

Dalila Di Francesco

Experience

November 2025 – Ongoing

Research and development principal • Tissuegraft s.r.l. (Novara, Italy)

September 2021 – November 2025

Joint Doctorate program • Université Laval (Quebec, Canada) – Università del Piemonte Orientale (Novara, Italy)

November 2024 – Ongoing

Partner and Board member • Tissuegraft s.r.l. (Novara, Italy)

Novembre 2018 – Luglio 2019

Industrial internship • Tissuegraft s.r.l. (Novara, Italy)

Education

September 2021 – November 2025

Joint Doctorate program • Université Laval (Quebec, Canada) – Università del Piemonte Orientale (Novara, Italy)

Joint PhD in "Biomaterials Engineering" and "Food, Health and Longevity". Mark: Excellent with honorable mention.

My doctoral thesis “Matrix Bound Nanovesicles and Hydrogel from Decellularized Pericardium Extracellular Matrix: Characterization and Applications in Regenerative Medicine” concerns the in-depth study of innovative and bioactive materials, such as hydrogels and nanovesicles, derived from decellularized bovine pericardium.

February 2025 – Ongoing

Master in “Leadership per le relazioni internazionali e il made in Italy” • Master Italy USA – Fondazione Italy USA (Roma, Italy)

September 2019 – July 2021

Master Degree in Medical Biotechnologies • Università del Piemonte Orientale (Novara, Italy) – Mark: 110/110 cum laude and honorable mention– Thesis: “Regenerative potential of a bovine ECM-derived hydrogel for biomedical applications”

September 2016 – July 2019

Bachelors Degree in Biotechnologies • Università del Piemonte Orientale (Novara, Italy) – Mark: 105/110 – Thesis: “Characterization of biological hydrogels for muscle tissue regeneration”

September 2015 – July 2016

High school diploma in Sanitary Biotechnologies • ITIS Q.SELLA (Biella, Italy)

September 2012 – July 2014

Cambridge International A Level • Galaxy International School (Accra, Ghana)

Thanks to the formation received during university internship and research PhD activities, I have gathered several years of experience in scientific research in the field of natural biomaterials for regenerative medicine. My know-how is mainly on the characterization of biomaterials derived from decellularized tissues.

Publications

2019 “Overview of natural hydrogels for regenerative medicine applications” MC Catoira, L. Fusaro, D. Di Francesco, M. Ramella, F. Boccafoschi. *Journal of Materials Science: Materials in Medicine* (Q2, IF 4.2) 30, 1-10 <https://doi.org/10.1007/s10856-019-6318-7>.

2020 “Angiogenic Potential in Biological Hydrogels” M.V. Giraudo, D. Di Francesco, M.C. Catoira, D. Cotella, L. Fusaro, F. Boccafoschi. *Biomedicines* (Q1, IF 3.9). <https://doi.org/10.3390/biomedicines8100436>.

2021 “Myogenic potential of extracellular matrix derived from decellularized bovine pericardium” F. Carton, D. Di Francesco, L. Fusaro, E. Zanella, C. Apostolo, F. Oltolina, D. Cotella, M. Prat, F. Boccafoschi. *International Journal of Molecular Sciences* (Q1, IF 4.9). <https://doi.org/10.3390/ijms22179406>

2021 “Paracrine Shear-Stress-Dependent Signaling from Endothelial Cells Affects Downstream Endothelial Function and Inflammation” F. Bertani, D. Di Francesco, M.D. Corrado, M. Talmon, L.G. Fresu, F. Boccafoschi. *International Journal of Molecular Sciences* (Q1, IF 4.9). <https://doi.org/10.3390/ijms222413300>

2022 “Regenerative Potential of A Bovine ECM-Derived Hydrogel for Biomedical Applications” D. Di Francesco, F. Bertani, L. Fusaro, N. Clemente, F. Carton, M. Talmon, L.G. Fresu, F. Boccafoschi. *Biomolecules* (Q1, IF 4.8). <https://doi.org/10.3390/biom12091222>

2023 “Polymeric reinforcements for cellularized collagen-based vascular wall models: Influence of the processing technique on the mechanical and biological properties” N. Pien, D. Di Francesco, F. Copes, M. Bartolf-Kopp, V. Chausse, M. Pegueroles, T. Jüngst, F. Boccafoschi, C. De Schauwer, P. Dubrue, S. Van Vlierberghe and D. Mantovani, *Frontiers in Bioengineering and Biotechnology* (Q1, IF 4.3). DOI: 10.3389/fbioe.2023.1285565

2023 “Cardiac Differentiation Promotes Focal Adhesions Assembly through Vinculin Recruitment” F. Carton, S. Casarella, D. Di Francesco, E. Zanella, A. D’urso, L. Di Nunno, L. Fusaro, D. Cotella, M. Prat, A. Follenzi, F. Boccafoschi, *International Journal of Molecular Sciences* (Q1, IF 4.9). 24 2444. <https://doi.org/10.3390/ijms24032444>

2023 “Biological Biological Materials for Tissue-Engineered Vascular Grafts: Overview of Recent Advancements” D. Di Francesco, A. Pigliafreddo, S. Casarella, L. Di Nunno, D. Mantovani, F. Boccafosci, *Biomolecules* (Q1, IF 4.8). 12 1222.
<https://doi.org/10.3390/biom12091222>

2024 “Macrophage polarization guided by immunomodulatory hydrogels” D. Di Francesco, M. Talmon, F. Carton, L.G. Fresu, F. Boccafosci, *Hydrogels for Tissue Engineering and Regenerative Medicine. From Fundamentals to Applications*. ISBN 978-0-12-823948-3
<https://doi.org/10.1016/B978-0-12-823948-3.00020-8>.

2024 “Characterisation of Matrix-Bound Nanovesicles (MBVs) Isolated from Decellularised Bovine Pericardium: New Frontiers in Regenerative Medicine” D. Di Francesco, C. Di Varsavia, S. Casarella, E. Donetti, M. Manfredi, D. Mantovani, F. Boccafosci, *International Journal of Molecular Sciences* (Q1, IF 4.9). DOI: 10.3390/ijms25020740

2024 “Focal Adhesion’s Role in Cardiomyocytes Function: From Cardiomyogenesis to Mechanotransduction” S. Casarella, F. Ferla, D. Di Francesco, E. Canciani, M. Rizzi, F. Boccafosci, *Cells* (Q2, IF 5.1). DOI: 10.3390/cells13080664

2024 “Characterization of a decellularized pericardium extracellular matrix hydrogel for regenerative medicine: insights on animal-to-animal variability” D. Di Francesco, E. Marcello, S. Casarella, F. Copes, P. Chevallier, I. Carmagnola, D. Mantovani, F. Boccafosci, *Frontiers in Bioengineering and Biotechnology* (Q1, IF 4.3). DOI: 10.3389/fbioe.2024.1452965

2024 “Use of hydrogels in regenerative medicine: focus on mechanical properties” F. Carton, M. Rizzi, E. Canciani, G. Sieve, D. Di Francesco, S. Casarella, L. Di Nunno, F. Boccafosci, *International Journal of Molecular Sciences* (Q1, IF 4.9).
<https://doi.org/10.3390/ijms252111426>

2025 “Laminin-derived peptide drives the cardiomyogenic potential and cardiac cells functionality” S. Casarella, F. Ferla, D. Di Francesco, V. Pagani, C. Di Varsavia, I. Regano, F. Boccafosci, *Frontiers in Bioengineering and Biotechnology* (Q1, IF 4.3).
<https://doi.org/10.3389/fbioe.2025.1629412>

2025 “Electrospun textiles from decellularized bovine pericardium and polyvinyl alcohol (PVA) supporting blood coagulation: innovative approach in biomaterials for research purposes” L. Di Nunno, V. Pagani, E. Canciani, G. Ruocco, M. Spedicati, M. Talmon, L. Fusaro, D. Di Francesco, S. Casarella, M. Rizzi, F. Boccafosci, *Frontiers in Bioengineering and Biotechnology* (Q1, IF 4.3). <https://doi.org/10.3389/fbioe.2025.1539759>

2025 “Matrix bound nanovesicles: A great promise for TERM in less than a decade of research” *Matrix Biology* (Q1, IF 4.8). <https://doi.org/10.1016/j.matbio.2025.10.001>

Research track record

Scopus Author ID: 57211237869

Periodo 2019-2025

Published documents: 16

Scopus *h*-index: 9

ORCID: <https://orcid.org/0009-0003-4208-9672>

Conferences

2022 - VII CONGRESSO NAZIONALE SIMCRI-Società Italiana di Medicina e Chirurgia Rigenerativa Polispecialistica

Oral presentation “REGENERATIVE POTENTIAL OF AN EXTRACELLULAR MATRIX-DERIVED HYDROGEL FOR BIOMEDICAL APPLICATIONS”

Napoli, Italy

2024 – TERMIS 8TH WORLD CONGRESS

Oral presentation and Poster “Bioactive Matrix Bound Nanovesicles From Decellularized Bovine Pericardium For Regenerative Medicine Applications”

Seattle, USA

2024 – IX Congresso Nazionale SIMCRI

Oral presentation “Materiali innovative per la neovascolarizzazione”

Roma, Italy

2025 – 13th Symposium on Biologic Scaffolds for Regenerative Medicine

Oral presentation “Bioactive Matrix Bound Nanovesicles from Decellularized Bovine Pericardium for Tissue Regeneration”

California, USA

2025 – 34th Annual conference of the European Society for Biomaterials

Oral presentation “Angiogenic Matrix Bound Nanovesicles From Decellularized Bovine Pericardium For Tissue Regeneration”

Torino, Italy

2025 – X Congresso Nazionale SIMCRI

Oral presentation “Novel Matrix Bound Nanovesicles (MBVs) Guiding Therapeutic Angiogenesis”

Caserta, Italy

Awards

2022 – AIDO Award

The **UPO Alumni Association** establishes an award in memory of **Luciano Cervo**, aimed at recognizing academic excellence in the field of medicine. The award includes a prize of 500 Euro, given by the Università del Piemonte Orientale on the following bases:

- Having graduated between 01/01/2021 and 30/11/2021;
- Thesis topic on organ transplantation or regenerative medicine;
- Having graduated with a score higher than 99/110.

2024 – TheCell Travel Award

The Réseau de thérapie cellulaire, tissulaire et génique du Québec – ThéCell gives a prize for PhD students of CHUL. The award includes a prize of 700 CAD for the participation in international congresses, in which the students presents innovative results in the field of regenerative medicine.

2025 – Premio SIMCRI Giovani

The Società Italiana di Medicina e Chirurgia Rigenerativa Polispecialistica awards the **best oral presentations** of young researchers presented at X Congresso Nazionale SIMCRI. The award includes a prize of 1000 Euro.

2025 – Premio America Innovazione

The Fondazione Italy USA awards a recognition to the best italian innovative start-ups and SME. The awardees also win a scholarship for the participation in the Master program “Leadership per le relazioni internazionali e il made in Italy”.

Languages

Italian: Native language

English: C2 Level

French: Listening B2, Reading C1, Writing A2, Oral discussion: B1

Contacts

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