



PERSONAL INFORMATION

Name **SVEVA BOLLINI**

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Work Address Regenerative Medicine Laboratory, Dept. of Experimental Medicine (DIMES), University of Genova, L.go R. Benzi 10, 16132 Genova, Italy.

Country Italian

Date of Birth 15th June 1980

EDUCATION

20/03/2009: PhD from the Pediatric Department, University of Padova, Padova, Italy. Dissertation title: *Cardiomyogenic Potential of Amniotic Fluid Stem Cells as a New Tool for Cell-Based Cardiac Tissue Engineering*. Supervisors: Dr. Paolo De Coppi and Prof. Chiara Messina, Pediatric Department, University of Padova, Padova, Italy.

06/04/2005: BSc and MSc in Medical Biotechnology Summa Cum Laude, Faculty of Medicine, University of Padova, Italy. Thesis Title: *Cardiomyocytes and Stem Cells: Fake or Reality? Role of Amniotic Fluid and Bone Marrow Mesenchymal Stem Cells in Cardiomyocyte Differentiation In Vitro*. Supervisors: Dr. Paolo De Coppi and Prof. Saverio Sartore, University of Padova, Padova, Italy.

CURRENT POSITION

15/09/2014 - present: **Assistant Professor / Research Lecturer** at the Dept. of Experimental Medicine, University of Genova, Genova, Italy. Project: *Analysis of the regenerative potential of the secretome and the exosomes of human amniotic fluid stem cells for cardioprotection and tissue regeneration*.

PREVIOUS POSITIONS

16/03/13-14/09/2014: **Post Doc Research Fellow** in the Regenerative Medicine Laboratory, Dept. of Experimental Medicine, University of Genova and IRCCS AOU San Martino-IST, National Institute for Cancer Research, Genova, Italy. Project: *Analysis of amniotic fluid stem cell secretome for cardiac regeneration*.

01/10/11-15/03/13: **Post Doc Research Fellow**, Department of Physiology, Anatomy and Genetics, University of Oxford, Oxford OX1 3PT, UK. Project: *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: *Lineage Characterization of Adult Epicardium-Derived Progenitor Cells: Stemness, Multipotency and Contributions to Cardiovascular and Endogenous Repair.*
- 11/01/08-31/12/08: **Visiting PhD student**, Surgery Unit, University College London - Institute of Child Health and Great Ormond Street Hospital, London WC1N 1EH, UK. *Characterisation of the Amniotic Fluid Stem Cells Potential for Cardiac Cell Therapy and Cardiac Tissue Engineering.*
- 01/01/06-10/01/08: **PhD student**, at the Pediatric Department, University of Padova, Italy. Project: *Cardiomyogenic Potential of Amniotic Fluid Stem Cells as a New Tool for Cell-Based Cardiac Tissue Engineering.*
- 01/05/05-31/12/05: **Research Fellow**, at the Pediatric Department, University of Padova, Italy. Project: *Characterisation of the Human And Rat Amniotic Fluid Stem Cells.*
- 08/03/04-06/04/05: **Undergraduate Student** at the Stem Cell Processing Laboratory, Pediatric Department, University of Padova, Italy. Project: *Analysis of the in vitro cardiomyocyte differentiation potential of amniotic fluid stem cells.*

SCIENTIFIC EXPERTISE ---

Cell and Molecular Biology:

Extensive familiarity with primary culture of cells (neonatal rodent cardiomyocytes) and with stem cell biology (adult and fetal stem cell and cardiac progenitor cell isolation and culture), with immunohistology techniques, confocal microscopy, flow cytometry (CyAn analyzer, Summit and FlowJo softwares), molecular biology methods (RNA and DNA isolation, RT-PCR and real time qRT-PCR) and with 2D-3D biocompatible scaffolds for stem cell differentiation and tissue engineering applications.

Animal Procedures:

Extensive familiarity with surgical procedures in rodents (e.g. amniocentesis, cardiovascular surgery).

Languages:

Fluent English: Cambridge ESOL Certificate in Advanced English (CAE) achieved in June 2008.

OTHER RESPONSABILITIES ---

- Reviewer for international peer-reviewed journals such as the Journal of Molecular and Cellular Cardiology e Stem Cells Translational Medicine.
- External Expert for the European Cooperation in Science and Technology (COST) programme.
- External Reviewer for the H2020 Future and Emerging Technologies (FET) Proactive Initiative.
- Member of the following scientific societies: *European Society of Cardiology (ESC), Perinatal Stem Cell Society, International PLAcenta Stem cell Society (IPLASS), International Society for Stem Cell Research (ISSCR), Italian Society of Cardiology (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), International Society of Extracellular Vesicles (ISEV), Italian Cell Biology and Differentiation Society (ABCD Associazione di Biologia Cellulare e del Differenziamento).*

SUPERVISION of UNDERGRADUATE and PhD STUDENTS ---

- 2015-present: Supervisor of Ms. Carolina Balbi, PhD student, Experimental Medicine Department, University of

Genova, Genova, Italy.

- 2014-present: Supervisor of Mr. Edoardo Foscoli, BSc. student in Biotechnology, University of Genova, Genova, Italy.
- 2014: Supervisor of Ms. Stefania Crivellari, PhD student, Experimental Medicine Department, University of Genova, Genova, Italy.
- 2012-2013: Tutor of Ms. Megan Masters, PhD student, Marie Curie Early Stage Research Fellow, Department of Physiology, Anatomy and Genetics, University of Oxford, Oxford, UK.
- 2009-2010: Tutor of Ms. Gemma Balmer, Wellcome Trust PhD student at Molecular Medicine Unit, Institute of Child Health, University College London, London, UK.
- 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.

TEACHING ACTIVITIES AND INSTITUTIONAL RESPONSABILITIES ---

2015 - present: Member of the Committee of the PhD School in Biotechnology and Translational Medicine / University of Genova / Italy.

2014 - present: Assistant Professor /Research Lecturer in Basic Biology and Genetics (57736), Stem Cell Biology (80818), Regenerative Medicine and Tissue Engineering, University of Genova (86913), Italy.

AWARDS and GRANTS FUNDED ---

July 2015: Bando Finalizzata "Progetto Giovani Ricercatori 2014" from the Italian Ministry of Health for the research project "The Stem cell sEcretome for doxorubicin-induced Cardiomyopathy REgeneraTion (SECRET)", funded with 339.508 Euros. Role: **Key Personnel** in the PI unit.

February 2014: Young Investigator Award and Research Lecturer/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 research project on the analysis of the cardiac regenerative potential of the human amniotic fluid stem cell secretome funded with 247.273 Euros for 3 years from 15.09.2014 to 14.09.2017. Role: **PI**

January 2014: National Academic Qualification as Associate Professor in Applied Biology (05/F1-Bio/13)

PUBLICATIONS IN INTERNATIONAL PEER-REVIEWED JOURNALS ---

H-index (source: www.scopus.com, Author ID: 22933852600, <http://orcid.org/0000-0003-1076-0823>): **12**. Total I.F.: **173.23**, average I.F.: **8.24**. Total Citations (excluding self-citation of all authors): **683**.

1. Altieri P, Barisione C, Lazzarini E, Garuti A, Bezante GP, Canepa M, Spallarossa P, Tocchetti CG, **Bollini S**, Brunelli C, Ameri P. Testosterone Antagonizes Doxorubicin-Induced Senescence of Cardiomyocytes. *J Am Heart Assoc*. 2016;5(1).
2. **Bollini S**, Riley PR, Smart N. Thymosin β 4: multiple functions in protection, repair and regeneration of the mammalian heart. *Expert Opin Biol Ther*. 2015 Jul;15 Suppl 1:163-74.
3. Klotz L, Norman S, Vieira JM, Masters M, Rohling M, Dubé KN, **Bollini S**, Matsuzaki F, Carr CA, Riley PR. *Cardiac lymphatics are heterogeneous in origin and respond to injury*. *Nature*. 2015 Jun 4;522(7554):62-7.
4. Balmer GM*, **Bollini S***, Dubé KN, Martinez-Barbera JP, Williams O, Riley PR. *Dynamic haematopoietic cell contribution to the developing and adult epicardium*. *Nat Commun*. 2014 Jun 6;5:4054. * **Joint first authorship**.
5. **Bollini S**, Vieira JM, Howard S, Dubé KN, Balmer GM, Smart N, Riley PR. *Re-activated adult epicardial*

progenitor cells are a heterogeneous population molecularly distinct from their embryonic counterparts. Stem Cells Dev. 2014 Aug 1;23(15):1719-30.

6. **Bollini S**, Gentili C, Tasso R and Cancedda R. *The Regenerative Role of the Fetal and Adult Stem Cell Secretome.* J. Clin. Med. 2013, 2(4), 302-327; doi:10.3390/jcm2040302.
7. Evans MA, Smart N, Dubé KN, **Bollini S**, Clark JE, Evans HG, Taams LS, Richardson R, Lévesque M, Martin P, Mills K, Riegler J, Price AN, Lythgoe MF, Riley PR. *Thymosin β 4-sulfoxide attenuates inflammatory cell infiltration and promotes cardiac wound healing.* Nat Commun. 2013;4:2081. doi: 10.1038/ncomms3081.
8. Zani A, Cananzi M, Fascetti-Leon F, Lauriti G, Smith VV, **Bollini S**, Ghionzoli M, D'Arrigo A, Pozzobon M, Piccoli M, Hicks A, Wells J, Siow B, Sebire NJ, Bishop C, Leon A, Atala A, Lythgoe MF, Pierro A, Eaton S, De Coppi P. *Amniotic fluid stem cells improve survival and enhance repair of damaged intestine in necrotising enterocolitis via a COX-2 dependent mechanism.* Gut. 2013 Mar 24. [Epub ahead of print]
9. Smart N, **Bollini S**, Dubé KN, Vieira JM, Zhou B, Riegler J, Price AN, Lythgoe MF, Davidson S, Yellon D, Pu WT, Riley PR. *Myocardial regeneration: expanding the repertoire of thymosin β 4 in the ischemic heart.* Ann N Y Acad Sci. 2012 Oct;1269(1):92-101.
10. Dubé KN, **Bollini S**, Smart N, Riley PR. *Thymosin β 4 Protein Therapy for Cardiac Repair.* Curr Pharm Des. 2012;18(6):799-806.
11. Smart N*, **Bollini S***, Dubé KN, Vieira JM, Zhou B, Riegler J, Price AN, Lythgoe MF, Davidson S, Yellon D, Pu WT and Riley PR. *De novo cardiomyocytes from within the activated adult heart after injury.* Nature. 2011; 474(7353): 640-4. * **Joint first authorship.**
12. **Bollini S**, Cheung KK, Riegler J, Dong X, Smart N, Ghionzoli M, Loukogeorgakis SP, Maghsoudlou P, Dubé KN, Riley PR, Lythgoe MF, De Coppi P. *Amniotic Fluid Stem Cells Are Cardioprotective Following Acute Myocardial Infarction.* Stem Cell and Development. 2011; 20(11):1985-94.
13. **Bollini S**, Pozzobon M, Nobles M, Riegler J, Dong X, Piccoli M, Chiavegato A, Price AN, Ghionzoli M, Cheung KK, Cabrelle A, O'Mahoney PR, Cozzi E, Sartore S, Tinker A, Lythgoe MF, De Coppi P. *In Vitro and In Vivo Cardiomyogenic Differentiation of Amniotic Fluid Stem Cells.* Stem Cell Rev. 2011;7(2): 364.
14. Shaw SS, **Bollini S**, Abi Nader K, Gastadello A, Mehta V, Filppi E, Cananzi M, Gasper HB, Qasim W, De Coppi P, David AL. *Autologous transplantation of amniotic fluid derived mesenchymal stem cells into sheep fetuses.* Cell Transplant. 2011;20(7):1015-31.
15. **Bollini S**, Smart N, Riley PR. *Resident cardiac progenitor cells: at the heart of regeneration.* J Mol Cell Cardiol. 2011;50(2):296-303.
16. Pozzobon M, **Bollini S**, Iop L, De Gaspari P, Chiavegato A, Rossi CA, Giuliani S, Fascetti Leon F, Elvassore N, Sartore S, De Coppi P. *Human bone marrow-derived CD133(+) cells delivered to a collagen patch on cryoinjured rat heart promote angiogenesis and arteriogenesis.* Cell Transplant. 2010;19(10):1247-60.
17. Cimetta E, Pizzato S, **Bollini S**, Serena E, De Coppi P, Elvassore N. *Production of arrays of cardiac and skeletal muscle myofibers by micropatterning techniques on a soft substrate.* Biomed Microdevices. 2009;11(2):389-400.
18. Pozzobon M, Piccoli M, Ditadi A, **Bollini S**, Destro R, André-Schmutz I, Masiero L, Lenzini E, Zanesco L, Petrelli L, Cavazzana-Calvo M, Gazzola MV, De Coppi P. *Mesenchymal stromal cells can be derived from bone marrow CD133+ cells: implications for therapy.* Stem Cells Dev. 2009;18(3):497-510.
19. Iop L, Chiavegato A, Callegari A, **Bollini S**, Piccoli M, Pozzobon M, Rossi CA, Calamelli S, Chiavegato D, Gerosa G, De Coppi P, Sartore S. *Different cardiovascular potential of adult- and fetal-type mesenchymal stem cells in a rat model of heart cryoinjury.* Cell Transplant. 2008;17(6):679-94.
20. Callegari A, **Bollini S**, Iop L, Chiavegato A, Torregrossa G, Pozzobon M, Gerosa G, De Coppi P, Elvassore N, Sartore S. *Neovascularization induced by porous collagen scaffold implanted on intact and cryoinjured rat hearts.* Biomaterials. 2007;28(36):5449-61.
21. Chiavegato A, **Bollini S**, Pozzobon M, Callegari A, Gasparotto L, Taiani J, Piccoli M, Lenzini E, Gerosa G, Vendramin I, Cozzi E, Angelini A, Iop L, Zanon GF, Atala A, De Coppi P, Sartore S. *Human amniotic fluid-derived stem cells are rejected after transplantation in the myocardium of normal, ischemic, immuno-suppressed or immuno-deficient rat.* J Mol Cell Cardiol. 2007;42(4):746-59.

CONTRIBUTION TO BOOK and BOOK CHAPTERS

Bollini S, Pozzobon M, Smart N and De Coppi P. *Amniotic Fluid Stem Cells for Cardiac Regeneration*. Book chapter as part of *Perinatal Stem Cells*, Editor: Atala A; Associate Editor: Murphy SV; Springer Science+Business Media New York 2014. DOI 10.1007/978-1-4939-1118-9_1.

As of 18th May 2016,
Sincerely,

A handwritten signature in black ink that reads "Sergio Bollini". The signature is written in a cursive style with a large, prominent 'S' at the beginning.