Curriculum vitae

Francesca Bortolotti

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24th August 1987

Italian

Education

2011- 2016 **PhD in Molecular Medicine**, Open University, UK

2009-2011 **Master in Functional Genomics,** Università degli Studi di Trieste (110/110 laude)

2010-2011 **Master de Sciences Technologie et Santé mention "Genetique"**- Magistere de Génétique, University Denis Diderot, Paris, France. Double Degree Diploma in collaboration with the University Paris-Descartes and the University Denis Diderot.

2006-2009 **Bachelor in Molecular Biology** -"Biologia e tecnologie cellulari e molecolari", Università degli Studi di Trieste (110/110 laude), Italy

Positions and Employment

2023- **Ricercatore a tempo determinato-RTDA**, Dipartimento di Scienze Mediche Chirurgiche e della Salute, University of Trieste, Italy. Novel RNA therapeutics for heart regeneration and protection

2018-2023 **Research Scientist**, Molecular Medicine Laboratory, ICGEB, Trieste. Supervision of in vivo screenings of AAV-libraries in models of degenerative disorders and development of cardioactive drugs as biotherapeutic tools for myocardial damage

2021-2022 **Scientific Consultant** for Forcefield Therapeutics, UK.

2020- 2022 **ASUGI post-doctoral fellowship**, Trieste. Modeling of genetic cardiomyopathies in animal model and iPSCs derived cardiomyocytes.

2016- 2018 **Post-Doc,** Molecular Medicine Laboratory, ICGEB, Trieste. Development of a novel in vivo screening platform based on the functional selection of AAV libraries in heart and muscle.

2015-Dec **Visiting scientist**, Murry Lab, University of Washington, Seattle, USA. Optimization of human ES-derived cardiomyocyte culture for heart repair and screening for the identification of novel soluble factor enhancing cell engraftment.

2011-2016 **ICGEB PhD student**, Trieste, Italy. Evaluation of the protective activity of stromal cells for cardiovascular disorders.

2007-2011 **Master Student**, Molecular Medicine Laboratory, ICGEB, Trieste, Italy.

2007-2009 **Internship-**Molecular and Cellular Technologies, Università degli Studi di Trieste, Italy

Honors and fundings

2024 **Runner up-Early Career Investigator Award**- ISHR Toulouse, France.

2024 **Top postdoctoral abstract Award** at the American Heart Association Meeting-AHA Chicago

2024 **Micro-Grants** for Early Career Investigator-University of Trieste

2021 **Best poster award**, ISHR Turin- European Meeting of the International Society for Heart Research.

2020 **Cardiostem Fellowship award**, ASUGI-Cardiology Department. Translational fellowship for the development of cardiomyopathy disease platform in animal model and iPSC CMs.

2019 **"Rizzo Fellowship"** granted from the Accademia Nazionale dei Lincei for translational research in Molecular Medicine.

2018 **ISHR-Servier Research Fellowship 2018**. Servier/European section of the International Society for Heart Research support a research project in cardiology with the aim to foster the integration of European cardiovascular research.

2018 **Travel Award** to attend the Frontiers in Cardiovascular Biology Meeting -FCVB in Wien, Austria.

2016 **Runner Up Prize** for the best poster presentation at the Heart Failure Association-HFA Winter Meeting, Les Diablerets, Swizerland

2015 **JCOM Masterclasses course**, SISSA, Trieste, Italy.

2014 **Best poster award** at the Meeting of the Società Italiana di Biofisica e Biologia Molecolare-SIBBM, Trento, Italy.

2013 **Travel Award** to attend the Annual meeting of the American Society of Gene and Cell therapy -ASGCT- Salt Lake City

2013 **"Ondina Barduzzi" Award** for the best Master Thesis of the Provincia di Trieste, Trieste

2011 **Open University PhD Fellowship**, UK

2010 **Erasmus scholarship-**Selected for the Double Diploma Course organized by the Università degli Studi di Trieste and the Universitè Paris Diderot.

Educational and Teaching Activities

2022-2025 Lecturer, Università degli studi di Trieste. **"Patologia generale**",Corso di Laurea "Medicina e chirurgia".

2023-2025 Lecturer, Università degli studi di Trieste**. "Epigenetica con Laboratorio**", Corso di Laurea "Genomica Funzionale.

2020-2021 Lecturer, Università degli studi di Trieste. **"Biotecnologie ricombinanti**", Corso di laurea "Tecnico di laboratorio biomedico".

2019 Organization of seminars on Molecular Medicine, Scuola di specializzazione in genetica Medica/ Farmacologia,

2020 Development of Scienziopolis-science board game about scientific institutions with researchers of the local scientific community. Presentation of the game at the "Notte dei ricercatori" 2020.

2018 Fame Lab 2018 -short scientific talks for the public.

2017-2018 "Teacher Training Certificate"-Percorso Formativo Insegnati-24 CFU.

Since 2013 Mentoring activity: PhD supervisor, master thesis supervisor; supervisor of undergraduate and guest researchers; laboratory activities for university students from the School of Medicine; Laboratory Summer Courses for secondary school students; collaboration to projects involving students performing experiments in a laboratory.

Since 2014 Reviewer activity: Reviewer for international journals in the fields of stem cell research and cardiovascular disorders (Circulation; PLOS ONE; Cell and Tissue Research; Scientific Reports, Immunology Letters).

2014-2020 Teacher and coordinator of the project “DIFFONDO” on molecular medicine by AIRH (Italian Association for Research, Prevention and Cure of Disabilities). Organization of seminars on molecular medicine and biology to high schools in Friuli Venezia Giulia reaching ~500 students per year.

Since 2011 Educational activities for the public. Organization of outreach activities and laboratory experience for students at the ICGEB. Organization of the ICGEB stand for Trieste Next, Open Day, Researchers’s Night; support for the “Science and the City conference”; laboratory activities for kids.

Patents

2024 US63/655,568, filed 3 Jun 2024. Provisional application directed to the use of the cardioprotectants in established heart disease

2019 Patent N. 1906052.4. Proteins with cardioprotective activity.

2020 Patent n N. 63/053,850. Compositions and methods for enhancing myocyte engraftment.

Scientific Activities

2025 Poster presentation at the European Gene and Cell Therapy (ESGCT) Meeting in Seville, Spain.

2025 Poster presentation at the International Meeting of the International Society for Heart Research in Nara, Japan.

2024 Speaker selected for the Early Career Investigator Award at the International Meeting of the International Society for Heart Research (ISHR-European Section) in Tolouse, France.

2024 Poster presentation at the American Heart Association Meeting in Chicago, USA.

2023 Poster presentation at the International Society for Heart Research meeting (ISHR) in Porto, Portugal.

2021 Short oral presentation at the International Society for Heart research ISHR meeting, Turin, Italy.

Poster presentation at the Autophagy Meeting, Cold Spring Harbour; USA.

2019 Invited speaker at the International Meeting of the International Society for Heart research -ISHR, Beijing, China.

2018 Invited speaker at ISHR European Meeting of the International Society for Heart Research, Amsterdam, The Netherlands.

Oral presentation at the Frontiers in cardiovascular Biology Meeting-FCVB, Wien, Austria.

2017 Speaker at the Leducq Meeting of the Network “Programming the failing heart to a regenerative state”, Utrecht, The Netherlands.

2016 Poster presentation at the Heart Failure Association Meeting- HFA, Firenze, Italy.

Speaker at the Leducq Meeting of the Network “Programming the failing heart to a regenerative state”, Oxford, UK.

Poster presentation the HFA Winter Meeting, Les Diableretes, Swizerland.

2015 JCOM Masterclasses "Communicating current research” SISSA, Trieste

Poster presentation at the International Society for Stem Cell Research-ISSCR, Stockholm, Sweden.

Speaker at the Leducq Meeting of the Network “Programming the failing heart to a regenerative state” Trieste, Italy.

2014 Poster presentation at the meeting of the Società Italiana di Biofisica e Biologia Molcolare-SIBBM, Trento, Italy

“Bioinformatics”Course Attendance at the ICGEB.

Poster presentation at the Keystone Meeting “Growth and Wasting in Heart and Skeletal muscle”, New Mexico (USA).

2013 ICGEB Workshop “Communicating your ideas”.

Poster presentation at the American Society for Gene and Cell therapy-ASGCT, Salt Lake City, Utah.

“Mouse Genetics; models for Human Diseases” Course, ICGEB, Italy.

2012 Frontiers in Cardiac and Vascular Regeneration, Trieste, Italy.

2011 Società Italiana di Biofisica e Biologia Molcolare-SIBBM, Trieste, Italy.

Selected Publications

Tomczyk M, Kraszewska I, Li G, Venditti L, Huntington J, Kit C W, **Bortolotti F,** Mura A, Sinagra G and Giacca M. Chordin-like-1 mRNA therapy for acute myocardial infarction. ***Circulation*** *2025 Dec 2;152(22):1586-1589.*

Angriman F, **Bortolotti F**, Perotto M, Artioli R, Radesich C, Paldino A, Collesi C, Zacchigna S, Sinagra G, Dal Ferro M. *Titin Cardiomyopathy, Emerging Evidence: More Than A Big Heart.* ***Curr Cardiol Rep.*** *2025 Dec 2;27(1):170.*

Amoiradaki K, Tomczyk M, Wang X, Cruz G, Velasco C, Zentilin L, **Bortolotti F**, Prieto C, Botnar RM, Giacca M, Phinikaridou A. *Molecular and functional MRI enables detection of cardiac fibrosis and evaluation of treatment response after chordin-like 1 gene therapy in myocardial infarction*. Theranostics. 2025 Aug 8;15(17):8706-8718. doi: 10.7150/thno.114459. PMID: 40963931; PMCID: PMC12439134.

Secco I, Backovic A, Tomczyk M, Mura A, Li G, **Bortolotti F**, Vodret S, Dal Ferro M, Chiavacci E, Zentilin L, Sinagra G, Zacchigna S, Mano M, Giacca M. Genetic tracing and topography of spontaneous and stimulated cardiac regeneration in mice. Nat Cardiovasc Res. 2025 Apr;4(4):397-411. doi: 10.1038/s44161-025-00623-3. Epub 2025 Mar 7. PMID: 40055464; PMCID: PMC11994457.

Cappelletto A, Alfì E, Volf N, Vu TVA, **Bortolotti F**, Ciucci G, Vodret S, Fantuz M, Perin M, Colliva A, Rozzi G, Rossi M, Ruozi G, Zentilin L, Vuerich R, Borin D, Lapasin R, Piazza S, Chiesa M, Lorizio D, Triboli L, Kumar S, Morello G, Tripodo C, Pinamonti M, Piperno GM, Benvenuti F, Rustighi A, Jo H, Piccolo S, Del Sal G, Carrer A, Giacca M, Zacchigna S. *EMID2 is a novel biotherapeutic for aggressive cancers identified by in vivo screening.* J Exp Clin Cancer Res. 2024 Jan 10;43(1):15. doi: 10.1186/s13046-023-02942-4. PMID: 38195652; PMCID: PMC10777502.

Paldino A, Dal Ferro M, Stolfo, Gandin I, Graw, Gigli M, Medo G, Gagno G, Zaffalon D, Castrichini M, Masè , Cannatà A, Brun F, Severini GM, Lenarduzzi S, Girotto G, Gasparini P, **Bortolotti F**, Giacca M, Zacchigna S, Marco Merlo M, Taylor M, Luisa Mestroni and Gianfranco

Sinagra. *Prognostic prediction of genotype versus phenotype in genetic cardiomyopathies*. J Am Coll Cardiol. 2022 Nov, 80 (21) 1981–1994

Ruozi G and **Bortolotti F**, Antonella Falcione, Valentina Martinelli, Simone Vodret, Luca Braga, Matteo Dal Ferro, Antonio Cannatà, Lorena Zentilin, Serena Zacchigna and Mauro Giacca. *Cardioprotective factors against myocardial infarction selected in vivo from an AAV secretome library*. Sci Transl Med. 2022 Aug 31;14(660):eabo0699. doi: 10.1126/scitranslmed.abo0699.

Gortan Cappellari G, Semolic A, Ruozi G, Barbetta D, **Bortolotti F**, Vinci P, Zanetti M, Mak RH, Garibotto G, Giacca M, Barazzoni R. *n-3 PUFA dietary lipid replacement normalizes muscle mitochondrial function and oxidative stress through enhanced tissue mitophagy and protects from muscle wasting in experimental kidney disease*. Metabolism. 2022 Aug;133:155242. doi: 10.1016/j.metabol.2022.155242. Epub 2022 Jun 21. PMID: 35750236.

Carai P, Ruozi G; Paye; Debing Y; **Bortolotti F**, Lecompte J, Zentilin L, Giacca M, Heyman, S. *AAV9-mediated functional screening for cardioprotective cytokines in Coxsackievirus-B3-induced myocarditis.* Sci Rep 12, 7304 (2022). https://doi.org/10.1038/s41598-022-11131-w

Bortolotti F, Ruozi G, Falcione A, Doimo S, Dal Ferro M, Lesizza P, Zentilin L, Banks, Zacchigna S,Giacca M. *In Vivo Functional Selection Identifies Cardiotrophin-1 as a Cardiac Engraftment Factor for Mesenchymal Stromal Cells*. CIRCULATIONAHA. 117.029003 2017.

Gortan Cappellari G, Semolic A, Ruozi G, Vinci P, Guarnieri G, **Bortolotti F,** Barbetta D, Zanetti M, Giacca M, Barazzoni R. *Unacylated ghrelin normalizes skeletal muscle oxidative stress and prevents muscle catabolism by enhancing tissue mitophagy in experimental chronic kidney disease*. FASEB J. 2017 Dec;31(12):5159-5171. doi: 10.1096/fj.201700126R. Epub 2017 Aug 4. PMID: 28778977.

Bortolotti F, Ukovich L, Razban V, Martinelli V, Ruozi G, Pelos B, Dore F, Giacca M, Zacchigna S. *In vivo therapeutic potential of mesenchymal stromal cells depends on the source and the isolation procedure.* Stem Cell Reports. 2015 Mar 10;4(3):332-9. doi: 10.1016/j.stemcr.2015.01.001. Epub 2015 Feb 5. PMID: 25660405; PMCID: PMC4375942.

Ruozi G, **Bortolotti F**, Falcione A, Dal Ferro M, Ukovich L, Macedo A, Zentilin L, Filigheddu N, Gortan Cappellari G, Baldini G, Zweyer M, Barazzoni R, Graziani A, Zacchigna S, Giacca M.

*AAV-mediated in vivo functional selection of tissue-protective factors against ischaemia.*Nat Commun 6, 7388 (2015). https://doi.org/10.1038/ncomms8388

Ruozi G; **Bortolotti F** and F Recchia. Cardiac effects of ghrelin and glucagon-like peptide-,1 in: *Endocrinology of the heart in health and disease*. Academic Press 2016

La sottoscritta, consapevole che – ai sensi dell'art. 76 del D.P.R. 445/2000 – le dichiarazioni mendaci, la falsità negli atti e l'uso di atti falsi sono puniti ai sensi del codice penale e delle leggi speciali, dichiara che le informazioni rispondono a verità. La sottoscritta in merito al trattamento dei dati personali esprime il proprio consenso al trattamento degli stessi nel rispetto delle finalità e modalità di cui al d.lgs. n. 196/2003.

Trieste, 08/01/2026