

# Valeria Maria RONDELLI

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Present position: **Researcher in Applied Physics (RTD-A) – Università degli Studi di Milano**

## Education

Jan 2009 – Dec 2011

**PhD in Biochemistry - Università degli Studi di Milano**

**Long Term Visitor - Institut Laue Langevin (ILL) - Grenoble, FR**

Sept 2002- Feb 2008

**Master degree in Physics - Università degli Studi di Milano**

Final grade: 110/110 cum Laude

## Publications

- 1) **Rondelli V.**, Del Favero E., Brocca P., Fragneto G., Trapp M., Mauri L., Ciampa M.G., Romani G., Braun C.J., Winterstein L., Schroeder I., Thiel G., Moroni A., Cantù L., *Directional K<sup>+</sup> channel insertion in a single phospholipid bilayer: Neutron reflectometry and electrophysiology in the joint exploration of a model membrane functional platform*, Biochimica et Biophysica Acta (BBA)-General Subjects (2018)
- 2) d'Angelo I., Costabile G., Durantie E., Brocca P., **Rondelli V.**, Russo G., Miro A., Quaglia F., Petri-Fink A., Rothen-Rutishauser B., Ungaro F. *Hybrid Lipid/Polymer Nanoparticles for Pulmonary Delivery of siRNA: Development and Fate Upon In Vitro Deposition on the Human Epithelial Airway Barrier*, Journal of aerosol medicine and pulmonary drug delivery (2017)
- 3) Cantù L., Colombo L., Stoilova T., Demé B., Inouye H., Booth R., **Rondelli V.**, Di Fede G., Tagliavini F., Del Favero E., Kirschner D.A., Salmona M. *The A2V mutation as a new tool for hindering A $\beta$  aggregation: A neutron and x-ray diffraction study*, Nature Sci.Reports 7 (2017) 5510
- 4) **Rondelli V.**, Brocca P., Tranquilli N., Fragneto G., Del Favero E., Cantù L., *Building a biomimetic membrane for neutron reflectivity investigation: Complexity, asymmetry and contrast*, Biophysical Chemistry 229 (2017) 135-141
- 5) Colombo L., Gamba A., Cantù L., Salmona M., Tagliavini F., **Rondelli V.**, Del Favero E., Brocca P., *Pathogenic A $\beta$  A2V versus protective A $\beta$  A2T mutation: Early stage aggregation and membrane interaction*, Biophysical Chemistry 229 (2017) 11-18
- 6) Rinaldi F., Del Favero E., **Rondelli V.**, Pieretti S., Boggi A., Ponti J., Rossi F., Di Marzio L., Paolino D., Marianecchi C., Carafa M., *pH-sensitive niosomes: effects on cytotoxicity and on inflammation and pain in murine models*, Journal of Enzyme Inhibition and Medicinal Chemistry 32 (2017) 538-546
- 7) Clementino A., Batger M., Garrastazu G., Pozzoli M., Del Favero E., **Rondelli V.**, Gutfilen B., Barboza T., Sukkar M.B., Louza S.A.L., Cantù L., Sonvico F., *The nasal delivery of nanoencapsulated statins – an approach for brain delivery*, International Journal of Nanomedicine 11(2016) 1-16
- 8) **Rondelli V.**, Brocca P., Fragneto G., Dailliant J., Tringali C., Cantù L., Del Favero E., *Membrane restructuring following in situ sialidase digestion of gangliosides: Complex model bilayers by synchrotron radiation reflectivity*, BBA-Biomembranes 1859 (2017) 845-851
- 9) Sandri G., Motta S., Bonferoni M.C., Brocca P., Rossi S., Ferrari F., **Rondelli V.**, Cantù L., Caramella C., Del Favero E., *Chitosan-coupled solid lipid nanoparticles: Tuning nanostructure and mucoadhesion*, European Journal Of Pharmaceutics And Biopharmaceutics 110 (2017) 13-18
- 10) Brocca P., **Rondelli V.**, Mallamace F., Di Bari M.T., Deriu A., Lohstroh W., Del Favero E., Corti M., Cantù L., *Water response to ganglioside GM1 surface remodelling*, Biochimica Et Biophysica Acta-General Subjects 1861 (2017) 3573-3580
- 11) **Rondelli V.**, Brocca P., Motta S., Messa M., Colombo L., Salmona M., Fragneto G., Cantù L., Del Favero E., *Amyloid- $\beta$  Peptides in interaction with raft-mimic model membranes: a neutron reflectivity insight*, Scientific Reports 6, 20997 (2016)
- 12) Motta S., **Rondelli V.**, Cantù L., Del Favero E., Aureli M., Pozzi D., Caracciolo G., Brocca P., *What the cell surface does not see: The gene vector under the protein corona*, Colloids and Surfaces B:Biointerfaces 28 (2016) 170-178
- 13) Marianecchi C., Di Marzio L., Del Favero E., Cantù L., Brocca P., **Rondelli V.**, Rinaldi F., Dini L., Serra A., Decuzzi P., Celia C., Paolino D., Fresta M., Carafa M., *Niosomes as Drug Nanovectors: Multiscale pH-Dependent Structural Response*, Langmuir 32 (2016) 1241-1249
- 14) Garrastazu Pereira G., Britto Detoni C., Balducci A.G., **Rondelli V.**, Colombo P., Stanisçuaski Guterres S., Sonvico F., *Hyaluronate nanoparticles included in polymer films for the prolonged release of vitamin E for the management of skin wounds*, European Journal of Pharmaceutical Sciences 83 (2106) 203-211
- 15) De Luigi A., Mariani A., De Paola M., Re Depaolini A., Colombo L., Russo L., **Rondelli V.**, Brocca P., Adler-Abramovich L., Gazit E., Del Favero E., Cantù L., Salmona M., *Doxycycline hinders phenylalanine fibril assemblies revealing a potential novel therapeutic approach in phenylketonuria*, Scientific Reports 5 (2015) 15902
- 16) Del Favero E., Brocca P., **Rondelli V.**, Motta S., Raudino A., Cantu' L., *Optimizing the Crowding Strategy: Sugar-Based Ionic Micelles in the Dilute-to-Condensed Regime*, Langmuir 30 (2014) 9157-9164
- 17) **Rondelli V.**, Del Favero E., Motta S., Cantù L., Fragneto G., Brocca P., *Neutrons for rafts, rafts for neutrons*, European Physical Journal E 36, 73 (2013) 1-8

- 18) Motta S., Brocca P., Del Favero E., **Rondelli V.**, Cantù L., Amici A., Pozzi D., Caracciolo G., *Nanoscale structure of protamine/DNA complexes for gene delivery*, Applied Physics Letters 102 (2013) 053703
- 19) **Rondelli V.**, Fragneto G., Motta S., Del Favero E., Brocca P., Sonnino S., Cantù L., *Ganglioside GM1 forces the redistribution of cholesterol in a biomimetic membrane*, Biochimica et Biophysica Acta: Biomembranes 1818, 2860 (2012) 2860-2867
- 20) **Rondelli V.**, Fragneto G., Motta S., Del Favero E., Cantù L., *Reflectivity from floating bilayers: can we keep the structural asymmetry?*, Journal of Physics: Conference Series 340 (2012) 012083
- 21) Del Favero E., Brocca P., Motta S., **Rondelli V.**, Sonnino S., Cantù L., *Nanoscale structural response of ganglioside-containing aggregates to the interaction with sialidase*, Journal of Neurochemistry 116 (2011) 833-839

### Press release

- **Rondelli V.**, Brocca P., Motta S., Messa M., Colombo L., Salmona M., Fragneto G., Cantù L., Del Favero E., *New insights in the Alzheimer's  $\beta$  peptides interaction with membrane rafts, given by neutron reflectivity*, ILL annual report of scientific highlights (2016)
- 'Neutron reflectivity gives insight to the role of the N-terminal sequence in Alzheimer's  $\beta$ -amyloid peptide assembly'.  
<https://www.ill.eu/press-and-news/press-room/press-releases/neutron-reflectivity-gives-insight-to-the-role-of-the-n-terminal-sequence-in-alzheimers-b-amyloid-peptide-assembly-27052016/> ; <http://phys.org/news/2016-05-neutron-insight-role-n-terminal-sequence.html> ; <http://healthmedicinet.com/i/neutron-reflectivity-gives-insight-to-the-role-of-the-n-terminal-sequence-in-alzheimers-beta-amyloid-peptide-assembly/>
- Fragneto G. and **Rondelli V.**, *A realistic model cell membrane*, ILL scientific highlights, Neutrons and Health - A review of ILL research with applications in medicine (2014)
- **Rondelli V.**, Fragneto G., Motta S., Del Favero E., Brocca P., Sonnino S., Cantù L., *Reflectivity from floating bilayers: an insight in the asymmetric structuring of biomimetic membranes*, ILL annual report of scientific highlights (2012)

### Oral communications

- I. 'Complex model membranes and reflectivity: a mime for cell surface interactions'. GEM (Groupe d'etude des membranes) Meeting, Novembre 2017.
- II. 'Amyloid $\beta$  Peptides in interaction with raft-mime model membranes: a neutron reflectivity insight', Joint Italian Society for Neutron Spectroscopy (SISN) and Institut LaueLangevin (ILL) session of the SISN annual meeting, October 2017 (INVITED)
- III. 'Complex model membranes and neutron reflectivity: a mime for cell surface interactions', MLZ conference: Neutrons and Health, Bad Reichenhall, June 2017
- IV. 'Approaching complex membranes: a mime for surface interactions', Congresso SIBPA (Società Italiana di Biofisica Pura ed Applicata), Cortona, Settembre 2016
- V. 'Proteins at the surface of model membranes: focus on their structural coupling', Italian Soft Days, Milano, Giugno 2016
- VI. 'New techniques to approach membranes structural complexity and surface interactions', Riunione gruppo membrane della Società Italiana di Biochimica, Milano, Maggio 2016 (INVITED)
- VII. 'Interaction of K<sup>+</sup> channel KcV with single model membranes', ECNS (Congresso europeo sullo scattering di neutroni), Saragozza, Settembre 2015
- VIII. 'Towards structural asymmetry in membrane rafts: a Neutron Reflectivity study', ECOF (Congresso europeo sui film organizzati), Genova, Giugno 2015
- IX. 'Across a biomimetic membrane by Neutron Reflectometry', Workshop sui sistemi complessi, Milano, Gennaio 2015
- X. 'Neutron and X-Ray Reflectivity from single floating membranes: structural dynamics depending on surface interactions', FisMat (Fisica della Materia), Milano, Settembre 2013
- XI. 'Towards structural dynamics in complex biomimetic membranes', ECNS (Congresso europeo sullo scattering di neutroni) 2011, Prague, Luglio 2011
- XII. 'Combined Small-Angle X-Ray and Neutron Scattering experiments on strongly interacting micelles of gangliosides': SISN (Italian Society of Neutron Spectroscopy) Congress, Sirolo, Luglio 2008

### Seminars

- 'Membranes as multilayered mirrors: Neutron and X-Ray Reflectivity reveal their internal structure and interaction with approaching proteins and peptides', BioMeTra Dept. Seminars, Università degli Studi di Milano, May 2015

### Societies affiliation

SISN (Italian Society of Neutron Scattering)

SIBPA (Italian Society of Pure and Applied Biophysics)\*

\* In the steering committee from September 2016