

CURRICULUM VITAE

Name and surname: Mariapompea Cutroneo

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Employer: Nuclear Physics Institute of the Czech Academy of Sciences.

Education and specialization:

1996 – IT operator, ENFAP, Italy.

19.05.2004 - Qualified Technician in the Acquisition and Processing of Environmental Data, IFTS and University of Messina, Italy.

18.03.2010 - Master's degree in Physics, Applied Physics, University of Messina, Italy.

31.12.2013 - PhD in Physics, Physics Department, University of Messina, Italy.

07.01.2014- 31.12.2016 – Post-doc position, Nuclear Physics Institute of the Czech Academy of Sciences.

Employment history:

2018 and renewed in 2020 - Supervisor internship ERASMUS. Supervisor, co- responsible at the Institute of Nuclear Physics (Czech Republic) for ERASMUS students.

Since 2019 - Responsible for the laser system at Tandetron lab of the NPI (CR).

28.07.2015 -28.07.2018- Expert for the Tandetron lab in the domain of the collaboration between the Institute of Nuclear Physics (Czech Rep.), the Lab of Plasma Physics of the University of Messina (Italy) and the Institute of Plasma Physics – PALS (Czech Rep).

Since 01.01.2017 Researcher Scientist. Nuclear Physics Institute of the Czech Academy of Sciences.

Since 2017 - Board member of the PhD school in Physics at the University of Messina, Italy.

2013 -Winner of the Grant in Physics N. 07/13 del 20/09/13. Project: Detection of ions emitted from non equilibrium plasma generated by high intensity laser. Centro Siciliano di Fisica Nucleare e di Struttura della Materia (CSFNSM), Catania, Italy.

2011-2012 Grant in Physics N.13/11 Project: Ionic acceleration with pulsed plasmas generated by high power laser and monitoring techniques. Centro Siciliano di Fisica Nucleare e di Struttura della Materia(CSFNSM), Catania, Italy.

Professional and scientific experience:

Compositional characterization by ion beam analytical methods (RBS, ERDA, PIXE) of polymers, graphene-based material and hybrid composites both in bulk and porous forms. 2D elemental mapping of longitudinal scans at different depths by STIM of patterned material (polymers, graphene-based material, composites) and archeological artifacts. Ion irradiation of soft organic tissue containing nanoparticles as sensitizers for proton therapy application. Optical spectroscopy and spectroscopic ellipsometry analyses.

Data treatment and simulation of energy losses and straggling of energetic ions using SIMNRA, GeoPIXE, SRIM, SREM.

Memberships:

Since 2019 Association to INFN-Group V- Section_ Catania, Italy.

2020 – 2022 Team member- Project: Carbon-Based Innovative Materials for Nuclear Physics Applications (CIMA). INFN Group V-Section_Catania, Italy.

2019 – 2021 Team member- Project 19-02482S: Ion beam writing synthesis of novel microstructures in advanced polymers and nanocomposites. GACR- Czech Republic.

Since 2019 - Member of the Panel of Expert Peer-Reviewers for Italian Scientific Evaluation, Ministero dell'Istruzione, dell'Università e della Ricerca, Italy.

2018-2020 Team member- Project 18-03346S: Creation of optical centers and microstructuring in ZnO and cubic ZrO₂. GACR- Czech Republic.

2017-2019 Team member- Research & Mobility 2016 n. 74893496 related to the preparation of nanoparticles and nanostructural material for application in biomedical field and in fundamental Physics. University of Messina, Italy.

2016-2018 Team member- Project 16-05167S: Use of ion beams to modify graphene-based structures. GACR- Czech Republic.

Since 2016 - Member of the scientific committee of the international conference Plasma Physics by Laser and Applications (PPLA). University of Messina, University of Pisa, University of Salento, ENEA – Italy.

2014-2018 Team member- Project of Excellence P108-0126108 related the implantation of material by ion laser generated. GACR- Czech Republic.

2011 – 2015 Association to INFN-LNS related to the LIANA and ELIMED projects, Italy.

Teaching experience:

Since 2017 Seminar and lectures on preparation of polymers, graphene-based material, hybrid material; modification of material by laser and ion beam irradiation. Ion and laser

lithography. Characterization of the compositional, optical and structural changes in the modified material. Detectors used in laser matter interaction. University of Messina, Italy.

2017 Lecture at the Summer school Letni skola vakuove techniky(LSVT) in Topolcianky (2017).

Academic distinctions and awards:

2014 – Mention of “Doctor Europeus” for the PhD conferred by University of Messina, Italy.

04.10.2013 International Prize “Leos Laska” for the activity in the field of new methodologies related to the ion acceleration in laser-generated plasma. University of Pisa, University of Salento, University of Messina- Italy.

Publications

100 papers in international peer-reviewed impacted journals