BIOGRAPHICAL SKETCH

NAME: FILADI, Riccardo

POSITION TITLE: Research Scientist

EDUCATION/TRAINING

INSTITUTION AND LOCATION	DEGREE *(if applicable)*	Completion Date MM/YYYY	FIELD OF STUDY
University of Padova, Italy	MS	10/2010	Medical Biotechnology
University of Padova, Italy	PhD	04/2014	Cell Biology
Dept of Biomedical Sciences, University of Padova, Italy	Postdoc	11/2018	Cell Biology/ Neurodegeneration
CNR Institute of Neuroscience, Padua, Italy	Postdoc	11/2019	Neurodegeneration

A. Personal Statement and Contributions to Science

Since 2020, I am a Research Scientist at the Neuroscience Institute of the Italian National Research Council (CNR). My research is mostly focused on the understanding of the role played by the physical/functional connection between different intracellular organelles in the regulation of key cellular processes (such as the modulation of cell death and bioenergetics), particularly in the context of Alzheimer's disease (AD) models. I have large experience in the generation/use of genetically encoded fluorescent probes for the dynamic measurements of different metabolites and signaling molecules (Ca^{2+}, ATP, ROS, etc.) in living cells and tissues. In particular, I focused on the role of the physical juxtaposition between ER and mitochondria in the regulation of a key signaling event, *i.e*. Ca^{2+} transfer between the two organelles. I successfully collaborated with different international teams, in particular to study endoplasmic reticulum (ER)-mitochondria communication in AD models, and I actively partake in the European initiative *"Eurobioimaging"*, which guarantees full access to state-of-the art imaging technologies and research infrastructures (https://www.eurobioimaging.eu/nodes/advanced-light-microscopy-italian-node).
I am currently developing, within a collaborative project, a set of dynamic and versatile probes for studying the morphology and functions of membrane contact sites in real-time. These probes will be helpful for biologists to decipher how cells orchestrate membrane contact sites, as well as how alterations in these platforms might underlie the onset of different pathological conditions.

Key references:

1. Hedskog L, Pinho CM, **Filadi R**, Rönnbäck A, Hertwig L, Wiehager B, Larssen P, Gellhaar S, Sandebring A, Westerlund M, Graff C, Winblad B, Galter D, Behbahani H, Pizzo P, Glaser E, Ankarcrona M. Modulation of the endoplasmic reticulum-mitochondria interface in Alzheimer's disease and related models. *Proceedings of the National Academy of Sciences (PNAS)* 110(19): 7916-21 (2013).
2. **Filadi R**, Greotti E, Turacchio G, Luini A, Pozzan T, Pizzo P. Mitofusin 2 ablation increases endoplasmic reticulum-mitochondria coupling. *Proceedings of the National Academy of Sciences (PNAS)* 112(17):E2174-81 (2015). Recommended by the Faculty of 1000.
3. **Filadi R**, Greotti E, Turacchio G, Luini, A, Pozzan T, Pizzo P. Presenilin 2 modulates endoplasmic reticulum-mitochondria coupling by tuning the antagonistic effect of mitofusin 2. *Cell Reports* 15(10):2226-38 (2016).
4. **Filadi R**, Leal NS, Schreiner B, Rossi A, Dentoni G, Pinho CM, Wiehager B, Cieri D, Calì T, Pizzo P, Ankarcrona M. TOM70 Sustains Cell Bioenergetics by Promoting IP3R3-Mediated ER to Mitochondria Ca2+ Transfer. *Current Biology* 28(3):369-382 (2018).

5. Fedeli C.*, **Filadi R.***, Rossi A., Mammucari C., Pizzo P. PSEN2 (presenilin 2) mutants linked to familial Alzheimer disease impair autophagy by altering Ca2+ homeostasis. *Autophagy* 15: 2044-2062 (2019). *co-first author.
6. Rossi A, Rigotto G, Valente G, Giorgio V, Basso E, **Filadi R***, Pizzo P*. Defective Mitochondrial Pyruvate Flux Affects Cell Bioenergetics in Alzheimer's Disease-Related Models. *Cell Reports* 30: 2332-2348.e10 (2020). *co-corresponding author.
7. Rossini M., Garcia-Casas P., **Filadi R.***, Pizzo P*. Loosening ER—mitochondria coupling by the expression of the presenilin 2 loop domain. *Cells* doi:10.3390/cells10081968 (2021). *co-corresponding author.
8. García Casas P, Rossini M, Påvénius L, Saeed M, Arnst N, Sonda S, Fernandes T, D'Arsiè I, Bruzzone M, Berno V, Raimondi A, Sassano ML, Naia L, Barbieri E, Sigismund S, Agostinis P, Sturlese M, Niemeyer BA, Brismar H, Ankarcrona M, Gautier A, Pizzo P, **Filadi R.** Simultaneous detection of membrane contact dynamics and associated Ca2+ signals by reversible chemogenetic reporters. *Nat Commun.* 15(1):9775 (2024).

B. Positions, Scientific Appointments and Honors

Positions and Scientific Appointments

2020-present: Research Scientist at the Institute of Neuroscience, Italian National Research Council (CNR), Padua, Italy
2022-present: member of the Faculty Board of the PhD Course in Biomedical Sciences, University of Padua
2021-present: Member of the European Calcium Society (ECS)
2021-2023: Topic Editor of the Research Topic “Mitochondrial signaling in disease: from cancer to neurodegeneration”, *Frontiers in Cell and Developmental Biology* (ISSN 2296-634X)
2019-2020: Co-Guest Editor of the Special Issue "Key Signalling Molecules in Aging and Neurodegeneration", *Cells* (ISSN 2073-4409)
2019: Postdoc fellow, Neuroscience Institute, Italian National Research Council (CNR), Padua, Italy
2017-2018: EU JPND postdoc fellow, Department of Biomedical Sciences, University of Padua
2014-2016: Postdoc fellow, Department of Biomedical Sciences, University of Padua

Honors

2023: Co-organizer of the IX workshop of the European Calcium Society "Mitochondrial Calcium Signaling in Health and Disease", Padua, September 2023
2023-present: National Scientific Qualification for the academic position of Associate Professor in General Pathology and Clinical Pathology
2023-present: National Scientific Qualification for the academic position of Associate Professor in Biochemistry
2020-present: National Scientific Qualification for the academic position of Associate Professor in Physiology
2019-present: National Scientific Qualification for the academic position of Associate Professor in Applied Biology
2019: 1st scientific award of the Italian National Research Council (DSB) for excellent studies on “Cell Metabolism: from energy production to pathology”
2019: 1st best poster award, European Calcium Society workshop "Ca^{2+} signaling in aging and neurodegenerative diseases", Coimbra, Portugal
2015-present: invited speaker at different international conferences
2010: 3rd Lundbeck award for degree dissertation

C. Publications

I contributed to 40 peer reviewed publications (h-index = 23; >4500 total citations; 19 first/co-first author, 11 last/corresponding/co-corresponding author) and 2 book chapters (first author). A complete list of publications is available on Scopus: https://www.scopus.com/authid/detail.uri?authorId=55250051400