

Maria Ricci

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CURRENT POSITION

- Research Fellow

Institute: RCNS, Institute of Materials and Environmental Chemistry, Budapest

Period: October 2017 –

Group leader: Tamás Beke-Somfai

EDUCATION

- PhD in Chemical and Pharmaceutical Sciences

Period: 1 January 2014 – 14 February 2017

University: Department of Chemistry, Biology and Biotechnology, University of Perugia, Italy

Project: Characterization of lipid membrane properties: from model systems to living cells.

- Master's Degree in Molecular and Industrial Biotechnology

Period: February 2009 – May 2013

University: University of Perugia, Italy

Master's degree grade: 110/110 cum laude

Project: The influence of DMSO on the structural properties of DPPC liposomes.

- Bachelor Degree in Biotechnology

Period: October 2005 – February 2009

University: University of Perugia, Italy

Project: Vibrational spectroscopy in the study of lysozyme denaturation and aggregation process; 2D correlation analysis.

SCHOLARSHIPS AND RESEARCH EXPERIENCE

- Short-term contract

Institution: Department of Physics and Geology, University of Perugia

Period: November 2016 – January 2017

Project: SMART: New intelligent gels from soft matter. Photon Correlation Spectroscopy of PNIPAM suspensions in different aqueous solutions.

- Short-term contract

Institution: Department of Chemistry, Biology and Biotechnology, University of Perugia

Period: May 2016 – October 2016

Project: Cryopreservation of cells for clinical use. FT-IR and micro-Raman monitoring of lipid membranes.

- Postgraduate Research Scholarship

Institution: National Research Council of Italy – Biophysics Institute, Trento

Period: April 2015 – April 2016

Project: Application of Raman and Brillouin microspectroscopy to investigate the status of cell grown on different substrates.

- Research grant

Institution: Department of Chemistry, Biology and Biotechnology, University of Perugia

City: Perugia (Italy)

Period: April 2014 – March 2015

Project: Identification of spectroscopic markers of cell viability through IR absorption and Raman microspectroscopy.

Other research experience:

- Study of the interaction of the antimicrobial peptide Midap with lipid model membranes through DSC and FT-IR (in collaboration with Prof. Del Vecchio, "Federico II" University of Naples)
- Extracellular vesicles released by PTX-loaded equine mesenchymal stromal cells comprise three subcategories that differentially deliver the drug: a transmission electron microscopy and Raman microspectroscopy study.
- "Novel nanoparticles-based approach to brain cancer therapy" (SIR 2014 cod. RBS1144EUA).

INTERNSHIPS

Host institution: REBIRTH Cluster of Excellence, Leibniz Universität Hannover (Germany)

Research advisor: Prof. Dr. Ir. Willem F. Wolkers

Period: 1-30 September 2013

Project: Liposome model system to study protection against leakage.

DIDACTIC EXPERIENCE

- October 2015 – February 2017: Supplementary didactic for the teaching of "Chemical Physics" for the degree course in Chemistry and Pharmaceutical Technology, University of Perugia.
- 11/01/2016 - 30/09/2016: Coordinated and continuous collaboration (tutoring) for the teaching of "Physics" for the degree course in Biological Sciences, University of Perugia.
- 09/12/2014 – 28/02/2015: Coordinated and continuous collaboration (tutoring) for the teaching of "Physics I" for the degree course in Biological Sciences, University of Perugia.
- 30/05/2014 – 31/10/2014: Coordinated and continuous collaboration (tutoring) for the teaching of "Physics" for the degree course in Geology.

CONGRESSES

- CHIMICA FISICA 2016 XLIV Congress of the Chemical Physics division of the Italian Chemical Society, September 20-23, Napoli

Oral: Non-invasive Characterization of Glioblastoma Cells by Raman microspectroscopy

- Italian Meeting on Raman Spectroscopies and Non Linear Optical Effects (GISR-2016), Padova (IT) September 14-16, 2016

Oral: Raman spectroscopy for the characterization of Glioblastoma cells

- III International Conference on Microbial Diversity – The challenge of Complexity, Perugia (IT) October 27-29, 2015.
- XXXIV TUMA Congress of Tuscany, Umbria, Marche and Abruzzo, Italian Chemical Society, Perugia (IT) September 23-25, 2015

Oral: The effect of DMSO and cholesterol on DPPC liposomes investigated by FT-IR spectroscopy and differential scanning calorimetry.

- X European Biophysics Congress (EBSA), Dresden (DE) July 18-22, 2015

Poster: Infrared versus light scattering techniques to monitor the gel to liquid crystal phase transition in lipid membranes.

- XXII National Biophysics Congress (SIBPA), Palermo (IT) September 21-24, 2014

Poster: Are lipid membrane really permeable to DMSO?

- Frontiers in Water Biophysics, Perugia (IT) September 23-26, 2012

SCHOOLS

- European-Winter School on Physical Organic Chemistry (E-WiSPOC), Brixen (IT) January 31 – February 5, 2016.
Poster and Flash Presentation: DMSO-lipid interaction: from liposomes to cells.
- Winter School on Biotechnology, Perugia (IT) January 18-21, 2016
Poster: DMSO as protectant of lipid membranes: from liposomes to cells
- Winter School on Biotechnology, Perugia (IT) January 19-23, 2015
- Summer School on Soft Matter, Venezia (IT) June 16-20, 2014
Poster: Are lipid membranes really permeable to DMSO?