

CURRICULUM VITAE

PERSONAL INFORMATION:

Marco Mongillo
DOB: 30 July 1975
Place of Birth: Belluno (BL)
Nationality: Italian

Associate Professor (SSD MED/46)
Dipartimento of Biomedical Sciences
University of Padova
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CURRICULUM STUDIORUM:

1994: High School diploma (Maturità Scientifica). Liceo Galileo Galilei, Belluno. (60/60).
2001: Degree in Medicine and Surgery, University of Padova, (110/110 cum laude).
2005: PhD, molecular and cellular biology and pathology. University of Padova.

RESEARCH CAREER:

1998 Visiting Student. Dept of Biochemistry. University of Oxford
2001-2005 PhD, Molecular and Cellular Biology and Pathology, University of Padova. PhD supervisor Prof Tullio Pozzan.
2005-2006 Clinical Fellow, Cardiology, Hammersmith Hospital, Imperial College, London, UK, Director Prof Paolo Camici.
2006-2008 Research Scientist, Dept of Physiology and Cellular Biophysics, Columbia University. New York, USA, Mentor Dr Andrew R Marks.
2007-2015 Assistant Professor in General Pathology, Department of Biomedical Sciences, University of Padova.

CURRENT POSITIONS:

2015-present Associate Professor, (SSD MED/46), Department of Biomedical Sciences, University of Padova.
2010-present Member, Scientific Council, Venetian Institute of Molecular Medicine.
2010-present Group Leader, Venetian Institute of Molecular Medicine, Padova

PRIZES AND AWARDS:

2001 Best Graduate Student Award, Bocchetti Protti Foundation, Belluno, Italy.
2006: 'Value in People Award', Imperial College, London.
2006: Norman Alpert Award, American Heart Association and European Society of Cardiology.

ACADEMIC MEMBERSHIPS:

European Society of Cardiology (Working Group on Myocardial Function), Biophysical Society, American Heart Association, International Society for Heart Research.

TEACHING ACTIVITIES

2008	Lecturer, Advanced Cardiac Pathophysiology Course, Columbia University, College of Physicians and Surgeons.
2008-present	Lecturer General Pathology and Pathophysiology, University of Padova Medical School.
2009 al 2012	Lecturer General Pathology, Medical Specialty School in Nephrology, Università di Padova.
2009 al 2014	Tutor/Lecturer, Biomedical Sciences, Scuola Galileiana di Studi Superiori, University of Padova.
2013-present	Lecturer, Pathology, School of Nursing, University of Padova Medical School.

SUPERVISION OF GRADUATE STUDENTS AND POSTDOCTORAL FELLOWS

During the period 2010-2015, supervised 8 undergraduate thesis projects at the University of Padova (School of Medicine, Pharmacy, Molecular Biology, Biotechnology, Biology) (6 women, 2 men).

Supervised the scientific activity of 4 PhD theses at the University of Padova, 1 PhD thesis at Imperial College, London (UK) (2 males, 3 females).

Supervised the scientific activity of 9 post-doctoral scientists (4 males, 5 females).

INSTITUTIONAL RESPONSIBILITIES (University of Padova)

2009-2011	Member, Strategic Planning Committee, Faculty of Medicine.
2011-2013	Member, Admission Committee, Galileian School of Advanced Studies, University of Padova.
2013-	Member, Education Committee, School of Nursing, University of Padova.
2013-present	Faculty Committee, PhD school in Biomedical Sciences

EDITORIAL ACTIVITIES:

Editorial Board: Aging experimental and clinical research.

Reviewer: Science, Nature Comm., Journal of Clinical Investigation, PNAS, Circulation Research, Cardiovascular Research, Biophysical Journal, Journal of Biological Chemistry, PLOS, PLOS One, Aging.

SCIENTIFIC ACTIVITY:

FUNDING:

On-going Grants

<i>Project Title</i>	<i>Funding source</i>	<i>Amount (Euros)</i>	<i>Period</i>	<i>Role of the PI</i>	<i>Relation to current ERC proposal¹</i>
Excellence grant	Cariparo Foundation	1800000	2016-2019	Unit Leader	none

2015-2018	Excellence project, Cariparo Foundation. Role: Partner PI	150000 €/year
2014-2016	National Research Council: DSB.AD007.108/ PREMIALE 2012 Ambienti, stili di vita. Role: Partner PI,	40000 €/year
2009-2014	EU FP7 LARGE SCALE INTEGRATING PROJECT HEALTH-2009-2.4.2-2 (EUTrigTreat). Total EC contribution 12 M€. Steering Committee Member. Workpackage Leader, Unit Coordinator, UNIPD Unit, EC contribution	157.000 €/year.
2011-2014	Telethon Grant, GGP11224, 'Novel optogenetic method to study Catecholaminergic Polymorphic Ventricular Tachycardia'	75000 €/year
2010-2012	Progetto Ateneo, Università di Padova	24.000 €/year
2009-2012	Fondazione Cariparo, progetto Dottorati	18000 €/year.

RESEARCH DISSEMINATION:

Selected speaker in international meetings, including Telehon Scientific Sessions, (Piacenza, Italy 2004; Biochemical Society, (Cambridge, UK, 2005), American Heart Association (Chicago, USA, 2006);

Invited speaker in >20 international meetings, the most important include: American Physiological Society, San Diego, 2008; World Congress, Heart Electrophysiology, Nice, France 2008; American College of Cardiology Meeting, Orlando, USA, March 28–31, 2009; Cardiac Biology Meeting, ESC Varenna, 2012. Winter Meeting, European Heart Failure Association, Les Diablerets, CH 2014; International Society of Heart Research, San Diego, USA, 2013; British Cardiac Society Meeting, Manchester, 2015. European Society of Cardiology, London, UK 2015. Invitations to Gordon Research Conference, Cardiac Regulatory Mechanisms, 2016, ISHR World Meeting, Buenos Aires, 2016.

Invited lectures: Columbia University, USA; University of Oxford, UK; Indiana University, USA; Humanitas Research Institute, IT; University of Turin, IT; University of Goettingen, DE.

Organizer, EUTrigTreat international meeting on arrhythmia targeting. Padova, 6-8 June 2013

PUBLICATIONS

Zaglia T, Ceriotti P, Campo A, Borile G, Armani A, Carullo P, Prando V, Coppini R, Vida V, Stølen TO, Ulrik W, Cerbai E, Stellin G, Faggian G, De Stefani D, Sandri M, Rizzuto R, Di Lisa F, Pozzan T, Catalucci D, and **Mongillo M**. Content of the Mitochondrial Calcium Uniporter (MCU) in cardiomyocytes is regulated by microRNA-1 in physiologic and pathologic hypertrophy. PNAS 2017 Oct 9 (in the press)

Zaglia T, **Mongillo M**. Cardiac sympathetic innervation, from a different point of (re)view. J Physiol. 2017 Jun 15;595(12):3919-3930. doi: 10.1113/JP273120.

Pianca N, Zaglia T, **Mongillo M**. Will cardiac optogenetics find the way through the obscure angles of heart physiology? Biochem Biophys Res Commun. 2017 Jan 22;482(4):515-523. doi: 10.1016/j.bbrc.2016.11.104.

Zaglia T, Di Bona A, Chioato T, Basso C, Ausoni S, **Mongillo M**. Optimized protocol for immunostaining of experimental GFP-expressing and human hearts. Histochem Cell Biol. 2016 Oct;146(4):407-19. doi: 10.1007/s00418-016-1456-1.

Corrado D, Zorzi A, Cerrone M, Rigato I, **Mongillo M**, Baucé B, Delmar M. Relationship Between Arrhythmogenic Right Ventricular Cardiomyopathy and Brugada Syndrome: New Insights From Molecular Biology and Clinical Implications. Circ Arrhythm Electrophysiol. 2016 Apr;9(4):e003631. doi: 10.1161/CIRCEP.115.003631. Review.

Franzoso M, Zaglia T, **Mongillo M**. Putting together the clues of the everlasting neuro-cardiac liaison. Biochim Biophys Acta. 2016 Jul;1863(7 Pt B):1904-15. doi: 10.1016/j.bbamcr.2016.01.009. Epub 2016 Jan 14. Review.

Bang C, Antoniadou C, Antonopoulos AS, Eriksson U, Franssen C, Hamdani N, Lehmann L, Moessinger C, **Mongillo M**, Muhl L, Speer T, Thum T. Intercellular communication lessons in heart failure. Eur J Heart Fail. 2015 Nov;17(11):1091-103. doi: 10.1002/ehf.399. Epub 2015 Sep 23. Review.

Zaglia T, Pianca N, Borile G, Da Broi F, Richter C, Campione M, Lehnart SE, Luther S, Corrado D, Miquelot L, **Mongillo M**. Optogenetic determination of the myocardial requirements for extrasystoles by cell type specific targeting of Channelrhodopsin-2. PNAS 2015 Aug 11;112(32):E4495-504. doi: 10.1073/pnas.1509380112. Epub 2015 Jul 23

Varanita T, Soriano ME, Romanello V, Zaglia T, Quintana-Cabrera R, Semenzato M, Menabò R, Costa V, Civiletto G, Pesce P, Viscomi C, Zeviani M, Di Lisa F, **Mongillo M**, Sandri M, Scorrano L. The opa1-dependent mitochondrial cristae remodeling pathway controls atrophic, apoptotic, and ischemic tissue damage. Cell Metab. 2015 Jun 2;21(6):834-44. doi: 10.1016/j.cmet.2015.05.007.

Baysa A, Sagave J, Carpi A, Zaglia T, Campesan M, Dahl CP, Bilbija D, Troitskaya M, Gullestad L, Giorgio M, **Mongillo M**, Di Lisa F, Vaage JI, Valen G. The p66ShcA adaptor protein regulates healing after myocardial infarction. Basic Res Cardiol. 2015 Mar;110(2):13. doi: 10.1007/s00395-015-0470-0.

Borile G, de Mauro C, Urbani A, Alfieri D, Pavone FS, **Mongillo M**. Multispot multiphoton Ca²⁺ imaging in acute myocardial slices. J Biomed Opt. 2015 May;20(5):51016. doi: 10.1117/1.JBO.20.5.051016.

Perino A, Beretta M, Kilić A, Ghigo A, Carnevale D, Repetto IE, Braccini L, Longo D, Liebig-Gonglach M, Zaglia T, Iacobucci R, **Mongillo M**, Wetzker R, Bauer M, Aime S, Vercelli A, Lembo G, Pfeifer A, Hirsch E. Combined inhibition of PI3K β and PI3K γ reduces fat mass by enhancing α -MSH-dependent sympathetic drive. Sci Signal. 2014 Nov 18;7(352):ra110. doi: 10.1126/scisignal.2005485.

Castaldi A, Zaglia T, Di Mauro V, Carullo P, Viggiani G, Borile G, Di Stefano B, Schiattarella GG, Gualazzi MG, Elia L, Stirparo GG, Colorito ML, Pironti G, Kunderfranco P, Esposito G, Bang ML, **Mongillo M**, Condorelli G, Catalucci D. MicroRNA-133 modulates the β 1-adrenergic receptor transduction cascade. Circ Res. 2014 Jul 7;115(2):273-83. doi: 10.1161/CIRCRESAHA.115.303252.

Zaglia T, Milan G, Ruhs A, Franzoso M, Bertaggia E, Pianca N, Carpi A, Carullo P, Pesce P, Sacerdoti D, Sarais C, Catalucci D, Krüger M, **Mongillo M***, Sandri M*. Atrogin-1 deficiency promotes cardiomyopathy and premature death via impaired autophagy. *J Clin Invest*. 2014 Jun;124(6):2410-24. doi: 10.1172/JCI66339. *: corresponding author

Di Benedetto G, Scalzotto E, **Mongillo M**, Pozzan T. Mitochondrial Ca^{2+} uptake induces cyclic AMP generation in the matrix and modulates organelle ATP levels. *Cell Metab*. 2013 Jun 4;17(6):965-75. doi: 10.1016/j.cmet.2013.05.003.

Zaglia T, Milan G, Franzoso M, Bertaggia E, Pianca N, Piasentini E, Voltarelli VA, Chiavegato D, Brum PC, Glass DJ, Schiaffino S, Sandri M, **Mongillo M**. Cardiac sympathetic neurons provide trophic signal to the heart via β 2-adrenoceptor-dependent regulation of proteolysis. *Cardiovasc Res*. 2013 Feb 1;97(2):240-50. doi: 10.1093/cvr/cvs320.

Terrin A, Monterisi S, Stangherlin A, Zoccarato A, Koschinski A, Surdo NC, **Mongillo M**, Sawa A, Jordanides NE, Mountford JC, Zaccolo M. PKA and PDE4D3 anchoring to AKAP9 provides distinct regulation of cAMP signals at the centrosome. *J Cell Biol*. 2012 Aug 20;198(4):607-21. doi: 10.1083/jcb.201201059.

Martewicz S, Michielin F, Serena E, Zambon A, **Mongillo M**, Elvassore N. Reversible alteration of calcium dynamics in cardiomyocytes during acute hypoxia transient in a microfluidic platform. *Integr Biol (Camb)*. 2012 Feb;4(2):153-64. doi: 10.1039/c1ib00087j. Epub 2011 Dec 13.

Plazzo AP, De Franceschi N, Da Broi F, Zonta F, Sanasi MF, Filippini F, **Mongillo M**. Bioinformatic and mutational analysis of channelrhodopsin-2 protein cation-conducting pathway. *J Biol Chem*. 2012 Feb 10;287(7):4818-25. doi: 10.1074/jbc.M111.326207. Epub 2011 Dec 2.

Frossi B, D'Inca F, Crivellato E, Sibilano R, Gri G, **Mongillo M**, Danelli L, Maggi L, Pucillo CE. Single-cell dynamics of mast cell-CD4⁺ CD25⁺ regulatory T cell interactions. *Eur J Immunol*. 2011 Jul;41(7):1872-82. doi: 10.1002/eji.201041300.

Shan J, Kushnir A, Betzenhauser MJ, Reiken S, Li J, Lehnart SE, Lindegger N, **Mongillo M**, Mohler PJ, Marks AR. Phosphorylation of the ryanodine receptor mediates the cardiac fight or flight response in mice. *J Clin Invest*. 2010 Dec;120(12):4388-98. doi: 10.1172/JCI32726. Epub 2010 Nov 22.

Cook SA, Varela-Carver A, **Mongillo M**, Kleinert C, Khan MT, Leccisotti L, Strickland N, Matsui T, Das S, Rosenzweig A, Punjabi P, Camici PG. Abnormal myocardial insulin signalling in type 2 diabetes and left-ventricular dysfunction. *Eur Heart J*. 2010 Jan;31(1):100-11. doi: 10.1093/eurheartj/ehp396. Epub 2009 Oct 1.

Li G, **Mongillo M**, Chin KT, Harding H, Ron D, Marks AR, Tabas I. Role of ERO1- α -mediated stimulation of inositol 1,4,5-triphosphate receptor activity in endoplasmic reticulum stress-induced apoptosis. *J Cell Biol*. 2009 Sep 21;186(6):783-92. doi: 10.1083/jcb.200904060.

Bellinger AM, Reiken S, Carlson C, **Mongillo M**, Liu X, Rothman L, Matecki S, Lacampagne A, Marks AR. Hypernitrosylated ryanodine receptor calcium release channels are leaky in dystrophic muscle. *Nat Med*. 2009 Mar;15(3):325-30. doi: 10.1038/nm.1916.

Lindegger N, **Mongillo M**. Look beyond the hERG mutation: a neutral SCN5A variant may turn lidocaine into a threat. *Heart Rhythm*. 2008 Nov;5(11):1575-6. doi: 10.1016/j.hrthm.2008.09.006.

Lehnart SE*, **Mongillo M***, Bellinger A, Lindegger N, Chen BX, Hsueh W, Reiken S, Wronska A, Drew LJ, Ward CW, Lederer WJ, Kass RS, Morley G, Marks AR. (*: co-first author) Leaky Ca^{2+} release channel/ryanodine receptor 2 causes seizures and sudden cardiac death in mice. *J Clin Invest*. 2008 Jun;118(6):2230-45. doi: 10.1172/JCI35346.

Bellinger AM, **Mongillo M**, Marks AR. Stressed out: the skeletal muscle ryanodine receptor as a target of stress. *J Clin Invest*. 2008 Feb;118(2):445-53. doi: 10.1172/JCI34006. Review.

Mongillo M, Marks AR. Models of heart failure progression: Ca^{2+} dysregulation. *Drug Discovery Today: Disease Models* - Vol. 4 - Issue 4 - 2007 - pp. 191-196

Naoumova RP, Kindler H, Leccisotti L, **Mongillo M**, Khan MT, Neuwirth C, Seed M, Holvoet P, Betteridge J, Camici PG. Pioglitazone improves myocardial blood flow and glucose utilization in nondiabetic patients with combined hyperlipidemia: a randomized, double-blind, placebo-controlled study. *J Am Coll Cardiol*. 2007 Nov 20;50(21):2051-8.

John AS, **Mongillo M**, Depre C, Khan MT, Rimoldi OE, Pepper JR, Dreyfus GD, Pennell DJ, Camici PG. Pre- and post-synaptic sympathetic function in human hibernating myocardium. *Eur J Nucl Med Mol Imaging*. 2007 Dec;34(12):1973-80.

Yang L, Liu G, Zakharov SI, Bellinger AM, **Mongillo M**, Marx SO. Protein kinase G phosphorylates Cav1.2 alpha1c and beta2 subunits. *Circ Res*. 2007 Aug 31;101(5):465-74.

Mongillo M, John AS, Leccisotti L, Pennell DJ, Camici PG. Myocardial pre-synaptic sympathetic function correlates with glucose uptake in the failing human heart. *Eur J Nucl Med Mol Imaging*. 2007 Aug;34(8):1172-7.

Dutka DP, Pitt M, Pagano D, **Mongillo M**, Gathercole D, Bonser RS, Camici PG. Myocardial glucose transport and utilization in patients with type 2 diabetes mellitus, left ventricular dysfunction, and coronary artery disease. *J Am Coll Cardiol*. 2006 Dec 5;48(11):2225-31.

Mongillo M, Zaccolo M. A complex phosphodiesterase system controls beta-adrenoceptor signalling in cardiomyocytes. *Biochem Soc Trans*. 2006 Aug;34(Pt 4):510-1. Review.

Mongillo M, Tocchetti CG, Terrin A, Lissandron V, Cheung YF, Dostmann WR, Pozzan T, Kass DA, Paolocci N, Houslay MD, Zaccolo M. Compartmentalized phosphodiesterase-2 activity blunts beta-adrenergic cardiac inotropy via an NO/cGMP-dependent pathway. *Circ Res*. 2006 Feb 3;98(2):226-34. Epub 2005 Dec 15.

Zaccolo M, Cesetti T, Di Benedetto G, **Mongillo M**, Lissandron V, Terrin A, Zamparo I. Imaging the cAMP-dependent signal transduction pathway. *Biochem Soc Trans*. 2005 Dec;33(Pt 6):1323-6. Review.

Mongillo M, Terrin A, Evellin S, Lissandron V, Zaccolo M. Study of cyclic adenosine monophosphate microdomains in cells. *Methods Mol Biol*. 2005;307:1-13.

Takimoto E, Champion HC, Belardi D, Moslehi J, **Mongillo M**, Mergia E, Montrose DC, Isoda T, Aufiero K, Zaccolo M, Dostmann WR, Smith CJ, Kass DA. cGMP catabolism by phosphodiesterase 5A regulates cardiac adrenergic stimulation by NOS3-dependent mechanism. *Circ Res*. 2005 Jan 7;96(1):100-9.

Rudolf R, **Mongillo M**, Magalhães PJ, Pozzan T. In vivo monitoring of Ca(2+) uptake into mitochondria of mouse skeletal muscle during contraction. *J Cell Biol*. 2004 Aug 16;166(4):527-36.

Mongillo M, McSorley T, Evellin S, Sood A, Lissandron V, Terrin A, Huston E, Hannawacker A, Lohse MJ, Pozzan T, Houslay MD, Zaccolo M. Fluorescence resonance energy transfer-based analysis of cAMP dynamics in live neonatal rat cardiac myocytes reveals distinct functions of compartmentalized phosphodiesterases. *Circ Res*. 2004 Jul 9;95(1):67-75. Epub 2004 Jun 3.

Evellin S, **Mongillo M**, Terrin A, Lissandron V, Zaccolo M. Measuring dynamic changes in cAMP using fluorescence resonance energy transfer. *Methods Mol Biol*. 2004;284:259-70.

Rudolf R, **Mongillo M**, Rizzuto R, Pozzan T. Looking forward to seeing calcium. *Nat Rev Mol Cell Biol*. 2003 Jul;4(7):579-86. Review.

Pozzan T, **Mongillo M**, Rudolf R. The Theodore Bücher lecture. Investigating signal transduction with genetically encoded fluorescent probes. *Eur J Biochem*. 2003 Jun;270(11):2343-52. Review.

Salamon M, Millino C, Raffaello A, **Mongillo M**, Sandri C, Bean C, Negrisolo E, Pallavicini A, Valle G, Zaccolo M, Schiaffino S, Lanfranchi G. Human MYO18B, a novel unconventional myosin heavy chain expressed in striated muscles moves into the myonuclei upon differentiation. *J Mol Biol*. 2003 Feb 7;326(1):137-49.