ALL. B
Decreto Rettore Università di Roma "La Sapienza" n. 2077/2025 del 09.07.2025

ALESSANDRO ROSA
Curriculum Vitae - AI FINI DELLA PUBBLICAZIONE

Part I – General Information

Full Name	Alessandro Rosa
Spoken Languages	Italian, English

Part II – Education

Type	Year	Institution	Notes (Degree, Experience,…)
PhD	2007	Sapienza University of Rome, Italy	PhD in Genetics and Molecular Biology
University graduation	2003	Sapienza University of Rome, Italy	*Laurea in Scienze Biologiche* (MS Degree in Biological Sciences) - 110/110 *cum laude*

Part III – Appointments

III A – Academic Appointments

Start	End	Institution	Position
2022	present	Sapienza University of Rome, Italy	Junior Fellow – Scuola Superiore di Studi Avanzati (SSAS) Sapienza
2019	present	Sapienza University of Rome, Italy	Associate Professor (*Professore Associato*; SSD BIO/11). Dept. Biology and Biotechnologies "C. Darwin"
2011	2019	Sapienza University of Rome, Italy	Assistant Professor (*Ricercatore a tempo indeterminato*; SSD BIO/11). Dept. Biology and Biotechnologies "C. Darwin"
2010	2011	Sapienza University of Rome, Italy	Postdoctoral Fellow. Supported by a long-term Human Frontiers Science Program (HFSP) post-doctoral fellowship
2007	2010	Rockefeller University, NY, USA	Postdoctoral Associate. Laboratory of Stem Cell Biology and Molecular Embryology. Supported by a long-term Human Frontiers Science Program (HFSP) post-doctoral fellowship
2007	2007	Sapienza University of Rome, Italy	Post-doctoral Fellow. Short term Institute Pasteur – Fondazione Cenci-Bolognetti
2003	2007	Sapienza University of Rome, Italy	PhD student (Genetics and Molecular Biology)

III B – Other Appointments

Start	End	Institution	Position
2017	Present	Fondazione Istituto Italiano di Tecnologia (IIT), Italy	Affiliated researcher
2014	2023	The Rockefeller University, NY, USA	Member of the Adjunct Faculty (2014-2019) and Guest Investigator (2019-2023).
2009	2010	The Rockefeller University, NY, USA	Director of the Rockefeller University Human Embryonic Stem Cell and Induced Pluripotent Stem Cell Core Facility

Part IV – Teaching activity

IV A - Course ownership (*titolarità di corsi*)

Year	Institution	Lecture/Course
2019/20 - present	Sapienza University – LM-6 Neurobiologia / Neurobiology	Course: Neurobiologia Molecolare 1 (Modulo 2) – 3 CFU - SSD BIO/11
		The course focuses on the integrated study of nervous system cells, with particular emphasis on the fundamental molecular mechanisms governing gene expression and epigenetic regulation at multiple levels, in the context of nervous system development, neuronal differentiation, cell proliferation, and neuron-to-neuron interaction and communication, in pathological and physiological conditions. It also highlights the use of advanced biological technologies, including recombinant techniques and transgenic animal models, in the investigation of these processes.
2016/17 - present	Sapienza University – LM-6 Genetica e Biologia Molecolare / Genetics and Molecular Biology (Curriculum in English)	Course: Molecular Biology of Stem Cells – 6 CFU - SSD BIO/11
		The course (in English) focuses on the integrated study of stem cells, with particular attention to the fundamental molecular mechanisms governing gene expression and epigenetic regulation at multiple levels, in the context of stem cells quiescence, proliferation, self-renewal, and differentiation. Reprogramming to pluripotency for the generation of iPS cells is illustrated from a mechanistic perspective. The course also explores the development of stem cell–based applications in both basic and biomedical research, such as the creation of transgenic animal models. Particular emphasis is placed on advanced technologies as tools for investigating stem cell biology.
2012/13-present	Sapienza University – LM-6 Biologia e Tecnologie Cellulari (until 2015/16)	Course: Biologia Molecolare delle Cellule Staminali – 6 CFU - SSD BIO/11
		The course (in Italian) focuses on the integrated study of stem cells, with particular attention to the fundamental

LM-6 Genetica e Biologia Molecolare / Genetics and Molecular Biology (Curriculum in Italian) (since 2016/17)	molecular mechanisms governing gene expression and epigenetic regulation at multiple levels, in the context of stem cells quiescence, proliferation, self-renewal, and differentiation. Reprogramming to pluripotency for the generation of iPS cells is illustrated from a mechanistic perspective. The course also explores the development of stem cell–based applications in both basic and biomedical research, such as the creation of transgenic animal models. Particular emphasis is placed on advanced technologies as tools for investigating stem cell biology.

IV B - Other teaching activities

2013-present	Sapienza University	Thesis supervisor (*primo relatore*) of more than 70 students for the Bachelor or MS degree
2025	Sapienza University	ERASMUS+ Staff Mobility for Teaching, Université de Paris Cité, France (8 hours).
2024/25	Sapienza University	SSAS Disciplinary Course: *La valorizzazione dell'inutile: l'esempio degli RNA non-codificanti* (8 hours).
2023	Sapienza University	Lecture at the 2nd ICI-CIVIS summer school "Organoid models in immuno-oncology". Marseille, France.
2012 - 2019	Sapienza University	Lectures on stem cell-based model systems in the Sapienza Scuola Superiore di Studi Avanzati (SSAS; Sapienza School for Advanced Studies).
2012 - 2019	Sapienza University	Lectures on stem cell-based model systems in the Sapienza Scuola Superiore di Studi Avanzati (SSAS; Sapienza School for Advanced Studies).
2012 - 2015	Sapienza University	Seminars on stem cells in the "Erasmus Exchange Course" program. LM in Genetica e Biologia Molecolare.

IV C - Qualitative aspects

2012 - present	Students' evaluation of the teacher's performance (OPIS): in all academic years the indicators are consistently above the average scores of the other courses of the LM-6 programs and of the Faculty of Sciences of the Sapienza University (*source: INFOSTUD - Sapienza*).
2018 and 2021	"Riconoscimento per l'eccellente insegnamento Universitario" (*Acknowledgement for the excellence in University teachin*g) 2017-18 and 2019-20. Awarded by the Faculty of Sciences MMFFNN of the Sapienza University to the top 5% of the teachers (*source: verbali Assemblea di Facoltà 13/12/2018 and 25/05/2021*).
2017	For the quality of teaching, Prof. Rosa resulted in the top 15% of the teachers of the Sapienza University Faculty of Sciences MMFFNN in 2016-17 (*source: verbale Assemblea di Facoltà 23/04/2018*).

Part V - Activities in the PhD programs

Year	Institution	Responsibility
2013 - present	Sapienza University	Member of the Board of Techers PhD in Scienze della Vita - Life Sciences (Cod. MUR DOT1326CGG)
2024	Sapienza University	Member of the commissions for the PhD title in “Genetics and Molecular Biology” and “Cell and Developmental Biology”
2024	Sapienza University	Appointment as the Opponent for The Public Examination of the Dissertation of a PhD candidate - UNIVERSITY OF EASTERN FINLAND
2017 - present	Sapienza University	External evaluator of PhD Thesis: Medicina Molecolare (University of Padova); University of Wollongong (Australia); Experimental Medicine (Univ. Of Milan); Molecular and Translational Medicine (Univ. Of Milan); Neuroscienze (UNIMORE)
2015	Sapienza University	Member of the commission for the PhD title in “Morphogenesis and Tissue Engineering”
2012 - 2013	Sapienza University	Member of the Board of Techers PhD in Pasteurian Sciences (*Scienze Pasteuriane*; Codice MIUR DOT0326802)
2012 - present	Sapienza University	Supervisor of 10 PhD students. Scienze Della Vita - Life Sciences and Genetica e Biologia Molecolare - Genetics and Molecular Biology

Part VI - Management roles and commitments in academic collegiate bodies

Year	Institution	Responsibility
2025/26	Sapienza University	Member of the Commission for the admission to the Scuola Superiore di Studi Avanzati (SSAS) Sapienza
2024 - present	Sapienza University	President LM-6 Genetica e Biologia Molecolare – Genetics and Molecular Biology
2024 - present	Sapienza University	Director’s delegate for the Departmental Infrastructures. Dip. di Biologia e Biotecnologie “C. Darwin”
2024	Ministero dell’Interno	Academic member of the commission for the selection of technical police officers in the role of biologists (*commissione per la selezione di commissari tecnici del ruolo dei biologi della carriera dei funzionari tecnici della Polizia di Stato*)
2023 - present	Sapienza University	Head of the Facility “Stem Cells and Organoids” (https://bbcd.bio.uniroma1.it/en/stem-cells-and-organoids). Dip. di Biologia e Biotecnologie “C. Darwin”
2023 - present	Sapienza University	Member of the commission for the PhD program quality (*membro della Commissione Gestione dell'Assicurazione Qualità, CGAQ*) PhD in Scienze Della Vita - Life Sciences.
2023 - 2024	Sapienza University	Member of the commission for the Course’s quality (*membro della Commissione Gestione dell'Assicurazione Qualità, CGAQ*) LM-6 – Neurobiologia/Neurobiology. Dip. di Biologia e Biotecnologie “C. Darwin”
2019 – 2023	Sapienza University	Member of the Commission for Placement. Facoltà di Scienze MMFFNN

2020 - 2024	Sapienza University	Member of the Commission "*Osservatorio della Didattica (COD)*" LM-6 – Genetica e Biologia Molecolare – Genetics and Molecular Biology. Dip. di Biologia e Biotecnologie "C. Darwin"
2018	Sapienza University	Member of the Commission for the awarding of scholarships for degree theses abroad (Commissione Tesi all'Estero). Dip. di Biologia e Biotecnologie "Charles Darwin", Facoltà di Scienze MMFFNN.
2018 - 2020	Sapienza University	Member of the commission for the Course's quality (*membro della Commissione Gestione dell'Assicurazione Qualità, CGAQ*) LM-6 Genetica e Biologia Molecolare – Genetics and Molecular Biology. Dip. di Biologia e Biotecnologie "C. Darwin"
2018 - 2020	Sapienza University	Member of the Commission for the admission (*Commissione Accessi*). LM Genetica e Biologia Molecolare – Genetics and Molecular Biology.. Dip. di Biologia e Biotecnologie "C. Darwin"
2016 - 2018	Sapienza University	Member of the Restricted Council (*Giunta di Facoltà*) Facoltà di Scienze MMFFNN
2014 - 2018	Sapienza University	Member of the Restricted Council (*Giunta di Dipartimento*). Dip. di Biologia e Biotecnologie "C. Darwin".
2013 - 2018	Sapienza University	Member of the Commission for the admission to the Path of Excellence (*Percorso di Eccellenza*). LM-6 Genetica e Biologia Molecolare – Genetics and Molecular Biology. Dip. di Biologia e Biotecnologie "C. Darwin".

Part VII – Outreach (*Terza Missione*)

2024	Sapienza University	Member of the working group for the third mission appointed by the Rector (*Cabina di Regia di Ateneo dei Referenti di Terza Missione a supporto dei lavori per la VQR 2020-2024. Nomina D.R. n. 843/2024*)
2024	Sapienza University	Invited speaker at the science outreach event for high schools "UniStem Day: L'infinito viaggio della ricerca scientifica"
2021 - 2024	Sapienza University	Delegate of the Faculty for the third mission - Facoltà di Scienze MMFFNN
2022	Sapienza University	Invited speaker at the "Palazzo delle Esposizioni di Roma" - "Lezioni a Palazzo". Seminar: "Da HeLa alle cellule staminali: le colture cellulari nella ricerca biomedica"
2022 – 2025	Sapienza University	Project "ShareScience con la scuola e con l'industria." - Funded by Bando di Ateneo per la Terza Missione 2022 (component)
2022 – 2025	Sapienza University	Project "Notte Europea delle Ricercatrici e dei Ricercatori" - Funded by Bando di Ateneo per la Terza Missione 2022 (component)
2021 – 2024	Sapienza University	Project "S^3: Serve Sapienza per Syngap1" – Funded by Bando di Ateneo per la Terza Missione 2021 (component)
2019 - 2024	Sapienza University	Member of the Commission "ShareScience", established by the Faculty to facilitate connections between researchers and the world outside the academy, in particular schools and industry - Facoltà di Scienze MMFFNN
2019	Sapienza University	Participation to the project for primary schools: "MUSIS: NOI BAMBINI, MAESTRI DI SCIENZA" XXII^ Edizione

2019	Sapienza University	Participation to the Outreach Festival "Pint of Science" (https://pintofscience.it)
2016 – present	Sapienza University	Participation in conferences in high schools in Rome as part of the project "*Geni a Bordo – La scienza viaggia nelle scuole*" (in collaborazione con Farmindustria)
2015 and 2016	Sapienza University	Invited speaker at the science outreach event for high schools "UniStem Day: Il lungo ed affascinante viaggio della ricerca sulle cellule staminali"

Part VIII - Editorial and reviewer activity

VIII A - Scientific journals

Year	Activity
2021 - present	Member of the Editorial Board of "Frontiers in Cell and Developmental Biology", "Frontiers in Genetics", "Frontiers in Oncology" and "Frontiers in Bioengineering and Biotechnology" as Associate Editor of the speciality section "Stem Cell Research". Indexed in Scopus and WoS.
2018 - present	Member of the Editorial Board of "Stem Cells International" journal (Wiley) ISSN: 1687-966X (Print); ISSN: 1687-9678 (Online); DOI: 10.1155/4162; Indexed in Scopus and WoS.
2018 - 2021	Guest Editor for the journal "Frontiers in Cell and Developmental Biology". Special issue on "The RNA revolution in embryonic development and cell differentiation in health and disease".
2011 - present	Reviewer activity: EMBO Journal; FEBS; eBioMedicine; Gene Therapy; Science Translational Medicine; Nature Structural and Molecular Biology; Stem Cell Reports; Scientific Reports; PLOS ONE; Translational Neurodegeneration; Stem Cell Research; Acta Neuropathologica Communications; J. Neuroscience (among others).

VIII B - Funding agencies and associations

2018 - present	COST Expert. European Cooperation in Science and Technology Association. Evaluation of scientific activities related to COST research networks.
2017 - present	REPRISE Expert. Register Of Expert Peer Reviewers For Italian Scientific Evaluation. Italian Ministry of Education, Universities and Research (MIUR).
2015 - present	External reviewer for Motor Neurone Disease (MND) Association Research Grants (UK); ARSLA: Association pour la recherche sur la SLA (France); Qatar National Research Fund (among others)

Part IX - Scientific societies memberships, Awards and Honours

Year	Title
2017	Member of the International Society for Stem Cell Research (ISSCR)
2013	Member of the Stem Cell Research Italy scientific society

2012	Winner of the Bioeconomy 2012 Award “For the most innovative Italian intuitions of 2011 in the field of biomedical sciences”. Awarded by CNCCS (“Collezione Nazionale di Composti Chimici e Centro Screening”)
2008	Winner of a post-doctoral fellowship “The New York Stem Cell Foundation (NYSCF)” (2008). The fellowship was declined by the candidate in favour of the “Long term 2008 Human Frontier Science Program (HFSP)”
2008	Winner of a post-doctoral fellowship “Long term 2008 Human Frontier Science Program (HFSP)”
2008	Winner of the RNA Society 2008 poster award in the category “Genetics and Development”
2006	Winner of the 2006 SIBBM (Italian Society of Biophysics and Molecular Biology) Award

Part X - Competitive national and international funding

X A - Grants as PI - principal investigator

Year	Title	Program	Grant value
2025 - present	Investigating the Mechanisms Underlying Oxidative Stress-Induced HuD Expression in Sporadic ALS (StressHUD)	2024 Call for Applications for ALS research projects	60,000 EUR
2025 - present	Generation and characterization of neuromuscular organoids as model systems for amyotrophic lateral sclerosis	ISTITUTO PASTEUR ITALIA Fondazione Cenci Bolognetti - Call 2024 progetti di ricerca 2025-2026 "Anna Tramontano"	40,000 EUR
2023 - present	Generation and characterization of a new in vitro model for GNAO1 encephalopathy based on human iPS cells and cortical organoids	MUR PRIN 2022 PNRR Partner: Prof. S. Lodato (Humanitas Univ., Milan)	241,923 EUR (total) – 120,610 (Rosa Unit)
2023 - present	Characterization of neuromuscular junctions phenotypes in ALS in vitro model systems	Progetto di Ateneo Sapienza 2020	4,000 EUR
2022 - present	Centro nazionale 3 - Spoke3 - Sviluppo di terapia genica e farmaci con tecnologia a RNA	Piano Nazionale di Ripresa e Resilienza (PNRR) Sapienza University PI for Spoke_3 (Neurodegeneration)	1,722,454 EUR (total budget for UNIROMA1) – 186,025 EUR (Budget for Rosa Unit)

2022 - present	Piattaforma integrata per la generazione, la coltura e il differenziamento di cellule pluripotenti staminali indotte (cellule iPS) e organoidi	Sapienza University – Bando Medie Attrezzature Scientifiche 2022	72,638 EUR
2021 - 2023	Soluzione Integrata di Microscopia Brillouin Avanzata (SIMBA). Grant n. A0375-2020-36389	POR FESR Lazio 2014-2020 (POR) “PROGETTI DI GRUPPI DI RICERCA 2020”	149.339,82 EUR
2021 - 2024	Generation and Coherent Antistokes Raman Scattering (CARS) characterization of a neuromuscular junction for Amyotrophic Lateral Sclerosis in vitro disease modeling	Progetto di Ateneo Sapienza 2020	12,000 EUR
2019 - 2021	Study of the role of RNA-binding proteins in the neurodegenerative disease Amyotrophic Lateral Sclerosis	ISTITUTO PASTEUR ITALIA - Fondazione Cenci-Bolognetti. Call 2019	40,000 EUR
2019 - 2022	Identification and characterization of RNA binding proteins and non-coding RNAs with a role in human neural specification and neurodegenerative diseases.	Progetto di Ateneo Sapienza 2018, linea di finanziamento "Progetti H2020 - ERC"	43,000 EUR
2017 - 2018	Impairment of the stress response by mutant FUS in iPSC-derived human ALS motoneurons (StressFUS).	Italian Foundation for Research on Amyotrophic Lateral Sclerosis (AriSLA)	60.000 EUR
2017	Fondo di finanziamento per le attività base di ricerca (FFABR).	Italian Ministry of Education, Universities and Research (MIUR)	3.000 EUR
2015 - 2016	Study of pathways affected by mutations in the FUS gene in an iPSC-based ALS model system.	Sapienza University – Bando Ricerca di Ateneo	8.000 EUR
2014 - 2015	Identification of interactors of long non-coding RNAs involved in cell differentiation.	Sapienza University – Bando Ricerca di Ateneo	10.000 EUR

X B – Grants as Co-PI

Year	Title	Program and role	Grant value
2023 - present	HSPB3: understanding its role in the pathophysiology of the neuromuscular system and testing its druggability for future therapeutic purposes	MUR PRIN 2022: PROGETTI DI RICERCA DI RILEVANTE INTERESSE NAZIONALE PI: Prof. S. Carra; UNIMORE – Role: Co-PI (*responsabile unità operativa*)	228,381 EUR (total) 87,737 EUR (Rosa Unit)
2023 - present	Unraveling the role of SUMO2/3 as a modifier of TDP-43 solubility: a new therapeutic avenue for ALS (SUMOsolvable)	2022 AriSLA Call for projects on ALS research PI: Prof. S. Carra; UNIMORE – Role: Co-PI (*responsabile unità operativa*)	240,000 EUR (total) 35,000 EUR (Rosa Unit)
2021 2023	HSPB3: a promising candidate for the maintenance of the neuromuscular system	Muscular Dystrophy Association (USA) - Research Grant 22 PI: Prof. S. Carra; UNIMORE – Role: Co-PI (*responsabile unità operativa*)	299,910 USD (total) 149,955 USD (Rosa Unit)
2021 2024	Dissecting the role of HCN1 in Developmental and Epileptic Encephalopathy (DEE) by exploiting patient-specific models of cerebral cortex development in vivo and in 3D cortical organoids	Ministero della Salute - Bando ricerca finalizzata 2019 PI: Prof. S. Lodato; Humanitas Milan – Role: Co-PI (*responsabile unità operativa*)	450,000 EUR (total) 90,000 EUR (Rosa Unit)
2021 2023	Unraveling HSPB3 physiological functions to understand its implication in neuromuscular diseases	Association Française contre les Myopathies (AFM Telethon; Francia) PI: Prof. S. Carra; UNIMORE – Role: Co-PI (*responsabile unità operativa*)	91,734 EUR (total) 40,000 EUR (Rosa Unit)

X C – Grants as participant

Year	Title	Program	Grant value
2024 - present	Dissecting the role of lncRNAs and DNA-RNA binding proteins as platform organizers in hepatocellular carcinoma (PI: Prof. C. Battistelli; Sapienza)	Sapienza University – Bando Ricerca di Ateneo 2024	9,873 EUR
2024 - present	Graphene-enabled Coherent Raman Imaging in biomaterials (PI: Prof. T. Scopigno; Sapienza)	Sapienza University – Bando Medie Attrezzature Scientifiche 2024	90,000 EUR
2022 - 2025	Dissecting the role of m6A on miRNA function, EV-loading and EV-mediated cell-to-cell communication in hepatocellular carcinoma (PI: Prof. C. Battistelli; Sapienza)	Sapienza University – Bando Ricerca di Ateneo 2022	10,000 EUR
2021 - 2024	A muscle perspective into neurodegeneration: dissecting the role of long non-coding RNAs (lncRNA) through hiPSC-derived neuromuscular organoids (PI: Prof. M. Ballarino; Sapienza)	Sapienza University – Bando Ricerca di Ateneo 2021	14,800 EUR
2019 - 2022	The contribution of RNA-protein interactions to Charme (Chromatin architect of muscle expression) long noncoding RNA epigenetic activities. (PI: Prof. M. Ballarino; Sapienza)	Sapienza University – Bando Ricerca di Ateneo 2019	14,000 EUR
2017 - 2020	Dissecting the role of the long non-coding RNA Charme in cardiomyogenesis (PI: Prof. M. Ballarino; Sapienza)	Sapienza University – Bando Ricerca di Ateneo 2017	11,000 EUR
2017 - 2020	Determinazione quantitativa di acidi nucleici con Real Time PCR in diversi contesti sperimentali (PI: Prof. S. Biagioni; Sapienza)	Sapienza University – Bando Medie Attrezzature Scientifiche 2017	36,055 EUR
2016 - 2019	Epigenetic control of gene expression in muscle differentiation and in Duchenne Muscular Dystrophy (PI: Prof. I. Bozzoni; Sapienza)	Sapienza University – Bando Ricerca di Ateneo 2016	48,600 EUR
2014 - 2018	RNA circuitries in Amyotropic Lateral Sclerosis pathogenesis (ARCI) (PI: Prof. I. Bozzoni; Sapienza)	Italian Foundation for Research on Amyotrophic Lateral Sclerosis (AriSLA)	240,000 EUR
2013 - 2016	Integrated computational and experimental approach for the study	Italian Ministry of Education, Universities and Research (MIUR) – Progetti di	168,000 EUR

	of human diseases (PI: Prof. I. Bozzoni; Sapienza)	Rilevante Interesse Nazionale (PRIN)	
2012 - 2017	Novel Nanotech-Based Approaches for the Study and Treatment of Amyotrophic Lateral Sclerosis (PI: Prof. I. Bozzoni; Sapienza)	Italian Institute of Technology Seed Grant	5,000,000 EUR
2010 - 2015	Analysis of TGFbeta-regulated microRNAs in hESC stemness and differentiation (PI: Prof. A. Brivanlou; Rockefeller Univ., NY; USA)	R01 Grant (USA)	1,276,769 USD

Part XI – Organization of scientific meetings

2025	International Workshop on Genetics and Molecular Biology 2025 – Sapienza University of Rome, in partnership with Université de Paris Cité (France)
2016	Coordinator of the "Stem Cells, iPS, Cancer Stem Cells" session. 2016 FISV (Italian Federation of Life Sciences) Annual Meeting, Italy.
2013 - 2020	Member of the organizing committee of the annual meeting of the Dept. Biology and Biotechnologies "C. Darwin" of Sapienza University, Rome, Italy.
2012	Coordinator of the "Stem Cells, iPS, Cancer Stem Cells" session. 2012 FISV (Italian Federation of Life Sciences) Annual Meeting, Italy.

Part XII – Research Activities

Keywords	Brief Description
Post-transcriptional regulation iPS cells Nervous system diseases Neural differentiation Gene editing	My field of research focuses on the characterization of the molecular mechanisms regulating cell differentiation and development under both physiological and pathological conditions. During my PhD, I investigated the role of microRNAs in hematopoietic differentiation (Fazi, Rosa et al., 2005; Rosa et al., 2007). As a postdoctoral fellow at the Laboratory of Stem Cell Biology and Molecular Embryology, Rockefeller University (USA), I studied the function of microRNAs during the early stages of embryonic development and neural differentiation (Rosa et al., 2009; Rosa et al., 2011; Vonica et al., 2011; Rosa et al., 2014). My current research at Sapienza University takes advantage of induced pluripotent stem (iPS) cells and gene editing to investigate the pathological mechanisms underlying nervous system diseases, including Amyotrophic Lateral Sclerosis (ALS) and the rare neurodevelopmental disorder associated with mutations in the *GNAO1* gene, which encodes a key signal transducer in the nervous system. To this end, I have established innovative protocols for differentiating iPS cells into neurons and muscle cells, both under conventional conditions and within advanced 3D in vitro models (Lenzi et al., 2016; De Santis et al., 2018; Garone et al., 2019; Salaris et al., 2019; Brighi et al., 2021). Our studies have uncovered a novel role for the RNA-binding protein HuD in ALS (De Santis et al., 2017; De Santis et al., 2019; Garone et al., 2020; Garone et al., 2021; Garone et al., 2023; Silvestri et al., 2024). In addition, we have recently developed a collection of iPS cell lines for disease modeling and drug screening in *GNAO1*-related disorders (Benedetti et al., 2014).

XII A - Experience in coordinating and managing research groups

2025 - present	PI and coordinator of the project "*Investigating the Mechanisms Underlying Oxidative Stress-Induced HuD Expression in Sporadic ALS (StressHUD)*", involving 2 research groups at international level (collaborator: Prof. P. Fratta, UCL, London, UK).
2022 - present	In the framework of an international collaboration on a project focused on the *GNAO1*-linked disease, I am the coordinator of a research line aimed at generating an iPS cellular model. The collaboration network includes national (Sapienza University; Istituto Superiore di Sanità; Humanitas University; IRCCS Neuromed) and international (University of Geneva, CH; Univ. of Moskow, Russia; Boston Children's Hospital, USA; Child's Cure Genetic Research, Fremont, USA) research groups.
2022 - present	Appointed by the Rector as the PI, with the role of coordinator of 5 research groups of Sapienza University for the activities of the Spoke 3 "Neurodegeneration" - National Center for Gene Therapy and Drugs based on RNA Technology (CN3). National Recovery and Resilience Plan (PNRR), Mission 4 Component 2 Investment 1.4 "Strengthening research facilities and creating "national R&D champions" on some Key Enabling Technologies" funded by the European Union – NextGenerationEU
2021 - 2023	PI of the project funded by Regione Lazio "*Soluzione Integrata di Microscopia Brillouin Avanzata (SIMBA)*" ("*Integrated Advanced Brillouin Microscopy Solution"*) (POR FESR Lazio 2014-2020 (POR) "RESEARCH GROUP PROJECTS 2020"). Coordination of the project, involving 3 Sapienza research groups (Dept. of Biology and Biotechnologies "Charles Darwin" and Dept. of Physics) and 1 research group of the Italian Institute of Technology.
2019 - 2021	PI of the project "*Study of the role of RNA-binding proteins in the neurodegenerative disease Amyotrophic Lateral Sclerosis*" funded by ISTITUTO PASTEUR ITALIA - Fondazione Cenci-Bolognetti and Sapienza University. In collaboration with Prof. P. Fratta, UCL, London, UK.
2017 - 2018	PI and coordinator of the project "*StressFUS - Impairment of the stress response by mutant FUS in iPSC-derived human ALS motoneurons*". The activities involved national (Sapienza University, CNR, IIT) and international (Max Delbrück Center in Berlin; Universities of Amsterdam; University of Utrecht) collaborators.
2011 - present	Leader of a research group involved in collaborations with national (Sapienza University; CNR; IIT; ISS; IEO, Milan; University of Modena and Reggio Emilia; Humanitas University, Milan) and international (Rockefeller University, USA; Sanford Burnham Institute, USA; University of Exeter, UK; University College of London, UK; Chinese Academy of Medical Sciences) research groups.

XII B - Publications

Research identifiers:

- ORCID - ID: 0000-0001-9999-7223
- Scopus - ID: 9638433400

Index	*Value*	*Database*	*Start*	*End*
Number of indexed papers	75	Scopus	2004	2025

Hirsch (H) index	30	Scopus	2004	2025
Total number of citations	4097	Scopus	2004	2025
Average number of citations	54.6	Scopus	2004	2025
Total Impact Factor	490.03	Clarivate Journal Citation Reports	2004	2025
Average Impact Factor	7.42 (considering only the papers in journals with IF); 6.53 (considering all papers)	Clarivate Journal Citation Reports	2004	2025

Full list of publications:

1. M. Rosito, J. Maqbool, A. Reccagni, M. Mangano, T. D'Andrea, A. Rinaldi, G. Peruzzi, B. Silvestri, A. Rosa, F. Trettel, G. D'Alessandro, M. Catalano, S. Fucile, C. Limatola, Ketogenic diet induces an inflammatory reactive astrocytes phenotype reducing glioma growth. Cell. Mol. Life Sci. 82, 73 (2025).

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XII C - Presentations at scientific meetings, conferences and workshops

Contribution, including as invited speaker, at several national and international scientific meetings, conferences and workshops.
Most relevant contributions in the last 5 years:

2025	Invited speaker at the international meeting "4th International GNAO1 Conference", Cologne, Germany. Presentation title: "Human iPSC-based GNAO1 disease models show impaired neuronal differentiation and function".
2024	Invited speaker at the international meeting "RNA-binding Proteins in ALS: translating basic mechanisms into novel therapeutics", Como, Italy. Presentation title: "A possible role for the RNA-binding protein HuD/ELAVL4 in FUS and sporadic ALS".
2024	Invited speaker at the "XXVII SIGU National congress" Padova, Italy. Presentation title: "Gastruloids and Neuruloids: innovative in vitro disease model systems".

2024	Invited speaker at the international meeting “Cell Death and Disease - Villa Vigoni”, Como, Italy. Presentation title: "Human iPSC-based in vitro systems for modelling GNAO1 disease and drug testing".
2023	Invited speaker at the international conference “GNAO1 European Conference 2023”, Rome, Italy. Presentation title: "Generation and characterization of new in vitro models for GNAO1 encephalopathy based on human iPSCs".
2023	Invited speaker at the National Congress of the Italian Society for Neuroscience (SINS), Torino, Italy. Presentation title: "Organoids, neuruloids, gastruloids: the "-oid" revolution in neuroscience research".
2022	Speaker at the international scientific conference of SIBBM - Frontiers in Molecular Biology The RNA World 3.0. Rome, Italy. Presentation title: "An aberrant interplay among RNA-binding proteins in amyotrophic lateral sclerosis".
2022	Invited speaker at the international scientific symposium: "Protein homeostasis in degeneration and regeneration of the nervous system." Center for Regenerative Therapies, TU Dresden, Dresden, Germany. Presentation title: "A possible role for the RNA-binding protein HuD (ELAVL4) in Amyotrophic Lateral Sclerosis".
2022	Invited speaker at the international scientific conference “Amyotrophic lateral sclerosis – from mechanisms to novel therapeutics.” Florence, Italy. Presentation title: "A possible role for the RNA-binding protein HuD in familial and sporadic ALS".
2021	Invited speaker at the international scientific conference “Mechanistic insights into the pathophysiology of ALS”. UK Dementia Research Institute at King's College London. London, UK. Presentation title: "RNA-binding protein network alteration causes axonal phenotypes in FUS ALS mutant motoneurons".

Part XIII – Technology transfer (including patents) at national and international level

First prize at StartCup Lazio 2017 with the "HoMoLoG" project Business plan competition for startup projects, organized as part of the National Innovation Award, promoted by "PNIcube" (Italian Association of University Incubators and Business Plan Competitions)
PNI (*Premio Nazionale per l’Innovazione* - National Innovation Award) 2017 Special Mention for Best Equal Opportunity Project - HoMoLoG Startup Project
Patent RM2007A000595 “Use of miRNA and siRNA in therapy” Inventors: Bozzoni I, Fatica A & Rosa A. Dep. 15/11/2007. Released 13/9/2010
Patent RM2003A000335 (Foreign extension: PCT/IT04/00038 9/7/2004) “Construction of a new vector for siRNA in vivo expression” Inventors: Bozzoni I, Denti MA & Rosa A. Dep. 9/7/2003 United States Patent "SIRNA EXPRESSION SYSTEM" No. US 7947823 B2 - 24/5/2011 Licensed to Promega Corporation for the commercialization of the invention under the name GeneClip™ U1 Hairpin Cloning Systems

Place: Rome
Date: 13/8/2025