



## Sveva Bollini

Associate professor

- ✉ sveva.bollini@unige.it
- ☎ +39 010 555 8257
- ☎ +39 010 555 8394
- ☎ +39 010 353 50080

### *Education and training*

2020

#### **National qualification to be appointed Full Professor in Experimental Biology (05/F1)**

Italian Ministry of Education and Research (MIUR Bando ASN D.D. - IT)

2009

#### **PhD**

University of Padova - Padova - IT

2005

#### **Master of Science in Medical Biotechnology**

Summa cum Laude

University of Padova - Padova - IT

### *Academic experience*

2017 - ONGOING

#### **Associate Professor**

Università di Genova - Genova - IT

Comprehensive characterization of the human amniotic fluid stem cell secretome for myocardial regeneration

2014 - 2017

#### **Tenure Track Assistant Professor (Ricercatore Tempo Determinato Tipo B)**

Università di Genova Dipartimento di Medicina Sperimentale - Genova - IT

Analysis of the cardio protective potential of the human amniotic fluid stem cell secretome

2011 - 2013

#### **Post Doc Research Associate on a British Heart Foundation Programme Grant**

University of Oxford Dept. Physiology Anatomy and Genetics - Oxford - GB

Functional characterization of different subpopulation of resident epicardial derived progenitor cells in a preclinical murine model of myocardial infarction

2009 - 2011

**Post Doc Research Fellow on a British Heart Foundation Programme Grant**

UCL - University College London Institute of Child Health - London - GB  
Analysis of the regenerative potential of resident epicardial derived progenitor cells in a preclinical mouse model of myocardial infarction

2008 - 2009

**Visiting PhD Student**

UCL - University College London Institute of Child Health - London - GB  
Analysis of the cardiomyogenic regenerative potential of fetal stem cells

2006 - 2009

**PhD Student**

Università di Padova - Padova - IT  
Analysis of the cardiomyogenic regenerative potential of human fetal stem cells

***Language skills***

**English**

Proficient  
CAE Advanced  
English Certificate

***Teaching activity***

2016 – 2019:

Member of the Institute of Higher Education (IANUA-ISSUGE) of University of Genova, Italy in charge of arranging seminars and lectures given by Italian experts in preclinical and clinical cardiac regenerative medicine for undergraduate medical and biotechnology students.

2014 - present:

Lecturer for the following classes/courses at the University of Genova, Italy:  
- Biology and Basic Genetics for the Bachelor of Science in Nursing, Physiotherapy and in Physical Education;  
- Stem Cell Biology and Regenerative Medicine; Animal Models in Biotechnology, Master of Science in Medical-Pharmaceutical Biotechnology.

***Postgraduate research and teaching activity***

**Supervision of PhD students, residents and post-doctoral fellows**

- 2018-present: Supervisor of Ms. Ambra Costa, PhD student in Biotechnology for Translational Medicine, XXXIV Cycle, Experimental Medicine Department, University of Genova, Genova, Italy.

- 2019-2021: Supervisor of Ms. Sara Turturo, Master of Science student in Medical Biotechnology, University of Genova
- 2017-2018: Co-Supervisor of Ms. Francesca Campagnoli, PhD student in Biotechnology for Translational Medicine, XXXIII Cycle, Experimental Medicine Department, University of Genova, Genova, Italy.
- 2017-2018: Supervisor of Ms. Ambra Costa, Master of Science student in Medical Biotechnology, University of Genova;
- 2015-2017: Supervisor of Ms. Carolina Balbi, PhD student in Biotechnology for Translational Medicine, XXX Cycle Experimental Medicine Department, University of Genova, Genova, Italy.
- 2014-2017: Supervisor of Mr. Edoardo Foscoli, Bachelor student in Biotechnology, University of Genova, Genova, Italy;
- 2006-2007: Co-Supervisor of Ms. Elisa Bertacco for her MSc. thesis from the Biology Department of the University of Padova, Padova, Italy.

• 2006-2007:

Co-Supervisor of Ms. Sara Pizzato for her MSc. thesis from the Chemical Engineering Department of the University of Padova, Padova, Italy.

### **PhD committees membership**

2015 - present:

Member and Scientific Secretary of the PhD School in Biotechnology in Translational Medicine, University of Genova, Italy.

### **Postgraduate (PhD) teaching activity**

2018- present: Lecturer for the class: 'How to present data and results to the scientific community' as part of the PhD Programme in Biotechnology in Translational Medicine, from the Department of Experimental Medicine, University of Genova, Genova, Italy.

### ***Research interests***

1. Characterization of the cardiac regenerative paracrine potential of human amniotic fluid stem cells (hAFSC) isolated from leftover samples of II trimester amniotic fluid obtained via amniocentesis prenatal screening or from III trimester clinical waste amniotic fluid from scheduled C-section delivery (perinatal hAFS) in preclinical rodent models of myocardial infarction and drug-induced cardiotoxicity;
2. Comprehensive profiling of fetal versus perinatal hAFSC secretome fractions (including extracellular vesicles - EVs)
3. Analysis of the myocardial renewal potential of hAFSC secretome in extending the neonatal regenerative potential up to adulthood via functional restoration of resident cardiomyocyte proliferation. Bioengineering of hAFSC-EVs for implementing their myocardial-specific targeting.
4. Biological and molecular profile of extracellular vesicles from II trimester human amniotic fluid (hAF-EV) as informative diagnostic markers

## **Grants**

2019 - 2021

### **CARDIO-STAR Triggering CARDIOmyocyte renewal by harnessing the STem cell pARacrine potential**

University of Genova 'Curiosity Driven' Starting Grant - IT  
59.500 Euro - Pricipal investigator

2014 - 2017

### **Analysis of the cardioprotective potential of human amniotic fluid stem cells**

Italian Ministry of University and Research (MIUR) - Bando 2012 Rita Levi Montalcini - IT  
247.273 Euro - Pricipal investigator

## **Editorial activity**

- Junior Editorial Board Member of Extracellular Vesicles & Nucleic Acids.
- Guest Editor for the Special Issue: 'Exosomes as Drug Carriers for Cancer Therapy', in the *Pharmaceutics* journal
- Section Editor for the section "Stem cell therapy" in the *Current Stem Cell Research & Therapy* journal
- Member of the Editorial Board of *European Journal of Extracellular Vesicles (EJEV)*.
- Member of the Editorial Board of *Pharmaceutics*.
- Guest Editor of the Special Issue "Exosomes as Drug Carriers" in *Pharmaceutics* journal
- Guest Editor for the Research Topic "Rejuvenation of Multiple Tissues: What Works and What Does Not?" in *Frontiers in Cell and Developmental Biology Molecular Medicine*.
- Guest Editor for the Research Topic "Novel Strategies to Repair the Infarcted Heart?" and "Volume II Novel Strategies to Repair the Infarcted Heart?" in *Frontiers in Cardiovascular Medicine Cardiovascular Biologics and Regenerative Medicine*.
- Associate Editor of the Stem Cell Research section for *Frontiers in Cell and Developmental Biology*, *Frontiers in Genetics*, *Frontiers in Oncology*.
- Reviewer for several international peer-reviewed journals, including the *Journal of Molecular and Cellular Cardiology*, *PLOSOne*, *Placenta*, *Stem Cells Translational Medicine*, *Pediatric Research*, *Frontiers in Bioengineering and Biotechnology*, section *Tissue Engineering and Regenerative Medicine*, *Cells*, etc. etc.
- Author of 53 peer-reviewed articles published on international journals and of 2 book chapters; H-index (from [www.scopus.com](http://www.scopus.com), Author ID: 22933852600): 26. Total Citations: 2416.

## *Assignments abroad*

14/07/2021: **External Co-Examiner** for the Research Degree PhD Candidate Miss C. McQuitty at King's College London, London, UK

31/03/2020: **External Co-Examiner** for the Research Degree PhD Candidate Miss E. Antoniadou at UCL- University College London, London, UK

01/10/11-15/03/13: **Post Doc Research Fellow, Department of Physiology, Anatomy and Genetics, University of Oxford**, Oxford OX1 3PT, UK. Project title: Lineage Characterization of Adult Epicardium-Derived Progenitor Cells: Stemness, Multipotency and Contributions to Cardiovascular and Endogenous Repair.

07/01/09-30/09/11: **Post Doc Research Fellow, Molecular Medicine Unit, UCL- Institute of Child Health, London WC1N 1EH**, UK. Project title: Lineage Characterization of Adult Epicardium-Derived Progenitor Cells: Stemness, Multipotency and Contributions to Cardiovascular and Endogenous Repair.

## *Other professional activities*

### **Awards and Grants Funded**

December 2018:

Curiosity Driven Under 40 Starting Grant from the University of Genova, with a project entitled: **“TRIGGERING CARDIOMYOCYTE RENEWAL BY HARNESSING STEM CELL PARACRINE POTENTIAL (CARDIOSTAR)”** funded with Euro 59.500, from 28.01.2019 to 27.01.2021. Role: **PI**.

September 2016:

Travel grant as selected speaker to attend the 2016 Stem Cell Conference and IV International Placenta Stem Cell Society (IPLASS) Meeting 'New Frontiers in Stem Cell Basic Research, Translation and Clinical Application' in Riyadh, Saudi Arabia, 19-21/09/2016, funded with 2000 SAR (Saudi Riyal).  
February 2014:

**Young Investigator Award and Assistant Professor appointment by the Italian Ministry of University and Research (MIUR) as part of the “2012 Rita Levi Montalcini Programme for Young Researchers”** with a project on the analysis of the cardioprotective potential of human amniotic fluid stem cells funded with 247.273 Euros for 3 years from 15.09.2014 to 14.09.2017. Role: **PI**.

September 2014:

Best Oral Presentation at the III IPLASS meeting, Granada, Spain, 10-12/09/2014 with the talk “The Regenerative Potential of the Amniotic Fluid Stem Cell Secretome.”

### **Meeting and Scientific Committee Organization**

**Member of the Scientific Committee** for the 3° National Forum of the Italian Society of Cardiovascular Research (SIRC - Società Italiana di Ricerca Cardiovascolare): “New Roads in Cardiovascular Research” (<http://www.sirc-cardio.it/attivita/forum-2016>) at University of Genova, Genova June 2016, Italy.

**Member of the Congress Programm Committee (CPC)** as representative of the European Society of Cardiology (ESC) Scientists of Tomorrow, for the 2019 ESC annual meeting, 31/08-04/09/2021 Paris, France.

### **Other Responsibilities**

2019 - present: **Invited Member** of the International Society for Cell & Gene Therapy Cardiovascular Committee

2019 - present: **Elected Member** of the European Society of Cardiology Scientists of Tomorrow (ESC SoT) Nucleus

2019 - present: **Member of the Board of Directors** and **Founder member** of Stem Cell Research Italy

2018 - present: **Founder member** of the Italian Society for Extracellular Vesicles (EVIIta)

2018 - present: **Member of the Boards of Directors** of the International Placenta Stem Cell Society (IPLASS), from 2018.

2018 - present: **Member of the COST Action** "*International Network for Translating Research on Perinatal Derivatives into Therapeutic Approaches (SPRINT) CA17116*" (<https://www.sprint-cost.org>), Working Group 2: Preclinical Studies and Models, from 2018

2018 – present: **Member of the Research Committee of the Department of Experimental Medicine**, University of Genova.

2017 - present: Member of University of Genova Working Group for promoting collaborative interaction with the Life Science Committee in Regione Liguria.

2016- present: External Reviewer for the H2020 Programme Future and Emerging Technologies (FET) Open and Pro-Active Initiative.

2015: External Expert for the European Cooperation in Science and Technology (COST) programme.

Member of the following scientific societies: European Society of Cardiology (ESC), Perinatal Stem Cell Society, International PLAcenta Stem cell Society (IPLASS), Italian Federation of Cardiology (FIC or SIC, Società Italiana di Cardiologia), Italian Society of Cardiovascular Research (SIRC, Società Italiana di Ricerca Cardiovascolare), Stem Cell Research Italy, Italian Society of Mesenchymal Stem Cells (GISM, Gruppo Italiano Staminali Mesenchimali), Italian Society for Biology and Genetics (AIBG, Associazione Italiana Biologia e Genetica), International Society of Extracellular Vesicles (ISEV).