

Margherita Ruoppolo

CURRICULUM VITAE



Personal information

Date and place of birth: 8 May 1966, Naples, Italy

Marital status: Married (two children)

Present Position:

Full Professor of Biochemistry, Department of Molecular Medicine and Medical Biotechnology, School of Medicine, Via Pansini 5, 80131 Naples, Italy, e-mail: margherita.ruoppolo@unina.it

Education

April 1990 Obtained a five year degree in Chemistry (Organic and Biological Chemistry) with *summa cum laude*. The work on the "Characterisation of disulphide bridges in proteins using FAB Mass Spectrometry: a new approach for studying protein folding" for the thesis was performed at the University of Naples "Federico II".

November 1990 Awarded the qualification to practice as a professional Chemist.

July 1997 PhD. in Chemical Sciences with a thesis on "Folding of proteins" University of Naples "Federico II".

Professional experience

1991-1993 CNR fellow at the Servizio di Spettrometria di Massa, CNR- University of Naples "Federico II" to carry out research on the identification of post-translational modification in proteins.

May 1996-October 2001 Research Assistant of Biochemistry at the Department of Chemistry, University of Salerno. A research group on protein chemistry was organised from scratch in a typical Organic Chemistry Department to provide undergraduate students with a support system to begin research work in this field at the University of Salerno. A total of five undergraduates were accepted from 1996 to 2001, trained and tutored

November 2001- October 2007 Associate Professor of Biochemistry at Department of Biochemistry and Medical Biotechnology , University of Naples, Federico II.

2007-to date - Full Professor of Biochemistry at Department of Biochemistry and Medical Biotechnology, University of Naples, Federico II.

November 2003 to date - Head of Laboratory for Screening of inborn errors of metabolism, Dipartimento Assistenziale Integrato di Medicina di Laboratorio, Azienda Universitaria Policlinico, University of Naples, Federico II

Research activity in foreign laboratories

1989 Biological Laboratory, University of Kent, Canterbury

1991 Laboratoire de Spectrometrie de Masse Bio-Organique, University of Strasbourg

1993-1994 Biological Laboratory, University of Kent, Canterbury

1998 Unité de Biochimie, Institut Pasteur, Paris, France (Prof. M. Goldberg)

Research Overview

The scientific activity of Margherita Ruoppolo has been mainly devoted to the structural characterization of proteins and metabolites. These studies were carried out developing integrated strategies based on biochemical methodologies combined with biomolecular mass spectrometric procedures. She started studying the mechanism of the folding process of proteins paying particular attention to the structural characterization of intermediates accumulating during the oxidative folding of disulphide-containing proteins. She then focused her research on the identification of individual proteins in complex mixtures by proteomic approaches using fractionation of protein by 1D/2D gel electrophoresis and identification of protein bands by enzymatic hydrolysis, mass spectrometry and database search. These methodologies were applied in biomedical projects in order to find the differences between normal and pathological cellular conditions.

Finally, she focused on the study of inborn errors of metabolism using biochemical and genetic integrated methodologies.

The research activity described above was carried out in collaboration with CEA-Saclay, France; University of Halle, Germany; University of Kent, United Kingdom; University of Munich, Germany; University of Oulu, Finland; Karolinska Institute, Sweden; Institut Pasteur, Paris, France; University of Wisconsin, USA; Mayo Clinic, Rochester Minnesota, USA; Organic Acid Research Section, Genetics and Molecular Biology Branch, NIH, USA.

Bibliometric data (Thomson Reuters ISI Web of Knowledge, January 2020)

- Number of publications: 77
- H index: 23
- Total number of citations: 1403
- Average citation per item: 18,2

Academic Honours and Awards

February 1991 "Federchimica - per un futuro intelligente" prize of Italian Confederation of Chemical Industries.

May 1991 1990 "Guglielmo Laonigro" prize of the Italian Chemical Society.

March 1993 Accademia Nazionale dei Lincei-Royal Society fellowship.

January 1994 International Human Frontier Science Program Organization (HFSP) fellowship.

April 1994 EMBO (European Molecular Biology Organization) fellowship.

2018 Participation in the second Scientific Evaluation Meeting of E-Rare Joint Transnational Call JTC2018

Invited Referee

Frequently referees manuscripts for international journals such as Biochemistry, Protein Sciences, Journal of inherited metabolic disease, International Journal of Molecular Sciences, Scientific Report; Associated Editor Helyion

Membership

Member of the Italian Chemical Society, Mass Spectrometry Division: between 1993-1996 she was a member of the Board of Directors of the Mass Spectrometry Division.

Member of the Italian Biochemical Society.

Member of the Italian Society for the study of inborn errors of metabolism.

Vice-president of the Italian proteomic association,

Grants as principal investigator

PRIN 2002: Genomic and post-genomic analysis of normal and pathological eritropoiesis

PRIN 2004: Molecular characterization of eritropoiesis: post-genomic and functional analysis of protein expression profile

PRIN 2006: Normal and pathological eritropoiesis; molecular characterization by high throughput technologies

AIFA 2006: Multicentre study of the efficacy and tolerability of tetrahydrobiopterin in a paediatric population affected by phenylketonuria

2017 funding for the implementation of extended neonatal screening of inborn errors of metabolism

2018 funding for the implementation of extended neonatal screening of inborn errors of metabolism

PRIN 2017: Triggering neuroprotective pathways to prevent neurodegeneration: role of estrogen receptor beta/neuroglobin signaling in Huntington disease

Invited lecturer

1. Partly folded intermediates in three-fingered toxin folding
23rd IUPAC-2002 International Symposium on the Chemistry of Natural Products 28
Luglio-2 Agosto 2002, Firenze
2. Proteomics identification of acyl-acceptor and acyl-donor substrates for
transglutaminase in a human intestinal epithelial cell line
Congresso SIB 2003 15-18 Settembre 2003, Ferrara
3. Erythroid membrane proteomic
Proteine 2004, 20-22 Maggio 2004, Viterbo, Italy
4. Post-translational modifications in the age of proteomics: functional map of
transglutaminase substrates
Chemistry and Biology: The transition between the two centuries" Accademia
Nazionale dei Lincei 8-10 November 2004, Roma
5. Differential proteomics in molecular medicine.
Clinbio 2005 11-12 November 2005 Napoli
6. Metabolomics: diagnostic applications
52° Congresso nazionale SIB 26-28 September 2007, Riccione
7. Exploring inborn errors of metabolism through metabolomics
57th national meeting of the Italian society of biochemistry and molecular biology 18-
20 September 2013 Ferrara
8. Integration of metabolomics and proteomics in exploring rare diseases
International Conference on "The Kidney in Genetic and RareDisease", Naples,
October 27th – 29th, 2016
9. Altered intracellular pathways in inherited disorders of vitamin B12 metabolism
Protein 2018, Verona, Italy 28-30 May 2018

January 2020

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