

BIOGRAPHICAL SKETCH

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NAME: Sallese, Michele

eRA COMMONS USER NAME (credential, e.g., agency login): sallesem

POSITION TITLE: Senior Lecturer

EDUCATION/TRAINING (*Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.*)

INSTITUTION AND LOCATION	DEGREE (if applicable)	END DATE MM/YYYY	FIELD OF STUDY
Open University	DSC	05/2000	Molecular Biology
University of Chieti-Pescara	BOTH	03/2012	dietetics
University of Foggia	MOTH	04/2016	Nutrition sciences

A. Personal Statement

I am a very curious person, and from the beginning, my research decisions have been driven by a desire to understand molecular mechanisms, with the aim of controlling or modifying them to develop cures for diseases. I started working in the field of G-protein-coupled receptors, studying various aspects of signal transduction, as these proteins are key pharmacological targets for many diseases. I focused on the regulatory and desensitization mechanisms of these receptors, contributing to the development of this research area, including by cloning new kinases from the G protein-coupled receptor kinases (GRKs) class. Next, I concentrated on the regulatory aspects of GRKs investigating the role of calcium-binding proteins in GRK regulation and studied the interaction between the N-terminal domain of GRK2 and the alpha subunit of the heterotrimeric G-protein Gq. To expand my understanding of cell pathophysiology, I later studied the molecular mechanisms involved in the regulation of constitutive secretion, identifying new signaling circuits that coordinate the functions of organelles. I also discovered that signals generated by the secretory process can affect the degradation of the extracellular matrix, influencing tumor cell invasiveness. Building on the knowledge I have gained, I have next focused my studies on investigating the pathological mechanisms of Marinesco-Sjogren's Syndrome (MSS), a rare autosomal recessive genetic disorder, with the goal of identifying a treatment and offering real hope to patients. Currently I am continuing my research into the molecular mechanisms driving neurodegeneration in MSS, aiming to find a pharmacological treatment. To date, I have developed advanced skills and gained in-depth knowledge of this syndrome. I have generated innovative ideas and obtained preliminary data that allow me to be confident in contributing to the creation of a cure. I am determined to continue my studies until I achieve this ambitious goal.

1. Amodei L, Ruggieri AG, Potenza F, Viele M, Dufrusine B, Franciotti R, Pietrangelo L, Ardini M, Stuppia L, Federici L, De Laurenzi V, Sallese M. Sil1-deficient fibroblasts generate an aberrant extracellular matrix leading to tendon disorganisation in Marinesco-Sjögren syndrome. *J Transl Med.* 2024 Aug 23;22(1):787. PubMed Central PMCID: PMC11342654.
2. Francesca Potenza, Maria Concetta Cufaro, Linda Di Biase, Valeria Panella, Antonella Di Campi, Anna Giulia Ruggieri, Beatrice Dufrusine, Elena Restelli, Laura Pietrangelo, Feliciano PROTASI, Damiana Pieragostino, Vincenzo De Laurenzi, Luca Federici, Roberto Chiesa, Michele Sallese. Proteomic Analysis of Marinesco-Sjogren Syndrome Fibroblasts Indicates Pro-Survival Metabolic Adaptation to SIL1 Loss. *International Journal of Molecular Sciences.* 2021 November. DOI: 10.3390/ijms222212449
3. Giannotta M., Ruggiero C., Grossi M., Cancino J., Capitani M., Pulvirenti T., Consoli G.M.L., Geraci C., Fanelli F., Luini A., Sallese M.. The KDEL receptor couples to Gαq/11 to activate Src kinases and regulate transport through the Golgi. *EMBO Journal.* 2012; 31(13):2869-2881. DOI:

4. Salles M., Salvatore L., D'Urbano E., Sala G., Storto M., Launey T., Nicoletti F., Knopfel T., De Blasi A.. The G-protein-coupled receptor kinase GRK4 mediates homologous desensitization of metabotropic glutamate receptor 1. FASEB Journal. 2000; 14(15):2569-2580. eid: 2-s2.0-0033669923

B. Positions, Scientific Appointments and Honors

Positions and Scientific Appointments

2022 -	Senior Lecturer, G. d' Annunzio" University of Chieti-Pescara, Chieti
2019 - 2022	Lecturer, G. d' Annunzio" University of Chieti-Pescara, Chieti
2015 - 2019	Research fellowship, G. d' Annunzio" University of Chieti-Pescara, Chieti
1999 - 2015	Head of Research Unit, Mario Negri Sud Research Institute, S. Maria Imbaro
1993 - 1999	Junior Researcher, Mario Negri Sud Research Institute, S. Maria Imbaro
1992 - 1993	Fellow, Mario Negri Sud Research Institute, S. Maria Imbaro
1988 - 1992	Fellow, Mario Negri Research Institute, Milan

C. Contribution to Science

1. My research output has had a significant impact on its field, as demonstrated by numerous peer-reviewed publications. Each major achievement has been supported by thorough evidence, which has been replicated by other laboratories. For instance, early in my career, while studying GPCR desensitization, I published findings on the heterologous regulation of homologous desensitization. This manuscript has been cited over 300 times. More recently, I reported on novel Golgi-based signaling pathways that regulate cargo transport along the secretory pathway. This study has made a strong impact in both membrane trafficking and signaling, receiving over 200 citations. Overall, 16 manuscripts have been cited more than 100 times. This successful research is further highlighted by the numerous research grants I have been awarded, totaling over 1.5 million euros. A central theme throughout my career has been my commitment to teamwork. This collaborative approach has been beneficial not only for my own development but also for my colleagues and, more broadly, for the significant research output we have achieved. My leadership in team and project management, along with my role in supervising students, began in 1999. Several PhD students who worked with me have gone on to successful careers in academia and industry, a reflection of my dedication to fostering their growth. I provide both technical guidance and career advice, ensuring that they have the tools and resources to succeed. In terms of my contribution to the advancement of the research community, I am always eager to support colleagues by editing manuscripts and reviewing research proposals. I have an active and ongoing involvement in peer review, working with over 20 of prestigious international journals which includes Nature Communications, Nature Microbiology, Oncogenesis, EMBO Reports, Cell Death & Disease, Journal of Cell Sciences and Traffic. In 2020, I served as Guest Editor for the Special Issue "Physiological and Pathological Aspects of Unfolded Protein Response" in International Journal of Molecular Sciences, followed by another Special Issue, "Physiological and Pathological Aspects of Unfolded Protein Response 2.0", in 2021. Subsequently, I was appointed Topic Editor for the Research Topic "Molecular Mechanisms in Diet-Mediated Inflammatory Diseases" in Frontiers in Nutrition. Currently, I am a member of the Editorial Board of Oncogenesis. At my university, in addition to teaching three regular courses, I also teach in three medical specialization programs. I am a member of the PhD committee and hold responsibility for evaluating the research quality within my department. Furthermore, I served on the departmental research committee until 2023, actively contributing to shaping the research strategy and fostering academic excellence. Through these roles, I continue to contribute to the growth and dissemination of scientific knowledge while supporting the broader research community.
 - a. Subramanian A, Capalbo A, Iyengar NR, Rizzo R, di Campli A, Di Martino R, Lo Monte M, Beccari AR, Yerudkar A, Del Vecchio C, Glielmo L, Turacchio G, Pirozzi M, Kim SG, Henklein P, Cancino

- J, Parashuraman S, Diviani D, Fanelli F, Sallese M, Luini A. Auto-regulation of Secretory Flux by Sensing and Responding to the Folded Cargo Protein Load in the Endoplasmic Reticulum. *Cell*. 2019 Mar 7;176(6):1461-1476.e23. PubMed PMID: 30849374.
- b. Giannotta M, Ruggiero C, Grossi M, Cancino J, Capitani M, Pulvirenti T, Consoli GM, Geraci C, Fanelli F, Luini A, Sallese M. The KDEL receptor couples to Gαq/11 to activate Src kinases and regulate transport through the Golgi. *EMBO J*. 2012 Jun 29;31(13):2869-81. PubMed Central PMCID: PMC3395092.
- c. Weller SG, Capitani M, Cao H, Micaroni M, Luini A, Sallese M, McNiven MA. Src kinase regulates the integrity and function of the Golgi apparatus via activation of dynamin 2. *Proc Natl Acad Sci U S A*. 2010 Mar 30;107(13):5863-8. PubMed Central PMCID: PMC2851890.
- d. Pulvirenti T, Giannotta M, Capestrano M, Capitani M, Pisanu A, Polishchuk RS, San Pietro E, Beznoussenko GV, Mironov AA, Turacchio G, Hsu VW, Sallese M, Luini A. A traffic-activated Golgi-based signalling circuit coordinates the secretory pathway. *Nat Cell Biol*. 2008 Aug;10(8):912-22. PubMed PMID: 18641641.