

# **Ornella Rossetto**

## *Curriculum vitae*

### **Personal Details**

Place and date of birth: Padova, June 4th, 1966  
Citizenship: Italian  
Civil Status: Married with three children  
Current Work Address: Via Ugo Bassi 58/B, 35136 Padova  
Email: ornella.rossetto@unipd.it  
Office phone: +39-0498276077

### **Current Position**

2023- Director of the Doctoral School of Biomedical Sciences  
2014- Associate Professor of General Pathology, Department of Biomedical Sciences, University of Padova, Italy.  
2018 Abilitazione Scientifica Nazionale I Fascia Bando D.D. 1532/2016 Settore concorsuale 06/A2 Patologia generale e patologia clinica. Valid from 09/04/2018 to 09/04/2029

### **Previous Positions/Education**

1999-2014: Assistant Professor of General Pathology, School of Medicine, University of Padova  
1995-1998: Post-Doc Fellow, Department of Biomedical Sciences, University of Padova  
1995: Ph.D in Molecular and Cellular Biology and Pathology at University of Padova  
1990: Graduated with full marks cum laude in Biological Sciences at University of Padova

### **Honors and awards**

1990: Award from the Padova Ricerche Consortium for the relevance of the findings described in the Master Degree thesis  
1991 and 1993: Visiting fellow in the lab of Prof. Bernard Poulain at the Laboratoire de Neurobiologie Cellulaire et Moléculaire du C.N.R.S., Gif-sur-Yvette, Paris, France  
1994: Visiting Fellow in laboratory of Dr. Dan Cutler at the MRC Laboratory for Molecular Cell Biology, University College, London  
1996: Short-term EMBO fellowship at the European Molecular Biology Laboratories (EMBL), Heidelberg, Germany  
2000: Visiting fellow in the lab of Prof. Jordi Molgo at the Laboratoire de Neurobiologie Cellulaire et Moléculaire du C.N.R.S., Gif-sur-Yvette, Paris, France

**PATENT: 2007**, International Patent n. 05015645.4: "PRODUCTS FOR TOPICAL APPLICATION COMPRISING LYSOPHOSPHOLIPIDS AND FATTY ACIDS" Inventors: Caccin P., De Grandis D., Ravenni R., Rigoni M., Rossetto O., Schiavo G., Montecucco C.

### **Scientific Activity**

During my PhD I participated to the discovery of the zinc-endopeptidase activity of tetanus and botulinum neurotoxins and identified the intraneuronal targets and peptide bond specificity of all these neurotoxins. Provided evidence that the animal resistance to tetanus and botulism type B may be due to mutation of VAMP at the site of proteolytic cleavage. Identified the SNARE motif as a major determinant in the specific recognition of the three SNARE proteins by the eight clostridial neurotoxins. Provided experimental evidence for the role of the SNARE motif.

I have been also interested in studying snake presynaptic PLA2 neurotoxins and viper neurotoxins. Our research group is presently studying the molecular mechanism of action of botulinum neurotoxins in the peripheral and central nervous system as well as in the enteric nervous system. More recently, I am also interested in the exploitation of bacterial and animal neurotoxins as tools to study the peripheral synaptic plasticity induced by neuromuscular paralysis.

### **National and International Collaborators**

Giampietro Schiavo (University College, London)

Matteo Caleo e Laura Restani (Istituto Neuroscienze CNR, Pisa)

Michela Matteoli (Univ. Milano)

Siro Luvisetto e Flaminia Pavone (CNR, IBCN, Roma)

Roberto Eleopra, (Istituto Besta, Milano)

Jordi Molgo (CNRS, Gif sur Yvette cedex, France)

Eric Johanson, (University of Madison, Wisconsin, USA)

Thomas Binz (Institut für Biochemie, Medizinische Hochschule Hannover, Germany)

Ivica Matak (University of Zagreb School of Medicine, Croatia)

Antonio Avelino (Faculty of Medicine of Porto, Portugal)

Davide Lonati (Unità di Tossicologia, Università di Pavia)

### **Scientific Society Memberships**

International Neurotoxin Association (INA), International Society of Toxinology (IST), International Society of Neurochemistry (ISN), Società Italiana di Tossicologia (Sitox), Italian Society of Pathology (SIP-MET).

### **Editorial Activities**

- **Associate Editor of the Journals *Toxicon* and *ToxiconX***
- **Associate Editor of *Frontiers in Toxicology***
- **Guest Editor** of the Proceedings of the Toxins2022 in *Toxicon* as Scientific Co-organiser of the Toxins2022 Congress in New Orleans (*This special issue of *Toxicon* comprises the proceedings of the international conference “TOXINS 2022 6th International Conference: Basic Science and Clinical Aspects of Botulinum and other Neurotoxins” held in New Orleans, Louisiana, July 27-30, 2022*)
- **Reviewer activity for Journals:** I am routinely asked to review manuscripts for several journals including: *Scientific Reports*, *PLOS One*, *PLOS Pathogens*, *Journal of Cell Science*, *Molecular*

Microbiology, FEBS Letters, Journal of Biological Chemistry, Toxins, Toxicon, Toxicology Letters, Cell Biochemistry and Function, Neurotherapeutics, Expert Opinion On Drug Discovery

- **Reviewer activity for Funding Agencies:**

2019 Programme AAPG2019, Agence Nationale de la Recherche, ANR France

2019 SFI Starting Investigator Research Grant (SIRG) (Ireland)

### **Teaching Activities**

- Since the academic year 1999-2000 I have held the Molecular Pathology module as part of the integrated course in Pathology and General Physiopathology for the degree course in Medicine and Surgery at the University of Padua, which includes theoretical lectures and theoretical-practical exercises.

Theoretical lectures (24 hours in the I semester III year). 2 credits

Theoretical-practical exercises of Histopathology (20 hours I and II semester of year III).

- Starting from the academic year 2008-2009, I am the holder of the General Pathology course within the integrated course of Pathology, Genetics and Microbiology in the 1st year of the Three-year Degree Course in Nursing (40 hours of lectures, 4 CFU).
- Since academic year 2018-2019 I have been lecturing the entire course of General Pathology (40 hours) for the degree course in Medicine and Surgery at the University of Padua, III year.
- I have been supervisor or co-supervisor for degree theses in Biological Sciences, Molecular Biology, Biotechnology and Pharmaceutical Chemistry and Technology and of PhD students of Biomedical Science PhD course.
- I am currently Director of the Doctoral School of Biomedical Sciences.

### **Public Engagements (Terza Missione)**

01/03/2023 Interview at RAI RADIO 2 CHANNEL, PROGRAM "IL MONDO NUOVO" on BACTERIAL TOXINS

03/04/2019 Interview at RAI SCUOLA, PROGRAM NAUTILUS

### **Scientific Committees and Congress Organisation**

2024. TOXINS2024. 7<sup>th</sup> International Conference, Berlin, 17-20 January 2024.

2022. 21<sup>th</sup> World Congress of the International Society of Toxinology, Abu Dhabi, 16-21 October

2022. Toxins2022, New Orleans, 27-30 August 2022

2018. 1<sup>st</sup> Meeting on Natural Toxins, Padova 6-7 September 2018

2018. "PROTEIN TOXINS: A JOURNEY BETWEEN PHYSIOLOGY AND MEDICINE" in honour of Prof. Cesare Montecucco, Padova 22-23 February 2018

2009. ABCD Meeting "Membrane trafficking and Organelle Biogenesis" Bertinoro, April 3-4 2009.

### **Recent Invited Oral Communications**

2024. TOXINS2024. 7<sup>th</sup> International Conference, Berlin: The effect of botulinum neurotoxins in the intestine in the mouse model of foodborne botulism.

- 2022. **Keynote Speaker:** Venom & Toxins 2022: Botulinum neurotoxin: a bad guy turned good by research, Oxford 23-25 August, 2022.
- 2022. 21<sup>st</sup> World Congress of the International Society of Toxinology (IST2022): Bacterial and animal neurotoxins as tools to study neuromuscular junction plasticity and regeneration. Abu Dhabi, 16-21 October 2022.
- 2021. SITOX2021: La tossina botulinica: dal più potente veleno ad un farmaco straordinario, Bologna 25-27 Ottobre 2021
- 2021. 45th FEBS meeting: The booming field of Botulinum Neurotoxins, Lubjiana (Virtual), 3-8 July 2021
- 2019. 11th International Conference on the Molecular Biology and Pathogenesis of the Clostridia (Clostpath 11): The role of the single interchains disulfide bond in Tetanus and Botulinum Neurotoxins and the development of anti-tetanus and anti-botulism drugs. Leiden, The Netherlands, August 19-22, 2019.
- 2018. Excellence Programme for Exchange Regarding Botulinum Toxin, Marseille, France: "Pharmacology and Fundamentals: Mechanisms of action of focal pain treatments, a way to the future". 21 Settembre 2018
- 2018. "Attuali aspetti terapeutici della tossina botulinica", Titolo relazione: "Aspetti Farmacologici delle diverse tossine botuliniche" San Giovanni Rotondo (FG), 23 marzo 2018.
- 2017. **Plenary Speaker:** TOXINS 2017: Basic Science and Clinical Aspects of Botulinum and Other Neurotoxins, Madrid, Spain. Titolo relazione: "*The Binding of BoNT to Different Peripheral Neurons*" 18-21 January, 2017.
- 2017. **Keynote Speaker:** 19<sup>th</sup> World Congress of the International Society on Toxinology (IST2017), Haikou, P.R. China. Titolo della relazione: "*The booming field of botulinum neurotoxins*". October 24-31, 2017.
- 2016. **Keynote Speaker:** 10<sup>th</sup> annual Botulinum Research Center Symposium. B. DasGupta Memorial Lecture, Boston, August 17<sup>th</sup>-19<sup>th</sup>, 2016.

#### **Bibliometric information**

SCOPUS AUTHOR ID: 7003372229

ORCID ID: 0000-0002-6113-3857

**International peer-review articles: 143**

**Chapters: 38**

**Citations: 11.251**

**H-index: 54**

Padova, 23/01/2025

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