

Curriculum vitae Eugenio F., Fornasiero

Languages	
Fluent in written and spoken English, French, German and Italian (native)	
Academic education	
2000 – 2003	B.S. in Medical Biotechnology (University of Modena, Italy); 110/110 cum laude
2003 – 2005	Master in Medical Biotechnology (Univ. of Modena, Italy); 110/110 cum laude and commission prize
2005 – 2010	Ph.D. in Cell and Molecular Biology at the Joint program between Open University (UK) and San Raffaele University (Milan, Italy).
Positions and scientific career	
2004	Research Assistant, Yale Psychiatry Institute (New Haven, CT, U.S.A.) Lab: Marina Picciotto
2004 – 2005	Research Assistant, University of Modena (Italy) Lab: Michele Zoli
2005 – 2008	Research Assistant & PhD student, San Raffaele Institute (Milan, Italy) Lab: Flavia Valtorta
2008 – 2009	Research Assistant, VIB Institute, University of Leuven (Leuven, Belgium) Lab: Carlos Dotti
2009 – 2012	Research Assistant & PhD student, San Raffaele Institute (Milan, Italy) Lab: Flavia Valtorta
2012 – 2018	Postdoctoral Fellow, European Neuroscience Institute, (Göttingen, Germany) Lab: Silvio Rizzoli
Since 2019	Independent Group Leader, University Medical Center, Göttingen (Germany)
Since 2023	Adjunct Lecturer (RtdB) at the University of Trieste (Italy)
Summary of expertise and scientific research interests	
<p>With a robust foundation in cellular and molecular physiology, my research is centered on unraveling the fundamental mechanisms underlying cellular and molecular brain aging. By employing an integrative and multidisciplinary approach, I combine advanced neurophysiology, proteomics, and bioinformatics to address three key research objectives:</p> <ol style="list-style-type: none"> Advanced Cellular and Molecular Neurophysiology to Study Aging and Synaptic Function: A significant focus of my work is understanding how aging impacts synaptic function. I have developed and applied innovative imaging tools to investigate the molecular mechanisms governing synaptic dynamics. For example, I demonstrated the preferential utilization of younger synaptic vesicle proteins during neurotransmission, offering new insights into synaptic aging. Additionally, I pioneered the development of advanced imaging tools, such as nanobody-based probes, for live imaging and targeting of key molecules like calcium sensors. I recently showcased a high-resolution imaging tool capable of identifying multiple molecular targets, providing an essential resource for understanding the mechanisms driving molecular aging (Unterauer <i>et al.</i>, <i>Cell</i>, 2024). Developing Reliable Tools for Studying Protein Turnover During Aging: Addressing the complexity of protein turnover in vivo, I created advanced proteomic tools to overcome challenges related to amino acid recycling in animal models. These methodologies now allow for precise measurements of protein dynamics under physiological and aging conditions. More recently, I extended this work to include the turnover of phosphopeptides and lipids using metabolic labeling, uncovering fundamental principles governing aging and tissue regulation at the molecular level. Recently I helped to address how phosphorylation can influence protein stability in vivo (Li <i>et al.</i>, <i>Cell</i>, 2025). 	

3. Linking Physiological Aging to Pathology Through Molecular Changes:
 By combining metabolic labeling, proteomics, and bioinformatics, my research explores how aging alters protein lifetimes and contributes to neurodegenerative processes. Notably, my lab demonstrated a ~20% increase in protein lifetimes in aged brains compared to young adult counterparts, identifying several pathways linked to neurodegenerative diseases. These findings suggest that targeting metabolic adaptations may delay disease onset. Currently, I am finalizing three major collaborative projects that uncover novel mechanisms underpinning brain aging and neurodegeneration.

Teaching experience

Since 2013	Mentoring 15 master students, 8 PhD students and 3 postdoctoral fellows. Part of 5 PhD thesis committees, external examiner for PhD enrolled in international programs.
Since 2017	Teaching physiology for medicine and dentistry at the Medicine University of Göttingen in German
Since 2023	Adjunct lecturer at the University of Trieste (Italy), teaching in English integrative neurophysiology and basic physiology to medicine students

International Grant Review Panels

2020	Reviewer, Motor Neurone Disease Association (UK)
2020	Reviewer, Frontier Science Research Program (China)
2022	Reviewer, Medical Research Council (MRC; UK)
2022	Reviewer, European Research Council
2023	Reviewer, French National Research Agency (ANR; France)

Honors and awards

2008	EMBO short-term fellowship
2008	FENS fellowship
2011	IBRO fellowship
2012	EMBO long-term postdoctoral fellowship
2013	HFSP long-term postdoctoral fellowship

Book editing

2014	<i>Super-Resolution Microscopy Techniques in the Neurosciences</i> , Springer Neuromethods, Humana Press edited by Fornasiero EF and Rizzoli SO.
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Invited reviewer and editorial activity

2019-present	<ul style="list-style-type: none"> ▪ <i>Associate Editor</i> for <i>Frontiers in Molecular Neuroscience</i> ▪ <i>Reviewing editor</i> for several <i>Frontiers</i> journals ▪ <i>Invited reviewer</i> for several major journals: <i>EMBO J</i>, <i>Nature Aging</i>, <i>Nature Communications</i>, <i>Progress in Neurobiology</i>, <i>Briefings in Bioinformatics</i>, <i>Trends in Cell Biology</i>, <i>Advanced Science</i>, <i>EMBO Reports</i>, <i>Bioassay</i>.
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Publication metrics

50 peer-reviewed publications
<https://pubmed.ncbi.nlm.nih.gov/?term=Fornasiero+Ef>
 19 contributions as correspondent author and 8 as first or shared first author
Total citations ~2500 H-index = 22 and i10-Index = 34
<https://scholar.google.com/citations?hl=de&user=-8PydNAAAAAJ>