

# Curriculum prof.ssa Maria Lucia Curri

Full Professor of Physical Chemistry

Department of Chemistry

<https://www.scopus.com/authid/detail.uri?authorId=6701453774>

[https://scholar.google.it/citations?user=luKtR\\_sAAAAJ&hl=en](https://scholar.google.it/citations?user=luKtR_sAAAAJ&hl=en)

## Education and Training

1993 Master Degree (Laurea) in Chemistry University of Bari

1997 PhD in Chemistry University of Bari

## Work experience and skills

1996-1998 Research Fellow at CNR CSILM Bari

1999-2000 Research Scientist at CNR IPCF Bari

2000-2010 Staff Research Scientist at CNR IPCF Bari

2010- 2018 Staff Senior Research Scientist at CNR IPCF Bari

2018-today Full Professor Department of Chemistry University of Bari, Italy

## Research activity

M. L. Curri is currently devoted to material chemistry activities aiming to design, fabricate and process inorganic solids at the nanoscale for obtaining nanostructured and multifunctional materials both for fundamental and application studies. She is involved in development of synthetic strategies for preparation of colloidal nanocrystal based inorganic materials for photocatalytic, energy conversion, optoelectronic, environmental and biomedical applications.

She has a solid expertise surface engineering of nanoparticles and nanocrystals, in order to achieve bioconjugation, organization into mesoscale structures (films, 2/3 D assemblies) with tailored functional collective properties and integration in nanocomposites for their fabrication by means of conventional and innovative fabrication techniques.

## Teaching and tutorial activities

Lecturer in master, doctoral and post-doctoral courses at University of Bari and in several national and international schools.

Member of the Chemical Science Doctoral Committee at University of Bari and of evaluation committees therein.

Engaged in tutorial activities for degree and doctoral projects at the Department of Chemistry University of Bari – Bari (Italy), being supervisor or co-supervisor of 16 students for their Master (Laurea) project or II Level Master project, and advisor for 13 PhD candidates since 1998.

Supervisor of several CNR fellowship recipient, CNR research assistants and research fellows

Member of commission for evaluation of international PhD theses.

## Project supervision

Coordinator of the 7 FP European Project NMP LIMPID “Nanocomposite Materials for Photocatalytic Degradation of Pollutants (G.A. n. 310177) 2012-2015

PI of the local unit in the following national and international projects:

- Bilateral United States of America - Italy "Projects of major importance", launched by Italian Ministry for Foreign Affairs and International Cooperation (MAECI) on the topic "Multi-stacked intercalating hybrid PbS quantum dot film/graphene architectures for enhanced photodetectors" (2019-2021)

- H2020 EU Project NMPB INNOVACONCRETE “Innovative Innovative Materials and Techniques for the Conservation of 20th Century Concrete-based Cultural Heritage” (Contr. n. 760858) (2018- 2020)
- FP7 EU METACHEM “Nanochemistry and self assembly routes to metamaterials for visible light” 2 (contr. n. 228762) (2009-2013)
- PRIN 2012 National Project “New aspects of resonance energy transfer in organized media: dynamical effects and optical control” (Prot. 2012T9XHH7) (2014-2017)
- Regional Strategic Project “Protection, consolidation and cleaning of stones characteristic of Apulia region: experimental analysis of environmental friendly products and monitoring of the treatments” (PS\_083) (2009-2013)
- Bilateral Project “NANOPLATFORM” “Interfacing single nanoparticles embedded in ultra thin polymers layers” in the Cooperation Agreement between CNR and CSIC (Spain) (2009-2010)
- Regional Project “RELA-VALBIOR” “Innovative technologies for the valorisation of residual biomass of the productive sectors of Apulia Region” (Italy) (2009-2014)
- FP6 EU STREP Project NOVOPOLY “Novel functional polymer materials for MEMS and NEMS applications” (contr. N. STRP 013619)
- FP6 EU Integrated Project NaPa “Emerging Nanopatterning Methods” (contr. N. 500120).

#### **Project participation**

- H2020 EU Project COPAC Coherent Optical Parallel Computing (Contr. n. 766563)
- National PON Project TARANTO “Tecnologie e processi per l’Abbattimento di inquinanti e la bonifica di siti contaminati con Recupero di mAterie prime e produzioNe di energia TOTally green” (ARS01\_00637) (2018-2021)
- Italian Regional Cluster Project NANOAPULIA “NANOfotocatalizzatori per in’Atmosfera più PULitA” (Cod. Progetto MDI6SR)
- National PON Project MAAT “Molecular NAnotechnology for HeAlth and Environment” (PON02\_00536\_33167357) (2012-2015)
- CNR National Network Project RADIUS “Research Project on Organic Photovoltaic within the “Advanced Research on Innovative Materials and Organic Devices for Solar Conversion applications”
- FP7 EU NMP Project ORION “Ordered Inorganic-Organic Hybrids Using Ionic Liquids for Emerging Applications” (CP-IP 229036-2) (2009-2013)
- Italian Regional Project “Sens&MicroLab” (Italy) (2009-2014)
- PRIN 2010-2011 Project ““Nanoscale functional organization of (bio)molecules and hybrids for targeted application in sensing, medicine and biotechnology” (Prot. 2010C4R8M8) (2012-2016)
- Italian Regional Explorative Project “Photocatalytic degradation of organic pollutants in aqueous solutions by nanostructured semiconductors”(PE\_049)(2007)
- National Project “Nanostructured materials for optoelectronic and environmental application” MIUR programme (ref n. 232 n. 1105 9 October 2002) (2004-2006)
- National Project SYNERGY “SYNthEsis of novel oRGanic materials and supramolecular architectures for high efficienCY optoelectronic and photonic systems” MIUR FIRB programme (RBNE03S7XZ FIRB 2003 D.D. 2186) (2005-2007)
- MICROPOLIS “Polymer based microsystems” MIUR FIRB programme (in collaboration with CNR Institute of Microelectronics and Microsystems Lecce Division.) (2003-2005)
- “Design and development of novel sensor via immobilization of enzymes and cells on nanostructured” Progetto Finalizzato CNR programme (1998-2001)

#### **National and international scientific achievements**

- ERC Consolidator PE5 Panel member (2016-2018)
- Member of the Group of Expert of Evaluation for Chemistry within Evaluation of Research Quality (VQR) for the Italian National Agency for the Evaluation of Universities and Research Institutes (ANVUR) for the 2011-2014 national research assessment exercise (VQR 2011-2014)
- 2015 Shortlisted in the Italian National competition for Director position of CNR Institute of Physical and Chemical Processes (IPCF)
- Member of the European Cluster on Catalysis and Workgroup topic leader for "Standardisation, regulation, safety issue" (2014-) of European Commission
- Expert for Value Chain Workgroup in Value4Nano "Industrial valorization of strategic value chains for nano-enabled products" FP7 European Project.
- Member of:
- Scientific Committee 8th EuChemS Chemistry Congress (8ECC) EUCHEMS Conference Lisbon (Portugal) 30 Aug- 3 Sept 2020.
- Chair of III International Workshop "Advanced Inorganic Materials: green and unconventional synthesis approaches and functional assessment - AIM 2020" Bari (Italy) 25-26 June 2020.
- Advisory Board of the School of Soft Matter Research of Freiburg Institute for Advanced Studies (FRIAS) Albert-Ludwigs-University Freiburg (Germany)(2011-2013)
- CNR IPCF Institute Board for the 2003 to 2007, the 2010-2013 and the 2016- mandates.
- Editorial Board of: The Open Process Chemistry Journal, Micro & Nano Letters, Nanofabrication, IET Communications and guest editor of the Special Issue of Micro & Nano Letters "Micro and Nano Technologies for Probe-Based Microscopy" (2012) and of Crystals on "Colloidal Nanocrystals: Synthesis, Characterization and Application" (2017).
- International Advisory Board of:
- 1st and 2nd International Conference "Disclosing Materials at Nanoscale" in CIMTEC International Ceramics Congress 2006 and 2010 (Italy)
- Symposium CL "Inorganic Materials Systems For Optical And Photonic Applications" in CIMTEC 2014 and in CIMTEC 2018 (Italy)
- 5<sup>th</sup> International Symposium on Dielectric Materials and Applications, ISyDMA'5 15-17 April 2020, Bucharest, (Romania). ISyDMA'3 Morocco 2018, ISyDMA'2 2017 11-14 July 2017, Bucharest, (Romania).
- Technical Programme Committees (TPC) of the following conferences:
- IEEE-NEMS Nano/Micro Engineered and Molecular Systems Conference, 2009, 2011, 2012, 2013, 2014, 2017
- IEEE Sensors 2012, 2013, 2014, 2016
- Eurosensors 2016, 2017
- Organizing Committee of:
- "Nanomaterials for Photocatalytic Depollution" Workshop, ASEAN-EU STI Science, Technology and Innovation Days, Bangkok (Thailand) 2014.
- "International Workshop on Nanocomposite Materials for Photocatalytic Degradation of Pollutants: Advanced Opportunities for New Applications Kuala Lumpur" (Malaysia) 2015.
- "Advanced nanomaterials and technologies for energy exploitation" workshop in Nanoinnovation 2017 (Rome, Italy)
- Italian Society of Chemistry (SCI) and of "Relation with Industry" Committee therein (2014- 2016)

- Advisory board of the Physical Chemistry Division of the Italian Society of Chemistry (SCI) (2010-2011)
- Scientific Committee of XXXIX Italian National Congress of Physical Chemistry, September 2010, Stresa (Italy)
- CNR selection committees for staff researcher and research fellows since 2001
- “PHANTOMS” Network of Excellence EU FP5
- Italian Interuniversity Consortium on Material Science and Technology INSTM
- Expert evaluator for project proposals for European Commission 7 FP calls NMP-2007-SMALL, NMP-2008-SMALL, for Individual Marie Curie Actions (FP7-PEOPLE) from 2010 to 2013, HORIZON 2020 Marie Skłodowska-Curie Actions from 2014 to 2017, for UMU Incoming Mobility Programme, University of Murcia Spain (2013), for the Portuguese Foundation for Science and Technology 2012, 2013 and 2014 Calls, for the Israel Science Foundation for Individual Research Grants (2012)
- Referee for many international highly ranked journals

#### **Research visiting appointments**

- Sep 1995 - Jun 1996: research assistant in the group of Prof. R. J. H: Clark – University College London (United Kingdom).
- 2005 CNR-SNF funded exchange visit programme (2 months) at LMIS1 Laboratory. EPFL Lausanne (Switzerland)
- 2006 invited researcher (3 months) at LMIS Laboratory EPFL Lausanne (Switzerland).

#### **Scientific output**

She has been co-authoring over 220 scientific papers, including over 200 ISI papers, more than 170 articles on international peer-reviewed journals (JCR) and a number of other publications (10 book chapters, several conference proceedings, etc.) and has contributing to many conferences, also with invited talks ( ~ 40).