

PERSONAL INFORMATION

Stefano Rossi



 Via Roncobonoldo 20, 46020 Gonzaga (Italy)

 +39 0521 903260  +39 349 3126719

 stefano.rossi@unipr.it

 [0000-0003-0346-8410](https://orcid.org/0000-0003-0346-8410)

 [L-2556-2016](https://www.researcherid.org/profile/L-2556-2016)

 [57001042700](https://scopus.org/authid/detail.url?authorID=57001042700)

Sex Male | Date of birth 01/02/1973 | Nationality Italian

WORK EXPERIENCE

from 02/2026 to present

Fixed-Term Researcher Type A, G.S.D. 06/MEDS-26 – S.S.D. MEDS-26/B.

Department of medicine and surgery, Via Gramsci 14, 43126, Università di Parma, Italy.

<http://mc.unipr.it/en>

Project: "Nanomedicine and Nanotoxicology" Settore Scientifico-Disciplinare MED-26/B "Scienze delle professioni sanitarie tecniche diagnostiche, assistenziali e della prevenzione".

Business or sector: Applied medical technology for cardiovascular diseases

from 07/2019 to 01/2026

Research specialist

Department of medicine and surgery, Via Gramsci 14, 43126, Università di Parma, Italy.

<http://mc.unipr.it/en>

Project: "Cardiac arrhythmia mechanisms and possible therapies as arrhythmia is a well-known condition that leads to sudden death in the normal and failing heart." Settore Scientifico-Disciplinare MED/50 "Scienze tecniche mediche applicate".

Business or sector: Applied medical technology for cardiovascular diseases

from 07/2016 to 09/2019

Research associate

Department of medicine and surgery, Via Gramsci 14, 43126, Università di Parma, Italy.

<http://mc.unipr.it/en>

Project: "Tonicità midollare renale e sviluppo della ipertensione arteriosa sperimentale e clinica" Settori Scientifico-Disciplinare MED/09 "Medicina Interna" e MED/50 "Scienze tecniche mediche applicate".

Business or sector: Applied medical technology for cardiovascular and renal diseases

from 04/2015 to 09/2015

Assistant researcher

Department of Food and Drug, Parco Area delle Scienze 27/a, 43124, Università degli Studi di Parma, Italy.

<http://saf.unipr.it/en>

Project: "GP/EFSA/NUTRI/2014/01 – Scientific substantiation of health claims made on food: collection, collation and critical analysis of information in relation to claimed effects outcome variables and methods of measurements".

Business or sector: Food and health

from 05/2014 to 02/2015

Research associate

INAIL SETTORE RICERCA, CERTIFICAZIONE E VERIFICA – Centro di Eccellenza per la ricerca tossicologica di Parma c/o Università degli Studi di Parma, Department of Life Sciences, Italy.

<http://www.bioscienze.unipr.it/>

Direct effects of different nanoparticles instillation on the electrophysiological properties of *in vivo* cardiac tissue.

Project: "Arrhythmogenicity of Diesel Exhaust Nanoparticles in Healthy and Failing Heart: Focus on Mechanisms" (GR-2009-1530528)

Business or sector: Cardiac Electrophysiology

from 02/2007 to 01/2014

Research associate

Department of Life Sciences, Parco Area delle Scienze 11/a, 43124, Università degli Studi di Parma, Italy.

<http://www.bioscienze.unipr.it/>

Electrical imaging, computer analysis and graphic visualization of the spread of excitation and sequence of repolarization especially during premature stimuli in normal, ischemic and aged hearts. Electrophysiological interpretation of cardiac signals; and study of propagation as related to myocardial structure.

Business or sector: Cardiac Electrophysiology

from 01/2005 to 10/2005

Tutor support

Department of Life Sciences, Parco Area delle Scienze 11/a, 43124, Università degli Studi di Parma, Italy.

<http://www.bioscienze.unipr.it/>

Tutor activity of the Bachelor degree in Biology

Business or sector: Biology

From 01/2002 - to 12/2005

Graduate student

Department of Life Sciences, Parco Area delle Scienze 11/a, 43124, Università degli Studi di Parma, Italy.

<http://www.bioscienze.unipr.it/>

- Electrical imaging, computer analysis and graphic visualization of the spread of excitation and sequence of repolarization especially during premature stimuli in normal, ischemic and aged hearts. Electrophysiological interpretation of cardiac signals; and study of propagation as related to myocardial structure.

Business or sector: Cardiac Electrophysiology

from 06/2003 – to 05/2004

Assistant researcher

Nora Eccles Harrison Cardiovascular Research and Training Institute (CVRTI) - CVRTI 95S 2000E Salt Lake City, Utah, U.S.A. <http://www.cvrtri.utah.edu/drupal/>

- Optical imaging, computer analysis and graphic visualization of the spread of excitation and sequence of repolarization in dog heart.

Business or sector: Cardiac Electrophysiology

from 10/2001 – to 09/2002

Assistant researcher

Consorzio Spinner - Servizi per la Promozione dell'INNOvazione E della Ricerca - Villa Gandolfi Pallavicini, Via Martelli 22/24 Bologna, Italy. <http://www.spinner.it/index.php>

- Atrial and ventricular stimulation with an anodal pacemaker stimulation.

Business or sector: Cardiac Electrophysiology

EDUCATION AND TRAINING

from 10/2022 – to 10/2033

Abilitazione Scientifica Nazionale

Italian National Habilitation for Associate Professor in Medicine 06/N1 – MED/50 -Applied Scientific Medical Technologies.

from 10/2022 – to 10/2033

Abilitazione Scientifica Nazionale

Italian National Habilitation for Associate Professor in 05/D1 Physiology.

from 01/2002 – to 03/2006

Ph.D.

Ph.D in "Systemic Pathophysiology" (ISCED 8) (Cycle XVII) Thesis work: *"Influence of cardiac anisotropy on the ventricular electrical excitation cycle in experimental models"*. Thesis defence March 03, 2006. Supervisors: Proff. E. Macchi, S. Baruffi, B. Taccardi, B.B. Punske. Department of Life Sciences, Parco Area delle Scienze 11/a, 43124, Università degli Studi di Parma, Italy. <http://www.bioscienze.unipr.it/it>

- Electrical imaging, optical mapping and computer analysis and graphic visualization of the spread of excitation and sequence of repolarization especially during premature stimuli in normal, ischemic and aged hearts. Electrophysiological interpretation of cardiac signals; and study of propagation as related to myocardial structure.

from 09/1993 – to 11/2001

Master in Biological Sciences

Master of Science (100/110), (ISCED 7) Thesis work: *"Fiber architecture and mechanism of cathodal stimulation in cardiac tissue"*. Department of Life Sciences, Parco Area delle Scienze 11/a, 43124, Università degli Studi di Parma, Italy. <http://www.bioscienze.unipr.it/it>

- Anatomy, Physiology, Pharmacology, Pathology.

from 09/1988 – to 07/1993

High School degree

High School Diploma in Agricultural Sciences, (55/60) (ISCED 3) Istituto Tecnico Agrario Statale Pietro Antonio Strozzi, Via Beggio n°9,46020 Palidano, Mantova (Italia) <http://www.isstrozzi.gov.it/>

- Agricultural Systems Management, Agricultural Science, Animal Sciences, Food Science, Horticulture, Veterinary and Biomedical Sciences.

PERSONAL SKILLS

Mother tongue(s)

Italian

Other language(s)

UNDERSTANDING	SPEAKING	WRITING
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	Listening	Reading	Spoken interaction	Spoken production	
English	B2	B2	B2	B2	B2
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

Communication skills ▪ good communication skills gained through my experience both in research and university

Organisational / managerial skills ▪ good general organization, planning, time management, scheduling, coordinating resources and meeting deadlines.

Job-related skills Surgical procedure on small and big animals;
Recording and analysis of cardiac electrical signals;
Recording and analysis of cardiac optical signals;
Programmed stimulation and electrophysiological measurements;
Data processing;
Use of electrical instrumentation.

Computer skills **Operating Systems:** MS-Windows 95/98/NT/2000/Vista/Xp/7, MAC OSx, Unix (Linux, Debian, Ubuntu).
Data Analysis: Excel, Matlab, TableCurve 2D, Adobe Photoshop, Adobe Illustrator, Adobe PhotoDeluxe, Simple PCip, EndNote, Graphpad.
Word Processing Software: Word, PowerPoint, Acrobat Reader.
Networks and Internet: Explorer, Netscape, Mozilla Firefox, Icwazeel, Opera.

ADDITIONAL INFORMATION

Publications 52 refereed publications (13 as first and/or corresponding author), 62 Conference proceedings and 2 book chapters

Presentations 8 oral presentation and 12 poster presentation

Projects **Ongoing Projects:**
- HERMIONE. "Human Exposome Role on Myocardial disease interpreted via artificial Intelligence, Omics and eNvironmental Epigenetics" P.I.: Dott. V. Bollati. Role: Participant.
- Dissecting the role of neurogenic factors in Arrhythmogenic Cardiomyopathy PRIN: PROGETTI DI RICERCA DI RILEVANTE INTERESSE NAZIONALE – Bando 2022 Prot. 202249XEA5 PI: Prof.ssa Cristina Basso. Role: Participant at 20%
Past Projects:
- EuropeAid/173691/DD/ACT/XK Increasing Research Capacities in Kosovo -IPA/2022/173691/4 Strengthening Kosovo's Research In Environmental And Medical Research - EXTERNAL ACTIONS OF THE EUROPEAN UNION - NO. 438-247 "NANOPARTICLES in ENVIRONMENT AND MEDICAL RESEARCH" P.I.: Armond Daci. Role: Participant at 20%
- SLeEP@SA. "Salute sul lavoro e prevenzione delle Obstructive Sleep Apnea: un'epidemia silenziosa" P.I.: Prof. Polimeni Antonella. Role: Partner.
- 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". P.I.: Prof. Oliver Schilling. Role: Partner.
- Horizon 2020 EU Programme NMPB10/2016. Titolo: "Cardio Ultraefficient Nanoparticles for Inhalation of Drug Product (CUPIDO)". PI.: Prof. Daniele Catalucci. Role: Participant.
- Programmi di Ricerca Scientifica di Rilevante Interesse Nazionale (PRIN-MIUR 2015), Settore: LS2, Codice 20152T747L. P.I.: Dott. V. Bollati. Role: Participant.
- The Italian Flagship Project NANOMAX – miRnano (Progetto Bandiera MIUR CNR 2013–2017) Titolo: "Face up Cardiac Hypertrophy via microRNA Carried by Electrically Charged Nano particles"– (miRnano). P.I.: Prof. Daniele Catalucci. Role: Participant.
- European Food Safety Authority grant "GP/EFSA/NUTRI/2014/01". Titolo: "Scientific substantiation of health claims made on food: collection, collation and critical analysis of information in relation to claimed effects outcome variables and methods of measurements". P.I.: Prof. Daniele Del Rio. Role: Participant.
- Ministero della Salute, Progetto Giovani Ricercatori 2012, PSM53/09, GR-2009-1530528. Titolo: "Arrhythmogenicity of Diesel Exhaust Nanoparticles in Healthy and Failing Heart: Focus on Mechanisms". P.I.: Dott. Michele Miragoli. Role: Participant

- Progetto di Ricerca finanziato dal Centro Interdipartimentale per lo Studio della Biologia e delle Applicazioni Cliniche delle Cellule Staminali Cardiache (CISTAC) del 2010, Università degli Studi di Parma. Titolo: "Proprietà elettrofisiologiche del miocardio dopo terapia rigenerativa effettuata mediante cellule staminali residenti cardiache mobilizzate/pretrattate con fattori di crescita". P.I.: Prof. E. Musso. Role: Participant.
- Programmi di Ricerca Scientifica di Rilevante Interesse Nazionale (PRIN-MIUR 2005-2007). Titolo: "Studio della competenza meccanica ed elettrica del cuore rigenerato mediante cellule staminali cardiache, in modelli sperimentali di infarto miocardico nel ratto". P.I.: Prof. E. Musso. Role: Participant.
- Consorzio Spinner - Servizi per la Promozione dell'INNOVazione E della Ricerca (SPINNER) 2001-2002. Borsa di Ricerca annuale per il Trasferimento Tecnologico. Titolo: "Modalità di stimolazione atriale e ventricolare mediante pacemaker monocatetere". Role: Principal Investigator.

Conferences Attendee at 30 national and international congresses (Three times as Invited speaker)

Patent Brevetto WO 2022/175796A1. A process and an apparatus for administering a predefined amount of a compound. Foresti Ruben, Rossi Stefano, Macaluso Claudio, Miragoli Michele, Colombo Paolo, Selleri Stefano, Catalucci Daniele (28-02-2023)

- Honours and Awards**
- Article "Sex-specific cardiac electrophysiological remodeling influences the susceptibility to arrhythmias in elderly rats" was selected from APSselect board as excellent article for July 2025.
 - Winner of Premio di Statistica "Matteo Goldoni", CERT, Centro di Eccellenza per la Ricerca Tossicologica, Università di Parma
 - Winner of premio CSEIA - Bando Interdipartimentale Open-Up – Outgoing Publications 2018, Essays and Networks, Università di Parma
 - Winner of Third Price of "Kenichi Harumi Young Investigator's Award 2006" at the 33° International Congress on Electrophysiology, June 28 – July 1 2006, Kohn (Germany)

Teaching activity

(AA 2025-2026) Morphology of the stomatognathic system (cod. 1010513) in the integrated course of Dental Hygiene Patient Assessment (cod. 1010510)

(08-07-2019 al 12-07-2019) Presentation to Master and PhD students at IHU Liryc - L'Institut de rythmologie et modélisation cardiaque | Hôpital Xavier Arnoz - Bordeaux - France on the "Electrical mapping of cardiac electrical activity in rodents" and "Vulnerability to ventricular arrhythmias in normal myocardium"

(AA 2017-2018) Supplementary teaching contract "Digestive system", Department of SCVSA, University of Parma.

(AA 2016-2017) Supplementary teaching contract "Optical and electrical mapping of cardiac electrophysiology", Department of SCVSA, University of Parma.

(AA 2015-2016) Supplementary teaching contract "Cardiac electrical activity mapping", Department of Biosciences, University of Parma.

(AA 2013-2014) Supplementary teaching contract "Cardiac electrical activity mapping", Department of Biosciences, University of Parma.

(AA 2010-2011) Holder of University module in "Images and Biologic data analysis" (3CFU) inside the course "Applied methods in functional studies" (9CFU), Department of Biosciences, University of Parma.

(AA 2010-2011) Holder of University course in "Images and Biologic data analysis" (6CFU), Department of Biosciences, University of Parma.

(From 2008) Lessons on "Physiology of the gastrointestinal tract" (1CFU) inside the university course "System Physiology", holder Prof. Emilio Macchi, Department of Biosciences, University of Parma.

(From 2002) Expert of matter (General Physiology SSD BIO09): Department of Biosciences, University of Parma.

(From 2002) Commissioner of Bachelor and Master of Sciences Degrees, Department of Biosciences, University of Parma.

(From 2002) Tutor/Supervisor of 61 Bachelor and Master degree thesis, Department of Biosciences, University of Parma.

- Memberships**
- Fellow of the ESC Working Group on Cardiac Cellular Electrophysiology
 - Fellow of the Italian society of cardiovascular research (Società Italiana per le Ricerche Cardiovascolari, SIRC)
 - Fellow of the Excellence Center of Toxicological Research (Centro di eccellenza per la ricerca tossicologica, CERT)
 - Fellow of ParmaPhotonics
 - Fellow of Italian Society of Translational Research and Healthcare Professions (Società Italiana Ricerca Traslationale e Professioni Sanitarie, SIRTEPS)

- Official duties**
- Treasurer for Italian society of cardiovascular research (Società Italiana per le Ricerche Cardiovascolari, SIRC)
 - Member of the VQR (Valutazione della Qualità della Ricerca/Research Quality Assessment) at the Department of Medicine and Surgery, University of Parma

Scientific Activities

From 2001 to present: Electrophysiological evaluation of arrhythmogenesis in normal and aged myocardium; Cardiovascular response to stress in rats; Morpho-functional remodeling of ventricular myocardium during senescence; myocardial regeneration by means of stem cell in rat model of infarction; cardiac electrical activity study

in mice with Duchenne dystrophy: cardiovascular effects of nanoparticles inhalation of different substances; videokinematic evaluation of different mechanical parameters; Antiarrhythmic effect of nanowires injection in infarcted myocardium; physiological barriers creation by means of 3D bio-printing.

PUBLICATIONS

In Extenso

1. Bonalumi F, Burattini M, Statello R, Hu M, Hoang ML, Delmonte N, Caputo A, Montanini B, Muzio FPL, Pinelli S, Mozzoni P, Modica J, Cattaneo A, Rossi F, Bergamaschi E, Bollati V, Rossi S*, Miragoli M. "PM2.5 exposure induces functional alterations in pregnant rats heart and in human stem cell derived cardiac spheroids" *Arch Toxicol*. 2026 Mar 6 *co-corresponding author
2. Lo Muzio FP, Caputo A, Statello R, Hu M, Maestri R, Pelà G, Cabassi A, Burattini M, Rozzi G, Berrettoni S, Montanini B, Rossi S*, Fassina L, Luciani GB, Condorelli G, Miragoli M. Biventricular electromechanical dysfunction and molecular remodeling in a rat model of advanced pulmonary arterial hypertension. *J Transl Med*. 2025 Jul 12;23(1):787. *co-corresponding author
3. Statello R, Pelà G, Maestri R, Leonardi F, Cabassi A, Verzico I, Rossi A, Camevali L, Pastori P, Corradi D, Miragoli M, Macchi E, Rossi S. * "Sex-specific cardiac electrophysiological remodeling influences the susceptibility to arrhythmias in elderly rats" *Am J Physiol Heart Circ Physiol*. 2025 Jun 1; 328(6): H1361-H1373. *corresponding author
4. Burattini M, Lo Muzio FP, Hu M, Bonalumi F, Rossi S, Pagiatakis C, Salvarani N, Fassina L, Luciani GB, Miragoli M. "Unlocking cardiac motion: assessing software and machine learning for single-cell and cardioid kinematic insights" *Sci Rep*. 2024 Jan 20; 14(1): 1782.
5. Pinelli S, Rossi S#, Malcevschi A, Miragoli M, Corradi M, Selis L, Tagliaferri S, Rossi F, Cavallo D, Ursini CL, Poli D, Mozzoni P. "Biochar dust emission: Is it a health concern? Preliminary results for toxicity assessment" *Environ Toxicol Pharmacol*. 2024 Aug; 109: 104477. # Co-first
6. Rossi S*, Statello R, Pelà G, Leonardi F, Cabassi A, Foresti R, Rozzi G, Lo Muzio FP, Camevali L, Sgoifo A, Magnani L, Callegari S, Pastori P, Tafuni A, Corradi D, Miragoli M, Macchi E. "Age-related increases in cardiac excitability, refractoriness and impulse conduction favor arrhythmogenesis in male rats" *Pflugers archive Eur J Physiol* 2023 Jun;475(6):731-745. *corresponding author
7. Statello R, Rossi S, Pisani F, Bonzini M, Andreoli R, Martini A, Pulgheddu M, Cocco P, Miragoli M. "Nocturnal Heart Rate Variability Might Help in Predicting Severe Obstructive Sleep-Disordered Breathing" *Biology* 2023, 12, 533.
8. Gerbolés AG, Galetti M, Rossi S, Lo Muzio FP, Pinelli S, Delmonte N, Caffarra Malvezzi C, Macaluso C, Miragoli M, Foresti R. "Three-Dimensional Bioprinting of Organoid-Based Scaffolds (OBST) for Long-Term Nanoparticle Toxicology Investigation" *Int J Mol Sci* 2023; 24(7): 6595.
9. Lagonegro P, Rossi S#, Salvarani N, Lo Muzio FP, Rozzi G, Modica J, Bigi F, Quaretti M, Salvati G, Pinelli S, Alinovi R, Catalucci D, D'Autilia F, Gazza F, Condorelli G, Rossi F, Miragoli M. "Synthetic recovery of impulse propagation in myocardial infarction via silicon carbide semiconductive nanowires" *Nat Commun*. 2022; 13: 6. # Co-first
10. Mozzoni P, Iodice S, Persico N, Ferrari L, Pinelli S, Corradi M, Rossi S, Miragoli M, Bergamaschi E, Bollati V; INSIDE Consortium investigators. "Maternal air pollution exposure during the first trimester of pregnancy and markers of inflammation and endothelial dysfunction." *Environ Res*. 2022; 2212 (PtA): 2113216.
11. Foresti R, Delmonte N, Rossi S, Bergonzi L, Vincenti V, Macaluso GM, Macaluso C, Selleri S. "Bionics-based surgical training using 3D printed photopolymers and smart devices." *InOptical Methods for Inspection, Characterization, and Imaging of Biomaterials V* 2021; 11786: 182-187. SPIE.
12. Lo Muzio FP, Rozzi G, Rossi S, Luciani GB, Foresti R, Cabassi A, Fassina L, Miragoli M. "Artificial intelligence supports decision making during open-chest surgery of rare congenital heart defects" *J Clin Med*. 2021; 10: 5330.
13. Rossi S, Buccarello A, Caffarra Malvezzi C, Pinelli S, Alinovi R, Guerrero Gerboles A, Rozzi G, Leonardi F, Bollati V, De Palma G, Lagonegro P, Rossi F, Lottico PP, Poli D, Statello R, Macchi E, Miragoli M. "Exposure to nanoparticles derived from diesel particulate filter equipped engine increases vulnerability to arrhythmia in rat hearts" *J Env Pol* 2021; 284: 117163
14. Foresti R, Ghezzi B, Vettori M, Bergonzi L, Attolino S, Rossi S, Tarabella G, Vurro D, von Zeppelin D, Iannotta S, Zappettini A, Macaluso CM, Miragoli M, Maggio MG, Costantino C, Selleri S, Macaluso C. "3D printed masks for powders and viruses safety protection using food grade polymers: Empirical tests" *Polymers* 2021; 13: 617
15. Medvedev R, Sanchez-Alonso JL, Alvarez-Laviada A, Rossi S, Dries E, Schom T, Abdul-Salam VB, Trayanova N, Wojciak-stothard B, Miragoli M, Faggian G, Gorelik J. "Nanoscale Study of Calcium Handling Remodeling in Right Ventricular Cardiomyocytes following Pulmonary Hypertension" *Hypertension* 2021; 77: 605-616
16. Rozzi G, Lo Muzio FP, Fassina L, Rossi S, Statello R, Sandrini C, Laricchiuta M, Faggian G, Miragoli M, Luciani GB. "Right ventricular functional recovery depends on timing of pulmonary valve replacement in tetralogy of Fallot: a video kinematic study" *Eur J Cardiothorac Surg* 2021; 6: ezab026.
17. Ferrari L, Borghi F, Iodice S, Catelan D, Rossi S, Giusti I, Grisotto L, Rovelli S, Spinazzè A, Alinovi R, Pinelli S, Cantone L, Dioni L, Ischia B, Rota I, Mariani J, Rota F, Hoxha M, Stoppa G, Monticelli D, Cavallo D, Bergamaschi E, Vicenzi M, Persico N, Biggeri A, Cattaneo A, Dolo V, Miragoli M, Mozzoni P, Bollati V. "INSIDE project: Individual air pollution exposure, extracellular vesicles signaling and hypertensive disorder development in pregnancy" *Int J Environ Res Public Health* 2020; 17: 9046
18. 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 mechanistic heterogeneity related to gender" *Prog Biophys Mol Biol*. 2020; 154: 94-101
19. Foresti R, Rossi S, Magnani M, Guarino Lo Bianco C, Delmonte N. "Smart Society and Artificial Intelligence: Big Data Scheduling and the Global Standard Method Applied to Smart Maintenance" *Engineering* 2020; 6: 835-846
20. Foresti R, Rossi S, Pinelli S, Alinovi R, Barozzi M, Sciancalepore C, Galetti M, Caffarra C, Lagonegro P, Scavia G, Mattarozzi M, Careri M, Macaluso C, Miragoli M, Selleri S. "Highly-defined bioprinting of long-term vascularized scaffolds with Bio-Trap: Complex geometry functionalization and process parameters with computer aided tissue engineering" *Materialia* 2020; 9: 100560
21. Foresti R, Rossi S, Pinelli S, Alinovi R, Sciancalepore C, Delmonte N, Selleri S, Caffarra C, Raposio E, Macaluso G, Macaluso C, Freyrie A, Miragoli M, Perini P. "In-vivo vascular application via ultra-fast bioprinting for future 5D personalised nanomedicine" *Sci Rep* 2020; 10: 3205
22. Foresti R, Macaluso C, Rossi S, Selleri S, Perini P, Freyrie A, Raposio E, Fenaroli P, Concarì G, De Filippo M, Martini C. "3D Reconstruction Cutting and Smart Devices for Personalized Medicine" *Proceedings of 2020 Italian Conference on Optics and Photonics*, 2020; 9300331
23. Foresti R, Rossi S, Selleri S. "Bio composite materials: Nano functionalization of 4D bio engineered scaffold" *2019 IEEE International Conference on BioPhotonics*. 2019; 2019-January, 8945042
24. Miragoli M, Goldoni M, Demola P, Paterlini A, Li Calzi M, Gioia MI, Visioli F, Rossi S, Pelà G. "Left ventricular geometry correlates with early repolarization pattern in adolescent athletes." *Scand J Med Sci Sports*. 2019; 29: 1727-1735
25. Rossi S, Savi M, Mazzola M, Pinelli S, Alinovi R, Gennaccaro L, Pagliaro A, Meraviglia V, Galetti M, Lozano-Garcia O,

- Rossini A, Frati C, Falco A, Quaini F, Bocchi L, Stilli D, Lucas S, Goldoni M, Macchi E, Mutti A, Miragoli M. "Subchronic exposure to titanium dioxide nanoparticles modifies cardiac structure and performance in spontaneously hypertensive rats." *Part Fibre Toxicol.* 2019; 16(1): 25.
26. Rozzi G, Lo Muzio FP, 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" *Interact CardioVasc Thorac Surg* 2019; 29: 625-631
27. 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; 15(144).
28. Miragoli M, Ceriotti P, Iafisco M, Vacchiano M, Salvarani N, Alogna A, Carullo P, Ramirez-Rodríguez GB, Patrício T, Esposti LD, Rossi F, Ravanetti F, Pinelli S, Alinovi R, Erreni M, Rossi S, Condorelli G, Post H, Tampieri A, Catalucci D. "Inhalation of peptide-loaded nanoparticles improves heart failure." *Sci Transl Med.* 2018; 10(424).
29. Martini D, Biasini B, Rossi S, Zavaroni I, Bedogni G, Musci M, Pruneti C, Passeri G, Ventura M, Galli D, Mirandola P, Vitale M, Dei Cas A, Bonadonna RC, Del Rio D. "Claimed effects, outcome variables and methods of measurement for health claims proposed under european community regulation 1924/2006 in the area of appetite ratings and weight management" *IJFSN.* 2017; 69(4): 389-409
30. Martini D, Rossi S, Biasini B, Zavaroni I, Bedogni G, Musci M, Pruneti C, Passeri G, Ventura M, Di Nuzzo S, Galli D, Mirandola P, Vitale M, Dei Cas A, Bonadonna RC, Del Rio D. "Claimed effects, outcome variables and methods of measurement for health claims proposed under european community regulation 1924/2006 in the framework of protection against oxidative damage and cardiovascular health" *Nutr Metab Cardiovasc Dis.* 2017; 27: 473-503
31. Fassina L, Rozzi G, Rossi S, Scacchi S, Galetti M, Lo Muzio FP, Del Bianco F, Colli Franzone P, Petrilli G, Faggian G, Miragoli M. "Cardiac kinematic parameters computed from video of in situ beating heart." *Sci Rep.* 2017; 7: 46143.
32. Rossi S, Buccarello A, Ershler PR, Lux RL, Callegari S, Corradi D, Carnevali L, Sgoifo A, Miragoli M, Musso E, Macchi E. "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; 312(3): H584-H607.
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Stefano Rossi



Francesco Paolo lo Muzio



Summary

Early career researcher in the cardiovascular field with knowledge in both *in vitro* and *in vivo* studies (murine and porcine models). Experienced in experimental design, data analysis, and scientific writing. Author of 28 publications of which 22 in the cardiovascular field and 10 as first/co-first author, 1 as corresponding author, 211 citations, and 9 *h*-index. From January 2021/01/26, I became a minority shareholder and consultant of the startup JEM Tech S.r.l.

Skills Highlights

Hard Skills

Scientific writing
Data analysis
Medical statistics

Soft Skills

Creative
Critical thinking
Good teamworking skills

Experience

Fixed-Term Researcher Type A at University of Parma - 2025/03/31 to present

- New therapeutic strategies for cardiometabolic Heart Failure

Postdoc at Charité Universitätsmedizin - 2023/03/20 to 2025/03/20

- Cardiometabolic pig model of Heart Failure
- Pig model of vascular injury for new therapeutic approaches
- Database analysis of Heart Failure patients

Postgraduate researcher at University of Parma - 2022/01/16 to 2023/01/16

- Electromechanical studies on a rat model of pulmonary hypertension

PhD at University of Verona - 2018/10/01 to 2021/12/31

- Experimental cardiology for congenital heart defects (TOF, HLHS)
- Tachypaced pig model of Heart Failure at Charité Universitätsmedizin

Research Collaborator at University of Parma – 2017/01/11 to 2018/09/30

- Development of the Video Kinematic Evaluation technique

Education

- ❖ 2022/07/08 - **PhD with *Doctor Europaeus* in Cardiovascular Sciences**: University of Verona
- ❖ 2017/10/27 – **Master degree in Biology and Biomedical Application**: University of Parma
- ❖ 2014/07/15 – **Bachelor degree in Biology**: University of Sannio

Certifications

- ❖ 2021/08/04 – **C1 Level in English** (CAE): University of Verona
- ❖ 2021/07/12 – **Medical Statistics**: Stanford University Online
- ❖ 2013/03/08 – **B2 Certificate in English** (FCE): Cambridge ESOL

Awards

- ❖ 2024/05/14 – **Travel Grant Award**: presented at the moderated ePoster session of the ESC HF Congress in Lisbon
- ❖ 2023/04/20 – **Seal of Excellence** at MSCA Postdoctoral Fellowship 2022
- ❖ 2022/07/01 – **Best Oral Presentation**: Selected for an oral presentation at 6th SIRC Forum in Bari
- ❖ 2021/10/30 – **Travel Grant Award**: Selected for an oral presentation at XXIII National SIRC Congress in Imola
- ❖ 2019/09/07 – **Winner of the Trainee Poster Competition** at Cardiac MEC conference in Freiburg

Contacts

D.O.B.:

1991/01/06

Address:

Via Bruno Schreiber, 17
Parma (PR), 43126

Web Pages:

Scopus:

<https://www.scopus.com/results/author/NamesList.uri?st1=lo+Muzio&st2=Francesco+Paolo&origin=searchauthorlookup>

ORCID:

<https://orcid.org/0000-0002-4730-2458>

Research Gate:

<https://www.researchgate.net/profile/Francesco-Lo-Muzio>

LinkedIn:

<https://www.linkedin.com/in/francesco-paolo-lo-muzio-9b439b127/>

JEM Tech S.r.l.:

<https://jemtech.it/en/>

Email:

francescopaolo.lomuzio@unipr.it
fp.lomuzio@hotmail.it

Languages

Italian – Native speaker

English – C1

German – A2



Publications

Date/Journal	Title/Authors
2026-03-06 Archives of Toxicology DOI: 10.1007/s00204-026-04337-8	PM_{2.5} exposure induces functional alterations in pregnant rats heart and in human stem cell derived cardiac spheroids Flavia Bonalumi; Margherita Burattini; Rosario Statello; Mirko Hu; Minh Long Hoang; Nicola Delmonte; Alessia Caputo; Barbara Montanini; Francesco Paolo Lo Muzio ; Silvana Pinelli et al.
2026-03-02 Frontiers in Cardiovascular Medicine DOI: 10.3389/fcvm.2026.1726438	A refined approach of the tachypacing porcine model of heart failure Leonhard Berboth; Jens Ötvös; Alessandro Faragli; Beatrice De Marchi; Gianluigi Longinotti-Buitoni; Paul Steendijk; Philipp Attanasio; Burkert M. Pieske; Heiner Post; Frank Heinzel; Francesco Paolo Lo Muzio * and Alessio Alogna*
2025-07-14 Critical Care Explorations DOI: 10.1097/ccx.0000000000001283	Right Ventricular Longitudinal Strain Predicts Weaning Success in Cardiogenic Shock Patients Supported by a Microaxial Flow Pump Konstantinos Rapis*; Francesco Paolo Lo Muzio *; Alessandro Faragli; David Wainstein; Vivienne Nelki; Frank Spillmann; Carsten Tschöpe; Alessio Alogna
2025-07-12 Journal of Translational Medicine DOI: 10.1186/s12967-025-06792-w	Biventricular electromechanical dysfunction and molecular remodeling in a rat model of advanced pulmonary arterial hypertension Francesco Paolo Lo Muzio *, Alessia Caputo*, Rosario Statello*, Mirko Hu, Roberta Maestri, Giovanna Pelà, Aderville Cabassi, Margherita Burattini, Giacomo Rozzi, Silvia Berrettoni, Barbara Montanini, Stefano Rossi, Lorenzo Fassina, Giovanni Battista Luciani, Gianluigi Condorelli & Michele Miragoli
2025-06-02 Journal of Applied Physiology DOI: 10.1152/jappphysiol.00143.2025	Intraoperative Evaluation of Right Ventricular Mechanics in a Pressure-Overload Swine Model Francesco Paolo Lo Muzio *; Birgit Zirngast; Barbara Karner; Martin Manninger; Mattia Fontana; Paul Steendijk; Heinrich Mächler; Giacomo Rozzi; Alessio Alogna
2025-05-23 Heart Failure Reviews DOI: 10.1007/s10741-025-10527-w	Cardiovascular inhalation for targeted drug delivery in cardiac disease Alessio Alogna, Francesco Paolo Lo Muzio , Daniele Catalucci
2024-11-04 Clinical Research in Cardiology DOI: 10.1007/s00392-024-02571-7	In-hospital bioimpedance-derived total body water predicts short-term cardiovascular mortality and re-hospitalizations in acute decompensated heart failure patients Faragli A, Herrmann A, Cvetkovic M, Perna S, Khorsheed E, Lo Muzio FP , La Porta E, Fassina L, Günther AM, Oetvoes J, Düngen HD, Alogna A.
2024-10-25 Journal of Clinical Medicine DOI: 10.3390/jcm13216502	Bioimpedance Analysis in CKD and HF Patients: A Critical Review of Benefits, Limitations, and Future Directions La Porta E, Faragli A, Herrmann A, Lo Muzio FP , Estienne L, Nigra SG, Bellasi A, Deferrari G, Ricevuti G, Di Somma S, Alogna A
2024-07-17 Journal of Cardiovascular Translational Research DOI: 10.1007/s12265-024-10546-2	Prediction of Left Ventricle Pressure Indices Via a Machine Learning Approach Combining ECG, Pulse Oximetry, and Cardiac Sounds: a Preclinical Feasibility Study Lorenzo Fassina*, Francesco Paolo Lo Muzio *, Leonhard Berboth, Jens Ötvös, Alessandro Faragli, Alessio Alogna
2024-05-31 International Journal of Cardiovascular Imaging DOI: 10.1007/s10554-024-03132-9	Pulmonary 4D-flow MRI imaging in landrace pigs under rest and stress A Faragli, M Hüllebrand, A J Berendsen, L Tirapu Solà, F P Lo Muzio , C Götze, R Tanaccli, P Doeblin, C Stehning, B Schnackenburg, F N Van der Vosse, E Nagel, H Post, A Hennemuth, A Alogna, Sebastian Kelle
2024-01-20 Nature - Scientific Reports DOI: 10.1038/s41598-024-52081-9	Unlocking cardiac motion: assessing software and machine learning for single-cell and cardioid kinematic insights Margherita Burattini*, Francesco Paolo Lo Muzio *, Mirko Hu, Flavia Bonalumi, Stefano Rossi, Christina Pagiatakis, Nicolò Salvarani, Lorenzo Fassina, Giovanni Battista Luciani, Michele Miragoli
2024-01-01	Lung-to-Heart Nano-in-Micro Peptide Promotes Cardiac Recovery in a Pig Model of Chronic Heart Failure

Journal of the American College of Cardiology DOI: 10.1016/j.jacc.2023.10.029	Alessio Alogna, Leonhard Berboth, Alessandro Faragli, Jens Ötvös, Francesco Paolo Lo Muzio, Vittoria di Mauro, Jessica Modica, Eride Quarta, Lukas Semmler, Peter Maximilian Deißler, Yannic Wanjia Berger, Khai Liem Tran, Beatrice de Marchi, Gianluigi Longinotti-Buitoni, Lorenzo Degli Esposti, Etienne Guillot, Didier Bazile, Michele Iafisco, Alessandro Dotti, Marie-Louise Bang, Claudio de Luca, Christina Brandenberger, Louise Benazzi, Dario di Silvestre, Antonella de Palma, Uwe Primeßnig, Felix Hohendanner, Simone Perna, Francesca Buttini, Paolo Colombo, Christian Mühlfeld, Paul Steendijk, Pierluigi Mauri, Carsten Tschöpe, Barry Borlaug, Burkert M Pieske, Philipp Attanasio, Heiner Post, Frank R Heinzel, Daniele Catalucci
2023-06-20 Frontiers in Cardiovascular Medicine DOI: 10.3389/fcvm.2023.1216917	Video analysis of ex vivo beating hearts during preservation on the TransMedics® organ care system Michelle Mendiola Pla, Silvia Berrettoni, Franklin H Lee, Giacomo Rozzi, Federica Marrano, Ryan T Gross, Amy Evans, David C Wendell, Paul Lezberg, Margherita Burattini, Francesco Paolo Lo Muzio, Lorenzo Fassina, Carmelo A Milano, Marie-Louise Bang, Dawn E Bowles, Michele Miragoli
2023-04-06 Pflügers Archiv – European Journal of Physiology DOI: 10.1007/s00424-023-02812-0	Age-related increases in cardiac excitability, refractoriness and impulse conduction favor arrhythmogenesis in male rats Stefano Rossi, Rosario Statello, Giovanna Pelà, Fabio Leonardi, Aderville Cabassi, Ruben Foresti, Giacomo Rozzi, Francesco Paolo Lo Muzio, Luca Carnevali, Andrea Sgoifo, Luca Magnani, Sergio Callegari, Paolo Pastori, Alessandro Tafuni, Domenico Corradi, Michele Miragoli & Emilio Macchi
2023-04-01 International Journal of Molecular Sciences DOI: 10.3390/ijms24076595	Three-Dimensional Bioprinting of Organoid-Based Scaffolds (OBST) for Long-Term Nanoparticle Toxicology Investigation Amparo Guerrero Gerbolés, Maricla Galetti, Stefano Rossi, Francesco Paolo Lo Muzio, Silvana Pinelli, Nicola Delmonte, Cristina Caffarra Malvezzi, Claudio Macaluso, Michele Miragoli, Ruben Foresti
2022-01-10 Nature Communications DOI: 10.1038/s41467-021-27637-2	Synthetic recovery of impulse propagation in myocardial infarction via silicon carbide semiconductive nanowires Paola Lagonegro, Stefano Rossi, Nicolò Salvarani, Francesco Paolo Lo Muzio, Giacomo Rozzi, Jessica Modica, Franca Bigi, Martina Quaretti, Giancarlo Salviati, Silvana Pinelli, Rossella Alinovi, Daniele Catalucci, Francesca D'Autilia, Ferdinando Gazza, Gianluigi Condorelli, Francesca Rossi, Michele Miragoli
2021-12-30 Sensors DOI: 10.3390/s22010249	Bionic for Training: Smart Framework Design for Multisensor Mechatronic Platform Validation Ruben Foresti, Rosario Statello, Nicola Delmonte, Francesco Paolo Lo Muzio, Giacomo Rozzi, Michele Miragoli, Leopoldo Sarli, Gianluigi Ferrari, Claudio Macaluso, Marcello Giuseppe Maggio, Francesco Pisani, Cosimo Costantino
2021-11-16 MDPI Journal of Clinical Medicine DOI: 10.3390/jcm10225330	Artificial Intelligence Supports Decision Making during Open-Chest Surgery of Rare Congenital Heart Defects Francesco Paolo Lo Muzio*, Giacomo Rozzi*, Stefano Rossi, Giovanni Battista Luciani, Ruben Foresti, Aderville Cabassi, Lorenzo Fassina, Michele Miragoli
2021-07-30 Frontiers in Cardiovascular Medicine DOI: 10.3389/fcvm.2021.665202	In-hospital Heart Rate Reduction With Beta Blockers and Ivabradine Early After Recovery in Patients With Acute Decompensated Heart Failure Reduces Short-Term Mortality and Rehospitalization Alessandro Faragli, Giuseppe Di Tano, Caterina De Carlini, Daniel Nassiacos, Mauro Gori, Giada Confortola, Francesco Paolo Lo Muzio, Konstantinos Rapis, Dawud Abawi, Heiner Post, Sebastian Kelle, Burkert Pieske, Alessio Alogna, Carlo Campana
2021-07-26 Frontiers in Cardiovascular Medicine DOI: 10.3389/fcvm.2021.689255	Non-invasive CMR-Based Quantification of Myocardial Power and Efficiency Under Stress and Ischemic Conditions in Landrace Pigs Alessandro Faragli, Alessio Alogna, Chong Bin Lee, Miry Zhu, Niky Ghorbani, Francesco Paolo Lo Muzio, Bernhard Schnackenburg, Christian Stehning, Titus Kuehne, Heiner Post, Leonid Goubergrits, Eike Nagel, Burkert Pieske, Sebastian Kelle, Marcus Kelm
2021-06-14 European Journal of Cardio-Thoracic Surgery DOI: 10.1093/ejcts/ezab026	Right ventricular functional recovery depends on timing of pulmonary valve replacement in tetralogy of Fallot: a video kinematic study Giacomo Rozzi*, Francesco Paolo Lo Muzio*, Lorenzo Fassina, Stefano Rossi, Rosario Statello, Camilla Sandrini, Maira Laricchiuta, Giuseppe Faggian, Michele Miragoli, Giovanni Battista Luciani

2020-11-30 Journal of Cardiovascular Magnetic Resonance DOI: 10.1186/s12968-020-00679-z	Cardiovascular magnetic resonance-derived left ventricular mechanics—strain, cardiac power and end-systolic elastance under various inotropic states in swine A. Faragli, R. Tanaccli, C. Kolp, D. Abawi, T. Lapinskas, C. Stehning, B. Schnackenburg, F. P. Lo Muzio, L. Fassina, B. Pieske, E. Nagel, H. Post, S. Kelle, A. Alogna
2020-11-20 Frontiers in Cardiovascular Medicine DOI: 10.3389/fcvm.2020.599923	A Random Shuffle Method to Expand a Narrow Dataset and Overcome the Associated Challenges in a Clinical Study: A Heart Failure Cohort Example Lorenzo Fassina, Alessandro Faragli, Francesco Paolo Lo Muzio, Sebastian Kelle, Carlo Campana, Burkert Pieske, Frank Edelmann, Alessio Alogna
2020-05-14 The international journal of cardiovascular imaging DOI: 10.1007/s10554-020-01881-x	Estimation of total collagen volume: a T1 mapping versus histological comparison study in healthy Landrace pigs A. Faragli, S. Merz, F. P. Lo Muzio, P. Doeblin, R. Tanaccli, C. Kolp, D. Abawi, J. Ötvös, C. Stehning, B. Schnackenburg, B. Pieske, H. Post, R. Klopffleisch, A. Alogna, S. Kelle
2020-01-16 The international journal of cardiovascular imaging DOI: 10.1007/s10554-020-01767-y	Cardiovascular magnetic resonance feature tracking in pigs: a reproducibility and sample size calculation study A Faragli, R Tanaccli, C Kolp, T Lapinskas, C Stehning, B Schnackenburg, F P Lo Muzio, S Perna, B Pieske, E Nagel, H Post, S Kelle, A Alogna
2019-10-01 Interactive Cardiovascular and Thoracic Surgery DOI: 10.1093/icvts/ivz120	Real-time video kinematic evaluation of the in situ beating right ventricle after pulmonary valve replacement in patients with tetralogy of Fallot: a pilot study Giacomo Rozzi*, Francesco P Lo Muzio*, Camilla Sandrini, Stefano Rossi, Lorenzo Fassina, Giuseppe Faggian, Michele Miragoli, Giovanni Battista Luciani
2019-05-21 Progress in biophysics and molecular biology DOI: 10.1016/j.pbiomolbio.2019.05.003	In-situ optical assessment of rat epicardial kinematic parameters reveals frequency-dependent mechanic heterogeneity related to gender Francesco Paolo Lo Muzio*, GiacomoRozzi*, StefanoRossi, Amparo Guerrero Gerbolés, Lorenzo Fassina, Giovanna Pelà, Giovanni Battista Luciani, Michele Miragoli
2017-04-11 Scientific Reports DOI: 10.1038/srep46143	Cardiac kinematic parameters computed from video of in situ beating heart Lorenzo Fassina, Giacomo Rozzi, Stefano Rossi, Simone Scacchi, Maricla Galetti, Francesco Paolo Lo Muzio, Fabrizio Del Bianco, Piero Colli Franzone, Giuseppe Petrilli, Giuseppe Faggian, Michele Miragoli