

Curriculum vitae

Education:

- 1999-2004** **Ph.D.**, in life sciences from **National Institute of Immunology** (Jawaharlal Nehru University), New Delhi, India.
- 1997-1999** **M.Sc.**, in Biotechnology from **Pondicherry University**, Pondicherry, India.
- 1994-1997** **B.Sc.**, in Zoology with special emphasis on Biotechnology from **Loyola College**, Chennai, India.

Employment:

- 2020-** **Group Leader**, Institute of Biochemistry and Cell Biology, National Research Council, Naples, Italy
- 2020-** **Head**, Microscopy facility, Institute of Biochemistry and Cell Biology, National Research Council, Naples, Italy.
- 2019-2020** **Group Leader**, Institute of Protein Biochemistry, National Research Council, Naples, Italy
- 2019-2020** **Head**, Microscopy facility, Institute of Protein Biochemistry, National Research Council, Naples, Italy.
- 2014-2019** **Senior Researcher**, Institute of Protein Biochemistry, National Research Council, Naples, Italy
- 2014-2019** **Head**, Microscopy facility, Institute of Protein Biochemistry, National Research Council, Naples, Italy.
- 2012-2014** **Researcher**, Institute of Protein Biochemistry, National Research Council, Naples, Italy.
- 2009-2012** **Post-doctoral fellow**, Telethon Institute of Genetics and Medicine, Naples, Italy.
- 2005-2009** **Post-doctoral fellow**, Mario Negrisud Institute, S.Maria Imbaro, Italy.

Teaching experience:

- 2017** PhD coursework lectures, University of Siena, Italy on *Functional cell morphology*
- 2014-** Annual teaching and practical courses on microscopy to graduate students. Institute of Protein Biochemistry, CNR, Naples, Italy.
- 2014** Part of the team providing PhD coursework lectures, CNR, Naples, Italy.
- 2018** Lecture on “Fluorescence” to students of the University Luigi Vanvitelli
- 2018** Lecture on “History and future of research on membrane trafficking” to the students on the graduate program of the University Luigi Vanvitelli
- 2019** Lecture on “Advance Imaging methods”, Sastra University, India.
- 2019** Lecture on Functional architecture of the Golgi, Sastra University, India:

Invited talks:

- 2017** University of Siena, Italy: *Functional organization of the Golgi*
2018 European Molecular Biology Laboratory, Germany: *Organization of the Golgi determines its glycan output*
2018 University of Maastricht, The Netherlands: *Organization of the Golgi determines its glycan output*

Supervision of PhD and Masters students:

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| 1. 2014-2017 | PhD | Prathyush Pothukuchi
Thesis titled " <i>Functional organization of matrix proteins of the Golgi – their contribution to the regulation of glycosylation</i> " |
| 2. 2016 | Master | Anna Maria Rondine
Thesis titled " <i>Relation between Cargo trafficking and glycosylation at the Golgi complex: a study using trafficking variants of Vesicular Stomatitis virus G protein</i> " |
| 3. 2017-2018 | Master | Giovanna Vanacore
Thesis to be submitted |

Co-supervisor

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| 1. 2009-2013 | PhD | Riccardo Rizzo
Thesis titled " <i>The dynamics of Golgi enzymes in mammalian cells supports cisternal maturation</i> " |
| 2. 2009-2013 | PhD | Ramanath Hegde
Thesis titled " <i>Modulation of proteostasis for the efficient export of the DF508 mutant of cystic fibrosis transmembrane conductance regulator</i> " |
| 3. 2012-2015 | PhD | Advait Subramanian
Thesis titled " <i>Export of Cargo from the Endoplasmic Reticulum is regulated by a control system</i> " |

Thesis committee member:

2014- 7 PhD students
Institute of Protein Biochemistry, Naples, Italy.

Supervision of Post-doctoral fellows:

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| 1. 2017- | Prathyush Pothukuchi |
| 2. 2018- | Ilenia Agliarulo |

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| 3. 2017- | Francesco Russo (joint post-doc with Alberto Luini) |
| 3. 2019- | Bernadette Lombardi (joint post-doc with Alberto Luini) |

Technical expertise:

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| 2014- | Biochemical techniques to study lipids and glycosylation, CRISPR/Cas9 mediated gene KO
Super resolution microscopy (G-STED), Electron microscopy (tomography, cryo immunogold labeling), spinning disc confocal microscopy, High throughput imaging. |
| 2009-2014 | Bioinformatic methods to analyze transcriptional profiles, protein-protein interactions and co-expression analysis |
| 2005-2009 | Confocal microscopy, Electron microscopy, cell biological analysis of membrane trafficking |
| 1999-2004 | Biochemical analysis of membrane trafficking by in vitro assays, Molecular biology techniques |
| 1997-1999 | Molecular biology |
| 1994-1997 | Plant tissue culture techniques |

Awards:

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| 1. 2015 | Christian Boulin Fellowship | EMBL, Germany |
| 2. 2002 | Travel grant | CSIR, India |
| 3. 2001-2004 | Senior Research Fellowship | CSIR, India |
| 4. 1999-2004 | Junior Research Fellowship | CSIR, India |
| 5. 1997-1999 | Biotechnology fellowship | DBT, GOI. |
| 6. 1997 | Gold medalist in B.Sc., | Loyola College, India. |
| 7. 1996 | Merit Scholarship | Loyola College, India. |
| 8. 1994 | School topper in Chemistry, CBSE Class XII examination. | St. John's SS School, India. |

Grants received:

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| 1. 2016-2018 | Dompe pharma
<i>Repositioning of Ketoprofen: Analysis of its secondary mechanism of action</i> | € 100,000 |
| 2. 2016-2018 | Cystic Fibrosis Research Foundation, Italy
Understanding the mode of action of regulatory pathways controlling F508del-CFTR proteostasis and developing drugs that rescue F508del-CFTR by targeting these pathways synergistically. | € 80,000 |
| 3. 2015 | National Research Council of Italy, Interomics project | € 100,000 |

A Computational approach for the identification of the
Secondary Mechanism of action of drugs: application to
Cystic Fibrosis

Conference Organization:

1. October 15-19, 2018 FEBS-EMBO meeting “The 2018 Golgi meeting: Membrane trafficking in cell organization and homeostasis” at Sorrento, Italy
2. October 24-28, 2016 EMBO workshop on “Glycosylation in the Golgi complex” at Vico Equense, Italy.
3. October 15-16, 2015 Annual retreat of the Institute of Protein Biochemistry, at CNR P.Castellino campus, Naples, Italy.

Publications:

1. Regulated compartmentalization of enzymes in Golgi by GRASP55 controls cellular glycosphingolipid profile and function. (2020) **Biorxiv**.
2. Translation of genome to glycome: role of the Golgi apparatus. 2019. FEBS Lett 593(17):2390-2411.
3. Unravelling druggable signalling networks that control F508del-CFTR proteostasis. (2015) **Elife**, 4.
4. Transport of soluble proteins through the Golgi occurs by diffusion via continuities across cisternae. (2014) **Elife**, 3.
5. The dynamics of engineered resident proteins in the mammalian Golgi complex relies on cisternal maturation. (2013) **J. Cell. Biol.** 201(7):1027-36.
6. NSF independent fusion of Salmonella-containing late phagosomes with early endosomes. (2010) **FEBS Lett.** 2010. 584(6): 1251-6.
7. Sphingomyelin metabolism controls the shape and function of the Golgi cisternae. (2017) **Elife**, 6.
8. Sphingolipid metabolic flow controls phosphoinositide turnover at the trans-Golgi network. (2017) **EMBO J.** 36(12): 1736-1754.
9. TANGO1 assembles into rings around COPII coats at ER exit sites. (2017) **J Cell Biol.** 216(4):901-909.
10. ESCRT-III drives the final stages of CUPS maturation for unconventional protein secretion. (2016) **Elife**. 5.
11. Identification of p38 MAPK and JNK as new targets for correction of Wilson disease-causing ATP7B mutants. (2016) **Hepatology**. 63(6):1842-59.
12. Salmonella acquires lysosome-associated membrane protein 1 (LAMP1) on phagosomes from Golgi via SipC protein-mediated recruitment of host Syntaxin6. (2012) **J. Biol. Chem.** 287(8): 5574-87.
13. Diverting intracellular trafficking of Salmonella to the lysosome through activation of the late endocytic Rab7 by intracellular delivery of muramyl dipeptide (2002) **J. Cell Sci.** 115 (Pt 18): 3693-701.

14. SopE acts as an Rab5-specific nucleotide exchange factor and recruits non-prenylated Rab5 on Salmonella containing phagosomes to promote fusion with early endosomes. (2001) **J Biol. Chem.** 276(26): 23607-15.

Patents:

1. 2015 Kinase and ubiquitin ligase inhibitors and uses thereof. (No. 102015000084815)