022 Mar 17.

Rossin F, Avitabile E, Catarinella G, **Fornetti E**, Testa S, Oliverio S, Gargioli C, Cannata S, Latella L, Di Sano F. Reticulon-1C Involvement in Muscle Regeneration. *Metabolites*. 2021 Dec 8;11(12):855.

Celikkin N, Presutti D, Maiullari F, **Fornetti E**, Agarwal T, Paradiso A, Volpi M, Świążkowski W, Bearzi C, Barbetta A, Zhang YS, Gargioli C, Rizzi R, Costantini M. Tackling Current Biomedical Challenges With Frontier Biofabrication and Organ-On-A-Chip Technologies. *Front Bioeng Biotechnol*. 2021 Sep 16;9:732130

Testa S, **Fornetti E**, Fuoco C, Sanchez-Riera C, Rizzo F, Ciccotti M, Cannata S, Sciarra T, Gargioli C. The War after War: Volumetric Muscle Loss Incidence, Implication, Current Therapies and Emerging Reconstructive Strategies, a Comprehensive Review. *Biomedicines*. 2021 May 18;9(5):564. doi: 10.3390/biomedicines9050564.

Sánchez Riera C, Lozanoska-Ochser B, Testa S, **Fornetti E**, Bouché M, Madaro L. Muscle Diversity, Heterogeneity, and Gradients: Learning from Sarcoglycanopathies. *Int J Mol Sci*. 2021 Mar 2;22(5):2502.

Costantini M, Testa S, **Fornetti E**, Fuoco C, Sanchez Riera C, Nie M, Bernardini S, Rainer A, Baldi J, Zoccali C, Biagini R, Castagnoli L, Vitiello L, Blaauw B, Seliktar D, Świążzkowski W, Garstecki P, Takeuchi S, Cesareni G, Cannata S, Gargioli C. Biofabricating murine and human myo-substitutes for rapid volumetric muscle loss restoration. *EMBO Mol Med*. 2021 Mar 5;13(3):e12778.

Testa S, Riera CS, **Fornetti E**, Riccio F, Fuoco C, Bernardini S, Baldi J, Costantini M, Foddai ML, Cannata S, Gargioli C. Skeletal Muscle-Derived Human Mesenchymal Stem Cells: Influence of Different Culture Conditions on Proliferative and Myogenic Capabilities. *Front Physiol*. 2020 Sep 16;11:553198.

Cianciosi A, Costantini M, Bergamasco S, Testa S, **Fornetti E**, Jaroszewicz J, Baldi J, Latini A, 4 Choińska E, Heljak M, Zoccali C, Cannata S, Świążzkowski W, Diaz Lantada A, Gargioli C, Barbetta A. Engineering Human-Scale Artificial Bone Grafts for Treating Critical-Size Bone Defects. *ACS Appl Bio Mater*. 2019 Nov 18;2(11):5077-5092.

Idaszek J, Costantini M, Karlsen TA, Jaroszewicz J, Colosi C, Testa S, **Fornetti E**, Bernardini S, Seta M, Kasarełło K, Wrzesień R, Cannata S, Barbetta A, Gargioli C, Brinchman JE, Świążzkowski W. 3D bioprinting of hydrogel constructs with cell and material gradients for the regeneration of full-thickness chondral defect using a microfluidic printing head. *Biofabrication*. 2019 Jul 1;11(4):044101.

Rinoldi C, Costantini M, Kijeńska-Gawrońska E, Testa S, **Fornetti E**, Heljak M, Ćwiklińska M, Buda R, Baldi J, Cannata S, Guzowski J, Gargioli C, Khademhosseini A, Swieszkowski W. Tendon Tissue Engineering: Effects of Mechanical and Biochemical Stimulation on Stem Cell Alignment on Cell-Laden Hydrogel Yarns. *Adv Healthc Mater*. 2019 Apr;8(7):e1801218.

Testa S, D'Addabbo P, **Fornetti E**, Belli R, Fuoco C, Bernardini S, Cannata S, Frezza D, Gargioli C. Myoblast Myogenic Differentiation but Not Fusion Process Is Inhibited via MyoD Tetraplex Interaction. *Oxid Med Cell Longev*. 2018 May 7;2018:7640272.

Errico V, Arrabito G, **Fornetti E**, Fuoco C, Testa S, Saggio G, Rufini S, Cannata S, Desideri A, Falconi C, Gargioli C. High-Density ZnO Nanowires as a Reversible Myogenic-Differentiation Switch. *ACS Appl Mater Interfaces*. 2018 Apr 25;10(16):14097-14107.

Testa S, Costantini M, **Fornetti E**, Bernardini S, Trombetta M, Seliktar D, Cannata S, Rainer A, Gargioli C. Combination of biochemical and mechanical cues for tendon tissue engineering. *J Cell Mol Med*. 2017 Nov;21(11):2711-2719.

Costantini M, Testa S, **Fornetti E**, Barbetta A, Trombetta M, Cannata SM, Gargioli C, Rainer A. Engineering Muscle Networks in 3D Gelatin Methacryloyl Hydrogels: Influence of Mechanical Stiffness and Geometrical Confinement. *Front Bioeng Biotechnol*. 2017 Apr 7;5:22.

Costantini M, Testa S, Mozetic P, Barbetta A, Fuoco C, **Fornetti E**, Tamiro F, Bernardini S, Jaroszewicz J, Świążkowski W, Trombetta M, Castagnoli L, Seliktar D, Garstecki P, Cesareni G, Cannata S, Rainer A,

Gargioli C. Microfluidic-enhanced 3D bioprinting of aligned myoblast-laden hydrogels leads to functionally organized myofibers in vitro and in vivo. *Biomaterials*. 2017 Jul;131:98-110.

Ersilia Fornetti, 15/01/2023 5