

PERSONAL INFORMATION

Domenico Salerno

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Sex M | Date of birth 13/04/1976 | Nationality Italian

POSITION

Researcher of Applied Physics, University of Milano-Bicocca.

WORK EXPERIENCE

From 2006

Reseracher of Applied Physics (FIS/07, 02/D1)
 Department of Medicine and Surgery, University of Milano-Bicocca

EDUCATION AND TRAINING

2006

PhD in Physics
 University of Milan
 Thesis title: "Modulational instability in $\chi^{(2)}$ nonlinear optical processes"

2002

Degree in Physics
 University of Milan
 Thesis title: "Dinamica spazio-temporale di fasci e impulsi estesi in mezzi con nonlinearita quadratica"

PERSONAL SKILLS

Mother tongue Italian

Other language

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	Excellent	Excellent	Excellent	Excellent	Excellent

Organisational / managerial skills

Senior member of the Group of Medical Physics and Biophysics of the Department of Medicine and Surgery, University of Milano-Bicocca.
 Supervisor of several master, PhD and PostDoc students.

ADDITIONAL INFORMATION

Digital skills

Knowledge of the Windows operative system and applications Excel, Word, Power-Point, Photoshop applications, ImageJ, Mathematica, MatLab.

Other skills and research interests

- Bench top optical experiments.
- Non linear optics Electrokinetic phenomena of charged nanoparticles.
- Advanced fluorescence microscopy

- Persistence length of polyelectrolytes in solution.
- Renewable energy from electrokinetic effects.-
- Physico-chemical characterization of nanoparticles.
- Development of single-molecule manipulation and imaging techniques.
- Nanomanipulation by using Magnetic Tweezers (MT) and Atomic Force Microscopy (AFM).
- Aggregation and characterization of amyloid fibrils.
- Nanomechanics of single molecule of DNA.
- Nanoparticles and Nanomedicine.
- Single-molecule studies of DNA supercoils, DNA transitions, and DNA superstructures.
- Nucleoid associated proteins and bacterial DNA packaging.
- Intrinsic disordered protein unfolding.
- Nanomechanics of single cells.

Publications Author of more than 50 papers in peer-reviewed journals, 11 as first author and 5 as corresponding or last author.

Author of 4 patents.

Official H-Index (Scopus): 28

- Projects**
- 2006 - 2010 "Bio-imaging with smart functional nanoparticles (BONSAI)", European project.
 - 2008 - 2009 Sviluppo di un nuovo sistema di trasporto-rilascio per farmaci con biodisponibilità critica per la chemioterapia delle neoplasie polmonari" (Italian Ministry of research).
 - 2008 - 2013 "NAD - Nanoparticles for therapy and diagnosis of alzheimer disease", European project.
 - 2009 - 2011 - Principal Investigator - Project "Transparent Polymer NANOcomposites with Tailorable Optical Properties: Fabrication and Characterization", funded by Fondazione Cariplo (Lombardy).
 - 2010 - 2012 "Realizzazione di un network tra università e aziende lombarde finalizzato alla ricerca biotecnologica per la salute, in particolare a nuove forme di rimozione extracorporea di anidride carbonica" funded by Lombardy Region.
 - 2010 - 2014 "Capacitive mixing as a novel principle for generation of clean renewable energy from salinity differences (CapMix)", European project.
 - 2012 - 2014 "Nanomateriali per Energia Blu (NanoBlue)" funded by Cariplo Foundation.
 - 2016 - 2020 - Principal Investigator (Unit of Milan). Project "Optimization of extracorporeal carbon dioxide removal through blood acidification: development of new technologies", funded by the Italian Ministry of Health.

University Courses Professor of several courses at university level of Medical Physics and Biophysics at the University of Milano-Bicocca.
Supervisor of several master thesis and PhD in Physics at the University of Milano and Milano-Bicocca.

Patents

- Mantegazza F., Brogioli D., Salerno D., Ziano R., "Device for Measuring Properties of a Medium by Scattered Radiation and Relative Method", Bibliographic Data: Wo2012056413 (A1) — 2012-05-03
- Pesenti A. M., Zanella A., Salerno D., Mantegazza F., Scaravilli V., Castagna L., "Regional Scoagulation System for an Extracorporeal Circulation Circuit", Bibliographic Data: Wo2016103216 (A1) — 2016-06-30
- Pesenti A. M., Zanella A., Salerno D., Patroniti N. A., Mantegazza F., Gattinoni L., Caironi P., "Extracorporeal Circuit System for the Treatment of Hydroelectrolyte and Acid-Base Blood Imbalances", Bibliographic Data: Wo2016024217 (A1) — 2016-02-18
- Pesenti A. M., Zanella A., Salerno D., Patroniti N. A., Mantegazza F., "Extracorporeal Circuit for CO2 Removal From Blood", Bibliographic Data: Wo2016016870 (A1) — 2016-02-04

February 2022

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