

Isabella Panfoli

Associate Professor

EDUCATION AND TRAINING

1983

Degree in Architecture, 110/110 cum laude
University of Genoa

1989

Degree in Biological Sciences, 110/110 cum laude
University of Genoa

2016

Degree in Medicine and Surgery, 108/110
University of Genoa

1981

C2 Proficiency Cambridge English Qualification

ACADEMIC HISTORY

1990-1992

Fellow of the 'Anna Villa Rusconi' Foundation.
Study of the role of Ca²⁺ in vertebrate phototransduction.
Institute of Biological Chemistry, University of Genoa.

1993-2019

Permanent University Researcher, SSD BIO/10
University of Genoa

2019- **IN CORSO**

Associate Professor, SSD BIOS-07/A
University of Genoa

ACADEMIC APPOINTMENTS

2024-Present **Member of the Degree Thesis Committee**
Department of Pharmacy (DIFAR)

LANGUAGE SKILLS

English

C2 Proficiency

TEACHING ACTIVITY

2018–Present – Course Director of Biochemistry and Applied Biochemistry (12 CFU), Master's Degree in Chemistry and Pharmaceutical Technologies, Department of Pharmacy, University of Genoa.

2013–2018 – Lecturer of the 'Biochemistry' module (7 CFU), same course as above.

2013–2015 – Course Director of Plant Biochemistry (2 CFU), Master's Degree in Chemistry and Pharmaceutical Technologies, University of Genoa.

2013–2014 – Course Director of Bioenergetics (2 CFU), Master's Degree in Chemistry and Pharmaceutical Technologies, University of Genoa.

2010–2011 – Course Director of Bioenergetics (2 CFU), Master's Degree in Cellular and Molecular Biology, University of Genoa.

2009–2012 – Lecturer of the 'Biochemistry' module (5 CFU), Course in Environmental Biochemistry and Microbiology, University of Genoa.

2003–2010 – Course Director of Biological Chemistry II and Laboratory (2+2 CFU), Bachelor's Degree in Biological Sciences, University of Genoa.

2003–2004 – Lecturer of 'Molecular Biochemistry' (5 CFU), Course in Molecular Physiology, University of Genoa.

2003–2005 – Course Director of English Language, Bachelor's Degree in Biological Sciences, University of Genoa.

1999–2002 and 2006–2010 – Course Director of Marine Biochemistry, Bachelor's Degree in Biological Sciences, University of Genoa.

1997–1999 – Course Director of Biological Chemistry (90 hours), Bachelor's Degree in Biological Sciences, University of Genoa.

1990–1996 – Supplementary teaching activities (Laboratory Management), Bachelor's Degree in Biological Sciences, University of Genoa.

Since 1993 – Supervisor of numerous theses in Biological Sciences, Environmental Sciences, Pharmacy, Chemistry and Pharmaceutical Technologies, and Biotechnology.

RESEAEARCH INTERESTS

Discovery and characterization of an extra-mitochondrial oxidative phosphorylation in the outer segments of vertebrate retinal rods, using biochemical and proteomic techniques, developing ex-vivo imaging methodologies (TEM, confocal, and Atomic Force Microscopy), and extending the study to myelin of the central and peripheral nervous system in models of neurodegenerative diseases.

Study of blue light-induced damage mechanisms in murine photoreceptor models, in collaboration with Technische Universität Dresden (Germany), and translational studies on in vitro models of human retinal pathologies (diabetic retinopathy and AMD).

Study of extra-mitochondrial oxidative metabolism in extracellular vesicles from various sources, with translational 'omics' approaches to identify disease biomarkers in brain tumors, nephrological disorders, and prematurity-related conditions, and metabolic characterization of extracellular vesicles from epithelial and mesenchymal stem cells in maintaining kidney graft viability, in collaboration with the IRCCS Giannina Gaslini Institute, Genoa.

Study of the role of the enzyme hexose-6-phosphate dehydrogenase (H6PD) in antioxidant defense and in galactose metabolism, and of the PET tracer fluorodeoxyglucose in various cellular models.

MAIN SEMINARS

2014 Invited Seminar: CRTD External Seminar, 17/10/2014

"Extra-mitochondrial oxidative phosphorylation: a step further in aerobic energy supply in nervous system"

Technische Universität Dresden (Germania)

2015 Invited Presentation at the Congress of the Italian Society of Neurology (SIN),

"Neuronal Conduction and the Energy Contribution of Myelin."

Genoa, 11/09/2015

2016 Invited Presentation, Plenary Symposium, XIV FISV CONGRESS, Rome, 23/09/2016

"Pathophysiology of extra-mitochondrial oxidative phosphorylation."

Università La Sapienza, Roma.

2016 Invited Talk, 'Un Mare di Scienza' Series, Genoa, 16/02/2016

"Why do Red Wine, Green Tea, Blueberries and Spices Benefit Vision? New Molecular Insights."

Genoa

2019 Invited Chair, 6th World Summit on Cancer Research and Therapy, 19–20/04/2019

"Cancer Cell Metabolism Reprogramming: New Perspectives."

Conference Scientific Federation, Dubai, UAE.

**EDITORSHIP OR PARTICIPATION IN EDITORIAL BOARDS OF JOURNALS, PUBLISHING SERIES,
ENCYCLOPAEDIAS AND TREATISES**

1991-Present - Member of the Italian Society of Biochemistry and Molecular Biology (SIB).

2011 -2013 Member of the Editorial Board of 'Austin Ophthalmology' (Austin Publishing Group).

2012 Translation of selected chapters of 'Biochemistry' by Campbell & Farrell, EDISES, Naples.

2012-2015 Member of the ARVO (Association for Research in Vision and Ophthalmology).

2013-2015 Member of the EVER (European Association for Vision and Eye Research).

2018 -Present - Associate Editor for Translational Medicine, Frontiers in Medicine (ISSN 2218-1989). <https://loop.frontiersin.org/people/628582/overview>

2022-2023 Guest Editor per lo Special Issue [Cells](#) (ISSN 2073-4409) intitolato: "[Recent Advances in Metabolism and Oxidative Stress in Human Diseases](#)"

2022-2023 Guest Editor for the Special Issue [Cells](#) (ISSN 2073-4409) entitled: "[Recent Advances in Metabolism and Oxidative Stress in Human Diseases: 2nd Edition](#)"

2018 - Present – Registered Expert in the
REPRISE database for the section: Fundamental Research.
MUR

FROM 2005 - Reviewer for numerous international journals, including: Cells -International Journal of Molecular Sciences – Life Sciences - Journal of Neurochemistry- Journal of Biological Chemistry - Cell Biology – Journal Of Cellular Biochemistry -Mitochondrion – British Biotechnology Journal- Cellular Physiology And Biochemistry -Neuropharmacology – Neurochemical Research - Translational Cancer Research – Biochimie - European Biophysical Journal - Ophthalmology Journal -PlosOne – Proteomics -Cancer Research – Future Medicine - Future Oncology - Medical Hypotheses - Investigative Ophthalmology & Visual Science (IOVS) - Antioxidants - Cancers – Metabolites – Nutrients – Toxins.

PRIZES AND ACCOLADES FOR SCIENTIFIC ACTIVITY, INCLUDING MEMBERSHIP OF ACADEMIES

Date Title

Short description, if any

Organization

PATENTS

2016

EP3243509/ES2736183/ITUA20163269, 2016 “OROBUCAL ABSORPTION COMPOSITION FOR NEURO-PROTECTION” Inventors: Antonio Seneci (Graal S.r.l., Monza), Isabella Panfoli (DIFAR, University of Genoa), Cesare Santi.

OTHER PROFESSIONAL EXPERIENCES

1984-1985 Architect

Freelance Professional

Design Studio of Eng. Giorgio E. Maggiorcelli.

OTHER TITLES

The list of peer-reviewed scientific publications and bibliometric indexes is available at: <https://www.scopus.com/authid/detail.uri?authorId=6603733707>