

Curriculum Vitae – Francesco Moccia

European format (Europass)

Personal information

Name	MOCCIA Francesco
Position	Full Professor of Physiology, SSD BIOS-06/A (formerly BIO/09)
Institution	University of Molise – Department of Medicine and Surgery "Vincenzo Tiberio"
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1. Education and scientific career

1.1 Professional experience and qualifications

Period	Position
1 Mar 2024 – present	Full Professor of Physiology, SSD BIOS-06/A (formerly BIO/09), University of Molise, Department of Medicine and Surgery "Vincenzo Tiberio", Campobasso

Period	Position
23 Jul 2021	National Scientific Qualification (ASN) as Full Professor of Physiology (Competition Sector 05/D1; SSD BIO/09), valid until 23 Jul 2031
1 Oct 2020 – 29 Feb 2024	Associate Professor, SSD BIO/09 – Physiology, University of Pavia, Department of Biology and Biotechnology "L. Spallanzani"
28 Dec 2008 – 30 Sep 2020	University Researcher / Adjunct Professor, SSD BIO/09 – Physiology, University of Pavia, Department of Biology and Biotechnology "L. Spallanzani"
1 Jan – 30 Nov 2008	Winner of a competitive selection for a research fellowship at the Department of Structural and Functional Biology, University of Naples "Federico II", within the project "Development of new remote-controlled biosensors for water monitoring"
21 Aug – 21 Dec 2007	Freelance/occasional work contract with the Department of Cellular and Molecular Physiological and Pharmacological Sciences, University of Pavia (signed 21 Aug 2007), within the PRIN project "Ca ²⁺ measurements in vascular endothelial cells of normal rats and of a diabetic rat model"
21 Sep 2006 – 30 Apr 2007; 1 Jul 2003 – 30 Jun 2006	Fixed-term employment contract at the Cell Biology Laboratory (later renamed Signal Transduction Laboratory), Stazione Zoologica "Anton Dohrn", Naples (President's resolution no. 141 of 26 Jun 2003)
6 Nov 2001 – 30 Jun 2003	Winner of a competitive selection for a Research Grant (Assegno di Ricerca, 7/2001) awarded by the Stazione Zoologica "Anton Dohrn", Naples, on "Role of external calcium in the activation of intracellular channels in starfish oocytes", Cell Biology Laboratory

Period	Position
1 Oct 2000 – 30 Oct 2001	Postdoctoral fellowship, Laboratory of Experimental Cardiac Research, Centre for Experimental Surgery and Anaesthesiology, Catholic University of Leuven (KU Leuven), Belgium

1.2 Education and training

Period	Qualification
1996 – 2000	PhD in Physiology, University of Turin, awarded on 13 Apr 2001. Thesis: "[Ca ²⁺] _i homeostasis and membrane cationic currents in rat cardiac microvascular endothelial cells". Supervisor: Prof. F. Tanzi. Coordinator: Prof. G. Losano
1997	State Examination for professional qualification as a Biologist – University of Pavia
1995 – 1996	Traineeship for professional qualification as a Biologist, University of Pavia – Institute of General Physiology, Vascular Physiology Laboratory (Supervisor: Prof. F. Tanzi)
1990 – 1995	Degree (Laurea) in Biological Sciences, University of Pavia, awarded on 27 July 1995 with final mark 110/110 cum laude. Supervisor: Prof. V. Taglietti; Co-supervisor: Prof. E. D'Angelo

2. Teaching activity

2.1 Courses taught as course leader

University of Molise

Academic year	Course
2023/24 – present	Neurophysiology, Single-Cycle Degree in Medicine and Surgery, 5 ECTS – 50 hours in total

Academic year	Course
2023/24 – present	Human Physiology, Single-Cycle Degree in Medicine and Surgery, 8 ECTS – 80 hours in total
2023/24 – present	Behavioural Neurophysiology, Bachelor's Degree in Psychological Sciences and Techniques, 6 ECTS – 48 hours in total
2023/24 – present	Exercise Physiology, Bachelor's Degree in Sport and Exercise Sciences, 6 ECTS – 36 hours

University of Pavia

Academic year	Course
2020/21 – 2023/24	General Physiology, Bachelor's Degree in Biological Sciences, 3 ECTS – 22 hours in total
2019/20 – 2023/24	Applied Physiology, Master's Degree in Biomedical Engineering, 3 ECTS – 23 hours in total
2016/17 – 2023/24	Cellular and Molecular Physiology, Master's Degree in Experimental and Applied Biology, 9 ECTS – 72 hours in total
2012/13 – 2015/16	Cellular and Molecular Physiology, Master's Degree in Experimental and Applied Biology, 6 ECTS – 48 hours in total
2009/10 – 2011/12	Cellular and Molecular Physiology, Master's Degree in Experimental and Applied Biology, 3 ECTS – 24 hours in total
2009/10 – 2011/12	Laboratory of Molecular Techniques, Master's Degree in Experimental and Applied Biology, 3 ECTS – 24 hours in total
1996/1998	Teaching seminars for the General Physiology II course, Degree in Biological Sciences, Faculty of Mathematical, Physical and Natural Sciences, University of Pavia

University of Molise (contract teaching)

Academic year	Course
2007/08	Contract Professor of Physiology (36 hours), Degree in Nursing, Faculty of Medicine and Surgery, University of Molise, Termoli campus (CB)

2.2 Examination boards

Academic year	Role
2023/24 – present	Member of the examination board for Neurophysiology, Single-Cycle Degree in Medicine and Surgery, University of Molise
2023/24 – present	Member of the examination board for Human Physiology, Single-Cycle Degree in Medicine and Surgery, University of Molise
2023/24 – present	Member of the examination board for Behavioural Neurophysiology, Bachelor's Degree in Psychological Sciences and Techniques, University of Molise
2023/24 – present	Member of the examination board for Exercise Physiology, Bachelor's Degree in Sport and Exercise Sciences, University of Molise
2020/21 – 2023/24	Member of the examination board for General Physiology, Bachelor's Degree in Biological Sciences, University of Pavia
2019/20 – 2023/24	Member of the examination board for Applied Physiology, Master's Degree in Biomedical Engineering, University of Pavia
2017/18 – 2023/24	Chair of the examination board for Cellular and Molecular Physiology, Master's Degree in Experimental and Applied Biology, University of Pavia
2016/17 – 2023/24	Member of the examination board for General Physiology, Bachelor's Degree in Environmental and Natural Sciences and Technologies, Department of Earth and Environmental Sciences, University of Pavia

2.3 Supplementary teaching

2009/10 – 2023/24: Supplementary teaching for students of the Bachelor's Degrees in Biological Sciences and Biotechnological Sciences and of the Master's Degrees coordinated by the Department of Biology and Biotechnology "L. Spallanzani", University of Pavia, hosted in the Vascular Physiology Laboratory (later renamed Ca²⁺ Signalling Laboratory). These activities include theoretical and practical training in laboratory work, with in-depth explanations of the principles underlying the technologies used.

2.4 Seminars and lectures for PhD programmes and specialisation schools

Date	Lecture
6 May 2021	Genesis and decoding of calcium signals. PhD in Life Sciences, Department of Biology, Ecology and Earth Sciences, University of Calabria, Arcavacata di Rende (CS)
30 Jan 2020	Endothelial Ca ²⁺ signaling for therapeutic angiogenesis: fact or fiction? PhD in Experimental Medicine and Therapy, MBC, University of Turin
3 Oct 2018	Calcium signals in endothelial progenitor cells: a double-edged sword for ischaemic and oncological diseases. PhD in Translational and Clinical Medicine, University of Molise, Campobasso
2 Oct 2018	The versatility of the calcium ion, or how the spatio-temporal profile of intracellular calcium signals encodes life or death messages. PhD in Translational and Clinical Medicine, University of Molise, Campobasso
6 Mar 2018	The role of intracellular Ca ²⁺ signalling in tumor vascularization: Focus on endothelial colony forming cells. Topic: Tumor vascularization and ion channels, PhD in Complex Systems and Life Sciences, MBC, University of Turin
23 Feb 2015	Cancer specific Ca ²⁺ signalling toolkit in human endothelial progenitor cells (EPCs). PhD in Complex Systems and Life Sciences, Department of Life Sciences and Systems Biology, University of Turin

Date	Lecture
15 Jan 2015	Distinct remodelling of the Ca ²⁺ toolkit in endothelial progenitor cells under different pathological conditions. Workshop "Ion channels and disease", PhD in Complex Systems and Life Sciences, University of Turin
6 Feb 2018	The role of Ca ²⁺ signals in the hallmarks of cancer: a new role for proto-oncogenes and tumour suppressors. Specialisation School in Clinical Pathology and Clinical Biochemistry, University of Pavia
5 – 7 Jul 2021	SIF School of Physiology and Biophysics: "Neuronal Biophysics: From experiments to tools" – Imaging and 2-PM. University of Pavia
29 Jun – 2 Jul 2015	SIF School of Physiology and Biophysics: "Molecular and Cellular Biophysics of Excitable Cells" – Basic insights in Ca ²⁺ imaging. University of Pavia
15 – 17 Sep 2017	Methods for studying calcium signalling. Workshop: Cardiometabolic disorders, Master's Degree in Molecular Biotechnology, University of Udine

2.5 Supervision of PhD and degree theses

PhD theses

- Supervisor of Dr Valentina Brunetti, PhD student in Biomedical Sciences (38th cycle), University of Pavia.
- Supervisor of the PhD thesis in Biomedical Sciences (35th cycle), University of Pavia, of Dr Sharon Negri: *TRPV1-mediated pro-angiogenic Ca²⁺ signals in circulating endothelial colony forming cells*.
- Supervisor of the PhD thesis in Biomedical Sciences (33rd cycle), University of Pavia, of Dr Vera Vigorelli: *CD34+ stem cells and epigenetic memory: key players and pharmacological targets in diabetic cardiovascular complication*.
- Supervisor of the PhD thesis in Biomedical Sciences (30th cycle), University of Pavia, of Dr Estella Zuccolo: *Different patterns of Ca²⁺ signaling drive acetylcholine- and glutamate-induced NO release in mouse and human brain microvascular endothelial cells*.

- Supervisor (with Prof. Mudir Sabir Shekha) of the PhD thesis of Dr Pawan Sirwan Faris, within a Split PhD Program in Molecular Physiology between the University of Pavia and Salahaddin University, Erbil, Iraq: *Intracellular Ca²⁺ signaling in human colorectal carcinoma: An alternative target for cancer treatment.*
- Supervisor of the PhD thesis in Physiology & Neuroscience, 12th cycle New Series (27th cycle), University of Pavia, of Dr Elisa Bonetti: *Immunogenic function of CD34+ hematopoietic progenitor cells in healthy individuals and patients with myelofibrosis.*
- Co-supervisor (with Prof. Franco Tanzi) of the PhD thesis in Physiology & Neuroscience, 12th cycle New Series (26th cycle), University of Pavia, of Dr Silvia Dragoni: *Ca²⁺ signals in endothelial progenitor cells: their biological consequences and perspective therapeutic applications.*

Master's degree theses: from 2009/10 to 2023 (University of Pavia), supervisor or co-supervisor of 42 Master's theses in Experimental and Applied Biology.

Bachelor's degree theses: from 2009/10 to 2023 (University of Pavia), supervisor of 17 theses in the Bachelor's Degrees in Biological Sciences and Biotechnological Sciences.

3. Management, organisational and service activities

3.1 Roles at the University of Molise

Period	Role
Mar 2024 – present	Scientific Director of the Laboratory of Cellular and Molecular Physiology, Department of Medicine and Health Sciences "V. Tiberio", University of Molise
2025/26 – present	Chair of the Joint Teachers–Students Committee of the Department of Medicine and Health Sciences "V. Tiberio", University of Molise
2024/25 – present	Member of the Quality Management Unit of the Bachelor's Degree in Psychological Sciences and Techniques, University of Molise
2024/25 – present	Member of the Quality Management Unit of the Bachelor's Degree in Nursing, University of Molise
2025/26 – present	Director of the Specialisation School in Sports and Exercise Medicine

Period	Role
2025/26 – present	Member of the Faculty Board of the PhD Programme in Clinical and Translational Medicine

3.2 Roles at the University of Pavia

Period	Role
2012/13 – Feb 2024	Scientific Director of the Calcium Signalling Laboratory, General Physiology Laboratories, Department of Biology and Biotechnology "L. Spallanzani", University of Pavia
2020/21 – Feb 2024	Coordinator of the Master's Degree in Experimental and Applied Biology, University of Pavia
Apr 2022 – Feb 2024	International Mobility Delegate of the Department of Biology and Biotechnology "L. Spallanzani", University of Pavia
2013/14 – 2020/21	Head of the Molecular Biomedical Sciences curriculum of the Master's Degree in Experimental and Applied Biology, University of Pavia
Jan 2021 – Feb 2024	Member of the Executive Board of the Department of Biology and Biotechnology "L. Spallanzani", University of Pavia
Apr 2019 – Feb 2024	Member of the Faculty Board of the PhD Programme in Biomedical Sciences, University of Pavia
Oct 2019 – Sep 2020	Delegate of the Department of Biology and Biotechnology "L. Spallanzani" to the Technical-Scientific Committee of the University Guidance Centre (COR), University of Pavia

Period	Role
Jul 2017 – Feb 2024	Member of the Excellence Working Group (GLE) of the Department of Biology and Biotechnology "L. Spallanzani", set up to apply for the MIUR "Departments of Excellence" call; the project was funded by the Ministry with €7.3 million for 2018–2022, and the GLE then took on the task of monitoring the scientific and teaching activities planned by the project
Jan 2013 – Aug 2020	Member of the Space and Equipment Committee of the Department of Biology and Biotechnology "L. Spallanzani"
Oct 2017 – Feb 2024	Delegate of the Department of Biology and Biotechnology "L. Spallanzani" to the Technical-Scientific Committee of the Interdepartmental Centre for Studies and Research on Cultural Heritage Conservation (CISRIC), University of Pavia
2018/19 – 2019/20	Member of the Joint Teachers–Students Committee of the Department of Biology and Biotechnology "L. Spallanzani"

3.3 Roles in national scientific societies

Period	Role
Jan 2011 – Dec 2016	Member of the Board of Directors of the Italian Society for Cardiovascular Research (SIRC)
Jan 2014 – Dec 2016	Secretary of the Italian Society for Cardiovascular Research
Jan 2020 – Dec 2022	Member of the Board of Directors and Vice-President of the Italian Society for Cardiovascular Research

4. Research activity

4.1 Research lines and scientific collaborations

1. Analysis of changes in intracellular calcium concentration in endothelial progenitors and vascular endothelial cells, to investigate:

1.1 The role of intracellular calcium signals in the in vitro angiogenic activity of endothelial colony forming cells isolated from healthy donors (collaboration with Dr Vittorio Rosti – IRCCS Policlinico San Matteo Foundation, Pavia; Prof. Germano Guerra, University of Molise; and Dr Francesco Bertolini, European Institute of Oncology, Milan).

1.2 The possibility of manipulating intracellular calcium signals to therapeutically stimulate the angiogenic activity of endothelial colony forming cells (collaboration with Dr Maria Rosa Antognazza and Dr Francesco Lodola – IIT Milan, and with Prof. Sveva Bollini – University of Genoa). This collaboration extends to the LION-HEARTED Consortium (see section 5), which aims to use optical stimulation of endothelial colony forming cells and iPSC-derived cardiomyocytes to restore the function of the infarcted heart: Drs Elisa Di Pasquale and Leonardo Elia, Humanitas Mirasole SpA, Rozzano (MI); Prof. Alessio Gagliardi, Technische Universität München, Munich (Germany); Dr Martin Kaltenbrunner, Johannes Kepler Universität Linz, Linz (Austria); Dr Tobias Cramer, Alma Mater Studiorum – University of Bologna; Dr David Mecerreyes, University of the Basque Country, San Sebastián (Spain); Dr Alessio Alogna, Charité, Berlin (Germany).

1.3 The ability of human and murine cerebral microvascular endothelial cells to respond to synaptic neurotransmitters and neuromodulators by releasing nitric oxide (collaboration with Prof. Egidio D'Angelo – University of Pavia; Prof. Giulio Sancini – University of Milano-Bicocca; Prof. Germano Guerra – University of Molise; and Prof. Roberto Berra-Romani – Benemérita Universidad Autónoma de Puebla, Puebla, Mexico). The hypothesis that cerebrovascular endothelial cells sense neuronal activity through their own set of ion channels and metabotropic receptors, thereby contributing to the regulation of cerebral blood flow, has been developed in several review articles.

1.4 Modulation of intracellular calcium concentration in native aortic endothelial cells by chemical and physical stimuli (collaboration with Prof. Roberto Berra-Romani – Benemérita Universidad Autónoma de Puebla, Mexico, and Prof. Germano Guerra – University of Molise).

1.5 Altered intracellular calcium dynamics in native aortic endothelial cells and smooth muscle fibres in an animal (rat) model of type 2 diabetes (collaboration with Prof. Roberto Berra-Romani – Benemérita Universidad Autónoma de Puebla, Mexico).

1.6 Analysis of the mechanisms by which hydrogen sulfide generates calcium signals in different models of vascular endothelial cells (collaboration with Profs Luca Munaron and Daniele Mancardi, University of Turin).

2. Analysis of changes in intracellular calcium concentration in different types of tumour cells, to investigate:

2.1 The role of intracellular calcium signals in the in vitro angiogenic activity of endothelial colony forming cells isolated from patients with solid tumours and primary myelofibrosis (collaboration with Dr Vittorio Rosti and Prof. Paolo Pedrazzoli – IRCCS Policlinico San Matteo Foundation, Pavia, and Prof. Camillo Porta – IRCCS Maugeri, Pavia).

2.2 The role of calcium signals in modulating proliferation and migration in primary cultures of metastatic colorectal carcinoma and renal carcinoma cells (collaboration with Dr Daniela Montagna and Prof. Paolo Pedrazzoli – IRCCS Policlinico San Matteo Foundation).

2.3 The role of store-operated calcium entry in the activation of tumour-infiltrating lymphocytes and peripheral T lymphocytes isolated from patients with colorectal carcinoma (collaboration with Prof. Daniela Montagna and Prof. Paolo Pedrazzoli – IRCCS Policlinico San Matteo Foundation, and Prof. Dmitry Lim – University of Eastern Piedmont).

4.2 Technical skills

Imaging of intracellular calcium concentration changes and of nitric oxide release with epifluorescence and confocal microscopy; imaging of nitric oxide release in cerebellar granule cells in ex vivo slices; patch-clamp electrophysiological recordings in isolated cells and in cerebellar granule cells in ex vivo slices; sharp-electrode voltage-clamp recordings; extracellular electrophysiological recordings in brain slices; video-imaging analysis of changes in cerebellar capillary and arteriolar diameter in response to neuronal activity; microinjection of echinoderm oocytes; information technology skills (software: Clampex, Clampfit, Origin, Adobe Photoshop, ImageJ, Microsoft Office).

4.3 Research experience abroad

Period	Position
2019/20	Visiting Professor, Department of Biology / College of Sciences, Salahaddin University, Erbil, Iraq
1 Oct 2000 – 30 Sep 2001	Postdoctoral fellowship, Laboratory of Experimental Cardiac Research, Centre for Experimental Surgery and Anaesthesiology, Catholic University of Leuven, Belgium

Period	Position
1 Sep – 10 Oct 1996	Visiting Researcher, Laboratory of Physiology, Catholic University of Leuven, Belgium (Head: Prof. Bernd Nilius)
1 Sep 1997 – 30 Sep 1998	Visiting PhD Student, Department of Physiology and Pharmacology, University of Queensland, Brisbane, Australia (Head: Prof. David J. Adams)

4.4 Membership of scientific societies

- Italian Society for Cardiovascular Research (since 1 January 2010)
- European Calcium Society (since 24 August 2014)
- Italian Physiological Society (since 1 January 2017)
- Mediterranean Neuroscience Society (since 1 June 2025)

5. Research projects funded through competitive calls

1. **Molecules for BIOdiversity: design and development of selective pesticides for sustainable agriculture.** Funding body: National Research Council (CNR). Funding: €173,500. Start: September 2026; end: September 2031.
2. **Extended Partnership under the PNRR (National Recovery and Resilience Plan), Mission 4 Education and Research, Neuroscience and Neuropharmacology theme: MNESYS – A multiscale integrated approach to the study of the nervous system in health and disease.** Spoke 2 – Neuronal plasticity and connectivity. Work Package 1 – Molecular and cellular mechanisms of neuronal communication & plasticity in vitro and in vivo. Role: member of the University of Pavia Unit, coordinated by Prof. Egidio D'Angelo. Funding obtained: one fixed-term Researcher position (RTDa) and €13,000 of research support assigned to the Calcium Signalling Laboratory coordinated by Prof. Moccia.
3. **Development of new collaboration agreements with universities for research, innovation and technology transfer,** Lombardy Region, DGR 3776/2020, code RLF12021022983, 36 months from 1 July 2021 to 30 June 2024. Principal Investigator: Prof. Andrea Mattevi. Line of intervention 2 – Interdisciplinary approaches to cancer and brain biology, funded with €1,360,597.32. Role: unit member and scientific manager of the Port-a-Patch instrument purchased within the project (€40,000 + €35,000 co-funding) for studying the electrophysiological properties of tumour cells and cerebral endothelial cells.

4. **Current Research Programme (Ricerca Corrente) of the IRCCS Policlinico San Matteo Foundation, Pavia: "Molecular and functional characterization of Tumor infiltrating lymphocytes (TILs) and tumor cells for development of adoptive immunotherapy approaches in patients affected by tumors of the gastrointestinal tract"**, code 08059819, 36 months from 1 July 2019 to 1 July 2022. Principal Investigator: Dr Daniela Montagna; funded with €216,000. Role: Research Unit Leader.
5. **H2020 ERC LINCE (GA No. 803621)** – Coordinator: Dr Maria Rosa Antognazza, Italian Institute of Technology, Milan. Start: 1 March 2019; end: 29 February 2024. Role: Third Party.
6. **Future and Emerging Technologies (FET) Open – European Commission: Proposal 828984 – LION-HEARTED: €305,000.** Start: 1 May 2019; end: 30 April 2023. Role: Research Unit Leader.
7. **Fund for Basic Research Activities (FFABR)**, established by Law no. 232 of 11 Dec 2016: €3,000.
8. **Current Research Programme of the IRCCS Policlinico San Matteo Foundation, Pavia: "Relevance of endothelial progenitors in the pathogenesis and regulation of the proliferative and involutive phase of infantile haemangioma treated with oral propranolol"**, RIC COR 80520, code 08052002/13, 36 months from 1 January 2013 to 1 January 2016. Principal Investigator: Dr Margherita Massa; funded with €5,000. Role: Collaborator.
9. **Current Research Programme of the IRCCS Policlinico San Matteo Foundation, Pavia: "Study of angiogenesis and metastasis processes in patients with solid tumours"**, project no. 674, code 08067611, 36 months from 1 July 2011 to 1 July 2014. Principal Investigator: Dr Paolo Pedrazzoli; funded with €10,000. Role: Collaborator.

6. Organisation and chairing of scientific events

6.1 Organisation of scientific events

Date	Event
1 Jul 2022	As Vice-President of the Italian Society for Cardiovascular Research, took part in organising the 6th SIRC Forum "New Roads in Cardiovascular Research", Bari, Italy
28 – 30 Nov 2021	As Vice-President of the Italian Society for Cardiovascular Research, organised the 23rd National Congress of the Italian Society for Cardiovascular Research, Imola (BO), Italy

Date	Event
16 Oct 2020	As Vice-President of the Italian Society for Cardiovascular Research, took part in organising the 5th SIRC Forum "New Roads in Cardiovascular Research", web meeting
10 – 13 Nov 2019	Scientific Secretary of the 22nd National Congress of the Italian Society for Cardiovascular Research, Imola (BO), Italy
6 Jul 2018	Organisation of the Second Calcium Day (www.calciumday.org), Novara, Italy
16 Jun 2016	As Secretary of the Italian Society for Cardiovascular Research, took part in organising the 3rd SIRC Forum "New Roads in Cardiovascular Research", Genoa, Italy
16 – 18 Nov 2017	Scientific Secretary of the 21st National Congress of the Italian Society for Cardiovascular Research, Imola (BO), Italy
26 – 28 Nov 2015	As Secretary of the Italian Society for Cardiovascular Research, ran the Scientific Secretariat of the 20th National Congress of the Italian Society for Cardiovascular Research, Imola (BO), Italy
13 Oct 2014	As Secretary of the Italian Society for Cardiovascular Research, took part in organising the 2nd SIRC Forum "New Roads in Cardiovascular Research"
17 – 18 Oct 2013	As member of the Board of Directors and Scientific Board of the Italian Society for Cardiovascular Research, took part in organising the 19th National Congress, selecting contributions and choosing the Lectures, Imola (BO), Italy
23 Nov 2012	As member of the Board of Directors of the Italian Society for Cardiovascular Research, took part in organising the 1st SIRC Forum "New Roads in Cardiovascular Research", Milan, Italy

Date	Event
21 – 22 Oct 2011	As member of the Board of Directors and Scientific Board of the Italian Society for Cardiovascular Research, took part in organising the 18th National Congress, selecting contributions and choosing the Lectures, Imola (BO)

6.2 Chairing of scientific events

Date	Session chaired
14 – 16 Sep 2022	Chair of the Symposium "Ca ²⁺ signalling: unexpected new roles for the usual suspect", 72nd Congress of the Italian Physiological Society, Bari, Italy
1 Jul 2022	Chair of the Plenary Lecture given by Prof. Domenico Ribatti, 6th SIRC Forum "New Roads in Cardiovascular Research", Bari, Italy
28 – 30 Oct 2021	Chair of the State of the Art Lecture given by Prof. Leonardo Sacconi, 33rd National Congress of the Italian Society for Cardiovascular Research, Imola (BO), Italy
28 – 30 Oct 2021	Chair of Symposium 6 – Heart-Brain axis: an unexpected synthesis, 23rd National Congress of the Italian Society for Cardiovascular Research, Imola (BO), Italy
10 – 13 Nov 2019	Chair of Symposium 2 – Emerging signaling pathways in the cardiovascular system, 22nd National Congress of the Italian Society for Cardiovascular Research, Imola (BO)
10 – 13 Nov 2019	Chair of Symposium 3 – Vascular Biology and Inflammation and of Symposium 7 – Myofilaments and EC-coupling, 21st National Congress of the Italian Society for Cardiovascular Research, Imola (BO)
6 Oct 2018	Chair of Session 3 – Cardiovascular Prevention, 3rd SIRC Forum "New Roads in Cardiovascular Research", Rome, Italy

Date	Session chaired
18 Jun 2016	Chair of Session 1 – Research on Vascular, Progenitor and Stem Cells, 3rd SIRC Forum "New Roads in Cardiovascular Research", Genoa, Italy
26 – 28 Nov 2015	Chair of Symposium 7 – Ion Channels in Cardiovascular Physiology and of the Expo Symposium: Healthy Food for Healthy Heart, 20th National Congress of the Italian Society for Cardiovascular Research, Imola (BO)
13 Oct 2014	Chair of Session 2 – Stem cells, angiogenesis and molecular bases of cardiovascular diseases, 2nd SIRC Forum "New Roads in Cardiovascular Research", Pisa, Italy
13 Oct 2014	Chair of Session 4 – Stem/progenitor cells, 2nd SIRC Forum "New Roads in Cardiovascular Research", Pisa, Italy
17 – 18 Oct 2013	Chair of Session 1 – Progenitor cells, myocardial regeneration, cardiac electrophysiology and biomaterials in cardiology, 19th National Congress of the Italian Society for Cardiovascular Research, Imola (BO)
23 Nov 2012	Chair of Session 1 – Calcium Signaling, 1st SIRC Forum "New Roads in Cardiovascular Research", Milan, Italy
21 – 22 Oct 2011	Chair of Session 3 – Cardiovascular pathophysiology, 18th National Congress of the Italian Society for Cardiovascular Research, Imola (BO)

7. Evaluation activities

7.1 Selection committees for professors and researchers

- Member of the selection committee for the evaluation procedure for one Associate Professor position (art. 24, para. 5, Law 240/2010), full time, Competition Sector 05/D1 PHYSIOLOGY, SSD BIO/09 PHYSIOLOGY, Department of Life Sciences and Systems Biology, University of Turin, call issued by Rector's Decree no. 4265 of 02/09/2022.

- Member of the selection committee for one fixed-term Researcher position (art. 24, para. 3, letter B, Law 240/2010), full time, Competition Sector 05/D1 PHYSIOLOGY, SSD BIO/09 PHYSIOLOGY, Department of Pharmaceutical Sciences, University of Eastern Piedmont "Amedeo Avogadro", call issued by Rector's Decree Rep. no. 698/2022 of 04/05/2022 (call code 2022-RTDB-001).
- Member of the selection committee for one fixed-term Researcher position (art. 24, para. 3, letter B, Law 240/2010), full time, Competition Sector 05/D1 PHYSIOLOGY, SSD BIO/09 PHYSIOLOGY, Department of Biosciences, Biotechnology and Biopharmaceutics, University of Bari "Aldo Moro", call issued by Rector's Decree no. 506/2020 of 18/02/2020 (competition code 3035/2021).
- Member of the selection committee for one fixed-term Researcher position (art. 24, para. 3, letter B, Law 240/2010), full time, Competition Sector 05/D1 PHYSIOLOGY, SSD BIO/09 PHYSIOLOGY, Department for Innovation in Biological, Agri-food and Forest Systems, University of Tuscia, Viterbo, call issued by Rector's Decree no. 629/2021, prot. no. 000017178 of 05/11/2021.
- Member of the selection committee for one fixed-term Researcher position (art. 24, para. 3, letter A, Law 240/2010), full time, Competition Sector 05/D1 PHYSIOLOGY, SSD BIO/09 PHYSIOLOGY, Department of Science and Technological Innovation, University of Eastern Piedmont "Amedeo Avogadro", call issued by Rector's Decree Rep. no. 827/2018, prot. no. 0025837 of 12/10/2018.

7.2 Committees for fellowships, research grants and teaching contracts

- Member of the selection committee for two type a) research grants at the Department of Biology and Biotechnology "L. Spallanzani", call issued by Rector's Decree 148/2022 of 26/01/2022 – call code frg2021-3tranche-2022 – grant code A1.
- Member of the selection committee for one research grant on "In vitro and ex vivo study of the prophylactic and therapeutic effects on COVID-19 of standardised extracts of medicinal mushrooms in ageing: immunosenescence, inflammaging and frailty", SSD BIO/09, 01/03/2022–28/02/2023, Department of Biology and Biotechnology, approved by resolution no. 318 of the Department Council of 24/11/2021 – code DBB2021-B07.
- Member of the selection committee for one type a) research grant at the Department of Biology and Biotechnology "L. Spallanzani", call issued with no. 1313/2021 of 08/06/2021 – code DBB2021-A01.
- Member of the selection committee for two type a) research grants at the Department of Biology and Biotechnology "L. Spallanzani", call issued by Rector's Decree 40 of 09/01/2020 – code DBB2020-A01.

- Member of the examining committee for research grant id. 1291, "Targeting intracellular calcium signalling in malignant mesothelioma", University of Eastern Piedmont, Alessandria campus, call issued by Rector's Decree no. 1158/2017 of 13/10/2017.
- Member of the selection committee of the public competition for one type b) research grant at the Department of Brain and Behavioural Sciences, University of Pavia, call issued with Rep. no. 31, prot. no. 988 of 16/09/2016.
- Member of the selection committee for one research grant, call issued with Rep. no. 52, prot. no. 887 of 05/12/2014, Department of Brain and Behavioural Sciences, University of Pavia.
- Member of the selection committee for teaching contracts for the following courses: Environmental Physiology (Master's Degree in Experimental and Applied Biology) and Advanced Microscopy (Master's Degree in Molecular Biology and Genetics), rep. no. 562/2021 – prot. 105678 of 22 July 2021, published on the University Notice Board on 23 August 2021, Department of Biology and Biotechnology "L. Spallanzani", University of Pavia.

7.3 PhD final examination committees

- Member of the final examination committee of the PhD in Experimental Medicine and Therapy, 34th cycle, University of Turin, Rector's Decree no. 2021 of 11 April 2023.
- Member of the final examination committee of Dr Giorgia Chinigò, PhD in Complex Systems for Life Sciences, 34th cycle, University of Turin – jointly supervised with the University of Lille 1 – Doctoral School Biologie Santé, Faculté des Sciences et Technologies; thesis defended on 9 September 2022.
- Member of the final examination committee of Dr Celia Cordero Sanchez, PhD in Chemistry and Biology, 34th cycle, University of Eastern Piedmont "Amedeo Avogadro", Rector's Decree no. 708 of 5 May 2022.
- Member of the final examination committee of the PhD in Experimental Medicine and Therapy, 33rd cycle, University of Turin, Rector's Decree no. 1585 of 6 April 2022.
- Member of the final examination committee of the PhD in Complex Systems for Life Sciences, 32nd and 33rd cycles, University of Turin, Rector's Decree no. 681 of 24 February 2021.
- Member of the final examination committee of the PhD in Complex Systems for Life Sciences, 32nd and 33rd cycles, University of Turin, Rector's Decree no. 4241 of 11 December 2020.
- Member of the final examination committee of the PhD in Functional and Applied Genomics and Proteomics, 30th and 31st cycles, University of Bari "Aldo Moro", Rector's Decree no. 550 of 11 February 2019.

- Member of the final examination committee of the PhD in Experimental Medicine and Therapy, 30th cycle, University of Turin, Rector's Decree 402 of 31 January 2019.
- Member of the final examination committee of the PhD in Life Sciences, 30th cycle, University of Calabria, Arcavacata di Rende (CS), Rector's Decree no. 863 of 13 June 2018.
- Member of the final examination committee of the PhD in Complex Systems for Life Sciences, 30th cycle, University of Turin, Rector's Decree no. 40 of 11 January 2018.
- Member of the final examination committee of the PhD in "Complex Systems for Life Sciences", 28th cycle, University of Turin – jointly supervised with the University of Lille 1 – Sciences et Technologies, Rector's Decree 3578 of 30/10/2015.
- Member of the final examination committee of the PhD in Animal Biology, 26th cycle, School of Life Sciences, University of Calabria, Arcavacata di Rende (CS), Rector's Decree no. 2409 of 26/11/2013.

7.4 External examiner of PhD theses

- PhD Program in Translational Medicine, Scuola Superiore Sant'Anna, Pisa, 2020/21 – thesis of Dr Carlotta Baroni, "Brain-Heart dysfunction modeling: from characterization to nutraceutical treatment".
- PhD in Experimental Medicine and Therapy, 34th cycle, University of Turin – thesis of Dr Stefano Comit , "Extracellular vesicles as tools for cardioprotection: in ex-vivo and in vitro models".
- PhD in Functional and Applied Genomics and Proteomics, University of Bari – thesis of Dr Mariagrazia D'Agostino, "The central role and potential therapeutic impact of the aquaporin-3 water channel in the pathophysiology of colon and kidney".
- PhD in Drug Research and Innovative Treatments, 34th cycle, University of Florence – thesis of Dr Manuela Gencarelli, "Revisiting targets for HCN blockers in the heart and urinary bladder: evidence for antimuscarinic activity in human atrial preparations, rat urinary bladder and recombinant muscarinic receptors".
- PhD in Converging Technologies for Biomolecular Systems, 34th cycle, University of Milano-Bicocca – thesis of Dr Stefania Blasa, "Differentiation of a dorsal root ganglion neuron model induced by a novel approach of thermal stimulation: a morphological and functional investigation".
- PhD in Experimental Medicine and Therapy, 33rd cycle, University of Turin – thesis of Dr Giulia Querio, "Cardiovascular effects of trimethylamine N-oxide (TMAO)".
- PhD in Complex Systems for Life Sciences, 33rd cycle, University of Turin – thesis of Dr Giorgia Scarpellino, "Purinergic signaling in tumor vascularization".

- PhD Programme in Science and Technology for the Environment and Health, University of Sannio, 32nd cycle – thesis of Dr Evelina Compare, "Lymnea stagnalis nervous system: a model for the study of xenobiotic agents effects".
- PhD in Functional and Applied Genomics and Proteomics, University of Bari, 32nd cycle – thesis of Dr Roberta De Zio, "Molecular basis of familial cardiomyopathies: identification of the pathogenic mechanisms at cellular level".
- PhD in Functional and Applied Genomics and Proteomics, 31st cycle, University of Bari "Aldo Moro" – thesis of Dr Francesca Sanarica, "Targeting oxidative stress in Duchenne muscular dystrophy: preclinical assessments of antioxidants and of inhibitors of the redox-sensitive protein Src tyrosine kinase".
- PhD in Medical Sciences, 31st cycle, University of Parma – thesis of Dr Alessandra Zecca, "Immunohistochemical analysis of structural remodelling and stem cell phenotypes distribution in human diabetic pancreas".
- PhD in Life Sciences, 29th cycle, University of Calabria – thesis of Dr Francesco Scavello, "Cateslytin and Chromofungin, two CgA derived peptides: actors of the immune and cardiac systems".
- PhD Program in Translational Medicine, Scuola Superiore Sant'Anna, Pisa, 2016/17 – thesis of Dr Elena Guzzolino, "Role of TBX5 controlled miRNAs in Holt-Oram Syndrome: deciphering regulatory circuitries responsible for cardiac malformations".

8. Editorial activity

8.1 Associate Editor

Period	Journal
Apr 2022 – present	Associate Editor, <i>Journal of Translational Medicine</i> , Cardiovascular, Metabolic and Lipoprotein Translation section, IF = 7.4
May 2015 – present	Associate Editor, <i>Frontiers in Cellular Neuroscience</i> – Section of Cellular Neurophysiology, IF = 5.3
Jan 2019 – present	Associate Editor, <i>Frontiers in Physiology</i> – Vascular Physiology, IF = 4

8.2 Guest Editor

Year	Special Issue
2022	Co-Guest Editor, Special Issue of <i>Vascular Pharmacology</i> (IF = 5.738): "The vascular frontiers: Updates from the XXIII Italian Congress of Cardiovascular Research" (https://www.sciencedirect.com/journal/vascular-pharmacology/specialissue/10328WNPRZ8)
2020 – 2022	Guest Editor, Special Issue "Calcium Signaling in Human Health and Diseases 3.0", <i>International Journal of Molecular Sciences</i> , IF 6.208 (https://www.mdpi.com/journal/ijms/special_issues/calcium_signaling3)
2020 – 2021	Guest Editor, Special Issue "Oxidative and Nitrosative Stress in Vascular Diseases: The Heart/Brain Connection", <i>Oxidative Medicine and Cellular Longevity</i> , IF = 7.310 (https://www.hindawi.com/journals/omcl/si/149284/)
2019 – 2020	Guest Editor, Special Issue "Endothelial Progenitor Cells in Health and Disease", <i>International Journal of Molecular Sciences</i> , IF 4.183 (https://www.mdpi.com/journal/ijms/special_issues/epcs)
2019	Co-Guest Editor, Special Issue "Advances and Current Challenges in Calcium Signaling within the Cardiovascular System", <i>Frontiers in Physiology – Vascular Physiology</i> (https://www.frontiersin.org/research-topics/10516/advances-and-current-challenges-in-calcium-signaling-within-the-cardiovascular-system)
2018 – 2019	Guest Editor, Special Issue "Calcium Signaling in Human Health and Diseases 2.0", <i>International Journal of Molecular Sciences</i> , IF 4.183 (https://www.mdpi.com/journal/ijms/special_issues/calcium_signaling2)

Year	Special Issue
2017 – 2018	Guest Editor, Special Issue "Calcium Signaling in Human Health and Diseases", <i>International Journal of Molecular Sciences</i> , IF 4.183 (https://www.mdpi.com/journal/ijms/special_issues/calcium_signaling)
2015	Co-Guest Editor, Special Issue of <i>BioMed Research International</i> – "Angiogenesis and Vasculogenesis in Health and Disease"

8.3 Reviewer for international peer-reviewed journals

Period	Role
Jun 2020 – present	Review Editor, <i>Frontiers in Cardiovascular Medicine</i> – Section of Cardiovascular Biologics and Regenerative Medicine, IF = 3.6
Oct 2018 – present	Review Editor, <i>Frontiers in Physiology</i> – Vascular Physiology, IF = 4

Ad hoc reviewer for: Cellular Physiology and Biochemistry, *Biochimica et Biophysica Acta* – Molecular Cell Research, *Frontiers in Cellular Neuroscience*, *Frontiers in Oncology*, *Journal of Cellular and Molecular Medicine*, *Cardiovascular Research*, *Journal of Neuroscience Methods*, *Journal of Membrane Biology*, *Journal of Cellular Physiology*, *Frontiers in Bioscience*, *Tumor Biology*, *Current Drug Targets*, *Canadian Journal of Physiology and Pharmacology*, *Redox Biology*, *Skin Physiology and Pharmacology*, *Functional Neurology*, *Stem Cells and Development*, *Oxidative Medicine and Cellular Longevity*, *Cancers*, *International Journal of Molecular Sciences*, *Critical Reviews in Hematology/Oncology*, *Future Medicinal Chemistry*, *Fundamental & Clinical Pharmacology*, *Drug and Chemical Toxicology*, *Pharmacological Research*, *Neuroendocrinology*, *Cells*, *Experimental and Therapeutic Medicine*, *Clinical Science*, *Molecular and Clinical Oncology*, *Journal of Molecular Medicine*, *Journal of Physiology and Pharmacology*, *Journal of Physiology*, *Reviews in Physiology*, *Biochemistry and Pharmacology*, *iScience*.

9. Reviewer for competitive funding calls

- Auckland Medical Research Foundation, New Zealand (2013)
- Sparks Charity, United Kingdom (2015)

- Austrian Academy of Sciences, Austria (2015)
- Biotechnology and Biological Sciences Research Council, United Kingdom (2015, 2016, 2019 and 2020)
- Research Council of KU Leuven – C1 Funding Program, Belgium (2023)
- Medical Research Council, United Kingdom (2023)
- Agence Nationale de la Recherche, France (2023)
- Swiss National Science Foundation, Switzerland (2023)

10. Publications

10.1 Bibliometric indicators

173 publications in indexed international journals (list updated to 2 October 2026).

Database	Citations	h-index
Scopus	7019	51
Web of Science	5746	45
Google Scholar	9191	59

10.2 Full papers in indexed international peer-reviewed journals

1. Scorza, S.I., De Zio, R., Certini, M., Svelto, M., Moccia, F., Procino, G., Gerbino, A. (2026). Mechanosensing in the renal tubule: ion channels, Ca²⁺ signaling, and the integration of mechanical cues along the nephron. *Journal of the American Society of Nephrology*, online ahead of print. doi: 10.1681/ASN.0000001205.
2. Moccia, F.*, Soda, T. (2026). Voltage-Dependent Ion Channels in Vascular Endothelial Cells: An Unexpected Signaling Pathway in Non-Excitable Cells. *Biomedicines*, 14(7):1418. doi: 10.3390/biomedicines14071418. *Corresponding author.
3. Totaro, A., Sacra, C., Testa, G., Galluccio, C., Iannace, M., Magri, G., Tota, A., Pierro, A., Onorato, E., Dell'Aquila, M., Condello, I., Katsavrias, K., Moccia, F., Calafiore, A.M. (2026). Funnel-type patent foramen ovale morphology on 3D echocardiography: a novel high-risk anatomic feature. *European Heart Journal - Cardiovascular Imaging*, 27(6):1300-1314. doi: 10.1093/ehjci/jeag089.
4. Sánchez-Pluma, K.E., Martínez-Romero, E., Avelino-Cruz, J.E., Scarpellino, G., Brunetti, V., Savio, M., Vázquez-de-Lara Cisneros, L.G., Moccia, F., Berra-Romani, R. (2026). The Ca²⁺-NO-ROS crosstalk induced by arachidonic acid in human lung fibroblasts:

- implications for pulmonary fibrosis. *International Journal of Molecular Sciences*, 27(9):4016. doi: 10.3390/ijms27094016.
5. Marzuoli, C., Pianetti, A., Mancinelli, E., Villano, A., Vailati, M., Lagonegro, P., Criado-Gonzalez, M., Climent, M., Comas-Rojas, H., Elia, L., Moccia, F., Tullii, G., Antognazza, M.R. (2026). Semiconducting Polymer Nanoparticles Enable Light-Controlled Bidirectional Modulation of Nitric Oxide in Endothelial Cells. *Advanced Science*, 13(30):e22894. doi: 10.1002/adv.202522894.
 6. Moccia, F.*, Brunetti, V., Berra-Romani, R., Villone, G., Raimo, G., Soda, T., Scarpellino, G., Guerra, G. (2026). The Emerging Role of Endothelial Ion Channels in the Control of Human Microcirculation. *International Journal of Molecular Sciences*, 27(3):1421. doi: 10.3390/ijms27031421. *Corresponding author.
 7. Scarpellino, G., Brunetti, V., Scolari, F., Visentin, L., Biella, G.R., Ruffinatti, F.A., Moccia, F.* (2025). The ion transport, GPCR, and RTK toolkit expression in the human cerebrovascular endothelial cell line, hCMEC/D3: an Omics perspective. *Frontiers in Physiology*, 16:1733266. doi: 10.3389/fphys.2025.1733266. *Corresponding author.
 8. Masoli, S., Rizza, M.F., Moccia, F., D'Angelo, E. (2025). The spiny relationship between parallel fibers, climbing fibers, and Purkinje cells. *Frontiers in Physiology*, 16:1671271. doi: 10.3389/fphys.2025.1671271.
 9. Brunetti, V., Berra-Romani, R., Coyotl-Santiago, N., Esquitin-Gonzalez, Y., Chinigò, G., Biella, G.R., Moccia, F., Scarpellino, G. (2025). Histamine 1 receptors and reverse-mode $\text{Na}^+/\text{Ca}^{2+}$ exchanger drive extracellular Na^+ -dependent intracellular Ca^{2+} oscillations in human cerebrovascular endothelial cells. *Cell Calcium*, 131:103067. doi: 10.1016/j.ceca.2025.103067.
 10. Giannaccari, M., Florindi, C., Bloise, N., Moccia, F., Lodola, F., Visai, L. (2025). TRP channels and cancer modulation: a voyage beyond metabolic reprogramming, oxidative stress and the advent of nanotechnologies in targeted therapy. *Journal of Experimental & Clinical Cancer Research*, 44(1):240. doi: 10.1186/s13046-025-03495-4.
 11. Moccia, F., Dragoni, S. (2025). The Calcium Signalling Profile of the Inner Blood-Retinal Barrier in Diabetic Retinopathy. *Cells*, 14(12):856. doi: 10.3390/cells14120856.
 12. Mone, P., Ciccarelli, M., Jankauskas, S.S., Picone, F., Guerra, G., Testa, G., Moccia, F., Magliuolo, R., Di Mauro, M., De Luca, A., Carrizzo, A., Vecchione, C., Santulli, G. (2025). Natural Killer T Cells Link Stress Hyperglycemia to Cognitive Decline in HFpEF. *Circulation Research*, 136(11):1507-1509. doi: 10.1161/CIRCRESAHA.125.326315.
 13. Moccia, F.*, Totaro, A., Guerra, G., Testa, G. (2025). Ca^{2+} Signaling in Cardiac Fibroblasts: An Emerging Signaling Pathway Driving Fibrotic Remodeling in Cardiac Disorders. *Biomedicines*, 13(3):734. doi: 10.3390/biomedicines13030734.

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14. Dragoni, S., Moccia, F., Bootman, M.D. (2025). The Roles of Transient Receptor Potential (TRP) Channels Underlying Aberrant Calcium Signaling in Blood-Retinal Barrier Dysfunction. *Cold Spring Harbor Perspectives in Biology*, 17(2). doi: 10.1101/cshperspect.a041763.
15. Negri, S., Reyff, Z., Troyano-Rodriguez, E., Milan, M., Ihuoma, J., Tavakol, S., Shi, H., Patai, R., Jiang, R., Mohon, J., Boma-Iyaye, J., Ungvari, Z., Csiszar, A., Yabluchanskiy, A., Moccia, F., Tarantini, S. (2025). Endothelial Colony-Forming Cells (ECFCs) in cerebrovascular aging: Focus on the pathogenesis of Vascular Cognitive Impairment and Dementia (VCID), and treatment prospects. *Ageing Research Reviews*, 104:102672. doi: 10.1016/j.arr.2025.102672.
16. Soda, T., Brunetti, V., De Sarro, G., Biella, G., Moccia, F.*, Berra-Romani, R., Scarpellino, G. (2025). Transient Receptor Potential Ankyrin 1 (TRPA1) mediates hydrogen sulfide-induced Ca^{2+} entry and nitric oxide production in human cerebrovascular endothelium. *Current Neuropharmacology*, 23(9):1119-1133. doi: 10.2174/011570159X349872250124124612. *Corresponding author.
17. Scorza, S., Brunetti, V., Scarpellino, G., Certini, M., Gerbino, A., Moccia, F.* (2024). Targeting the Ca^{2+} signaling toolkit as an alternative strategy to mitigate SARS-CoV-2-induced cardiovascular adverse events. *Vascular Pharmacology*, 158:107458. doi: 10.1016/j.vph.2024.107458. *Corresponding author.
18. Soda, T., Pasqua, T., De Sarro, G., Moccia, F.* (2024). Cognitive Impairment and Synaptic Dysfunction in Cardiovascular Disorders: The New Frontiers of the Heart-Brain Axis. *Biomedicines*, 12(10):2387. doi: 10.3390/biomedicines12102387. *Corresponding author.
19. Soda, T., Negri, S., Scarpellino, G., Berra-Romani, R., De Sarro, G., Moccia, F.*, Brunetti, V. (2024). An automated planar patch-clamp approach to measure the membrane potential and resting membrane currents in a human cerebrovascular endothelial cell line. *Journal of Neuroscience Methods*, 410:110248. doi: 10.1016/j.jneumeth.2024.110248. *Corresponding author.
20. Scarpellino, G., Brunetti, V., Berra-Romani, R., De Sarro, G., Guerra, G., Soda, T., Moccia, F.* (2024). The Unexpected Role of the Endothelial Nitric Oxide Synthase at the Neurovascular Unit: Beyond the Regulation of Cerebral Blood Flow. *International Journal of Molecular Sciences*, 25(16):9071. doi: 10.3390/ijms25169071. *Corresponding author.
21. Brunetti, V., Berra-Romani, R., Conca, F., Soda, T., Biella, G.R., Gerbino, A., Moccia, F.*, Scarpellino, G. (2024). Lysosomal TRPML1 triggers global Ca^{2+} signals and nitric oxide release in human cerebrovascular endothelial cells. *Frontiers in Physiology*, 15:1426783. doi: 10.3389/fphys.2024.1426783. *Corresponding author.
22. Brunetti, V., Soda, T., Berra-Romani, R., De Sarro, G., Guerra, G., Scarpellino, G., Moccia, F.* (2024). Two Signaling Modes Are Better than One: Flux-Independent Signaling by Ionotropic Glutamate Receptors Is Coming of Age. *Biomedicines*, 12(4):880. doi:

- 10.3390/biomedicines12040880. *Corresponding author.
23. Boretto, C., Actis, C., Faris, P., Cordero, F., Beccuti, M., Ferrero, G., Muzio, G., Moccia, F., Autelli, R. (2023). Tamoxifen Activates Transcription Factor EB and Triggers Protective Autophagy in Breast Cancer Cells by Inducing Lysosomal Calcium Release: A Gateway to the Onset of Endocrine Resistance. *International Journal of Molecular Sciences*, 25(1):458. doi: 10.3390/ijms25010458.
 24. Tullii, G., Gutierrez-Fernandez, E., Ronchi, C., Bellacanzone, C., Bondi, L., Criado-Gonzalez, M., Lagonegro, P., Moccia, F., Cramer, T., Mecerreyes, D., Martín, J., Antognazza, M.R. (2023). Bimodal modulation of in vitro angiogenesis with photoactive polymer nanoparticles. *Nanoscale*, 15(46):18716-18726. doi: 10.1039/d3nr02743k.
 25. Moccia, F.*, Brunetti, V., Soda, T., Berra-Romani, R., Scarpellino, G. (2023). Cracking the endothelial calcium (Ca²⁺) code: a matter of timing and spacing. *International Journal of Molecular Sciences*, 24(23):16765. doi: 10.3390/ijms242316765. *Corresponding author.
 26. Moccia, F.*, Morgan, A.J. (2023). TPC2 gating: Trying to break the enigma code. *Cell Calcium*, 116:102815. doi: 10.1016/j.ceca.2023.102815. *Corresponding author.
 27. Rocca, C., Soda, T., De Francesco, E.M., Fiorillo, M., Moccia, F., Viglietto, G., Angelone, T., Amodio, N. (2023). Mitochondrial dysfunction at the crossroad of cardiovascular diseases and cancer. *Journal of Translational Medicine*, 21(1):635. doi: 10.1186/s12967-023-04498-5.
 28. Moccia, F.*, Brunetti, V., Soda, T., Scarpellino, G., Berra-Romani, R. (2023). Store-operated Ca²⁺ entry as putative target of flecainide for the treatment of arrhythmogenic cardiomyopathy. *Journal of Clinical Medicine*, 12(16):5295. doi: 10.3390/jcm12165295. *Corresponding author. IF=3.9.
 29. Moccia, F.*, Florio Pla, A., Lim, D., Lodola, F., Gerbino, A. (2023). Intracellular Ca²⁺ signalling: unexpected new roles for the usual suspect. *Frontiers in Physiology*, 14:1210085. doi: 10.3389/fphys.2023.1210085. IF=4. *Corresponding author.
 30. Berra-Romani, R., Brunetti, V., Pellavio, G., Soda, T., Laforenza, U., Scarpellino, G., Moccia, F.* (2023). Allyl Isothiocyanate induces Ca²⁺ signals and nitric oxide release by inducing reactive oxygen species production in the human cerebrovascular endothelial cell line hCMEC/D3. *Cells*, 12(13):1732. doi: 10.3390/cells12131732. *Corresponding author. IF=6.
 31. Faris, P., Rumolo, A., Pellavio, G., Tanzi, M., Vismara, M., Berra-Romani, R., Gerbino, A., Corallo, S., Pedrazzoli, P., Laforenza, U., Montagna, D., Moccia, F.* (2023). Transient Receptor Potential Ankyrin 1 (TRPA1) mediates reactive oxygen species-induced Ca²⁺ entry, mitochondrial dysfunction and caspase-3/7 activation in primary culture of metastatic colorectal carcinoma cells. *Cell Death Discovery*, 9(1):213. doi: 10.1038/s41420-023-01530-x. *Corresponding author. IF=7.

32. Moreno-Salgado, A., Coyotl-Santiago, N., Moreno-Vazquez, R., Lopez-Teyssier, M., Garcia-Carrasco, M., Moccia, F.*, Berra-Romani, R. (2023). Alterations of the Ca²⁺ clearing mechanisms by type 2 diabetes in aortic smooth muscle cells of Zucker diabetic fatty rat. *Frontiers in Physiology*, 14:1200115. doi: 10.3389/fphys.2023.1200115. *Corresponding author. IF=4.
33. Sánchez-Tecuatl, M., Moccia, F., Martínez-Carballido, J.F., Berra-Romani, R. (2023). An automated method to discover true events and classification of intracellular Ca²⁺ profiles for endothelium in situ injury assay. *Frontiers in Physiology*, 14:1161023. doi: 10.3389/fphys.2023.1161023. IF=4.
34. Moccia, F.*, Montagna D. (2023). Transient Receptor Potential Ankyrin 1 (TRPA1) channel as a sensor of oxidative stress in cancer cells. *Cells*. 26;12(9):1261. doi: 10.3390/cells12091261. *Corresponding author. IF=6.
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37. Moccia, F.*, Brunetti, V., Perna, A., Guerra, G., Soda, T., Berra-Romani, R. (2023). The molecular heterogeneity of store-operated Ca²⁺ entry in vascular endothelial cells: the different roles of Orai1 and TRPC1/TRPC4 channels in the transition from Ca²⁺-Selective to non-selective cation currents. *International Journal of Molecular Sciences*, 24(4):3259. doi: 10.3390/ijms24043259. *Corresponding author. IF=5.6.
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39. Scorza, S.I., Milano, S., Saponara, I., Certini, M., De Zio, R., Mola, M.G., Procino, G., Carmosino, M., Moccia, F., Svelto, M., Gerbino, A. (2023). TRPML1-induced lysosomal Ca²⁺ signals activate AQP2 translocation and water flux in renal collecting duct cells. *International Journal of Molecular Sciences*, 24(2):1647. doi: 10.3390/ijms24021647. IF=5.6.
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 43. Vismara, M., Negri, S., Scolari, F., Brunetti, V., Trivigno, S.M.G., Faris, P., Galgano, L., Soda, T., Berra-Romani, R., Canobbio, I., Torti, M., Guidetti, G.F., Moccia, F.* (2022). Platelet-derived extracellular vesicles stimulate migration through partial remodelling of the Ca²⁺ handling machinery in MDA-MB-231 breast cancer cells. *Cells*, 11(19):3120. doi: 10.3390/cells11193120. *Corresponding author. IF=6.
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 47. Moccia, F.*, Negri, S., Faris, P., Ronchi, C., Lodola, F. (2022). Optical excitation of organic semiconductors as a highly selective strategy to induce vascular regeneration and tissue repair. *Vascular Pharmacology*, 144:106998. doi: 10.1016/j.vph.2022.106998. *Corresponding author. IF=4.
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10.3 Books and book chapters

1. Editor of Chapter 6 – Motility, in *Fondamenti di Fisiologia Generale e Integrata* (Fundamentals of General and Integrated Physiology), coordinated by Prof. Vanni Taglietti, Edizioni Edises. In preparation.
2. Editor of Chapter 5 – Transduction of chemical signals, in *Fisiologia e Biofisica della Cellula* (Cell Physiology and Biophysics), coordinated by Prof. Vanni Taglietti, Edizioni Edises. In press.
3. Editor of the volume *Calcium Signaling in Human Health and Disease*, 2019, MDPI, ISBN 978-3-03897-537-3 (Pbk); ISBN 978-3-03897-538-0 (PDF).
4. Moccia, F. (2020). Calcium Signaling in Endothelial Colony Forming Cells in Health and Disease. *Advances in Experimental Medicine and Biology*, 1131:1013-1030.
5. Moccia, F., Diofano, F., Rebuzzini, P., Zuccolo, E. (2015). Embryonic stem cells for cardiac regeneration. In *Stem Cells and Cardiac Regeneration*, Springer, Editor R. Madonna, pp. 9–29.

11. Oral communications at conferences and invited talks

Date	Talk
24 – 26 Sep 2025	Exploring the role of the endothelial Ca ²⁺ machinery at the neurovascular unit: Implications for nitric oxide release and signaling. Regional Physiological Meeting 2025, Ljubljana, Slovenia
17 – 19 Sep 2025	Neurovascular unit signaling: endothelial cells integrate neural and physical cues for Ca ²⁺ -driven nitric oxide release. 75th Congress of the Italian Physiological Society, Turin, Italy. Invited talk

Date	Talk
7 – 11 Jun 2025	Neurovascular unit signaling: The role of endothelial Ca ²⁺ signaling in Ca ²⁺ -driven nitric oxide release. 10th Meeting of the Mediterranean Neuroscience Society, Chania (Crete), Greece. Invited talk
20 Jan 2025	A journey through endothelial Ca ²⁺ signalling: from unexpected physiological pathways to novel optochemical applications. Department of Biomedicine, School of Medicine, Benemérita Universidad Autónoma de Puebla, Puebla, Mexico
17 – 20 Sep 2023	Geneless optical stimulation generates pro-angiogenic Ca ²⁺ signals in endothelial colony forming cells. Ion Channel Meeting, Sète (Montpellier), France. Invited talk
19 Oct 2022	Membrane currents and resting membrane potential of the human cerebrovascular endothelial cell line, hCMEC/D3. Nanion User Meeting, web meeting. Invited talk
20 Apr 2022	Intracellular Ca ²⁺ signalling in endothelial progenitor cells: Physiological implications and therapeutic perspective. Department of Sciences, University of Basilicata, Potenza, Italy
7 Apr 2022	SOCE and TRPV1: Two interacting partners to stimulate therapeutic angiogenesis in cardiovascular disorders. Department of Pharmaceutical Sciences, University of Eastern Piedmont "Amedeo Avogadro", Novara, Italy
16 Mar 2022	The bright side of endothelial signalling: geneless optical stimulation of TRPV1 as alternative strategy to induce pro-angiogenic Ca ²⁺ signals. Web Meeting: Ischemia-Reperfusion Injury and Cardioprotection: What's New? EURAC Center, Bolzano, Italy. Invited talk

Date	Talk
12 Mar 2021	Shedding light on angiogenesis: the triggering role of reactive oxygen species in conjugated polymers-mediated optical excitation of Ca ²⁺ signals in human ECFCs. Commemorative Doctorate Day in Honor of Prof. Gianni Losano, University of Turin, Italy
30 Jan 2020	Endothelial Ca ²⁺ signaling to stimulate in vitro angiogenesis: fact or fiction? MBC, University of Turin, Italy
10 – 13 Sep 2019	Glutamate induces intracellular Ca ²⁺ signals and nitric oxide release in human brain microvascular endothelial cells. Joint Meeting of the Federation of European Physiological Societies and the Italian Physiological Society, Bologna, Italy
20 Feb 2019	Endothelial Ca ²⁺ signaling for therapeutic angiogenesis: Dream or reality? Centro Cardiologico Monzino, Milan, Italy
19 – 21 Sep 2018	Intracellular Ca ²⁺ signaling in endothelial progenitor cells: a useful tool to promote cardiac revascularization. 69th Congress of the Italian Physiological Society, Florence, Italy. Invited talk
16 – 18 Nov 2017	The role of intracellular Ca ²⁺ signalling in vasculogenesis: Focus on endothelial colony forming cells. 21st Congress of the Italian Society for Cardiovascular Research, Imola (BO), Italy. Invited talk
8 Sep 2017	VEGF-induced intracellular Ca ²⁺ oscillations are down-regulated and do not stimulate angiogenesis in breast cancer-derived endothelial colony forming cells. 68th Congress of the Italian Physiological Society, Pavia, Italy
21 – 23 Sep 2016	Intracellular Ca ²⁺ oscillations promote nitric oxide release by brain endothelial cells stimulated with acetylcholine and glutamate. 67th Congress of the Italian Physiological Society, SIF-SIRC Joint Symposium: Vascular signaling to protect the heart and the brain, Catania, Italy. Invited talk

Date	Talk
16 – 18 Sep 2015	Intracellular Ca ²⁺ oscillations mediate acetylcholine-induced nitric oxide release in mouse brain endothelial cells. 66th Congress of the Italian Physiological Society, Genoa, Italy
28 – 30 2014	VEGF-induced oscillations in [Ca ²⁺] _i in endothelial progenitor cells to enhance cardiac revascularization. 65th National Congress of the Italian Physiological Society, SIF-SIRC Joint Symposium: Mechanisms of cardiac protection and vascular remodelling, Anacapri (NA), Italy. Invited talk
13 – 17 Sep 2014	Distinct remodelling of the Ca ²⁺ signalling toolkit in endothelial progenitor cells (EPCs) under different neoplastic conditions. 13th International Meeting of the European Calcium Society, Aix-en-Provence, France. Invited talk
17 – 18 Oct 2013	Remodelling of the Ca ²⁺ signalling machinery in endothelial progenitor cells isolated from breast cancer patients. 19th Congress of the Italian Society for Cardiovascular Research, Imola (BO), Italy
18 Jan 2013	Distinct remodelling of the Ca ²⁺ toolkit in endothelial progenitor cells (EPCs) under different pathological conditions. Workshop on Ion channels and disease, Department of Life Sciences and Systems Biology, University of Turin, Italy. Invited talk
18 Jun 2013	Ca ²⁺ signalling as an alternative to improve heart revascularisation by endothelial progenitor cells (EPCs). Study Day – Molecular bases of cardioprotection, University of Milan, Italy
14 Nov 2012	Intracellular Ca ²⁺ signalling in endothelial progenitor cells (EPCs) as a perspective means to enhance cell-based therapy and combat tumour vascularisation. Karolinska Institutet, Stockholm, Sweden

Date	Talk
30 Jun – 1 Jul 2011	Store-operated Ca ²⁺ entry is over-expressed and controls proliferation and tubulogenesis in endothelial colony-forming cells isolated from patients affected by renal cellular carcinoma. 3rd Pavia International Symposium on Advanced Kidney Cancer, Pavia, Italy. Invited talk
18 Apr 2011	Remodelling of the Ca ²⁺ signalling toolkit in endothelial progenitor cells in cancer patients. IRCCS Fondazione "Salvatore Maugeri", Pavia, Italy
14 Apr 2011	Ca ²⁺ channels as a new molecular target against tumour vascularisation. Nerviano Medical Sciences, Nerviano (MI), Italy
29 – 31 Oct 2009	Injury-induced intracellular Ca ²⁺ oscillations in the endothelium of intact rat aorta. 16th Congress of the Italian Society for Cardiovascular Research, Imola (BO), Italy
27 – 29 Sep 2007	Cardiac microvascular endothelial cells express a functional Ca ²⁺ -sensing receptor. 14th Congress of the Italian Society for Cardiovascular Research, Imola (BO), Italy
26 – 28 May 2005	NAADP and InsP3 shape the intracellular Ca ²⁺ wave at fertilization in starfish oocytes. 8th Romanian Biophysics Conference, Iași, Romania. Invited talk

12. Awards and honours

Year	Award or honour
2023	The article "Allyl Isothiocyanate induces Ca ²⁺ signals and nitric oxide release by inducing reactive oxygen species production in the human cerebrovascular endothelial cell line hCMEC/D3" (doi: 10.3390/cells12131732), of which Prof. Francesco Moccia is Last Author and Corresponding Author, was selected for the cover of volume 12(13) of <i>Cells</i>

Year	Award or honour
2022	The article "Endothelial Ca ²⁺ Signaling, Angiogenesis and Vasculogenesis: Just What It Takes to Make a Blood Vessel" (PMID: 31416282), of which Prof. Francesco Moccia is First Author and Corresponding Author, was selected by the <i>International Journal of Molecular Sciences</i> (IJMS) as one of the Highly Cited Papers in IJMS of 2019
2021	Negri, S., Faris, P., Tullii, G., Vismara, M., Lodola, F., Guidetti, G., Rosti, V., Antognazza, M.R., Moccia, F. "Optical stimulation of endothelial colony forming cells plated on light-sensitive conjugated-polymers induces a TRPV1-mediated increase in intracellular Ca ²⁺ concentration" – Best Oral Presentation Award, 23rd Congress of the Italian Society for Cardiovascular Research, Imola (BO), 28–30 November
2021	The same work (Negri, S. et al.) – Best Oral Presentation Award, Cell Physiology section, 71st National Congress of the Italian Physiological Society, Milan, 7–9 September (online meeting)
2020 – 2022	Elected Vice-President of the Italian Society for Cardiovascular Research for 2020–2022
2019	Maione, A.S., Faris, P., Bissoni, L., Lodola, F., Casella, M., Catto, V., Pompilio, G., Moccia, F.*, Sommariva, E. (2019). "Imbalance of calcium-dependent mechanisms in Cardiac Mesenchymal Stromal Cells from Arrhythmogenic Cardiomyopathy patients" (*co-last author) – Best Poster Award, 22nd Congress of the Italian Society for Cardiovascular Research, Imola (BO), 6–8 November
2017	Editorial commentary on the article: Moccia et al. (2017). Breast and renal cancer-derived endothelial colony forming cells share a common gene signature. <i>European Journal of Cancer</i> , 77:155-164

Year	Award or honour
2017	Best Poster, Erice School "Camillo Golgi" – "From cell physiology to integrated signals and emerging brain functions", Erice (TP), 29 November – 3 December: Gagliano, G., Mapelli, L., Soda, T., Laforenza, U., Moccia, F., D'Angelo, E. (2017). Neurovascular responses of the granular layer of cerebellar vermis and hemispheres to different input patterns
2014 – 2016	Elected Secretary of the Italian Society for Cardiovascular Research for 2014–2016
2011	Best Poster, 18th Congress of the Italian Society for Cardiovascular Research, Imola (BO), 21–22 October: Dragoni, S., Laforenza, U., Bonetti, E., Lodola, F., Guerra, G., Rosti, V., Pedrazzoli, P., Tanzi, F., Moccia, F. (2011). Vascular endothelial growth factor stimulates endothelial colony forming cell proliferation and tubulogenesis by inducing oscillations in intracellular Ca ²⁺ concentration
2011	3rd Pieter De Mulder Memorial Prize, 3rd Pavia International Symposium on Advanced Kidney Cancer, as Author of the best paper presented by a Young Researcher: "Store-operated Ca ²⁺ entry is over-expressed and controls proliferation and tubulogenesis in endothelial colony-forming cells isolated from patients affected by renal cellular carcinoma", Pavia, 30 June – 1 July 2011
2004	Cover of issue 29(8) of <i>Trends in Biochemical Sciences</i> for the article: Santella, L., Lim, D., and Moccia, F. (2004). Calcium and fertilization: the beginning of life. <i>Trends in Biochemical Sciences</i> , 29(8): 400-408

13. Third mission (public engagement)

Date	Activity
29 Sep 2019	Participation in organising the European Researchers' Night – Pavia Sharper, held on 29/09/2019
16 Feb 2018	Member of the organising committee of the project "Bioleaders: investing in knowledge", held at the Department of Biology and Biotechnology, University of Pavia, on 16/02/2018

Language skills

Mother tongue: Italian

Other languages	Understanding	Speaking	Writing
English	Fluent	Fluent	Fluent

I authorise the processing of the personal data contained in this curriculum vitae pursuant to Regulation (EU) 2016/679 (GDPR) and Legislative Decree 196/2003 as amended.

Campobasso, 03/10/2026

Francesco Moccia