

Maria Paola Santini, PhD

Ricercatore Docente Tenure-Track (Tenure-Track Assistant Professor) and Adjunct Assistant Professor

(Visa status: Green card holder)

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EDUCATION AND TRAINING

- 2014 – 2019** **Leducq funded Postdoctoral fellow**
Icahn School of Medicine at Mount Sinai, Cardiovascular Research Center
NY, USA
- 2010- 2013** **Affiliated Senior Research Fellow**
Magdi Yacoub Institute, Heart Science Center, Harefield, UK
- 2007- 2013** **British Heart Foundation funded Postdoctoral Fellow**
National Heart and Lung Institute, Imperial College London, London, UK
- 2001 – 2005** **Doctor of Philosophy, PhD in Molecular Biology, Magna cum Laude**
European Molecular Biology Laboratories, University of Heidelberg,
Heidelberg, DE
Supervisor: Prof. Nadia Rosenthal
Thesis Link <https://archiv.ub.uni-heidelberg.de/volltextserver/7012/>
- 1999-2001** **Associate Researcher**
Cutaneous Biology Research Centre, Mass General Hospital, Harvard Medical
School, Boston, USA
- 1997-1999** **Associate Researcher**
Department of Dermatology, University of Rochester, Rochester, NY, USA
- 1991- 1997** **Bachelor of Science**
University of Rome La Sapienza, Rome, Italy
Major: Biotechnology, Minor: Molecular Biology
Supervisor: Prof. Fabio Virgili
GPA: 104/110

ACADEMIC APPOINTMENTS

- 2024- Present** **Tenure-Track Assistant Professor (Ricercatore-Docente Tenure Track)**
University of Pavia, Department of Molecular Medicine, Pavia, Italy

- 2024-Present** **Adjunct Assistant Professor of Medicine**
Icahn School of Medicine at Mount Sinai, Division of Nephrology, NY, USA
- 2022-2024** **Assistant Professor of Medicine**
Icahn School of Medicine at Mount Sinai, Division of Nephrology, NY, USA
- 2019- 2022** **Instructor of Medicine**
Icahn School of Medicine at Mount Sinai, Cardiovascular Research Center, NY, USA

QUALIFICATIONS AND CERTIFICATIONS

- 2022-2032** National Italian Scientific Qualification as Associate Professor of Applied Biology (Ministerial Decree # 589/2021)

RESEARCH AND SCHOLARLY ACTIVITIES

Santini's laboratory investigates the underlying molecular and cellular events that contribute to the development and progression of multiorgan fibrosis in cardiovascular ischemic diseases, vascular remodeling, aging and kidney nephrotoxicity. We defined an experimental platform by comparing the divergent and convergent signaling pathways between regenerating and non-regenerating organs that will elicit post-mitotic parenchymal tissue regeneration. Using gene therapies, *in situ* modulation of specific cell populations, and advanced genomic technologies, we discovered the potential therapeutic function of the insulin-like growth factor 1 isoforms, the spatiotemporal distribution underlying the function of tyrosine kinase receptors, and the dichotomous role of PDGFR α populations during diseases. Using adoptive transfer methodologies, we also discovered the potential of stromal cell replacement to relent senescence and induce revascularization. The long-term objective of this laboratory is to identify relevant common targets for the treatment of fibrotic diseases and aging. Our methodologies combine cell culture, gene transfer using AAVs, heart, skeletal muscle and kidney imaging and function measurements, network systems analyses, experimental models of heart, kidney and skeletal muscle diseases, and site directed mutagenesis. Our laboratory promotes inclusiveness and implement diversity by employing trainees from under-represented communities and by teaching a culture of humility and equitable values.

RESEARCH FUNDING

1. ACTIVE RESEARCH SUPPORT

- 2024-** Research Excellence Ministerial Fund Award
PI, Department of Molecular Medicine, University of Pavia
Total support 100,000 Euros

2. PAST RESEARCH SUPPORT

- 2022-2025** Stromal Cardiac Cells: Role in fibrosis and tissue regeneration
PI, AHA, Career Development Award, 926672
Total support \$231,000

Note: resigned in August 2024 because moving to EU as Tenure-Track Assistant Professor

- 2022-2024** Biomechanical drivers of cystogenesis
Co-I, NIH/NIDDK, 1R01DK131047
Total cost by IC \$583,428
- 2022-2024** Mechanosensitive determinants of podocytes physiology
Co-I, NIH/NIDDK, 1R01DK118222
Total cost by IC \$415,158
- 2022-2024** Plasminogen in glomerular disease progression
Co-I, NIH/NIDDK, 1R01DK126477
Total cost by IC \$533,918
- 2020-2021** Therapeutic Mechanisms of Cardiac Progenitors in Ischemic Cardiomyopathy
Co-I, NIH/NHLBI, R01HL135093
Total cost by IC \$840,689
- 2018-2020** Toward Therapeutic Manipulation of Endothelial to Mesenchymal Transition
Postdoctoral Fellow, NIH/NHLBI 5R01HL135093
Total cost by IC \$423,750
- 2013-2018** Cellular and Molecular Targets to Promote Therapeutic Cardiac Regeneration
Postdoctoral Fellow, Leducq Foundation
Total support \$6,000,000
- 2010 – 2013** mIGF-1 and embryonic stem cells
PI, The Magdi Yacoub Institute fellow support # HSC24509
Total support 30,000 GBP
- 2010-2013** Regeneration of the heart with cell and gene therapy
Named Postdoctoral Fellow, Project Grant # PG/08/111/26226, British Heart Foundation (BHF)
Total support 225,890 GBP
- 2009 – 2012** SGK1 and 3 in IGF-1 signaling and cardiac repair.
Co-PI, Project Grant # PG/10/019, British Heart Foundation (BHF)
Total support 257,456 GBP

3. RESUBMISSION/SUBMISSION

- 2025-2028** Control of fibrotic response in cardiovascular diseases
NIH/NHBLI R01, PI
Received a 48%. Reviewers asked for an ortholog Dre/Rox-Cre/Lox murine transgenic systems
- 2025-2028** Defining the therapeutic importance of IGF-1 splice variants
PI, AHA Transformational Project Award

Received a 28%. Reviewers asked to test AAV-IGF-1Ea efficacy after TAC

ORIGINAL PUBLICATIONS

Theses

May 2005 **PhD theses submitted to University of Heidelberg, Heidelberg, Germany**
mIGF-1 regulates heart physiology and induces complete regeneration of infarcted myocardial tissue

1991-1997 **BSc theses submitted to University of Rome, Rome, Italy**
Overexpression of the proto-oncogene bcl-2 modulates the response to oxidative stress in human keratinocyte culture

Manuscripts in preparation

- i) Nuclear localization of PDGFR α Tyrosine Kinase and supplementation of regenerative molecules control the balance between fibrosis and revascularization mechanisms of mesenchymal stromal cells to myocardial ischemia. **Maria Paola Santini**, Kiyotake Ishikawa, Lior Zangi, Sheongun Yoon, Evren Azeloglu. (**Corresponding and senior author**). To submit to Circulation
- ii) Integrative systems biology analyses showed calcineurin inhibitors-mediated control of human podocyte biophysical and mechanical functions. Anthony Mendoza, Jakob Wright, Jonathan Haydack, Anika Hudson, Jenny Wong, Linda M. Rehaume, Kirk N. Campbell, **Maria Paola Santini**, Evren U. Azeloglu (**Corresponding and senior author**). To submit to PNAS

Original Peer- Reviewed Manuscripts and Reviews

1. Laura Lecce, Yang Xu, Bhargavi V'Gangula, Nirupama Chandel, Venu Pothula, Axelle Caudrillier, **Maria Paola Santini**, Delaine K. Ceholski, Przemek A. Gorski, Valentina d'Escamard, Simon Koplev, Martin Mæng Bjørklund, Johan L.M. Björkegren, Manfred Boehm, Jacob Fog Bentzon, Valentin Fuster, Ha Won Kim, Neal L. Weintraub, Andrew H. Baker, Emily Bernstein, Jason C Kovacic. Histone deacetylase 9 promotes endothelial to mesenchymal transition and an unfavorable atherosclerotic plaque phenotype. *The Journal of Clinical Investigation*, 2021, Aug 2; 131(15):e131178. doi: 10.1172/JCI131178.
2. Keerat Kaur, Yoav Hadas, Ann Anu Kurian, Magdalena M. Żak, Jimeen Yoo, Asharee Mahmood, Hanna Girard, Rinat Komargodski, Toshiro Io, **Maria Paola Santini**, Nishat Sultana, Mohammad Tofael Kabir Sharkar, Ajit Magadam, Anthony Fargnoli, Seonghun Yoon, Elena Chepurko, Vadim Chepurko, Efrat Eliyahu, Dalila Pinto, Djamel Lebeche, Jason C. Kovacic, Roger J. Hajjar, Shahin Rafii and Lior Zangi. "Partial Cardiac Reprogramming Induces Vascular Regeneration Post Muscle Ischemic Injury. *Molecular Therapy*, 2021 Jul 28: S1525-0016(21)00368-3. doi: 10.1016/j.ymthe.2021.07.014.
3. **Maria Paola Santini**, Malide D, Hoffman G, Pandey G, D'Escamard V, Nomura-Kitabayashi A, Rovira I, Kataoka H, Ochando J, Harvey RP, Finkel T, Kovacic JC. Tissue-Resident

PDGFR α ⁺ Progenitor Cells Contribute to Fibrosis versus Healing in a Context- and Spatiotemporally Dependent Manner. *Cell Reports*, 2020, Jan 14; 30 (2):555-570. (Corresponding Author)

4. Katherine Michelis, Aya Kitabayashi, Oscar Franzén, Simon Koplev, Laura Lecce, **Maria Paola Santini**, Valentina D'Escamard, Jonathan T.L. Lee, Valentin Fuster, Roger Hajjar, Ramachandra Reddy, Joanna Chikwe, Paul Stelzer, Farzan Filsoufi, Allan Stewart, Anelechi Anyanwu, Johan L.M. Björkegren, Jason C Kovacic. CD90 identifies adventitial mesenchymal progenitor cells in adult human medium- and large-sized arteries. *Stem Cell Reports*, 2018, 11 (1):242-257.
5. **Maria Paola Santini**, Elvira Forte, Richard Harvey, Jason Kovacic. Developmental Origin and lineage plasticity of endogenous cardiac stem cells. *Development*, 2016 Apr 15; 143 (8): 1242-1258 (Review)
6. Tommaso Poggioli, Padmini Sarathchandra, **Maria Paola Santini**. Cell delivery for mending cardiac dysfunction. *J Vis Exp*. 2014 Jan 24;(83): e51064. (Corresponding Author)
7. Elham Zarrinpashneh, Padmini Sarathchandra, Jonas Lexow, Tommaso Poggioli, Laurent Monassier, Florian Lang, Cesare Terraciano, Nadia Rosenthal and **Maria Paola Santini**. Knockout of SGK1 has defective endothelial cell migration and tube formation leading to lower neo-angiogenesis following myocardial infarction. *Plos One*, 2013, 8(11): e80268. (Corresponding Author)
8. Jonas Lexow, Padmini Sarathchandra, **Maria Paola Santini** and Nadia Rosenthal. Cardiac fibrosis in tamoxifen treated *α MHC-MerCreMer* animals. *Dis Model Mech*. 2013, 6(6): 1470-1476. (Senior Author with Prof Rosenthal)
9. Melissa Touvron, Brigitte Escoubet, Mathias Mericskay, Luciane Lamotte, **Maria Paola Santini**, Nadia Rosenthal, Dominique Daegelen, David Tuil, Jean-François Decaux. Local expression of insulin-like growth factor 1 reverses myocardial fibrosis and inflammation, ameliorates cardiac function and extends longevity in a mouse model of dilated cardiomyopathy. *Dis Model Mech*. 2012, 5(4): 481-91.
10. Manlio Vinciguerra, **Maria Paola Santini**, Valerio Paziienza, William C. Claycomb, Alessandro Giuliani, Andreas G. Ladurner, Nadia Rosenthal. mIGF-1/JNK1/SirT1 signaling confers protection against oxidative stress in the heart. *Aging Cell*, 2012, 11(1): 139-149.
11. **Maria Paola Santini** and Nadia Rosenthal. Myocardial Regenerative properties of macrophage populations and stem cells. *Journal of Cardiovascular Translational Research*, 2012 Oct;5(5):700-12. (Review) (Corresponding Author)
12. Jonas Lexow, Tommaso Poggioli, Nadia Rosenthal, **Maria Paola Santini**. Combinatorial Therapies for Cardiac Regeneration. *Recent Patents in Regenerative Medicine, Bentham Science Publisher*, 2012. (Review) (Corresponding Author)
13. Bhawana Poudel, Daniel Bilbao, Padmini Sarathchandra, Renee Germack, Nadia Rosenthal, **Maria Paola Santini**. Increased cardiogenesis in P19-GFP teratocarcinoma cells expressing

the propeptide IGF-1Ea. *Biochem. Biophys. Res. Commun.* 2011, 416 (3-4): 293-299. (Corresponding Author)

14. **Maria Paola Santini**, Lexow J, Borsellino G, Slonimski E, Zarrinpashneh E, Poggioli T, Rosenthal N. IGF-1Ea induces vessel formation after injury and mediates bone marrow and heart cross-talk through expression of specific cytokines. *Biochem. Biophys. Res. Commun.* 2011, 410 (2): 201-207. (Corresponding Author)
15. Pieranna Chiarella, Melanie Leuener, Christian Fasci, Ario de Marco, **Maria Paola Santini**, Vito M. Fazio and Alan M. Sawyer. Comparison and critical analysis of robotised technology for monoclonal antibody high-throughput production. *Biotechnology Progress*, 2011, 27 (2): 571-576.
16. Manlio Vinciguerra, **Maria Paola Santini**, William C. Claycomb, Andreas G. Ladurner, Nadia Rosenthal. Local IGF-1 isoform protects cardiomyocytes from hypertrophic and oxidative stresses via SirT1 activity. *AGING*, December 2009, 2(1): 43-62.
17. Lara-Pezzi E, Winn N, Paul A, McCullagh K, Slonimski E, **Maria Paola Santini**, Mourkioti F, Sarathchandra P, Fukushima S, Suzuki K, Rosenthal N. A naturally occurring calcineurin variant inhibits FoxO activity and enhances skeletal muscle regeneration. *J Cell Biol.*, 2007, 179(6): 1205-18.
18. **Maria Paola Santini**, Lana Tsao, Laurent Monassier, Catherine Theodoropoulos, Janice Carter, Enrique Lara-Pezzi, Esfir Slonimski, Patrice Delafontaine, Martin Bergman, Christian Freund, Ken Suzuki, and Nadia Rosenthal. Enhancing repair of the mammalian heart. *Circulation Research*, 2007, 12 (100): 1732-1740.
19. **Maria Paola Santini**, Enrique Lara Pezzi, Nadia Rosenthal. Regenerative Medicine in Cardiovascular Research: of molecules, cells and scaffolds. *The Bulletin of The British Society for Cardiovascular Research* Vol. 20 No. 4: 4-12, October 2007. (Review) (Corresponding Author)
20. **Maria Paola Santini**, Nadine Winn and Nadia Rosenthal. Signaling Pathways in cardiac regeneration. *Novartis Foundation Symposium* 2006, 274: 228-38; discussion 239-43, 272-6. (Conference Review)
21. Nadia Rosenthal, **Maria Paola Santini** and Antonio Musaro'. Growth Factor Enhancement of Cardiac Regeneration. *Cell Transplantation*, 2006, Volume 15: 41-45, Supplement 1. (Review)
22. **Maria Paola Santini**, Talora C., Seki T., Bolgan L., Dotto GP. Cross talk between calcineurin, Sp1/Sp3 and NFAT in control of p21^{WAF1/CIP1} expression in keratinocyte differentiation. *PNAS*, 2001, 98 (17): 9575-9580.
23. Virgili F., **Maria Paola Santini**, Canali R., Polakowska R.R., Haake A., and Perozzi G. Bcl-2 overexpression in the HaCaT cell line is associated with a different membrane fatty acid composition and sensitivity to oxidative stress. *Free Rad. Biol. & Med.*, 1998, 24 (1): 93-101.

Book Chapters

1. **Maria Paola Santini**, and Nadia Rosenthal. Stem Cells and the Regenerating Heart. *Essentials of Stem Cell Biology*, Second Edition, Elsevier Academic Press, Edited by Robert Lanza and Anthony Atala 2013, Chapter 52: 595-601. (*Book Chapter*)
2. **Maria Paola Santini**, Bhawana Poudel and Nadia Rosenthal. Stem Cells and the Regenerating Heart. *Essentials of Stem Cell Biology*, Second Edition, Elsevier Academic Press, Edited by Robert Lanza, John Gearhart, Brigid Hogan, and Douglas Melton. 2009, Chapter 31: 259-264. (*Book Chapter*)
3. Nadia Rosenthal, Nadine Winn and **Maria Paola Santini**. IGF-1, muscle progenitors and heart failure. *Cardiovascular Regeneration and Stem Cell Therapy*, edited by Annarosa Leri, Piero Anversa and William Frishman. Blackwell Publishing, 2007, Part III chapter 15: 149-158. (*Book Chapter*)
4. Nadia Rosenthal and **Maria Paola Santini**. Stem Cells and the Regenerating Heart. *Essentials of Stem Cell Biology*, Elsevier Academic Press, Edited by Robert Lanza, 2005, Chapter 29: 217-220. (*Book Chapter*)
5. Nadia Rosenthal and **Maria Paola Santini**. Stem Cells and the Regenerating Heart. *Handbook of Stem Cells*, Elsevier Academic Press, Edited by Robert Lanza. 2004, Volume 2: 449-455. (*Book Chapter*)

Published Abstracts (Conferences)

1. **Maria Paola Santini**, Kiyoo Ishikawa, Evren Azeloglu. IGF-1 signaling and nuclear localization of PDGFR α tyrosine kinase activity control the fibrotic response of mesenchymal stromal cells to myocardial ischemia. August 2023, Circulation Research, Volume 133.
2. A Mendoza, **Maria Paola Santini**, J Wong, LM Rehume, J Viel, KN Campbell, Evren Azeloglu. Integrative systems analysis of calcineurin inhibitor action on podocytes and proximal tubular epithelial cells. November 2023, Journal of the American Society of Nephrology, 34 (11S), 724.
3. **Maria Paola Santini**, K Ishikawa, E Azeloglu, Circulation 146 (Suppl_1), A12013-A12013. Nuclear Localization of PDGFR α Tyrosine Kinase represents a novel mechanism controlling the fibrotic response of Mesenchymal Stromal cells to Myocardial Ischemia.
4. Keerat Kaur, Asharee Mahmood, Hanna Girard, Ann Anu Kurian, Magdalena Zak, **Maria Paola Santini**, Elena Chepurko, Vadim Chepurko, Djamel Lebeche, Jason C Kovacic, Roger J Hajjar, Shahin Rafii, Lior Zangi. Combinatorial modified mRNA induces cardiovascular regeneration post-muscle ischemic injury. April 2021, Molecular Therapy, 29 (4): 53.
5. Katherine Michelis, Aya Kitabayashi, Laura Lecce, **Maria Paola Santini**, Valentina D'Escamard, Oscar Franzén, Johan LM Björkegren, Valentin Fuster, Ramachandra

Reddy, Joanna Chikwe, Paul Stelzer, Farzan Filsoufi, Allan Stewart, Ani Anyanwu, Jason Kovacic. CD90 marks a population of adventitial mesenchymal stem cells in the human aorta that exhibit diminished angiogenic potential in patients with ascending aortic aneurysms. March 2017, Journal of the American College of Cardiology, Volume 69, Issue Supplement 11, Page:1999

6. **Maria Paola Santini**, Bhawana Poudel, Tommaso Poggioli, Daniel Bilbao Elham, Zarrinpashneh, Padmini Sarathchandra, Nadia Rosenthal. Attenuation of Post-infarct Cardiac Hypertrophy by Allogeneic Cell-mediated Supplemental Igf-1 Propeptide Delivery. November 2012, Circulation, Volume 126, Issue 21 Supplement, Page: A9386.
7. E Lara-Pezzi, AC Paul, K McCullagh, E Slominski, **Maria Paola Santini**, N Winn, F Mourkioti, E Perlas, PJ Barton, N Rosenthal. Calcineurin isoforms in striated muscle regeneration. February 2006, Heart, Volume 92, Issue 2.
8. P LaCelle, **Maria Paola Santini**, B Graf, R Polakowska. A biologically active DR5 type of retinoic acid response element (RARE) controls human transglutaminase type 1 gene promoter activity in epidermal keratinocytes. April 1999, Journal of Investigative Dermatology, Volume 112, Issue 4, Page: 635.
9. **Maria Paola Santini**, P LaCelle, B Graff, R Polakowska. Role of C-terminal tyrosine residues in RXR function. April 1999, Journal of Investigative Dermatology, Volume 112, Issue 4, Page:562.

HONORS AND AWARDS

2024-	First classified in the public selection for a tenure track researcher at the University of Pavia, Protocol # 0200558; Announcement # 1134/2023
2022-2024	Career Development Award, American Heart Association (\$231,000)
2010-2013	The Magdi Yacob Institute Career Support on stem cell biology (30,000 GBP)
2010	Keystone Scholarship, \$1,000
2006	Young Scientist Communication Award, among finalists
2005	Marie Curie Scholarship, 500 euros
1999	Kligman Scholarship, \$1,000

LICENSURES

2022-	IACUC protocol 2020000168
2007 - 2013	Project Licence # 70/7507 UK Home Office
2007 - 2013	Personal Licence # 70/20847 UK Home Office
2007 - 2013	UK GM Activity New Class 1 Projects # GMSC-07-01 and GMSC-07-02
2007 - 2013	UK Work Registration Radiological Risk Assessment # HAR CTE-001

MEMBERSHIPS

2020-2024	Member of the society for regenerative biology (Founders: Ken Poss and Elli Tanaka)
2019-	Alumna of the British Heart Foundation (BHF)

2018-2024 Member of the New York Academy of Sciences
2018- Member of the American Heart Association
2014- Alumna of the European Molecular Biology Laboratories (EMBL)

INSTITUTIONAL RESPONSABILITIES

1. MEETING ORGANIZATION:

2019-2021 **Moderator of Trainee-Speaker sessions (>20 attendees).**
Cardiovascular Research Center, Icahn School of Medicine at Mount Sinai,
NY, USA

2010 **Organizer Weekly seminar (>40 attendees)**
Heart Science Centre, Harefield, UK, Internal Seminar Series

2010 **Organizer International invited speakers (>40 attendees)**
Heart Science Centre, Harefield, UK External Seminar Series

2. COMMITTEE REPRESENTATIVE:

2007 – 2013 - **Health and Safety Committee**
Heart Science Centre, Harefield, UK

- **Interview panelist**
Imperial College London, London, UK

3. REVIEWING AND EDITORIAL WORK

2024-present Study section, American Heart Association Transformational Project Award,
Cardiology Committee

2024-present Study section, American Heart Association Pre-and Post-doc Awards,
Cardiology 6 Committee

2021-present Study section, American Heart Association Career Development Award
Cardiology Committee

Ad Hoc Grant Review:

2014 Biotechnology and Biological Sciences Research Council (BBSRC)
2012 European Research Council (ERC): Young Investigator Award for Starting
Grants

Ad Hoc Manuscript Review:

2022-2024 Scientific Reports

2022 Frontiers in Genetics section RNA
 2012 Journal of Cardiovascular Therapeutics
 2011 Journal Molecular & Medicine Cardiology (JMMC)

Master Student Theses Review:

2022 Analytical Assessment of Master Project Theses, Biomedical Engineering, Icahn School of Medicine at Mount Sinai, NY, NY, USA
 2009 – 2010 Analytical Assessment of MRes Project Reports, Biomedical Sciences, Imperial College London, UK

TRAINEES SUPERVISION

2024- University of Pavia, Department of Molecular Medicine, Pavia, IT
 Role Supervisor, Raima Remesh, PhD student

2022-2024 Icahn School of Medicine at Mount Sinai, NY, USA
 Role Co-supervisor, Anika Hudson, Associate Researcher

2022 Icahn School of Medicine at Mount Sinai, NY, USA
 Role Co-supervisor, Benjamin Lin, Associate Researcher

2022-2023 Icahn School of Medicine at Mount Sinai, NY, USA
 Role Co-supervisor, Anthony Mendoza, Biomedical Master student

2019-2020 Icahn School of Medicine at Mount Sinai, NY, USA
 Role Supervisor, Seran Kahyaoglu, Associate Researcher

2017-2018 Icahn School of Medicine at Mount Sinai, NY, USA
 Role Supervisor, Taylor Alison Thomas, Graduate medical student

2011-2014 Imperial College London, London UK
 Role Supervisor, Tommaso Poggioli, PhD student,
<https://spiral.imperial.ac.uk/handle/10044/1/24547>
 Current Status/Employment: Consultant, Boston Consulting Group, USA

2009-2013 Imperial College London, London UK
 Role Supervisor, Jonas Lexow, PhD student
<https://spiral.imperial.ac.uk/handle/10044/1/11091>
 Current Status/Employment: Head of the Research Governance and Quality Dept. at the MRC Unit, Gambia, Africa

2009-2013 Imperial College London, London UK
 Role Supervisor, Elham Zarrinpashneh, Postdoctoral Fellow
 Current Status/Employment: Medical Affairs Manager, Teheran, Iran

2008-2011 Imperial College London, London UK

Role Supervisor, Bhawana Poudel, PhD student
<https://spiral.imperial.ac.uk/handle/10044/1/6901>
Current Status/Employment: Supervisor, MNB Microfinance, Germany

Summer 2004 **EMBL, Monterotondo, Italy**
Role Supervisor, Ozge Tasdemir, Undergraduate summer student
Current Status/Employment: Postdoctoral Fellow, Harvard Medical School, USA

Summer 2003 **EMBL, Monterotondo, Italy**
Role Supervisor, Misha Capecchi, Undergraduate summer student
Current Status/Employment: Artist, USA

TEACHING ACTIVITIES

2009-2013 **Imperial College London, London, UK**
Topic: Transgenic Mouse Model and Regenerative Medicine
PhD student course, work closely with 5-10 students each year

2011 **Heart Science Center, Harefield, UK**
Topic: Scientific prospective in cardiovascular diseases
MBBS 4th year student course, worked with 20 students

2008 **St George University, London, UK**
Topic: Regenerative Medicine in Cardiovascular Research
MBBS 4th year student course, worked with 10 students

INVITED SEMINARS/CONFERENCES

1. ACADEMIA

- 2023** - Role of Mesenchymal Stromal Cells and Tyrosine Kinase Pathways in Multiorgan Diseases. Organizer Professor Bottinelli, Department of Molecular Medicine, University of Pavia, Pavia, IT
- 2022** - Cellular and molecular function of mesenchymal stromal cells in cardiovascular diseases. Organizer Yale University, CT, USA
- Healing properties of stromal mesenchymal cells expressing PDGFR α in regenerating and non-regenerating mammalian organs. Organizer Dr. Paul Yu, CVRC, MGH, Harvard Medical School, MA, USA
- Healing properties of stromal mesenchymal cells expressing PDGFR α in the heart and vasculature of vertebrates. Organizer CVRTI, University of Utah, Salt Lake City, USA
- 2021** - Mechanisms of mammalian regeneration. Organizer New York Medical College, NY, USA
- 2019** - Cardiovascular Diseases and regenerative tools. Organizer Dr. Valentin Fuster, The Cardiovascular Institute at Mount Sinai Hospital, NY, USA
- 2010-2013** - Stem Cells Seminars Network at Imperial College London, London, UK

Organizer Professor Sara Rankin

- Stem Cells Club at the Cancer Research Institute, London, UK

Organizer Professor Dominique Bonnet

- Seminar at Hammersmith Campus, Imperial College London, London, UK. Organizer Professor Francesco Dazzi

2. CONFERENCES

- Basic Cardiovascular Science, The American Heart Association International Conference, July 2023. Poster presentation: Igf-1 signaling and nuclear localization of Pdgfralpha tyrosine kinase activity control the fibrotic response of mesenchymal stromal cells to myocardial ischemia. **Abstract published on Circulation Research.**
- The American Heart Association International Conference, Chicago, IL. November 4-7, 2022. Poster presentation: Nuclear Localization of PDGFR α Tyrosine Kinase Represents a Novel Mechanism Controlling the Fibrotic Response of Mesenchymal Stromal Cells to Myocardial Ischemia. **Abstract published on the journal Circulation**
- The New York Stem Cell Foundation Conference, October 18-19 2021. New York City, USA. Poster Presentation: Healing properties of mesenchymal progenitor stromal cells in the vertebrate heart
- New York Academy of Sciences, Adult Stem Cells and Regenerative Medicine, March 14, 2019, New York City, USA. Poster presentation: Yin-Yang function of tissue resident PDGFR α + progenitor cells during regeneration
- Leducq Meeting, Cellular and Molecular Targets to Promote Therapeutic Cardiac Regeneration, New York City, USA, 12-13 April 2018. Oral Presentation: Tissue resident PDGFR α + progenitor cells contribute to fibrosis versus healing in a context- and spatiotemporally dependent manner
- Leducq Meeting, Cellular and Molecular Targets to Promote Therapeutic Cardiac Regeneration, Washington, DC, USA, 2-3 March 2016. Oral Presentation: Healing properties of PDGFR α cells during regenerative processes
- Leducq Meeting, Cellular and Molecular Targets to Promote Therapeutic Cardiac Regeneration, Paris, France, 20-21 January 2015. Oral Presentation: The role of PDGFRalpha cells in physiological and pathological conditions
- British Heart Foundation, National Heart and Lung Institute presentation Meeting, London, UK, March 6-7 2013. Invited poster presentation: Attenuation of post-infarct cardiac remodelling by cell-mediated supplemental IGF-1 propeptide delivery. **Invited by the British Heart Foundation**
- American Heart Association Conference, Los Angeles, USA, November 3-7 2012. Oral presentation: Attenuation of Post-infarct Cardiac Hypertrophy by Allogeneic Cell-mediated Supplemental Igf-1 Pro-peptide Delivery. **Abstract published on the journal Circulation**

- BITs 4th Annual World Congress of Regenerative Medicine and Stem Cells, Beijing, China, December 4-7 2011. Oral Presentation: IGF-1EA-mediated cardiac repair: stem cells for vessels and therapeutic factor delivery. **Invited by the BITs organizing Committee**
- Cardiovascular Development and Repair, Keystone Symposia, Keystone, Colorado, USA, February 28-March 5 2010. Oral presentation: Cells and Factors for Cardiac Regeneration: mIGF-1-Mediated Cross-Talk between the Heart and the Bone Marrow. **Awarded Travel Scholarship (1000\$)**
- Leducq Meeting, Transatlantic Network of Excellence for Cardiac Regeneration, Imperial College London, London, UK, 5-6 September 2008. Oral Presentation: Regeneration of the Mammalian heart with cell-based Therapies
- Eumorphia 3rd Annual Meeting: Understanding Human Disease through Mouse Genetics, Cardiovascular Young Scientist Communication Award, February 22-24 2006, Barcelona, Spain. Oral Presentation: mIGF-1 signalling in cardiac hypertrophy and regeneration. **Finalist at the Young Investigator Award**
- 11th Weinstein Cardiovascular Development Conference, Tucson, Arizona, USA, 19-22 May 2005. Poster Presentation: Enhancing cardiac regeneration with growth factors
- ESH-EBMT Eurocord Conference on Stem Cell Research, Cascais, Portugal, 15-18 April 2005. Poster Presentation: IGF1Ea isoform in cardiac regeneration and stem cell biology. **Awarded Travel Scholarship (500 euros)**
- Gordon Research Conference, Insulin-like growth factors in physiology and diseases, Ventura, California, USA, February 27-March 4 2005. Poster presentation: mIGF-1 function in the heart: towards cardiac regeneration
- Cardiovascular Development meeting, International University of Baeza, Baeza, Spain, October 23-26 2005. Oral presentation: Growth factor enhancement cardiac regeneration
- Combio 2004, Australian Society for Biochemistry and Molecular Biology, Perth, Australia, 26-30 September, 2004. Oral presentation: Local IGF-1 function in the heart: remodeling in physiological and pathological conditions 6th Course in Organ Transplantation, University of Padova, Padova, Italy, April 11-16 2005. Oral Presentation: IGF-1 and Cardiac Regeneration
- Keystone Symposia, Molecular Biology of Cardiac Disease X3, Keystone, Colorado, USA, March 7-12 2004. Poster Presentation: IGF-1: from physiology to pathology, a new therapeutic frontier
- 60th Annual Meeting of the Society for Investigative Dermatology, Chicago, Illinois, May 5-9, 1999. Oral presentation: Role of C-terminal tyrosine residues in RXR function. Abstract published on the journal of investigative dermatology. **Awarded Kligman's Travel Scholarship (1000\$)**
- University of Rochester, Poster Session sponsored by the Graduate Studies Office. February 27, 1999, University of Rochester, Rochester, USA. Poster presentation: Tyrosine residues at

C-terminus domain regulate the activity of human Retinoic X Receptor b. **Abstract published on the Journal of Investigative Dermatology**

- Society for Free Radical Research Europe, Summer Meeting, Abano Terme, Italy, June 26-28 1997. Poster Presentation: Bcl-2 overexpression in the HaCaT cell line leads to a higher unsaturation of membrane fatty acids and decrease the sensitivity to oxidative stress
- International Conference “Oxidative stress and redox regulation”, May 21-24, 1996, Paris, France. Poster presentation: Bcl-2 expression is associated with a different fatty acid membrane composition and susceptibility to oxidation in cultured epithelial cells

3. PUBLIC ENGAGEMENT

- 2017 **Supporting Mount Sinai Health System. Organizer Mount Sinai Development Office.** *Contributed to lectures to potential donors about cardiac fibrosis to sponsor our laboratory at Mount Sinai*
- 2011-2012 **Supporting stem cell research. Organizer Magdi Yacoub Institute**
Delivered lectures to potential donors about research on stem cells and the possible therapeutic benefits to support the Magdi Yacoub Institute
- 2010-2011 **Mending Broken Heart Appeal. Organizer British Heart Foundation**
Delivered lectures to potential donors about cardiac regeneration signaling. Promotion of charity for supporting UK cardiovascular research.

PRESS RELEASE AND PUBLIC INTEREST OF MY WORK

Press release in reference to the manuscript: Maria Paola Santini, Lana Tsao, Laurent Monassier, Catherine Theodoropoulos, Janice Carter, Enrique Lara-Pezzi, Esfir Slonimski, Patrice Delafontaine, Martin Bergman, Christian Freund, Ken Suzuki, and Nadia Rosenthal. Enhancing repair of the mammalian heart. *Circulation Research*, 2007, 2 (100): 1732-1740.

- 2006 CITY, DAILY DIVULGATIVE ITALIAN NEWSPAPER, YEAR 6, NUMBER 95, MAY 26, 2006. Article title: “Generated a mouse that survive the infarct. It has the heart that repair itself”
- 2006 NATIONAL ITALIAN NEWSPAPER “LA REPUBBLICA”, SCIENCE AND TECHNOLOGY SECTION MAY 26, 2006. Article title “Stem cells, generated the super-mice: after myocardial infarction the heart is self-healing

Revised on 10/30/2024

