

Antonietta Messina, PhD

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PERSONAL INFORMATIONS

Date of Birth April 11, 1985
Nationality Italian
Gender Female

CURRENT POSITION

Université de Technologie de Compiègne
Laboratoire de Biomécanique et Bioingénierie
Early Researcher
FP7 EU-funded Marie-Curie Initial Training Network (ITN) "BIOART" Project

Compiègne, France
December 2015 - Present

EDUCATION

University of Calabria, Department of Environmental and Chemical
Engineering in collaboration with the Institute on Membrane Technology of
the National Research Council of Italy, ITM-CNR
Supervisors: Prof. Curcio Efrem and Dr. De Bartolo Loredana.
Ph.D. in Chemical Engineering and Materials
Dissertation: "Biodegradable polymeric membrane systems for tissue engineering applications"

Rende (CS), Italy
January 31th, 2014

University of Calabria, Pharmaceutical Science Department
in collaboration with the Institute on Membrane Technology of the National
Research Council of Italy, ITM-CNR
Supervisors: Prof. Maggiolini Marcello and Dr. De Bartolo Loredana.
Master's degree "Pharmaceutical Chemistry and Technology"
*Dissertation: "Functional and morphological evaluation of the breast cancer cells growth
in hollow fiber membrane bio-reactor"*

Rende (CS), Italy
July 21th, 2009

RESEARCH EXPERIENCE

Institute on Membrane Technology of the National Research Council of Italy
ITM-CNR
Fellowship; Advisor: Loredana De Bartolo
*- Development and characterization of polymeric biodegradable membranes for Tissue Engineering
application*
- Production of Tissue spheroids through Self-Organization and Self-Assembly processes

Rende (CS), Italy
February-August 2014

University of Calabria, Department of Environmental and Chemical
Engineering and ITM-CNR
Ph.D. student; Advisors: Loredana De Bartolo; Efrem Curcio

Rende (CS), Italy
Nov 2010 – Nov 2013

Development and characterization of synthetic and biodegradable membrane systems with selective properties for the regeneration of neural tissue, bones and muscles

- *Study and selection of biomaterials for tissue engineering applications*
- *Preparation and characterization of polymeric membranes and scaffolds in terms of thermodynamic and degradation profiles, morphology, chemical-physical and mechanical properties*
- *Analysis of the phenomena occurring between materials and cells interfaces*
- *Investigation of the multiple correlation between membranes properties and cell/tissue response and survival*
- *Setting of in-vitro bio-hybrid systems capable of foresee and improve cell response and tissue regeneration*
- *Biological tests and assays.*
- *Production of Tissue spheroids through Self-Organization*
- *Computational quantification of the fusion rate of pairs of spheroids*
- *Evaluation in time of the cell Self-Assembly process*

INTERNATIONAL RESEARCH AND STUDY

University of Missouri, Columbia MO, USA
Department of Biomedical Engineering and Department of Physics
Ph.D. student; Advisor: Gabor Forgacs Feb 2012 - Feb 2013

- *Preparation and characterization of tissue spheroids*
- *Development of 3D BioHybrid Membrane Systems with Spheroids as biological component*

TEACHING EXPERIENCE

University of Calabria, Department of Environmental and Chemical Engineering Rende (CS), Italy
Teaching Assistant, Advanced and Organic Chemistry Winter 2014

Istituto omnicomprensivo statale – IPSIA – Filadelfia, Filadelfia (VV) Italy
CF 96013080799 – CM VVMM008008
Teacher, Chemistry and Applied Chemistry Nov 2014 – Jul 2015

University of Calabria, Department of Civil Engineering Rende (CS), Italy
Teaching Assistant, Inorganic Chemistry Winter 2015

RELATED PROFESSIONAL EXPERIENCE

Società Cooperativa NAUTILUS PortoSalvo (VV), Italy
Chemical Analytical laboratory Assistant Oct 2009 – Jul 2010

- *Qualitative and Quantitative Evaluation and analysis of polluting products in food, water and ground/soil*
- *Qualitative and Quantitative Evaluation of Biological contamination in food, water and ground/soil*

PUBLICATIONS

- I. **A. Messina**, S. Morelli, G. Forgacs, G. Barbieri, E. Drioli and L. De Bartolo, “*Self-assembly of tissue spheroids on polymeric membranes*”, J Tissue Eng Regen Med (2015) DOI: 10.1002/term.2105
- II. S. Morelli, A. Piscioneri, **A. Messina**, S. Salerno, M.B. Al-Fageeh, E. Drioli, L. De Bartolo, “*Biodegradable Membranes for Neuronal growth and Differentiation*”; J Tissue Eng Regen Med 2012 Oct 15. doi: 10.1002/term.1618
- III. S. Morelli, D. Facciolo, **A. Messina**, A. Piscioneri¹, S. Salerno, E. Drioli and L. De Bartolo, “*Polycaprolactone-Hydroxyapatite Composite Membrane Scaffolds for Bone Tissue Engineering*”, Mater. Res. Soc. Symp. Proc. Vol. 1502 © 2013 Materials Research Society DOI: 10.1557/opl.2013.567
- IV. **A. Messina**, L. De Bartolo, “*Chapter 5 - Polymeric Membranes for the Biofabrication of Tissues and Organs*”, Biofabrication, 2013, Pages 81-94
- V. **A. Messina**, L. De Bartolo, “*Central Nervous System in Relation to Membranes*”, Encyclopedia of Membranes, edited by Enrico Drioli and Lidietta Giorno – in press - doi:10.1007/978-3-642-40872-4_642-1
- VI. **A. Messina**, L. De Bartolo, “*Artificial Liver, Membrane Operations*”, Encyclopedia of Membranes, edited by Enrico Drioli and Lidietta Giorno – in press - doi:10.1007/978-3-642-40872-4_1,473-1
- VII. **A. Messina**, L. De Bartolo, “*Neuronal Regeneration*”, Encyclopedia of Membranes, edited by Enrico Drioli and Lidietta Giorno – in press - doi:10.1007/978-3-642-40872-4_410-1
- VIII. **A. Messina**, L. De Bartolo, “*Artificial Blood Cell*”, Encyclopedia of Membranes, edited by Enrico Drioli and Lidietta Giorno – in press - doi:10.1007/978-3-642-40872-4_1,471-1
- IX. **A. Messina**, L. De Bartolo, “*Cell Culture*”, Encyclopedia of Membranes, edited by Enrico Drioli and Lidietta Giorno – in press - doi:10.1007/978-3-642-40872-4_1,199-1

CONFERENCES

- I. **Antonietta Messina**, Loredana De Bartolo, Sabrina Morelli, Gabor Forgacs, Enrico Drioli; “Self-assembling tissue spheroids in a bio-hybrid membrane system”. **Poster presentation** delivered at ICOM 2014, 10th International Congress on Membranes and Membrane Processes, July 20-25, Suzhou, China
- II. **Antonietta Messina**, Françoise Marga, Gabor Forgacs, Loredana De Bartolo; “Cell behavior and fusion process of tissue spherical aggregates on polymeric biodegradable membranes”. **Oral presentation** delivered at CESB 2013 4th China-Europe Symposium on biomaterials in regenerative medicine, July 1-4, Sorrento, Italy
- III. **Antonietta Messina**, Françoise Marga, Gabor Forgacs, Loredana De Bartolo; “Bio-hybrid membrane system as support for the self-assembly process and fusion of tissue spheroids”. **Poster presentation** delivered at MRS Fall Meeting & Exhibit, November 25-30, 2012; Hynes Convention Center - Boston, Massachusetts
- IV. Salerno Simona, Morelli Sabrina, **Messina Antonietta**, Drioli Enrico, De Bartolo Loredana; “Biodegradable membranes for human bioartificial epidermal substitutes”. Advanced Functional

Polymers for Medicine Abstract. **Poster presentation** delivered at AFPM 2012, July 4-6, 2012, Vico Equense (Sorrento), Italy; pp: 100-101.

- V. Salerno Simona, Morelli Sabrina, Messina Antonietta, Drioli Enrico, De Bartolo Loredana; "Human bioartificial epidermal substitutes using biodegradable membranes". Int J Artif Organs 2012; 35 (8):567 Abstract. **Poster presentation** delivered at XXXIX Congress of the European Society for Artificial Organs, 26-29 September 2012, Rostock, Germany.
- VI. Loredana De Bartolo, Sabrina Morelli, Daniele Facciolo, Antonietta Messina, Antonella Piscioneri, Simona Salerno, Enrico Drioli; "Polycaprolactone-Hydroxyapatite Composite Membrane Scaffolds for Bone Tissue Engineering". **Poster presentation** delivered at MRS 2012 Fall Meeting & Exhibit, November 25 - 30, 2012; Hynes Convention Center - Boston, Massachusetts