

**PERSONAL INFORMATION****Moises Di Sante**

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Enterprise	University	EPR
<input type="checkbox"/> Management Level	<input type="checkbox"/> Full professor	<input type="checkbox"/> Research Director and 1st level Technologist / First Researcher and 2nd level Technologist / Principal Investigator
<input type="checkbox"/> Mid-Management Level	<input type="checkbox"/> Associate Professor	<input type="checkbox"/> Level III Researcher and Technologist
<input type="checkbox"/> Employee / worker level	<input checked="" type="checkbox"/> Researcher and Technologist of IV, V, VI and VII level / Technical collaborator	<input type="checkbox"/> Researcher and Technologist of IV, V, VI and VII level / Technical collaborator

**WORK EXPERIENCE**

2021-present

**Senior Scientist (RTDA, Molecular Biology)**

Pasqualini Laboratory, Department of Civil Engineering and Architecture, University of Pavia, Italy.

Scientific supervisor: Francesco Pasqualini, PhD

Field of research: Synthetic matrix biology

2018-2021

**Assistant Professor**

Di Lisa Laboratory, Department of Biomedical Sciences, University of Padua, Italy.

Scientific supervisor: Fabio Di Lisa, M.D.

Field of research: Oxidative metabolism in cardiac disease

2015-2018

**Post-doctoral fellow**

Neuroscience Institute, National Research Council (CNR) of Italy, Padova.

Scientific supervisor: Nina Kaludercic, Ph.D.

Field of research: Role of Monoamine oxidases in myocardial homeostasis.

2013-2015

**Post-doctoral fellow**

Center for Regenerative Medicine Brigham and Women's Hospital and Harvard Medical School, Boston, MA, USA.

Scientific supervisor: Annarosa Leri, M.D.

Field of research: Genetic and Epigenetic regulation of cardiac progenitor cells.

2008-2012

**PhD student**

Pharmacologic Biotechnology and Clinical Pharmacology, Department of Clinical and Experimental Medicine, Section of Pharmacology, University of Perugia, Perugia, Italy.

Scientific supervisor: Carlo Riccardi, M.D., Ph.D.

Field of research: Role of glucocorticoid-induced leucine zipper (GILZ) in spermatogenesis.

2007-2008

**Researcher at Interceptpharma Company**

Clinical stage biopharmaceutical company developing therapeutics for the treatment of chronic fibrotic and metabolic diseases)

Field of research: Characterization of the molecular effects of compounds modulating nuclear receptor function in fibrotic and metabolic diseases.

Clinical stage biopharmaceutical company developing therapeutics for the treatment of chronic fibrotic and metabolic diseases)

2005-2006

**Research Fellow**

University of Perugia,

Department of Clinical and Experimental Medicine, Section of Gastroenterology.

Scientific supervisor: Stefano Fiorucci, M.D., Ph.D.

Field of research: Role of the nuclear receptor FXR in glucose and lipid metabolism in experimental animal models.

**EDUCATION AND TRAINING**

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2008-2012

**PhD in Pharmacologic Biotechnology and Clinical Pharmacology**

Department of Clinical and Experimental Medicine, Section of Pharmacology,

University of Perugia, Perugia, Italy.

1999-2004

**Combined BS and MS in Biology**

University of Perugia, Division of Cellular and Molecular Biology Section of Biophysics, Perugia, Italy

Honors: Summa Cum Laude

**WORK ACTIVITIES**

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**Awards**

2013 Fellowship “Borsa SIF Estero” awarded by Italian Society of Pharmacology

2017 Leducq (16CVD04) fellowship for cooperative project at National Institutes of Health (NIH), Cardiac Physiology laboratory, Bethesda (USA). Scientific supervisor: Elizabeth Murphy, Ph.D. Field of research: Definition of the mechanisms that regulate PTP opening in hiPSC-derived cardiomyocytes

2020 Dotazione Ordinaria per la Ricerca (DOR), obtained in date 19/3/2020 from University of Padua (DOR2017731/20 )

**Editorial activity**

Reviewer for international peer review journals such as: International journal of molecular sciences, Biomedicines, Cells.

**Invited presentations**

Leducq Transatlantic Network of Excellence: MitoCardia Meeting, Portland (Oregon, USA), December 15th 2016 Abstract: Involvement of mitochondrial ROS and Monoamine Oxidases in PTP modulation

Retreat of the Department of Biomedical Sciences, Padova. April 1st, 2017 Ala Nuova, Orto Botanico, Padova Abstract: Oxidative metabolism in cardiac disease

34th Annual Meeting of the International Society for Heart Research (ISHR) -European Section, Jul 24 - 27, 2017 at Hamburg, Germany. Abstract: The Role of monoamine oxidase in formation and maturation of iPSC- derived cardiomyocytes

Leducq Transatlantic Network of Excellence: MitoCardia Meeting, Lyon (France), September 13th

2017 Abstract: Spotlight on inhibitors of the mitochondrial permeability transition

Leducq Transatlantic Network of Excellence: MitoCardia Meeting, Barcelona (Spain), April 26th and 27th 2018 Abstract: Targeting the PTP: new therapeutic strategies in cardioprotection

35th Annual Meeting of the International Society for Heart Research (ISHR) -European Section, Jul 16 - 19, 2018 at Amsterdam, Netherlands. Abstract: Genetic ablation of monoamine oxidases impairs cardiomyocyte differentiation from hiPSc

National Institutes of Health (NIH), invited speaker at Cardiac Physiology laboratory seminar, Bethesda (USA), 11th, October 2018. Abstract: Role of reactive oxygen species (ROS) on mitochondrial dysfunction related to cardiac diseases

Leducq Transatlantic Network of Excellence: MitoCardia Meeting, Washington D.C. (USA) November 7th and 8th 2018. Abstract: Effects of post translational modification of FoF1-ATP Synthase on PTP opening

Leducq Transatlantic Network of Excellence: MitoCardia Meeting, Venice (Italy), Venice, April 26-27, 2019 . Abstract: Mutation of the unique histidine of OSCP subunit of FoF1-ATP Synthase in hiPSc

Leducq Transatlantic Network of Excellence: MitoCardia Meeting, , Portland (Oregon, USA), September 17th and 18th 2019 . Abstract: Characterization of OSCP H112Q mutation in hiPSc and hiPSc-derived cardiomyocytes

Società Italiana di Biofisica e Biologia Molecolare (SIBBM), Frontiers in Molecular Biology Trento, (Italy) 17-19th June 2024. Abstract: tracking structure, function, and cell cycle progression in development and morphogenesis with a genetically engineered hiPSc line (TEMPO)

International Society for Stem Cell Research (ISSCR), Hamburg (Germany), 10-13th July 2024 Abstract: TEMPO: A hiPSc line with genetically engineered fluorescent sensors to track structure, function, and cell cycle progression in development and morphogenesis

## ADDITIONAL INFORMATION

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- Publications
- Ashesh Ashesh, Alexander Krull, Moises Di Sante , Francesco Silvio Pasqualini , Florian Jug.  $\mu$ Split: image decomposition for fluorescence microscopy. Conference: 2023 IEEE/CVF International Conference on Computer Vision (ICCV). DOI: 10.1109/ICCV51070.2023.01940
- Moises Di Sante, Salvatore Antonucci, Laura Pontarollo, Ilaria Cappellaro, Soni Deshwal, Elisa Greotti, Luis F. Grilo, Roberta Menabò, Fabio Di Lisa, Nina Kaludercic Monoamine oxidase A-dependent ROS activate Akt/GSK3 $\beta$  signaling pathway and modulate human cardiomyocyte differentiation. *Basic Res Cardiol.* 2023 Jan 20;118(1):4. doi: 10.1007/s00395-023-00977-4.
- J. Stephen Yan, Marco Orecchioni, Flavia Vitale, Julia, A. Coco, Guillaume Duret, Salvatore Antonucci, Sushma Sri Pamulapati, Lauren W. Taylor, Oliver S. Dewey, Moises Di Sante, Anna Maria Segura, Cansu Gurcan, Fabio Di Lisa, Acelya Yilmazer, Mark D. McCauley, Jacob T. Robinson, Mehdi Razavi, Klaus Ley, Lucia G. Delogu, Matteo Pasquali  
Biocompatibility studies of macroscopic fibers made from carbonnanotubes: Implications for carbon nanotube macrostructures in biomedical applications *Carbon*, doi: 10.1016/j.carbon.2020.10.077
- Salvatore Antonucci , Moises Di Sante , Federica Tonolo , Laura Pontarollo , Valeria Scalcon , Petra Alanova , Roberta Menabò , Andrea Carpi , Alberto Bindoli , Maria Pia Rigobello , Marco Giorgio , Nina Kaludercic , Fabio

Di Lisa F. The Determining Role of Mitochondrial Reactive Oxygen Species Generation and Monoamine Oxidase Activity in Doxorubicin-Induced Cardiotoxicity; Antioxidants & Redox Signaling, PMID: 32524823 , doi: 10.1089/ars.2019.7929

Ana I. Casas, Cristian Nogales, Hermann A.M. Mucke, Alexandra Petrain, Antonio Cuadrado, Ana I. Rojo, Pietro Ghezzi, Vincent Jaquet, Fiona Augsburg, Francois Dufresne, Jalal Soubhye, Soni Deshwal, Moises Di Sante, Nina Kaludercic, Fabio Di Lisa, and Harald H.H.W. Schmidt

On the clinical pharmacology of reactive oxygen species. doi: 10.1124/pr.120.019422, Pharmacological reviews

Di Sante M, Antonucci S, Sileikyte J, Deveraux J, Bauer T, Bround M.J, Menabò R, Paillard M, Alanova P, Carraro M, Ovize M, Molkenstin J, Cohen M, Forte M.A, Bernardi P, Di Lisa F, Murphy E.

A novel class of cardioprotective small-molecule PTP inhibitors. Pharmacological Research. 2020 Jan;151:104548. doi: 10.1016/j.phrs.2019.104548. Epub 2019 Nov 20.

Greotti E, Fortunati I, Pendin D, Ferrante C, Galla L, Zentilin L, Giacca M, Kaludercic N, Di Sante M, Mariotti L, Lia A, Gómez-Gonzalo M, Sessolo M, Di Lisa F, Carmignoto G, Bozio R, Pozzan T. mCerulean3-Based Cameleon Sensor to Explore Mitochondrial Ca<sup>2+</sup> Dynamics In Vivo. iScience. 2019 Jun 28;16:340-355. doi: 10.1016/j.isci.2019.05.031. Epub 2019 May 27.

Antonucci S, Mulvey JF, Burger N, Di Sante M, Hall AR, Hinchey EC, Caldwell ST, Gruszczak AV, Deshwal S, Hartley RC, Kaludercic N, Murphy MP, Di Lisa F, Krieg T.

Selective mitochondrial superoxide generation in vivo is cardioprotective through hormesis. Free Radic Biol Med. 2019 Apr;134:678-687. doi: 10.1016/j.freeradbiomed.2019.01.034. Epub 2019 Feb 4.

Bøtker HE, Hausenloy D, Andreadou I, Antonucci S, Boengler K, Davidson SM, Deshwal S, Devaux Y, Di Lisa F, Di Sante M, Efentakis P, Femminò S, García-Dorado D, Gircz Z, Ibanez B, Iliodromitis E, Kaludercic N, Kleinbongard P, Neuhäuser M, Ovize M, Pagliaro P, Rahbek-Schmidt M, Ruiz-Meana M, Schlüter KD, Schulz R, Skyschally A, Wilder C, Yellon DM, Ferdinandy P, Heusch G.

Practical guidelines for rigor and reproducibility in preclinical and clinical studies on cardioprotection. Basic Res Cardiol. 2018 Aug 17;113(5):39. doi: 10.1007/s00395-018-0696-8.

Deshwal S, Forkink M, Hu CH, Buonincontri G, Antonucci S, Di Sante M, Murphy MP, Paolucci N, Mochly-Rosen D, Krieg T, Di Lisa F, Kaludercic N.

Monoamine oxidase-dependent endoplasmic reticulum-mitochondria dysfunction and mast cell degranulation lead to adverse cardiac remodeling in diabetes. Cell Death Differ. 2018 Feb 19. doi: 10.1038/s41418-018-0071-1.

Di Sante M, Deshwal S, Di Lisa F, Kaludercic N.

Emerging role of monoamine oxidase as a therapeutic target for cardiovascular disease. Curr Opin Pharmacol. 2017 May 18;33:64-69. doi: 10.1016/j.coph.2017.04.003.

Xiaoli Liu, Sean R. R. Hall, Zhihong Wang, He Huang, Sailaja Ghanta, Moises Di Sante, Annarosa Leri, Piero Anversa, and Mark A. Perrella.

Rescue of Neonatal Cardiac Dysfunction in Mice by Administration of Cardiac Progenitor Cells In Utero. Nature Communications, Article number: 8825 doi:10.1038/ncomms9825.

Di Sante M.\*, Venanzi A.\*, Bruscoli S., Biagioli M., Sorcini D., Cimino M., Frammartino T., Bereshchenko O., Franconi F., Riccardi C.

Recombinant long- glucocorticoid-induced leucine zipper (L-GILZ) protein restores the control of proliferation in gilz KO spermatogonia. Eur J Pharm Sci. 2014 Oct 15;63:22-8. doi: 10.1016/j.ejps.2014.06.013. Epub 2014 Jun 30.

Bereshchenko O., Coppo M., Bruscoli S., Biagioli M., Cimino M., Frammartino T., Sorcini D., Venanzi A., Di Sante M., Riccardi C. (2014).

GILZ Promotes Production of Peripherally Induced Treg Cells and Mediates the Crosstalk between Glucocorticoids and TGF- $\beta$  Signaling. Cell Reports. S2211-1247(14)00166-1, ISSN: 2211-1247

Bruscoli S., Velardi E., Di Sante M., Bereshchenko O., Venanzi A., Coppo M., Berno V., Mameli M.G., Colella R., Cavaliere A., Riccardi C. (2012).

Long-Glucocorticoid- Induced Leucine Zipper (L-GILZ) interacts with Ras pathway and contributes to spermatogenesis control. The Journal of Biological Chemistry, vol. 287; p. 1242-1251, ISSN: 0021-9258

Bruscoli S., Donato V., Velardi E., Di Sante M., Migliorati G., Donato R.F., Riccardi C. (2010). Glucocorticoid-Induced Leucine Zipper (GILZ) and Long GILZ Inhibit Myogenic Differentiation and Mediate Anti-myogenic

Effects of Glucocorticoids. *The Journal of Biological Chemistry*, vol. 285; p. 10385-10396, ISSN: 0021-9258  
Gharagozloo M., Velardi E., Bruscoli S., Agostini M., Di Sante M., Donato V., Amirghofran Z., Riccardi C. (2010).

Silymarin suppress CD4+ T cell activation and proliferation: Effects on NF-kB activity and IL-2 production. *Pharmacological Research*, vol. 61; p. 405-409, ISSN: 1043-6618

Rizzo G., Di Sante M., Mencarelli A., Renga B., Gioiello A., Pellicciari R., Fiorucci S. (2006).

The farnesoid X receptor promotes adipocyte differentiation and regulates adipose cell function in vivo. *Molecular Pharmacology*, vol. 70; p. 1164-1173, ISSN: 0026-895X

Fiorucci S., Antonelli E., Distrutti E., Rizzo G., Mencarelli A., Orlandi S., Zanardo R., Renga B., Di Sante M., Morelli A., Cirino G., Wallace J.L. (2005).

Inhibition of hydrogen sulfide generation contributes to gastric injury caused by anti-inflammatory nonsteroidal drugs. *Gastroenterology*, vol. 129; p. 1210-1224, ISSN: 0892-1601