CURRICULUM VITAE, Nica Borgese, October 2022

Academic Degree: Ph.D

Date of birth: March 6, 1944, Chicago, IL, U.S.A.

Nationality: Italian

***Education and training***

1973-77: Postdoctoral training in Cell Biology with Prof. Jacopo Meldolesi, C.N.R. Center for Cytopharmacology, Milano. The research concerned the biogenetic relationship between membranes of the secretory pathway.

1972: Ph.D., The Rockefeller University, New York

1968-72: Thesis research in the laboratory of David Sabatini. The research for my thesis in Cell Biology concerned the interaction between ribosomes and membranes of the Endoplasmic Reticulum, and led to the demonstration of a proteinaceous receptor for ribosomes on the rough ER membrane

1966-72: Graduate student, the Rockefeller University, New York

1964-66: Undergraduate, Faculty of Science, University of Paris. Basic courses in Chemistry, Physics and Biology

1964: "Maturità classica" (diploma oriented in the humanistic disciplines) from the public lyceum "Michelangiolo", Florence, Italy.

# Academic Record

2020 - 2022 Biochemistry teacher within the Physiology course ("Body at work") for medical students, Humanitas University

2006 - 2017 Cell Biology teacher within the Pharmacology course for Biotechnology students, University of Milan

1988 - 2019 Group Leader, C.N.R. Institute of Neuroscience, Milano

2003-2011 Director, Department of Pharmacobiological Science, University of Catanzaro “Magna Graecia”

1994 -2014 Professor of Biology, Faculty of Pharmacy, University of Catanzaro “Magna Graecia”

1988-94 Associate Professor in General Biology, Faculty of Pharmacy, University of Milano.

1984-85: Visiting Scholar, on a long-term EMBO fellowship, at the Department of Anatomy and Cellular Biology, Harvard Medical School (Laboratory of Joan Ruderman)

1983: Short term E.M.B.O. fellowship for collaboration with Dr. Kathryn Howell, E.M.B.L., Heidelberg

1974-88: Investigator of the Italian National Research Council (C.N.R) - C.N.R. Center for Cytopharmacology, Milano.

## Research Activities

The principal research activities of N. Borgese have concerned:

At Rockefeller University:

• The interaction between ribosomes and membranes in eukaryotic cells

At the C.N.R. in Milano and at the University of Catanzaro “Magna Graecia”:

* Mechanisms of pathogenesis of familial amyotrophic lateral sclerosis
* Targeting and sorting of membrane proteins
* Mechanisms of insertion of tail-anchored proteins
* Role of transmembrane domain in ER to Golgi transport
* Transcriptional and translational mechanisms underlying the generation of differently localized protein isoforms
* The molecular genetics of hereditary methemoglobinemia due to NADH-cytochrome b(5) deficiency
* The role of fatty acylation in the localization of membrane proteins
* The plasticity of the ER, and its response to overexpression of membrane proteins
* Localization of endothelial Nitric Oxide Synthase and its role in migration and apoptosis

While on sabbatical at Harvard:

• The identification and mechanism of translational derepression of maternal mRNAs

upon activation of clam oocytes

### *Oral presentations as invited speaker (selected)*

2017 EMBO conference: "Structure and Function of the Endoplasmic Reticulum", Girona, Spain 23-27 October

2016 The 7th EMBO meeting: Special Interest Symposium: Targeting to the endoplasmic reticulum –tail-anchored proteins and beyond, Mannheim, Germany, 10-13 September

2015 EMBO conference: "Mechanisms and regulation of protein translocation", Dubronik, Croatia 21-25 March

 FASEB Summer Conference: "From unfolded proteins in the ER to Disease", Saxton Academy, Vermont, June 14-19

2013 FASEB Summer Conference: "From unfolded proteins in the ER to Disease", Saxton Academy, Vermont, June 16-21

2011: EMBO conference “Protein Transport Systems”, S. Margherita di Pula, Italy

2010: EMBO meeting “Towards a comprehensive understanding of endoplasmic reticulum functions”, Girona, Spain

 2008: EMBO conference “Control, Co-ordination and Regulation of Protein Targeting and Translocation” – St Maxime (France)

 The 2008 Golgi Meeting, Pavia, Italy;

2007: ELSO 2007 Conference – Dresden, Germany 1-4 September

2003: Biochemical Society Meeting 679 "Stress, Signalling and Control", Membrane Group Colloquium, University of Essex, UK, 2-4 July

2001: Alumni Centennial Symposium, The Rockefeller University, New York, 3-6 May

1998: 100th Anniversary Conference, "The Golgi complex", 19-23 September, Pavia, Italy

1996: 6th International Congress on Cell Biology, San Francisco, CA, U.S.A, 7-11 December

1994: EMBO Workshop 1994:"Intracellular Lipid Traffic" Rocca d'Arazzo (Asti, Italy), 10-14 October

1987: 623rd Meeting of the Biochemical Society, Membrane Group Colloquium, Canterbury, U.K.

###### Organizational Activities

2021: Nicotinic Acetylcholine Receptors: from Molecular Pharmacology to Behaviour - a joint CNR-University of Milan Symposium in honour of Cecilia Gotti - Milan, 13 December 2021

2017: Marie Curie Initial Training Network - Seminar V, Milan 15-17 June

2013: EMBO conference: from structure to function of translocation machines, Dubrovnik, Croata 13-17 April

2011: EMBO conference on Protein Transport Systems, S. Margherita di Pula, Italy, 2011

2007: ELSO 2007 Conference, Minisymposium on the ER, Dresden, Germany

2004: EU Network Meeting “Cells as Protein Factories”, Contea (Florence), June 17-19 (co-organizer: Roberto Sitia and Aldo Ceriotti); Minisymposium “Intracellular trafficking, membranes and cell adhesion”-6th Meeting of the Italian Federation for the Life Sciences (FISV) - Riva del Garda (TN, Italy), 30 September -3 October

2002: Round Table "Membrane traffic" 4th Meeting of the Italian Federation for the Life Sciences (FISV) - Riva del Garda (TN, Italy), 20-23 September

1996: Symposium "Organelle Biogenesis and Membrane Traffic", Joint Meeting ABCD-AGI-SIBBM, Riccione, 2-5 October.

1995: Round Table "Membranes, transport", Joint Meeting ABCD-SIBBM-AGI-SIMGBM, Montesilvano Lido, 2-6 October

1990; Workshop "Protein targeting", 3° European Congress on Cell Biology, Florence, Italy

1989-90: Member of the Organizing Committee of the III European Congress on Cell Biology.

1989: Member of the Scientific Committee for the 5th Lecture Course on Biophysics and Molecular Biology: "Molecular mechanisms of intracellular targeting and sorting", Marina di Aurisina, Trieste, Italy (co-organizer: Stefano Bonatti)

1988: Symposium "Organelles and co- and post-translational modifications of proteins", VII National Congress of the Italian Society for Cell Biology and Differentiation (ABCD), Spoleto, Italy

1988-94: Yearly meeting of the cooperation group of the Italian Cell Biology Association (ABCD) on Membrane Traffic and Organelle Biogenesis, Capalbio, S. Miniato, Pontignano (co-organizer: Stefano Bonatti)

1987: Round Table "Membranes, Transport", VI National Congress of the Italian Society for Cell Biology and Differentiation (ABCD), S. Margherita Ligure, Italy

1986: Symposium "Golgi apparatus and Membrane Bio­genesis", Second European Congress on Cell Biology, Budapest, Hungary

Fellowships and Grants

During her career, Dr. Borgese has been awarded fellowships from EMBO and grants from the Italian National Research Council (CNR), the Italian Ministry for Research and University (MURST), the Italian Association for Research con Cancer (A.I.R.C.), Telethon, CARIPLO Foundation, and from the European Union (Marie Curie Initial Training Network)

***Editorial Boards, Scientific Society Committees, and Advisory panels***

2020-2022 Member of the Editorial Board of the journal *Cells*

2013-2015 Evaluation panel European Research Council (Starting grant panel LS3E "Cellular and Developmental Biology"

2009: Review Panel of the Research Council for Biosciences and Environment (RCBE) and Research Council for Health (RCH) of the Academy of Finland

2009-2012: Scientific Committee of Telethon Foundation

1998- 2000: Member of the International Affairs Committee, American Society for Cell Biology;

1987-1990: Member of the Directive Council of the Italian Society for Cell Biology and Differentiation (ABCD);

1986-2002: Member of the Editorial Board of "Subcellular Biochemistry".

***Honours***

2015: Member of AcademiaNet - database of outstanding woman academics (Robert Bosch Stiftung)

2011: Elected member of the European Molecular Biology Organization

1984: Long term EMBO fellowship to visit the laboratory of Joan Ruderman (Harvard Medical School)

1983: Short term EMBO fellowship to visit the laboratory of Kathryn Howell (EMBL)

***Ad hoc reviewer for:***

- BBA

- Biochem. Biophys. Res. Comm.

- Biochemical Journal

- Cell Reports

- Communications Biology

- ELife

- EMBO J

- Exp. Cell Res.

- FEBS Letters

- Human Molecular Genetics

- J. Biol. Chem.

- J. Cell Biol.

- J. Cell Sci.

- J. Mol. Biol.

- Mol. Biol. Cell

- Nature

- Nature Communications

- PLOS Genetics

- PLOS ONE

 - Proceedings of the National Academy of Science, USA

- Scientific Reports

***Ad hoc grant reviewer for:***

- Deutsche Forschungsgemeinschaft (German Research Foundation)

- ERC

- Italian Ministry of University and Research (MIUR)

- National Science Foundation

- Prinses Beatrix Spierfonds

- Swiss National Science Foundation

- US-Israel Binational Science Foundation

- Wellcome Trust