

PERSONAL INFORMATION

Paola Cavalcante

📍 Fondazione IRCCS Istituto Neurologico Carlo Besta
UOC Neurology 4 – Neuroimmunology and Neuromuscular Diseases
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WORK EXPERIENCE

31st December 2019, onwards

Italian NHS Reseacher

Fondazione IRCCS Istituto Neurologico Carlo Besta, UOC Neurology 4 – Neuroimmunology and Neuromuscular Diseases, Milan, Italy

- Research activity on myasthenia gravis (MG) and immune-mediated neurological disorders. Project coordination, grant application, and manuscript writing; supervisor of junior and senior fellowships.

1st June 2009 - 30th December 2019

Senior Researcher

Fondazione IRCCS Istituto Neurologico Carlo Besta, UOC Neurology 4 – Neuroimmunology and Neuromuscular Diseases, Milan, Italy

- Collaborator in the “FIGHT-MG” European project. PI of a project (GR-2013-02358564, Italian Ministry of Health) on the role of microRNAs in MG. Pharmacogenomic/miRNomic studies in the field of MG.

10th May 2006 - 31st May 2009

Junior and senior fellowships

Fondazione IRCCS Istituto Neurologico Carlo Besta, UOC Neurology 4 – Neuroimmunology and Neuromuscular Diseases, Milan, Italy

- Involvement in research projects on MG; carrying out molecular and cellular biology, biochemistry and immunohistochemistry experiments, data analysis and dissemination, bio-bank management.

February - March 2008

Visiting scientist

Istituto Superiore di Sanità, Department of Cellular Biology and Neuroscience, Rome, Italy

- Studying the contribution of Epstein-Barr virus to B cell-mediated autoimmunity in MG. Acquisition of skills in experimental methods for the detection of EBV markers in human pathological tissues.

April 2005

Visiting scientist

University of Modena, Department of Biomedical Sciences, Laboratory of Immunology, Modena, Italy

- Studying the effects of mitochondrial genome depletion on the expression of nuclear genes by rho0 cells, in vitro functional studies and flow cytometry. Acquisition of skills in flow cytometry.

October - December 2004

Visiting scientist

University of Bologna, Department of Experimental Pathology, Laboratory of Immunology, Bologna, Italy

- Studying the role of mitochondrial DNA variability in stress response and inflammation by the cybrid technology. Acquisition of skills in flow cytometry and cellular biology.

EDUCATION AND TRAINING

January 2013

Qualified at the IFRcC-SIgN Winter School on Advanced Immunology

Immunology Frontier Research Center (IFReC) – Singapore Immunological Network (SIgN), Sentosa Island, Singapore

- Intensive course on advanced immunology, meetings and discussion with world-leading immunologists. Acquisition of new knowledge and competences in immunology.

29th January 2003 - 13th January 2006

PhD in Molecular Bio-pathology

University of Calabria (UNICAL), Department of Cell Biology – Laboratory of Genetics, Cosenza, Italy

- Genetics of human aging and longevity; investigating the “nuclear-mitochondrial genome cross-talk” by the cybrid technology. Experience in genetics, molecular and cellular biology, and flow cytometry.

5th February

Qualified as a Professional Biologist

UNICAL, Department of Cell Biology, Cosenza, Italy

31th October 2002

Degree in Biological Sciences cum laude

UNICAL, Department of Cell Biology – Laboratory of Genetics, Cosenza, Italy

Understanding the genetic basis of human longevity by genetic association studies. Acquisition of knowledge and skills in genetics and molecular biology.

ACHIEVEMENTS AND AWARD

Awards

- Awarded for **outstanding contribution to the field of autoimmunity, Top 12 high H-index nominees**, The Mosaic of Autoimmunity (MAI Award 2018), 11th Int. Autoimmunity Congress 2018, Lisbon
- Travel fellowship for the IFReC-SIgN School of Advanced Immunology (2013), Sentosa Island, Singapore
- Travel Awards for the XVII, XVIII, XIX Associazione Italiana Neuroimmunology (AINI) Congresses (2007-2009)

Editorial activity

- Topical Advisory Panel Member for Cells, MDPI
- Guest Editor of the Special Issue "*Myasthenia Gravis and Innate Immunity—Dedicated to the Memory of Dr. Pia Bernasconi*", for Cells, MDPI
- Guest Editor for the Special Issue "*Molecular Mechanisms of Neurological Autoimmune Disorders*" for Biomedicines, MDPI
- Reviewer for peer-review scientific journals, including Annals of Neurology, Frontiers in Neurology, Frontiers in Immunology, Clinical Immunology and Cells.

Grants

- Awarded a Grant of the Italian Ministry of Health as PI of a three-years project entitled "*High-throughput miRNAome profiling in myasthenia gravis patients: towards the identification of pathogenic mechanisms underlying autoimmunity*" (GR-2013-02358564).
- PI at the Fondazione IRCCS Istituto Neurologico Carlo Besta of the European Joint Programme on Rare Diseases (EJPRD) 2019 project "*The rarest of the rare – exploring non-coding RNA in the disease pathogenesis of Hutchinson-Gilford progeria syndrome*" (PROGERIA)" (Project Coordinator: Dr. Maria Eriksson, Karolinska Institutet).
- Collaborator in the project entitled "*Identification of B cell-related biomarkers to predict response to immunosuppressive and B cell targeting therapies in Myasthenia Gravis*" funded by the Italian Ministry of Health (RF-2016-02364384; PI: Dr. R. Mantegazza, Fondazione IRCCS Istituto Neurologico Carlo Besta, UOC Neurology 4).
- Collaborator in the "Italian-Israeli" Collaborative project entitled "*Myasthenia gravis: toward personalized immunosuppressive treatment using microRNA array*", funded by the Italian Ministry of Foreign Affairs and International Cooperation (PI: Dr. C. Antozzi, Fondazione IRCCS Istituto Neurologico Carlo Besta, UOC Neurology 4; Dr. Adi Vaknin-Dembinsky, Hadassah University Hospital, Jerusalem, Israel).

TECHNICAL SKILLS

Genetics and molecular biology: Nucleic acid extraction from tissues, cells, and biological fluids;

PCR; qPCR; qPCR on microfluidic cards; droplet digital PCR; molecular cloning; Sanger sequencing; targeted NGS; allelic discrimination; non-coding RNA (miRNA, lncRNA) analyses in human tissues, cells and biofluids.

Cellular biology: cell cultures; transfection of human cells; miRNA mimic and inhibitor technology; production of hybrid cell lines; peripheral blood mononuclear cell isolation; lymphocyte immortalization.

Biochemistry: immunohistochemistry and immunofluorescence; in situ hybridization; RNAscope technology; laser capture microdissection experiments; confocal microscopy; inflammatory cytokine/chemokine profiling by multiplex immunoassays on Luminex platform; ELISA; Cell-based assays (CBA).

Computer skills: Competent with Microsoft Office programs, statistical softwares (e.g. GraphPad PRISM), software for image analysis (e.g. Image J), DIANA tool softwares for in silico miRNA analyses (e.g. TarBase, miRPath).