

EMANUELA ESPOSITO
Curriculum Vitae Brevis

CURRENT POSITION

Senior Researcher of the Italian National Research Council (CNR)

In service at the Institute of Applied Science and Intelligent Systems- Naples UoS since 02/2020

in service at the Institute for Microelectronics and Microsystems- Naples UoS 01-09-2013 to 01/02/2020

in service at the Institute of Cybernetics "E.Caianiello" from 01-29-2001 to 01-09-2013

Italian national scientific qualifications as full professor in the sectors "02/B1 – Experimental Physics of matter"
From 17/09/2019 to 17/09/2025 (art. 16, comma 1, Legge 240/10)

EE is author and coauthor of 139 papers (83 ISI, 21 book's chapters, 30 proceedings ISBN, 1 patent, 4 technical reports)

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EE has participated in numerous national and international congresses as speaker, 10 of which as invited speaker.

She is **Senior Research scientist** at national research council CNR, since January 2001.

Emanuela Esposito is Senior Research scientist at the National Research Council CNR, since January 2001. She pursued fundamental study of quantum tunneling effect in superconducting materials and the correlated radiation/particle interaction as well as applications of superconducting tunneling sensor to nuclear physics and astrophysics. Her current research focuses on the development of optical responsive nanostructure based on quantum-mechanics properties of materials, especially applied to nanophotonics and plasmonics. Since 2013, she is the team leader of the Electron Beam nano-Lithography laboratory at the Institute of Applied Sciences and Intelligent Systems (ISASI)-Naples site.

INSTRUCTION

DEGREE IN PHYSICS AT THE UNIVERSITY OF NAPLES "FEDERICO II"

Title of the thesis: DESIGN OF A RADIATION DETECTOR WITH A SUPERCONDUCTIVE TUNNEL JUNCTION, Tutor: Prof. [REDACTED] and Dr. [REDACTED], Department of Physics of the University of Naples, "Federico II". Grade: 110/110 cum laude, 21/06/1991

SCIENTIFIC RESPONSIBILITY for INTERNATIONAL and NATIONAL RESEARCH PROJECTS

PROJECT MANAGER

Title: nanoPhotonIc plaTforms for ultraSensiTive liquid biOPsy, PIT STOP

Type: project PRIN - MIUR Prot. 20173CRP3H

Total financing amount (€): 1.174.200

from 30-04-2019 until now

PROJECT MANAGER

Title: Radiation Dosimetry with Fiber Optic Sensors, RaDFOS

Type: project ATTRACT – EC Horizon 2020 reference 3 title n. ID 3162831

Total financing amount (€): 125.000

from 20-05-2019 until now

PROJECT MANAGER

Title: OPTIMA - Optical technology for Marine and Medical Application

Type: PON reference 3 title n. ID 3162831,

Total financing amount (€): 1.500.000

Financing amount per Operating Unit (€): 100.000.

from 01-01-2016 until now

PROJECT MANAGER

Title: SMART HEALTH

Type: PON Research and Sustainability 2007-2013

Total financing amount (€): 1.481.900

Financing amount per Operating Unit (€): 156.123

from 01-11-2012 to 05-05-2015

PROJECT MANAGER for Italian partnership

Title: SHRINK-PATH OF ULTRA-LOW POWER SUPERCONDUCTING ELECTRONICS

Type: EUROPEAN PROJECT OF FP7 - Support Action ICT-2007-1.3.1

Total financing amount (€): 550.000

Contract number: GA215297

Grant Agreement of the EUROPEAN COMMISSION 7th Framework Program on Research, Technological Development and Demonstration

Other Italian or foreign partners: 15 European Partners

from 01-01-2008 to 30-06-2010

PROJECT MANAGER

Title: MICROELECTRONIC DEVICES FOR SPINTRONICS BASED ON NANOSTRUCTURED OXIDES

Type: Regional 26/2005

financing amount (€): 20.000

from 01-12-2006 to 01-12-2008

ITALIAN SPEAKER, Node of Naples

Title: SCENET 2- THE EUROPEAN NETWORK FOR SUPERCONDUCTIVITY

Type: European FP5-FP6 financing

Total financing amount (€): 1.860.000

Contract number: G5RTCT200205077 Date: 11/15/2002 - letter of assignment of the scientific coordinator of the network prof. [REDACTED]

Other Italian or foreign partners: European Network

from 11-15-2002 to 31-03-2006

PROJECT MANAGER

Title: FURTHER DEVELOPMENT OF PARTICLE & NUCLEAR DETECTORS BASED ON SUPERCONDUCTING TUNNEL JUNCTIONS

Type: EUROPEAN FP4 PROJECT

Total financing amount (€): 140.000

Contract Number: GT953889 AGREEMENT OF EUROPEAN COMMISSION DIRECTORATE-GENERAL XII -SCIENCE, RESEARCH AND DEVELOPMENT Other Italian or foreign partners: Capodimonte

Astronomical Observatory, Naples; Nuclear and Astrophysics Laboratory, University of Oxford, Keble Road
Oxford, OX1 - 3RH, UK
from 10/01/1997 TO 30-09-1998

PROJECT MANAGER

Title: DEVELOPMENT OF PARTICLE & NUCLEAR DETECTORS BASED ON SUPERCONDUCTING
TUNNEL JUNCTIONS

type: EUROPEAN FP3 PROJECT

total financing amount (€): 161.316

contract number: ct941220

AGREEMENT OF EUROPEAN COMMISSION DIRECTORATE-GENERAL XII -SCIENCE, RESEARCH
AND DEVELOPMENT

other Italian or foreign partners: Nuclear and Astrophysics Laboratory, University of Oxford, Keble Road
Oxford, Ox1 - 3rh, UK

from 01-08-1994 to 05-30-1996

SCIENTIFIC RESPONSIBILITY for STUDIES and SCIENTIFIC RESEARCH

NATIONAL COORDINATOR of the research activities of the working group of the Institute for
Microelectronics and Microsystems of the CNR on "Nanophotonics and Plasmonics",
<https://www.imm.cnr.it/research-topics/plasmonic-and-nanophotonics>, from 01-04-2018 to today

SCIENTIFIC MANAGER of the CNR-NA office of the Italian Society of Electronics Association SIE
<https://www.associazione-sie.it> from 01-01-2018 to today

SCIENTIFIC MANAGER of the Scanning Electron Beam Lithography laboratory at the Institute of
Microelectronics and Microsystems Naples of the CNR from 01-09-2013 to today

SCIENTIFIC MANAGER research activity "Optical Sensor based on Plasmonic and Photonic Crystal
structures: from lab on chip to lab on fiber" at the Institute for Microelectronics and Microsystems - Naples Unit
of CNR
from 01-09-2013 to today

SCIENTIFIC MANAGER of the research activities of the working group on "Nanotechnologies and Materials
for Composite Devices" at the Institute of Cybernetics "E. Caianiello" of the CNR
from 01-01-2009 to 31-12-2012

SCIENTIFIC MANAGER of research activities on "Microelectronic Devices for Spintronics" in collaboration
with the Laboratory of Advanced Technologies, Surfaces and Catalysis (TASC) of the CNR at the Institute of
Cybernetics "E. Caianiello" of CNR from 01-12-2006 to 12-30-2008

SCIENTIFIC MANAGER of the Nanolithography Laboratory of the Regional Competence Center: "New
Technologies for Productive Activities" Structure: Cybernetics Institute "E. Caianiello"
from 10-30-2006 to 31-08-2013

SCIENTIFIC MANAGER of research activities on "Development of Particle & Radiation Detectors Based on
Superconducting Tunnel Junctions." at the Institute of Cybernetics "E. Caianiello" of the CNR
from 10-01-1997 to 10-30-1998

MEMBER of SCIENTIFIC and TECHNICAL COMMISSIONS

RUP - Responsabile Del Procedimento Ex Art. 10 D.LGS. 163/2006
For CNR –IMM e CNR-ISASI, Albo RUP CNR -
from 18/04/2016 to today

DEC – Direttore Esecutivo di contratto
For CNR—ISASI, per stipula del contratto relativo alla fornitura e POSA IN OPERA di attrezzature per
Electron Beam Lithography system, nell’ambito del progetto “POR CIRO”
From 19/04/2021 to 15/06/2021

Presidente commissione GARA : UN SISTEMA PER LA SPETTROSCOPIA IN TRASFORMATA DI
FOURIER (FTIR) DENOMINATA “SISTEMA FTIR”, CPV 38510000-3
Nomina 25/06/2021

EXPERT EVALUATOR

For the European Commission n. EX2015D240747, Proactive FET evaluation contract: CT-EX2015D240747-
101
from 02-15-2018 to today

EXPERT EVALUATOR

for the Polytechnic of Turin, Evaluation call "The research of talents" Code: drf3e4cbdal
from 05-06-2013 to 26-06-2013

EXPERT EVALUATOR

for the Ministry of Education University and Research MIUR "Future in Research 2013" code:
RBFR13QEE2 from 02-20-2013 to 03-18-2013

MEMBER of the COMMISSION for a fixed-term Researcher position for SPIN Institute
from 12-18-2012 to 12-12-2012

MEMBER of the COMMISSION for a fixed-term Researcher position for the ICIB Institute
from 12-10-2011 to 10-13-2011

MEMBER of the COMMISSION for a fixed-term Researcher position for the Institute SPIN.
from 13-01-2011 to 01-13-2011

MEMBER of the COMMISSION for 7 staff research positions at CNR
from 10-24-2008 to 09-07-2009

EDITORIAL BOARD

MEMBER of the MPDI-BIOSENSORS editorial board
<https://www.mdpi.com/journal/biosensors/editors>
from 25/09/2018 to today

LECTURER

Engineering Department of the Parthenope University of Naples

Activity: Contract Professor for "Deposition Techniques of thin films for integrated and non-integrated optical devices", 2015

Type of course: Training Course

Total hours: 30

University of Naples "Federico II"

Teaching assignment for the Short Course on "Micro and Nano patterning with Electron Beam and Ion Beam Lithography for top down integration technology", for the PhD in "Technologies for Materials, Sensors and Imaging" at the University of Naples "Federico II", Academic Years 2008/2009; 2009/2010; 2010/2011; 2011/2012; 2012/2013

Type of course: PhD Program

Teaching subject: Nanofabrication

Total hours: 12

Contract Professor for the course "Laboratory of Physics" of Management Engineering at the University of Naples "Federico II", 2008/2009, 2009/2010

Type of course: Official Course

Teaching subject: Physics Laboratory

Total hours: 50

Contract Professor for the course "Medical Physics" at the Faculty of Medicine and Surgery of the Second University of Naples, academic years 2006-2007, 2007/2008

Type of course: Official Course

Teaching subject: MEDICAL PHYSICS

Total hours: 60

Professor in charge of the Physics course for the Degree in Construction Engineering at the University of Naples "Federico II", 2001/2002, 2002/2003, 2003/2004, 2004/2005, 2005/2006,

Type of course: Official Course

Teaching subject: PHYSICS I

Total hours: 80

Professor in charge of the Physics course for the Degree in Mechanics and Infrastructures, 2000/2001

Type of course: Official Course

Teaching subject: PHYSICS II

Total hours: 100

Professor in charge of the course "PHYSICS II" for the Degree in Computer Science and Automation at the University of Naples, 1993/1994

Type of course: Official Course

Teaching subject: PHYSICS II

Total hours: 100

OTHER PROFESSIONAL EXPERIENCES

CONTRACT RESEARCHER at the National Institute for the Physics of Matter (INFM) on the project: "JOSEPHSON TUNNEL CURRENT DETECTOR: TEST FEASIBILITY", director Prof. A. Barone from 01-01-1999 to 01-01-2001

CONTRACT RESEARCHER at the National Institute for Astrophysics (INAF), Astronomical Observatory of Capodimonte, on the project: " THE NEXT GENERATION OF ASTRONOMICAL DETECTORS: 3D-SUPERCONDUCTING TUNNEL JUNCTION DETECTORS "

from 01-01-1997 to 01-01-1999

VISITING SCIENTIST at the Electrotechnical Laboratory (ETL), Tsukuba-Japan, with a CNR-Japan bilateral project: SUPERCONDUCTING RADIATION DETECTORS AND RELATED SUPERCONDUCTING ELECTRONICS

from 01-11-1996 to 30-11-1996

VISITING SCIENTIST at Oxford University (UK), Nuclear & Astrophysics Laboratory

from 01-09-1996 to 30-09-1996

MARIE CURIE INDIVIDUAL FELLOWSHIP of the EU at Oxford University (UK), Nuclear & Astrophysics Laboratory, title of the research: DEVELOPMENT OF PARTICLE & RADIATION DETECTORS BASED ON SUPERCONDUCTING TUNNEL JUNCTIONS.

from 01-08-1994 to 01-08-1996

FELLOWSHIP at the Italian National Research Council, within the Finalized Project / CNR "Superconducting and Cryogenic technologies" director Prof. [REDACTED], at the Superconductivity Department of the Cybernetics Institute.

from 01-07-1991 to 01-07-1994

In fede
Emanuela Esposito

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