

PERSONAL INFORMATION

Michele Miragoli, PhD



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Sex Male | Date of birth 19/06/1973 | Nationality Italian

WORK EXPERIENCE

- 11/2016-now **Tenured-track Assistant Professor**
 Applied Medical Technology, MED/50 Head of Nanophysiology lab
 Department of Medicine and Surgery , University of Parma
- 03/2016-11/2016 **Researcher Group Leader . Assegno di Ricerca, P.I.**
 Department of Clinical and Experimental Medicine, University of Parma
- 01/2012-now **Junior Group Leader in Cardiac Nanophysiology- P.I.**
 Humanitas Clinical and Research Center – 20090- Rozzano (MI) - Italy
 Laboratory of Immunology, Inflammation and Cardiovascular Pathologies
- 01/2012-12/2015 **Researcher Group Leader – P.I.**
 CERT, Centre of Excellence for Toxicological Research, INAIL ex-ISPEL, University of Parma,
 43124, Via Gramsci 14 Parma, IT Department of Clinical and Experimental Medicine, University of
 Parma
- 04/2008- 12/2011 **Research associate**
 Imperial College London, SW26LY – London (United Kingdom)
 National Heart and Lung Institute, Functional Microscopy Group headed by Prof. Julia Gorelik
- 02/2003- 03/2008 **Postdoctoral Researcher**
 Institute of Physiology, University of Bern, 30012, Bhuelplatz 5, Bern (Switzerland).
 Cardiac Arrhythmia Mechanisms Group headed by Prof. Stephan Rohr

EDUCATION AND TRAINING

- 29/04/2019 **Abilitazione Scientifica Nazionale:** Italian National Habilitation for Full Professor in
 Medicine 06/N1 – MED/50 -Applied Scientific Medical Technologies.
- 14/06/2014 **Abilitazione Scientifica Nazionale:** Italian National Habilitation for Associate
 Professor in Medicine 06/N1 – MED/50 -Applied Scientific Medical Technologies.
- 01/2000-12/2002 **PhD in Systemic Physiopathology**
 University of Parma (IT), Dept. of Bioscience and Institute of Physiology University of Bern
 Title of Thesis: "Impulse Initiation and Impulse Propagation in Cardiac Tissue". Defended on
 20/02/2003
- 1999-2000 **Post-master training for Italian Biological Admit**
 University of Parma (IT), Dept. of Bioscience
- 10/1993-03/1999 **Master Degree in General Biology**
 University of Parma (IT)
 Thesis title: "Epicardial potential measurement during current injection and
 ventricular activation in rat heart"

10/1993-03/1999

Undergraduate School in Electronic and Computer Science

Industrial Engineer, Qualification level: PS3 - Diploma of post-secondary level State
Technical Institute "Janello Torriani", Cremona IT

HONOUR AND AWARDS

2014: Award for the Best Oral Presentation at the 1st NANODAY workshop EXPO2015, Parma, Italy.
Title of the presentation: Air pollution exposure: a cross-functional bench investigation to evaluate cardiovascular risk factors in normal and failing cardiac tissue. 28th November

2014-now: Honorary Research Associate at National Research Council, IRGB institute CNR

2011-now: Honorary Research Associate at Imperial College London

2011: Imperial College Rector Awards for the impressive achievements of 2010.

2009: Winner of the Italian Young Investigator Research Prize, from the Italian Society of Cardiovascular Research and the National Institute of Cardiovascular Research for the work: 'Myofibroblasts Contribute to Foetal Arrhythmia'. EU 500

2008: Winner of the Swiss Cardiovascular Biology Prize, young investigation award, of the Swiss Society of Cardiology for the work : " Myofibroblast induce ectopic activity in cardiac tissue". CHF 30.000

2007: 1st place for Best Poster Competition, Tissue Level, Gordon Research Conference, Cardiac Arrhythmia Mechanisms, Ventura, California (USA).

2004: Winner of Asher-Hess Prize, young investigator award, Annual Meeting of the Swiss Physiological Society, Institute of Physiology, Fribourg, Switzerland. CHF 500

2001 Young Research award, from University of Parma ' Mechanisms of initiation and propagation of paced stimulus'.

2000 Winner of 12 months scholarship from University of Parma for Advanced training period in foreign country during PhD program, spent at the Institute of Physiology, University of Bern, Switzerland, Prof. Stephan Rohr's group.

TEACHING AND SUPERVISION

AA 2016-2017, 2017-2018, 2018-2019: Professor of Applied Medical Technology for the following courses:

degree of Audioprotetic science techniques, course of Ear Physiology,

degree of Environment and Workplace Prevention Techniques, Course of Health Promotion

degree of Biomedical Laboratory Techniques, course of risk mitigation techniques in laboratories

2014: Physiology Contract Professor for 2nd year of "Undergraduate course of Natural Sciences" Dept. of Bioscience, University of Parma : Title of the course :

"Advanced microscopy techniques in cellular physiology"

2012-2018: Supervisor of 3 Postdoctoral fellows, CERT, University of Parma, IT

Supervisor of 1 Postdoctoral fellow, Humanitas Research Center, Rozzano, IT

Co-supervisor of 2 PhD student, University of Verona, IT

Co-supervisor of 1 PhD student, Open University Walton Hall, Milton Keynes, MK7 6AA, UK

Co-Supervisor of 1 PhD student BHF and BBSRC, Imperial College, London, UK

Supervisor of 2 MSc students, CERT, University of Parma, IT

2009-2011: Co-supervisor of 1 PhD student MRC, Imperial College London, UK

Co-supervisor of two MSc students, NHLI, Imperial College, London, UK

Supervisor of two BSc students Faculty of Medicine, Imperial College, London, UK

2003-2008: Co-Supervisor of 1 PhD student at Institute of Physiology, University of Bern, CH

2001-2002: Supervisor of two MSc students at Institute of Physiology, University of Parma, IT

2002: Physiology Contract Professor for 3rd year of Faculty of Natural Sciences, University of Parma: "Bioelectrical signal recording and data processing".

ACADEMIC COMMITTEE

AA 2017-2018,; Ph.D. Committee ETH Zurich

AA 2017-2018, 2018-2019: Ph.D Professor for the Ph.D course in Medical surgical and Translational science

AA 2016-2017: Ph.D committee University of Verona

TEAM MEMBER and SUPERVISION

Dr. Stefano Rossi (Senior research associate from 02/2012 UNIPR Lab)
Dr. Nicolò Salvarani (Postdoc from 02/2013 Humanitas Lab)
Dr. Cristina Caffarra (Postdoc from 07/2017 UNIPR Lab)
Giacomo Rozzi (Ph.D Student 2017-2019 UNIPR Lab)
Dr. Ing. Ruben Foresti (Postdoc from 12/2017 UNIPR Lab)
Roman Medvedev (Ph.D student 2017-2017 Humanitas Lab)
Francesco Paolo Lo Muzio (Ph.D student from 10/2018 UNIPR lab)
Lucia Lombardi (undergraduate student)
Amparo Guerrero Gerboles (Ph.D student from 01/11/2018)
Federica Valentino (undergraduate student)
Samuel Pineda Chavez (undergraduate student)

Former Team Member

Mrs. Ludovica Lezzi
Mrs. Caterina Oliani
Mr. Giorgio Menna
Mrs. Andrea Buccarello
Mrs. Patricia Kiptiu (undergraduate student)
Dr. Laura Gennaccaro
Dr. Fabrizia Ranieri
Dr. Monia Savi
Dr. Francisca Schultz
Dr. Marta Mazzola
Dr. Serena Strozzi
Dr. Maricla Galetti

RESEARCH GRANTS

ACTIVE:

2019: SLEEP@SA: Salute sul Lavoro e Prevenzione delle Obstructive Sleep Apnea: un'epidemia silenziosa. **Role:** WP leader. **Source of funding:** BRIC INAIL 2018. € 220.000, total € 800.000

2019: ERAPERMED: LVAD-STRAT : Stratification of heart failure patients for cardiac recovery upon cardiac unloading by left ventricular assist device therapy: addressing the molecular, epigenetic, and proteomic changes associated with reverse cardiac remodeling: **Role:** Collaborator in Dr. Bang Unit. **Source of Funding:** FFABR, € 500.000 Total: € 1.088.330

2018: FFABR – MIUR: Finanziamento delle Attività Base di Ricerca: **Role:** P.I. : **Source of Funding:** MIUR, € 3.000.

2016-2020: CUPIDO: Cardio Ultraefficient Nanoparticles for Inhalation of Drug Products. **Role:** co-P.I.. **Source of Funding:** Horizon 2020- Nanoformulation of biological- NMPB2016. G.A.: 720834 - € 6,094,781.25 total. . CNR Unit – 1. 732.000

PAST FUNDED

2016-2018: Innovative nanoparticle formulation for a miR-133 based treatment of cardiac hypertrophy **miRCaP**. ERC Proof of Concept. **Role:** collaborator. **Source of Funding:** European Research Council - € 180.000 (Prof. Gianluigi Condorelli P.I.)

2013-2018 Flagship Project Nanomax: “Face up cardiac hypertrophy by electrically charged Nanoparticles”.
Role: Co-applicant and WG coordinator **Source of Funding:** National Research Council (CNR)

Italy) - € 420.000

2012-2015 Arrhythmogenicity of Diesel Exhaust Nanoparticles in Healthy and Failing Hearts: Focus on Mechanisms. Young Research Grant GR-2009-1530528

Role: Principal Investigator, coordinator of three operative units **Source of funding:** Italian Ministry of Health and INAIL (co-funding).- € 509.112

2014-2017: Combining exome sequencing and induced pluripotent stem cells for identification of novel pathogenetic mechanisms and therapies in human cardiomyopathies. Young Research Grant GR-2011-02347743. **Role:** co-investigator **Source of Funding:** Italian Ministry of Health - € 90.000

2014: European Translation Access Project QualityNano. "Presence of TiO₂nanoparticles in healthy and failing hearts after airborne exposure: a new player for cardiac arrhythmia? TAP-225

Role: Principal investigator and coordinator of the project **Source of Funding:** FP7 –Capacities Program -€ 10.000

2010-2015 Functional compartmentation of betaAR cAMP/Ca²⁺ signaling to surface structures of normal and failing cardiomyocytes investigated by the nanoscale SICM/FRET 'smart patch' clamp technique. Grant WT-P24460

Role: WG coordinator and co-applicant **Source of funding:** Wellcome Trust £ 132.591

PUBLICATIONS:

N of Total Citation 2392

H index: 21

(Google Scholar)

I.F tot: 335.07

I.F average: 7.12

Miragoli M, Goldoni M, Demola P, Paterlini A, Li Calzi M, Gioia MI, Visioli F, Rossi S, Pela G. Left ventricular geometry correlates with early repolarization pattern in adolescent athletes. **Scand J Med Sci Sports**. 2019 Jul 14. I.F.: **3.63**

Francisca Schultz, Pamela Swiatlowska, Anita Alvarez-Laviada, Jose L. Sanchez-Alonso, Qianqian Song, Antoine A. F. de Vries, Daniël A. Pijnappels, Emily Ongstad, Vania Braga, Emilia Entcheva, Robert G. Gourdie, **Michele Miragoli** & Julia Gorelik. Cardiomyocyte–myofibroblast contact dynamism is modulated by connexin-43. **The FASEB journal**. 2019 Jul 5:fj201802740RR . I.F. **5.59**

S. Rossi; M. Savi; M. Mazzola, Ph.D.; S. Pinelli, Ph.D.; R. Alinovi; L. Gennaccaro; A. Pagliaro; V. Meraviglia; M. Galetti; O. Lozano-Garcia; A. Rossini; C. Frati; A. Falco; F. Quaini; L. Bocchi; D. Stilli; S. Lucas; M. Goldoni; E. Macchi; A. Mutti; **M. Miragoli***. Subchronic exposure to titanium dioxide nanoparticles modifies cardiac structure and performance in spontaneously hypertensive rats. **Particle and Fibre Toxicology**. 2019 Jun 24;16(1):25. I.F. **6.15**. *Corresponding author

Lo Muzio FP, Rozzi G, Rossi S, Gerbolés AG, Fassina L, Pelà G, Luciani GB, **Miragoli M.*** In-situ optical assessment of rat epicardial kinematic parameters reveals frequency-dependent mechanic heterogeneity related to gender. **Prog Biophys Mol Biol**. 2019 May 21. pii: S0079-6107(19)30054-9. I.F. **3.42** *Corresponding author

Nicolò Salvarani , Silvia Crasto , **Michele Miragoli** , Alessandro Bertero , Marianna Paulis , Paolo Kunderfranco , Simone Serio , Alberto Forni , Carla Lucarelli , Matteo Dal Ferro , Veronica Larcher , Gianfranco Sinagra , Paolo Vezzoni , Charles Murry , Giuseppe Faggian , Elisa Di Pasquale. The K219T-Lamin mutation induces conduction defects through epigenetic inhibition of SCN5A in human cardiac laminopathy, **Nature Communication**, 2019 May 22;10(1):2267. I.F. : **12.35**

Rozzi G., Lo Muzio F.P. , Sandrini C., Rossi S., Fassina L., Faggian, G., **Miragoli M.***, Luciani GB*. Real-time video kinematic evaluation of the in-situ beating right ventricle after pulmonary valve replacement in tetralogy of Fallot patients: a pilot study. **Interactive Cardiovascular and Thoracic Surgery**, 2019 Jun 9. *Corresponding author I.F. : **1.75**

Simona Iodice, Mirjam Hoxha, Luca Ferrari, Ilma Floriana Carbone, Cecilia Anceschi, **Michele Miragoli**, Angela C. Pesatori, Nicola Persico and Valentina Bollati

Particulate air pollution, blood mitochondrial DNA copy number and telomere length in mothers in the first trimester of pregnancy: effects on fetal growth. **Oxidative Medicine and Cellular Longevity**. Oxid Med Cell Longev. 2018 Nov 5;2018:5162905. doi: 10.1155/2018/5162905. eCollection 2018. **I.F. 4.96**

Marrella A, Iafisco M, Adamiano A, Rossi S, Aiello M, Barandalla-Sobrados M, Carullo P, **Miragoli M**, Tampieri A, Scaglione S, Catalucci D. A combined low-frequency electromagnetic and fluidic stimulation for a controlled drug release from superparamagnetic calcium phosphate nanoparticles: potential application for cardiovascular diseases. **J R Soc Interface**. 2018 Jul;15(144). pii: 20180236. doi: 10.1098/rsif.2018.0236. **I.F.: 3.35**

M. Miragoli*, P.Ceriotti, M.Iafisco, M.Vacchiano, N.Salvarani, A.Alogna, P.Carullo, G.B. Ramirez-Rodríguez, T.Patricio, L. Degli Esposti, F. Rossi, F. Ravanetti, S.Pinelli, R.Alinovi, M.Erreni, S. Rossi, G.Condorelli, H.Post, A.Tampieri, & D.Catalucci*. Inhalation of peptide-loaded nanoparticles improves heart failure. **Science Translational Medicine**, Jan 17;10(424). pii: eaan6205. **I.F.: 16.79**
***Corresponding author**

Pietroiusti A, Bergamaschi E, Campagna M, Campagnolo L, De Palma G, Iavicoli S, Leso V, Magrini A, **Miragoli M**, Pedata P, Palombi L, Iavicoli I. The unrecognized occupational relevance of the interaction between engineered nanomaterials and the gastro-intestinal tract: a consensus paper from a multidisciplinary working group. **Part Fibre Toxicol**. 2017 Nov 25;14(1):47. **I.F.: 8.57**

Gesmundo I*, **Miragoli M***, Carullo P, Trovato L, Larcher V, Di Pasquale E, Brancaccio M, Mazzola M, Villanova T, Sorge M, Taliano M, Gallo MP, Alloatti G, Penna C, Hare JM, Ghigo E, Schally AV, Condorelli G, Granata R. Growth hormone-releasing hormone attenuates cardiac hypertrophy and improves heart function in pressure overload-induced heart failure. **Proc Natl Acad Sci U S A**. 2017 Nov 7;114(45):12033-12038.
I.F.: 9.66 ***Sharing first author**

Roberto Papait, Simone Serio, Christina Pagiatakis, Francesca Rusconi, Pierluigi Carullo, Marta Mazzola, Nicolò Salvarani, **Michele Miragoli**, and Gianluigi Condorelli, Histone methyltransferase G9a is required for cardiomyocyte homeostasis and hypertrophy. **Circulation**. 2017 Sep 26;136(13):1233-1246 **I.F.: 19.3**

Cabassi A, **Miragoli M**. Altered Mitochondrial Metabolism and Mechanosensation in the Failing Heart: Focus on Intracellular Calcium Signaling. **Int J Mol Sci**. 2017 Jul 10;18(7). pii: E1487. doi: 10.3390/ijms18071487 **I.F.: 3.2**
Corresponding Author

Salvarani N, Maguy A, De Simone SA, **Miragoli M**, Jousset F, Rohr S. TGF- β 1 (Transforming Growth Factor- β 1) Plays a Pivotal Role in Cardiac Myofibroblast Arrhythmogenicity. **Circ Arrhythm Electrophysiol**. 2017 May;10(5):e004567 **I.F.: 5.58**

Lorenzo Fassina, Giacomo Rozzi, Stefano Rossi, Simone Scacchi, Maricla Galetti, Francesco Paolo Lo Muzio, Fabrizio del Bianco, Piero Colli Franzone, Giuseppe Pettrilli, Giuseppe Faggian, **Michele Miragoli**. Cardiac kinematic parameters computed from video of in situ beating heart. **Sci Rep**. 2017 Apr 11;7:46143. **I.F.: 5.22** **Corresponding Author**

Stefano Rossi, Andrea Buccarello, Philip Ershler, Robert Lux, Sergio Callegari, Domenico Corradi, Luca Carnevali, Andrea Sgoifo, **Michele Miragoli**, Ezio Musso, and Emilio Macchi. Effect of anisotropy on ventricular vulnerability to unidirectional block and reentry by single premature stimulation during normal sinus rhythm in rat heart. **Am J Physiol Heart Circ Physiol**. 2017 Mar 1;312(3):H584-H607. **I.F.: 3.83**

Savi M, Bocchi L, Sala R, Frati C, Lagrasta C, Madeddu D, Falco A, Pollino S, Bresciani L, **Miragoli M**, Zaniboni M, Quaini F, Del Rio D, Stilli D. Parenchymal and Stromal Cells Contribute to Pro-Inflammatory Myocardial Environment at Early Stages of Diabetes: Protective Role of Resveratrol. **Nutrients**. 2016 Nov 16;8(11). pii: E729. **I.F.: 3.55**

F. Rusconi; P. Ceriotti; **M. Miragoli**, PG Carullo; N Salvarani, M. Rocchetti, E. Di Pasquale, S. Rossi, M. Tessari, S. Caprari, M. Cazade, P. Kunderfranco, J. Chemin, Marie-Louise Bang, F. Polticelli, A. Zaza, G. Faggian, G. Condorelli, D. Catalucci. Peptidomimetic Targeting of Cav β 2 Overcomes Dysregulation of the L-Type Calcium Channel Density and Recovers Cardiac Function. **Circulation**. 2016 Aug 16;134(7):534-46 **I.F.: 19.3**

Savi M, Bocchi L, Rossi S, Frati C, Graiani G, Lagrasta C, **Miragoli M**, Di Pasquale E, Stirparo GG, Mastrototaro G, Urbanek K, De Angelis A, Macchi E, Stilli D, Quaini F, Musso E. Anti-arrhythmic effect of growth factors supplemented cardiac progenitor cells in chronic infarcted heart. **Am J Physiol Heart Circ Physiol**. 2016 Jun 1;310(11):H1622-48. **I.F.: 3.83**

Mauro VD, Iafisco M, Salvarani N, Vacchiano M, Carullo P, Ramírez-Rodríguez GB, Patrício T, Tampieri A, **Miragoli M**, Catalucci D. Bioinspired negatively charged calcium phosphate nanocarriers for cardiac delivery of MicroRNAs. **Nanomedicine (Lond)**. 2016 Mar 16. 2016 Apr;11(8):891-906. **I.F.: 5.82**

Corresponding Author

Schultz F, Hasan A, Alvarez-Laviada A, **Miragoli M**, Bhogal N, Wells S, Poulet C, Chambers J, Williamson C, Gorelik J. The Protective Effect of Ursodeoxycholic Acid in an in vitro model of the Human Fetal Heart occurs via Targeting Cardiac Fibroblasts.. **Prog Biophys Mol Biol**. 2016 Jan;120(1-3):149-63. **I.F.: 3.28**

Baheiraei N, Gharibi R, Yeganeh H, **Miragoli M**, Salvarani N, Di Pasquale E, Condorelli G. Electroactive polyurethane/siloxane derived from castor oil as a versatile cardiac patch, Part II: HL-1 cytocompatibility and electrical characterizations. **J Biomed Mater Res A**. 2016 Jun;104(6):1398-407. **I.F.: 3.07**

M Miragoli, J.L. Sanchez-Alonso, A.Bhargava, P.T. Wright, M.Sikkel, S.Schobesberger, I. Diakonov, P.Novak, A.Castaldi, P.Cattaneo, A.R. Lyon, M.J. Lab and J.Gorelik*. Microtubule-dependent mitochondria alignment regulates calcium release in response to nanomechanical stimulus in heart myocytes. **Cell Reports**. pii: S2211-1247(15)01427-8 **I.F.: 8.57**

Corresponding Author

V Meraviglia, J. Wen, L Piacentini, G Campostrini, C. Wang, M.C. Florio, V. Azzimato, L. Fassina, M. Langes, J. Wong, **M. Miragoli**, C. Gaetano, G. Pompilio, A. Barbuti, D DiFrancesco, D. Mascalzoni, P.P. Pramstaller, G. I. Colombo, H.V Chen, A.Rossini. Higher cardiogenic potential of iPSCs derived from cardiac versus skin stromal cells. **Frontiers in Bioscience**. 2016 Jan 1;21:719-43 **I.F.: 4.07**

Baheiraei N, Gharibi R, Yeganeh H, **Miragoli M**, Salvarani N, Di Pasquale E, Condorelli G. Electroactive polyurethane/siloxane derived from castor oil as a versatile cardiac patch, part I: Synthesis, characterization, and myoblast proliferation and differentiation. **J Biomed Mater Res A**. 2015 Nov 5. doi: 10.1002/jbm.a.35612 **I.F.: 3.07**

Meraviglia V, Azzimato V, Colussi C, Florio MC, Binda A, Panariti A, Qanud K, Suffredini S, Gennaccaro L, **Miragoli M**, Barbuti A, Lampe PD, Gaetano C, Pramstaller PP, Capogrossi MC, Recchia FA, Pompilio G, Rivolta I, Rossini A. (2015). Acetylation mediates Cx43 reduction caused by electrical stimulation. **Journal of Molecular and Cellular Cardiology** vol. 87, p. 54-64, ISSN: 0022-2828. **I.F.: 5.68**

Alexey V. Glukhov, Leonid V. Rosenshtraukh, Anamika Bhargava, **Michele Miragoli**, and Bas J. D. Boukens. Atrial Fibrillation: Biophysics, Molecular Mechanisms, and Novel Therapies. **Biomed Research International Journal**. Editorial Epub 2015 Jul 9. **I.F.: 2.27**

M.Miragoli and A. Glukhov. Atrial fibrillation and fibrosis: Beyond the cardiomyocyte centric view. **Biomed Research International Journal**. Review. 2015:798768 **I.F.: 2.27**

Corresponding author

Climent-Salarich M, Quintavalle M., **Miragoli M**, Chen J., Elia L., Condorelli G. TGF β triggers miR-143/145 transfer from smooth muscle cells to endothelial cells, thereby modulating vessel stabilization. **Circ. Res**. 2015 May 22;116(11):1753-64. **I.F.: 13.96**

Sala R., Mena P, Savi M., Brighenti F., Crozier A, **Miragoli M.**, Stilli D, Del Rio D. Urolithins in physiological concentrations affect the levels of pro-inflammatory cytokines and growth factor in cultured cardiac cells in hyperglucidic conditions. **Journal of Functional Foods** 15 (2015) 97.105. **I.F.:3.14**

Savi M., Rossi S., Bocchi L., Genaccaro L., Cacciani F., Perotti A., Amidani D., Alinovi R., Goldoni M., Aliatis I, Lottici P., Bersani D., Campanini M., Pinelli S., Petyx M., Frati C., Gervasi A., Urbanek K, Quaini F., Buschini A., Stilli D., Rivetti C., Macchi E., Mutti A., **Miragoli M.** and Zaniboni M. Titanium Dioxide Nanoparticles Promote Arrhythmias via a Direct Interaction with Rat Cardiac Tissue. **Particle and Fibre Toxicology**, 2014 Dec 9;11(1):63 **I.F.: 9.18**
Corresponding author

Rossi, S., Fortunati, I., Carnevali, L., Baruffi, S., Mastorci, F., Trombini, M., Sgoifo, A., Corradi, D., Callegari, S., **Miragoli, M.** and Macchi, E. The effect of aging on the specialized conducting system: a telemetry ECG study in rats over a 6 month period. **PLoS One**, 2014 Nov 14;9(11):e112697. **I.F.: 3.23 Co-corresponding author**

Miragoli M., Yacoub MH, El-Hamamsy I, Sanchez-Alonso JL, Moshkov A, Mongkoldhumrongkul N, Padala M, Paramagurunathan S, Sarathchandra P, Korchev YE, Gorelik J, Chester AH. Side Specific Mechanical Properties of Valve Endothelial Cells. **Am J Physiol Heart Circ Physiol**. 2014 May 2. 2014 Jul 1;307(1):H15-24 **I.F.: 3.83**

Novak P, Shevchuk A, Ruenraroengsak P, **Miragoli M.**, Thorley A.J., Klenerman D, Lab M.J., Tetley T, Gorelik, J, Korchev Y. Imaging single nanoparticle interactions with human lung cells using fast ion conductance microscopy. **Nano Lett.** 2014 Mar 12;14(3):1202-7. doi: 10.1021/nl404068p. Epub 2014 Feb 24. **I.F.: 13.77**

Di Pasquale E, Lodola F, **Miragoli M.**, Denegri M, Avelino-Cruz JE, Buonocore M, Nakahama H, Portararo P, Bloise R, Napolitano C, Condorelli G, Priori SG. CaMKII inhibition rectifies arrhythmic phenotype in a patient-specific model of catecholaminergic polymorphic ventricular tachycardia. **Cell Death Dis.** 2013 Oct 10;4:e843. **I.F.: 5.96**

M.Miragoli, P.Novak, P.Ruenraroengsak, A.I.Shevchuk, Y.E. Korchev, M.J. Lab, T.D. Tetley and J.Gorelik. Functional Interaction between Charged Nanoparticles and Cardiac Tissue: a New Paradigm for Cardiac Arrhythmia?. **Nanomedicine UK.** 2013 May;8(5):725-37 **I.F.: 5.82**

Lyon AR, Nikolaev VO, **Miragoli M.**, Sikkell MB, Paur H, Benard L, Hulot JS, Kohlbrenner E, Hajjar RJ, Peters NS, Korchev YE, Macleod KT, Harding SE, Gorelik J. Plasticity of Surface Structures and β_2 -Adrenergic Receptor Localization in Failing Ventricular Cardiomyocytes During Recovery from Heart Failure. **Circ Heart Fail.** 2012 May 1;5(3):357-65 **I.F.: 7.17**

Miragoli M., Kadir SH, Sheppard MN, Salvarani N, Virta M, Wells S, Lab MJ, Nikolaev VO, Moshkov A, Hague WM, Rohr S, Williamson C, Gorelik J. A protective antiarrhythmic role of ursodeoxycholic acid in an in vitro rat model of the cholestatic fetal heart. **Hepatology.** 2011 Oct;54(4):1282-92. **I.F.: 13.24**

Williamson C, **Miragoli M.**, Sheikh Abdul Kadir S, Abu-Hayyeh S, Papacleovoulou G, Geenes V, Gorelik J. Bile acid signaling in fetal tissues: implications for intrahepatic cholestasis of pregnancy. **Dig Dis.** 2011;29(1):58-61. Epub 2011 Jun 17 **I.F.: 2.87**

A.I. Shevchuk, P.Novak, Y.Takahashi, R.Clarke, B.Babakinejad, **M.Miragoli**, J.Gorelik, Y.E Korchev D. Klenerman. Realising the biological and biomedical potential of nanoscale imaging using a pipette probe. **Nanomedicine. UK** 2011 Apr;6(3):565-75 **I.F.: 5.82**

M.Miragoli, A.Moshkov, P.Novak, A.Shevchuk, V.O. Nikolaev I.El-Hamamsy, C.M.F. Potter, A.R. Lyon, S.E. Harding, J.A. Mitchell, A.H Chester, M.J. Lab, Y.E. Korchev, J. Gorelik. Scanning Ion Conductance Microscopy: A Convergent High-resolution Technology for Multiparametric Analysis of Living Cardiovascular Cells. **Journal of Royal Society of Interface. J R Soc Interface.** 2011 Jul 6;8(60):913-25. Epub 2011 Feb 16. **I.F.: 4.97**

* V.O. Nikolaev, A.Moshkov, A.R. Lyon, **M.Miragoli**, P.Novak, M.J. Lohse, Y.E. Korchev, S.E. Harding, J.Gorelik. Redistribution of β_2 adrenergic receptors contributes to changes in cAMP compartmentation in heart failure. **Science** 26 March 2010: 1653-1657 **I.F.: 37.20**

Sheikh Abdul Kadir SH, **M.Miragoli**, S. Abu-Hayyeh, A. Moshkov, V.Keitel, V.O. Nikolaev,

C. Williamson and J. Gorelik. Bile acid induced arrhythmia is mediated by muscarinic M2 receptors in neonatal rat cardiomyocytes . **PLoS One**. 2010 Mar 15;5(3):e9689 .**F.: 3.23**

Stefano Rossi, Silvana Baruffi, Andrea Bertuzzi, **Michele Miragoli**, Domenico Corradi, Roberta Maestri, Rossella Alinovi, Ezio Musso, Andrea Sgoifo, Donatella Brisinda, Riccardo Fenici and Emilio Macchi. Ventricular activation is impaired in aged rat heart. **American J Physiol Heart Circ Physiol**: 2008 Dec;295(6):H2336-47 **I.F.: 3.83**

Helfenstein M, **Miragoli M**, Rohr S, Müller L, Wick P, Mohr M, Gehr P and Rothen-Rutishauser B. Effects of combustion-derived ultrafine particles, manufactured nanoparticles on heart cells in vitro. 2008. **Toxicology**. Nov 20;253(1-3):70-8 **I.F.: 3.58**

* **M. Miragoli**, N. Salvarani, S. Rohr. Myofibroblasts Induce Ectopic Activity in Cardiac Tissue. **Circ. Res.** 2007;101:755-758. **I.F.: 13.96**
Cover Figure

* **M. Miragoli**, G. Gaudesius, S. Rohr. Electrotonic Modulation of Cardiac Impulse Conduction by Myofibroblasts. **Circ. Res.** 2006 March 31;98 (6): 801 – 810. **I.F.: 13.96**

E. Macchi, S. Baruffi, S. Rossi, **M. Miragoli**, A. Bertuzzi, E. Musso, D. Corradi and F. Di Gregorio. Does cardiac pacing reproduce the mechanism of focal impulse initiation? **Journal of Electrocardiology**, supplement 1, 37:135-143, Oct. 2004. **I.F.: 1.36**

Gaudesius G, **Miragoli M**, Thomas SP, Rohr S. Coupling of cardiac electrical activity over extended distances by fibroblasts of cardiac origin. **Circ. Res.** 2003 Sep 5;93(5):421-8. **I.F.: 13.96**

E. Macchi, S. Baruffi, Bondavalli A, F. Cacciani, **M. Miragoli**, M. Manghi, E. Musso, G. Olivetti, M. Rota, D. Stilli and M. Zaniboni. The Mechanism of Impulse initiation: high-resolution epicardial pace mapping in rat heart. **Acta Biomed**. 2001;72(1-2):25-32.

(* : *articles mentioned in the Faculty of 1000 biology , 'must read'*).

PATENTS

WO2016102576A1, CA2971519A1 : Products for the delivery of therapeutic/diagnostic compounds to the heart. **Michele Miragoli** , Daniele Catalucci, Michele lafisco, Anna Tampieri

CHAPTERS BOOK

Maricla Galetti, Stefano Rossi, Cristina Caffarra, Amparo Guerrero Gerboles, **Michele Miragoli***. Innovation in nanomedicine and engineered nanomaterials for therapeutic purposes. Book: Exposure to Engineered Nanomaterials in the Environment. Elsevier. 2019: 235-262.

Miragoli M., Cabassi A. Mitochondrial Dynamics in Cardiovascular Medicine, 978-3-319-55329-0, 428413_1_En, (13). Springer Nature. Adv Exp Med Biol. 2017;982:247-264

Michele Miragoli, Michael G V Latronico, Gianluigi Condorelli, Daniele Catalucci. **Chapter** in the book: Bio-inspired Regenerative Medicine: Materials, Processes and Clinical Applications. Title of the chapter: Micro-RNA in heart hypertrophy and failure: a perspective on the use of new magnetic nanocarriers. Pan Stanford Publishing. In Press 31/12/2015 ISBN 9789814669146 - CAT# N11423

Rohr S and **Miragoli M**. Cardiac Myofibroblasts and Arrhythmogenesis. In Cardiac Electrophysiology: . From Cell to Bedside, 5th Edition. Zipes and Jalife, Eds., Saunders Philadelphia. 2009. pp 269-278.

INTERNATIONAL CONFERENCE ORAL

PRESENTATION (postdoc period)

2015

Poster Presenter at Gordon Research Conference on Cardiac Arrhythmia Mechanisms 22-27 March 2015. Il Ciocco Lucca –Barga. IT

2014

Oral Presenter at Italian Society of Physiology, national meeting, Anacapri (Italy), 27/09- 01/10. Title of the presentation: "Nano-scaled sarcolemmal mechanical modulation by scanning ion conductance microscopy: a novel technique for studying mechanosensing microdomains involved in arrhythmogenesis".

Oral Presenter at Frontiers in Cardiovascular Biology Meeting, European Society of Cardiology, Barcelona 04/07 – 06/07. Title of presentation: Connexin43 expression modulate myofibroblasts mechanical coupling: implication for the infarct borderzone expansion.

2012

Oral Presenter at Frontiers in Cardiovascular Biology Meeting, European Society of Cardiology, London 30-3/01-04 2012 Title of the presentation: The progression towards heart failure exposes the heart to a mechano-arrhythmic response related to the cellular membrane compliance.

2011

Oral Presenter at American Heart Association, Scientific Session 11-16 Nov 2011, Orlando (FL). Title of the presentation: Structural Remodelling Potentiate Cellular Mechano-arrhythmic Response to Nanoscale Sarcolemmal Perturbation.

Oral Presenter at 1st Scanning Ion Conductance Microscopy Meeting, March 2011, London (UK). Title of the presentation: SICM combined with Optical Recording for Studying Mechanosensation in the Failing Heart

2010

Poster presenter at IV Falk Gastro-Conference, Freiburg (Germany), Bile Acid International Meeting. "Transient appearance of myofibroblasts in human fetal hearts promotes arrhythmias which can be prevented by ursodeoxycholic acid". October 5 – 10, 2010.

2009

Poster presenter at Gordon Research Conference, "Cardiac Arrhythmia Mechanisms", February 2009, Lucca, Italy. Title of the poster: "Myofibroblasts contribute to fetal arrhythmia".

2008

Oral presenter at the "Obstetric Cholestasis meeting", London, UK 7 November 2008. Title of presentation: "Cardioprotective effect of Ursodeoxycholic acid".

2007

Oral presenter at American Heart Association Scientific Session, Orlando, Florida 4-7 November 2007- Title of presentation: "Ectopic activity arising at borderzones between myofibroblasts and cardiomyocytes".

Poster presenter at Gordon Research Conference, "Cardiac Arrhythmia Mechanisms", Ventura, California, March 2007. Title of the poster: "Myofibroblasts induce ectopic activity in cardiac tissue".

2005

Oral presenter at American Heart Association, Scientific Session, Dallas, Texas, 13-16 November 2005. Title of presentation: "Implications of heterocellular coupling between myofibroblasts and cardiomyocytes for arrhythmogenesis".

Poster presenter at Gordon Research Conference, "Cardiac Arrhythmia Mechanisms", Santa Barbara, California, February 2005. Title of the poster: "Arrhythmogenesis in non-uniform cardiac tissue: role of extracellular potassium".

Poster presenter at 49th Biophysical Society Annual Meeting, Long Beach, California, February 2005. Title of the poster: "Re-entrant Excitation in non-uniform cardiac tissue shows complex dependence on extracellular potassium".

2003

Poster presenter at 47th Biophysical Society Annual Meeting, San Antonio, Texas, February 2003.
Title of the poster: "Calcium inward current based Supernormal Conduction".

 INVITED SEMINARS AND
SESSION CHAIRED

- 2019:** **Invited speaker** at Cardiac Mechanoelectric coupling meeting. Friburg (DE), 4-7 September 2019
- 2019:** **Invited speaker** at 1 convegno SIRTEPS- Società Italiana per la ricerca Traslazionale e le Professioni Sanitarie. Rome 21/06/2019
- 2019:** **Invited speaker** at Stati Generali Della Ricerca, Piacenza, 31/05-01/06, Piacenza, IT.
- 2018:** **Invited speaker** at ETH Zurich, Institute of Biomedical Technology , 25/10, Zurich, Switzerland.
- 2018:** **Invited speaker** at BIORIMA 1st conference, Turin , 22-23 March. Inhalation of peptide-loaded nanoparticles improves heart failure
- 2018:** **Invited Speaker** at INDAM, Istituto Nazionale di alta Matematica. Mathematical and numerical models in cardiovascular system. 16-20 April 2018.
- 2017:** **Invited speaker** at the Symposium: Novel tools to investigate cellular physiology at the nanoscale. Rhur- Universitat Bochum. 22-24 September 2017
- 2017:** **Invited speaker** (mini-plenary) at the 3rd Parma Nanoday, University of Parma, Parma , IT 11-13 July 2017
- 2016** **Invited speaker** at International Conference on Work Environment and Cardiovascular Diseases. Varese 3-5 May 2017-
- Invited speaker** at the plenary of Società Italiana di medicina del lavoro (Italy). Roma 21-23 September 2016
- 2015:** **Invited speaker** at the Italian Society of Cardiovascular Research, 26-28/11/2015, Imolla (IT)
- Invited speaker** at QualityNano research meeting, 14-18 July 2015, Heraklion (Crete)
- 2014**
- Invited Seminar** at **Institute of Physiology, university of Bern**. Title of the seminar: 'Mechanoelectric transduction: new insights from the nanoscale'. 30/10/2014
- Invited Lecturer** at **EURAC , Center of Biomedicine**. Title of the seminar: "Nanophysiology and beyond: news insight the nanoscale". 08/09/2014
- Invited Lecturer** at University of Pavia, Faculty of Bioengineering, for the keynote lecture AA 2014-2015. "Cardiac Arrhythmia Mechanisms: only electrical aetiology?" 14/09/2014
- 2013**
- Invited Lecturer** at MEC2013 , 6th International Workshop on **'Cardiac Mechano-Electric Interactions and Arrhythmias'** ,Oxford, 12-15 September 2013. title: 'Nano-scale sarcolemmal mechanical modulation'.
- Invited Chairman** at **Gordon Research Conference**, Cardiac Arrhythmia Mechanisms, 17-22 Ventura, California, February 2013, for chairing the session: 'Novel experimental approaches to study macromolecular complexes'.
- 2012**
- Invited Speaker** at **Societa' Italiana di Biologia Sperimentale** ,29-30 Novembre, Parma, IT. Title: 'Towards nano-physiology in mammalian cells: a multi-parametric analysis with scanning ion conductance microscopy'.

Invited visiting professor to the **Federal Institute of Technology, ETH Zurich** (Switzerland). Title of the seminar: “Scanning Ion Conductance Microscopy: a convergent high-resolution technology for multi-parametric analysis of living cardiovascular cell”. 25 May 2012.

2011

Invited Speaker to the American Heart Association, Scientific Session, Cardiovascular Seminar ‘Mechanoelectric Coupling and Arrhythmias. Title of the presentation: “Mechanoelectrical Transduction Assessed by Ion Scanning Conductance Microscopy”. Orlando 11-16 Nov 2011 (FL)

2010

Invited Oral Presenter to the **2nd Cardiovascular Research Symposium, Surrey University**, UK. Title of presentation: “Transient appearance of myofibroblasts in human fetal hearts promotes arrhythmias which can be prevented by ursodeoxycholic acid”. 2-3 September 2010.

2009

Invited Oral presenter at **Italian Society of Cardiovascular Research**, “Myofibroblasts contribute to fetal arrhythmia”. 29-31 October 2009, Imola (IT)

Heart Science Centre Spring Seminar Series 2009. Presentation’s title: “Connective Tissue in the heart: more than a passive entity”. Harefield Campus, Imperial College London (UK)

2008

Leducq Foundation Consortia meeting. Presentation’s title: “Myofibroblasts and their role in cardiac arrhythmia”. NHLI, Imperial College London (UK)

Workshop in modellistica numerica per sistemi di reazione diffusione in elettrocardiologia computazionale, Institute of Physiology University of Parma (IT). Presentation title: “Electrotonic modulation of cardiac impulse conduction by myofibroblasts”.

Invited speaker as winner of the **Swiss Cardiovascular Biology Prize** at Swiss Society of Cardiology Annual Meeting, presentation’s title: “Myofibroblasts induce ectopic activity in cardiac tissue”.

2007

Session chairman during the international meeting **“Connexins in the cardiovascular system”**. Session: ‘Role in intercellular communications’. Bern (CH).

2006

Novartis Cardio-Vascular biology meeting. Presentation’s title: “Arrhythmogenesis in structurally non-uniform cardiac tissue: Role of extracellular potassium”. Interlaken, Switzerland

2004

Invited Speaker at **‘Cardiostim’, XV World Congress in Cardiac Electrophysiology and Cardiac Techniques**, June 2004, Nice, France. Title of presentation: “Supernormal Conduction Revisited”.

Mother tongue(s) ITALIAN

Other language(s)	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
ENGLISH	C2	C2	C1	C1	C1
	Replace with name of language certificate. Enter level if known.				
GERMAN	A1	A1	A1	A1	A1

Replace with name of language certificate. Enter level if known.

Levels: A1/2: Basic user - B1/2: Independent user - C1/2 Proficient user
Common European Framework of Reference for Languages

Driving licence - A, B.

ADDITIONAL INFORMATION

MEMBERSHIP

Member of Cardiac Electrophysiology group committee, NHLI, Imperial College London.
Member of British Heart Foundation Center of Research Excellence, Imperial College London
Member of Swiss Physiological Society
Member of Swiss Conference University (Swiss Cardiovascular Research and Training Network)
Member of Italian Society of Cardiovascular Research (SIRC)
Member of European Society of Cardiology, WG in Cardiac Cellular Electrophysiology
Member of European Society of Cardiology, WG in Myocardial Function
Scientific Committee Organizer of the annual meeting Italian Society of Experimental Biology (2012)

EDITORIAL BOARD and GRANT REVIEWER

Reviewer Activity:

- Nano Letters (2014-)
- Journal of Chronobiology International (2008-)
- Frontiers in Cardiac Physiology (Editorial Board) (2009-)
- PloS One (2009-)
- Cell death and Disease, Nature Publishing Group (2012-)
- Bioinspired, Biomimetic and Nanobiomaterials (ICE Publishing Group) (2014-)
- Cardiovascular Research (2014-)
- Circulation Research (2015-)
- Scientific Reports (2017-)
- Toxicology in vitro (2015-)
- American Journal of Physiology (Heart and Circulatory) (2016-)
- Nanotoxicology (2017)

Guest Editorial Activity

2014-2015 Biomed Research Journal (Hindawi Publishing Group). Special Issue on Atrial Fibrillation- mechanisms management and therapy

Panel Grants Activity

- ETH Grant Reviewers Committee (Zurich Federal Institute of Technology Research Commission)
- Swiss National Science Foundation
- British Heart Foundation (UK)
- Medical Research Council (UK)
- European Research Council (ERC) Consolidator Grant 2017

NATIONAL AND INTERNATIONAL COLLABORATION

- Dr. Julia Gorelik, NHLI, Imperial College London (UK)
- Prof. Mario Delmar, New York University, (USA)
- Prof. Stephan Rohr, University of Bern, Switzerland (CH)
- Prof. Peter Kohl, NHLI, Imperial College London (UK)
- Dr. Tomaso Zambelli, ETH, Zurich (CH)
- Prof. Frank Sachse, CVRTI, University of Utah (USA)
- Dr. Daniele Catalucci, CNR (IT)
- Dr. Elisa di Pasquale, CNR (IT)
- Prof. Andre Kleber, Harvard Medical School, Boston, (USA)

- Prof. Antonio Mutti , University of Parma (IT)
- Prof. Massimiliano Zaniboni, University of Parma (IT)
- Prof. Nikolaev Viacheslav, University of Hamburg (DE)
- Prof. Robert Gourdie, Virginiatech USA
- Prof. Catherine Williamson, King's College UK
- Dr. Alessandra Rossini, Eurac, Bolzano . IT
- Dr. Marco Mongillio (University of Padua)
- Prof. Giuseppe Faggian (University of Verona)

“In compliance with the Italian Legislative Decree no. 196 dated 30/06/2003 and art. 13 GDPR UE 2016/679, I hereby authorize the recipient of this document to use and process my personal details for the purpose of recruiting and selecting staff and I confirm to be informed of my rights in accordance to art. 7 of the above mentioned decree. “

Autorizzo il trattamento dei miei dati personali presenti nel cv ai sensi dell'art. 13 del Decreto Legislativo 30 giugno 2003, n. 196 “Codice in materia di protezione dei dati personali” e dell'art. 13 del GDPR (Regolamento UE 2016/679)

Parma, 19/07/2019

Michele Miragoli