

# Curriculum Vitae – Onofrio M. Maragò

## ONOFRIO M. MARAGÒ

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Birth date: Jan. 12, 1973.  
Nationality: Italian.  
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ResearcherID: J-9827-2016



## CURRENT POSITION

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2020 – to date **CNR Research Director**, Istituto per I Processi Chimico-Fisici (CNR-IPCF), **Consiglio Nazionale delle Ricerche**, Messina, Italy.

2019 – 2020 **CNR Senior Researcher**, CNR-IPCF, Messina, Italy.

2002 – 2019 **CNR Researcher**, CNR-IPCF, Messina, Italy.

Keywords: *Optical tweezers & optical manipulation, nanomaterials & nanospectroscopy, Raman & field-enhanced spectroscopies (SERS), nanophotonics, cold atoms.*

## EDUCATION

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1997 – 2001 **DPhil in Atomic & Laser Physics**, Supervisor: Prof. Christopher J. Foot  
**University of Oxford**, Clarendon Laboratory, Department of Physics, Oxford, UK.  
Thesis: *“The Scissors Mode and Superfluidity of a Bose-Einstein condensed gas.”*

1997 **Master in Physics (Laurea)**, Supervisor: Prof. Ennio Arimondo  
**University of Pisa**, Department of Physics, Italy. 110/110 *cum laude*.  
Thesis: *“Laser cooling of Cs atoms by coherent population trapping”*.

## LANGUAGE SKILLS

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English: Proficient; Italian: Mother tongue; German: Intermediate; French: Basic.

## AWARDS, HABILITATIONS, AND FELLOWSHIPS

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2021 **Fellow of Optica (formerly Optical Society of America) 2022**, “For groundbreaking contributions to optical trapping and optical manipulation of atoms and particles”.

2019 **Award “Sapere Aude”**, for scientific merit, Science Festival, Liceo Scientifico “G. Berto”, Vibo Valentia (Italy).

2017 **National Scientific Habilitation (ASN)**, habilitation to teach as Full Professor in Italian universities. Sector: experimental condensed matter physics (Fis/03)

2013 **National Scientific Habilitation (ASN)**, habilitation to teach as Associate Professor in Italian universities. Sector: experimental condensed matter physics (Fis/03)

2000-2001 **Junior Research Fellowship**, “The scissors mode and superfluidity of a Bose-Einstein condensed gas”, Linacre College, Oxford (UK).

1998-2001 **“Marie Curie” Individual Fellowship**, project “Bose-Einstein condensation in a weakly interacting gas”, N. ERB FMBICT983077, TMR Program 1997, IV Framework Program, at the Clarendon Laboratory, Oxford University, UK.

## PUBLICATION AND CITATION STATISTICS (AT JAN 2022)

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Years active: 1998 – today

Publications: **115**

Citations: **7800** (Google Scholar) – **5500** (Scopus) – **5480** (WoS)

H-index: **40** (Google Scholar) – **35** (Scopus) – **35** (WoS)

i10-index: **77** (Google Scholar) - **81** (Scopus) – **71** (WoS)

**GRANTS (PRINCIPAL INVESTIGATOR)**

- 2020-2023 **ASI-INAF agreement n.2018-16-HH.0, project “SPACE Tweezers”**, National project, Coordinator. – (duration 2 years).
- 2019-2023 **“Marie Skłodowska-Curie Actions” International Training Network “Active Matter”**, European Training Network, European Commission. – (duration 4 years).
- 2020 – 2022 **Bilateral International project CNR-TUBITAK** (Bilkent University, Turkey), “Self-assembly of complex shaped active particles in controlled optical potentials”. Collaboration with the group of Prof. Luca Biancofiore – (3 years).
- 2013-2016 **MPNS COST Action 1205 “Advances in Optofluidics: Integration of Optical Control and Photonics with Microfluidics”**, PI of the research unit within the International MPNS COST Action 1205 “Advances in Optofluidics: Integration of Optical Control and Photonics with Microfluidics”. – (3 years).
- 2013-2015 **National Research Program 2007-2013** - “Piano di Azione e Coesione”, project PAC02L3\_00087 “Social Innovation cluster by a cross-disciplinary nanotechnology platform environmental monitoring and healthcare (**SOCIAL-NANO**)” – (2 years).
- 2010-2012 **International Joint Project (2010-2012), Royal Society**, with Department of Physics & Astronomy, University College London (UK). “Photonic Force Microscopy with Nanostructures”. – (2 years).
- 2009-2010 **International Joint Project (2009-2010), Royal Society**, with Department of Engineering, Cambridge University (UK). “Optical Trapping of Carbon Nanotubes”. – (2 years).
- 2008-2009 **CNR project “Curiosity-Driven Research” (2006-2007)**, Mod. CNR DG-RSTL.063.006; “Study and manipulation of colloidal systems by multiple optical tweezers”. – (2 years).
- 2006-2008 **International Joint Project (2006-2008), Royal Society**, with Department of Physics & Astronomy, University College London (UK). “Microstirring of Complex Ionic Liquids with Optical Tweezers”. – (2 years).
- 2006 **CNR Short Term Mobility project**, with Department of Physics & Astronomy, University College London (UK). “Microrheology of Complex Ionic Liquids with optical tweezers”. – (1 month).
- 2003-2004 **National Research Program, FIRB 2001**, “Manipulation at the nanometer scale by laser cooling technology” – (2 years).
- 2002-2005 **European Project, V Framework Program**, Project Number: IST-2001-32264, Information Society Technologies, NID initiative “Nanodeposition of active ordered structures by cold atoms technologies (**NANOCOLD**)” – (3 years).

**PARTICIPATION TO OTHER RESEARCH PROJECTS AND ASSIGNMENTS**

- 2016 – 2019 **Participation to the Bilateral International project CNR-CAS** (Czech Academy of Sciences, Czech Republic), “Optical Manipulation and characterization of nonspherical nanoparticles”. Collaboration with the group of Prof. Pavel Zemanek – (3 years).
- 2016 – 2018 **Participation to the International joint project** “Fractal silicon-nanowire slabs for next generation optical devices”, Royal Society International Joint Project with the group of Prof. Giorgio Volpe, Department of Chemistry, University College, London (UK) – (2 years).
- 2015 – 2016 **Participation to the National Project PON 2007-2013-PON03PE\_00214\_1 TECLA**: “Nanotecnologie e nanomateriali per i beni culturali”-2 years-Dates:01-01-2015 to 31-12-2016.
- 2015 **Assignment** of Committee member (n. 1 Assegno di Ricerca) within the National project PANAREA, “Progetto per l’Applicazione dei Neutroni Alla Ricerca in Elettronica e Archeometria”. Bando n. IPCF-005-2014-ME. Dates: 23/4/2015 al 24/4/2015.
- 2015 **Assignment** of Committee member (n. 1 Assegno di Ricerca) within PON “Sviluppo e applicazioni di materiali e processi innovativi per la diagnostica e il restauro di beni culturali (DELIAS)”. Bando n. IPCF-016-2014-ME. Dates: 13/1/2015 al 16/1/2015.
- 2014 **Assignment** of Committee member (n. 1 Assegno di Ricerca) within PON SOCIAL-NANO. Bando n. IPCF-005-2014-ME. Dates: 24/4/2014 al 28/4/2014.
- 2013 **Assignment** of Committee member for a grant (n. 1 Borsa di studio per laureati) within the National project PANREX. Bando n. IPCF-003-2013-ME. Dates:19/11/2013 al 25/11/2013.
- 2013 - 2016 **Participation to the National Project PON 2007-2013** - PON01\_01322 PANREX: Packaging basato su nano materiali per ricevitori ed exciter ompatti per applicazioni radar con antenna a scansione elettronica del fascio (Durata 36 Mesi). Dates: 01-02-2013 al 30-01-2016.

- 2012 – 2015 **Participation to the National Project PON 2007-2013 - PON02PE\_00355\_2964193 HIPPOCRATES:** "Sviluppo di micro e nanotecnologie e sistemi avanzati per la salute dell'uomo". 3 years. Dates: 01-07-2012 al 30-06-2015.
- 2012 **Assignment** of Committee member for a grant (n. 1 Assegno di Ricerca) within the European Project NANOANTENNA. Bando n. IPCF-012-2012-ME. Dates: 25/7/2012 to 27/7/2012.
- 2012 **Assignment** of Committee member for a grant (n. 1 Assegno di Ricerca) within the National project PON "PANREX". Bando n. IPCF-010-2011-ME. Dates: 24/1/2012 al 25/1/2012.
- 2011 **Assignment** of Committee member Componente (n. 1 Assegno di Ricerca) within European Project NANOANTENNA. Bando n. IPCF-005-2011-ME. Dates: 18/7/2011 to 21/7/2011.
- 2010 **Assignment** of committee member for a grant (n. 1 Contratto d'opera) within the European Project NANOANTENNA. Bando n. IPCF-009-2010-ME. Dates: 12/10/2010 to 15/10/2010.
- 2010 **Assignment** of Committee member for a post-doctoral grant (n. 1 Assegno di Ricerca) within the European project NANOANTENNA. Bando n. IPCF-001-2010-ME. Dates: 16/2/2010 al 18/2/2010.
- 2009-2013 **Participation to the European Project NANOANTENNA,** "Development of a high sensitive and specific nano-bio-chemo-sensor based on surface enhanced vibrational spectroscopy through effective optical nano antenna", Progetto europeo - EU FPVII. Dates: 01/10/2009 to 31/03/2013.
- 2008 **Participation to the International Project British Council,** British-Italian Partnership Program (2008) "The interactions of light and nanostructures for applications in sensors: Microrheology by Optical Manipulation of Carbon Nanotubes", con Department of Engineering, University of Cambridge. Dates 01/01/2008 to 31/12/2008.
- 2013-2015 **Participation to the project POR FESR Sicilia 2007-2013 Asse IV, Obiettivo Operativo 4.1.2 Linea di Intervento 4.1.2.A.** "Innovazione Tecnologica e di Processo per il settore manifatturiero" – INTEP. Dates: 1/1/2013 to 31/12/2015.
- 2012-2015 **Participation to the National Project PON "Ricerca e competitività" 2007-2013.** Avviso D.D. 84/Ric del 2 marzo 2012 – Asse II – Sostegno all'innovazione, Obiettivo operativo - Azioni integrate per lo sviluppo sostenibile e per lo sviluppo della società dell'informazione, Azioni integrate per lo sviluppo sostenibile, "Tecnologie innovative per la fruizione dei beni e dei contenuti culturali e la promozione dei territori collegati per uno sviluppo del turismo sostenibile" CLUSTER DICET – INMOTO – ORCHESTRA. Dates: 1/11/2012 to 30/11/2015
- 2012-2015 **Participation to the National Project PON "Ricerca e competitività" 2007-2013.** Avviso D.D. 84/Ric del 2 marzo 2012 – Asse II – Sostegno all'innovazione, Obiettivo operativo - Azioni integrate per lo sviluppo sostenibile e per lo sviluppo della società dell'informazione, Azioni integrate per lo sviluppo sostenibile, CLUSTER OSDH – SMART FSE – STAY WELL – SMART HEALTH. Dates: 1/11/2012 to 31/10/2015.
- 2005-2008 **Assignment** for the coordination of the Research Line "Nanotecnologie Ottiche" of the "Commessa CNR" "Sistemi macromolecolari, polimeri e fluidi complessi" (Codice MD.P01.014.001) of the Department of Materials and Devices of the CNR. Dates: 1/1/2005 to 31/12/2008 (4 anni).
- 2004-2008 **Participation to the Project POR 2000-2006 Misura 3.15 sottoazione C** "Potenziamento delle infrastrutture e laboratori esistenti", Project title: Tecnologie sensoristiche e sistemi automatici intelligenti per l'innalzamento competitivo delle attività produttive. Dates: 1/1/2004 to 31/12/2008.
- 2002 **Assignment** of Committee Member for a grant selection (n. 1 Assegno di Ricerca) within the research program "Metodologie diagnostiche per Materiali e Ambienti"- Cluster C26 – Progetto n.7 – "Tecniche Spettroscopiche nanometriche per caratterizzazioni di Materiali". Bando n. AR034-2002-01. Date: March 2002
- 2001-2006 **Participation to the National Project** "Potenziamento delle reti di ricerca nelle aree depresse." Cluster 29 Beni Culturali. Project title: "Nuove tecnologie per la conoscenza, lo studio e la gestione dei beni artistici e culturali: il patrimonio museale della provincia di Catania." Dates: 21/12/2001 to 31/12/2006.
- 2001-2004 **Participation to the National Project** "Potenziamento delle reti di ricerca nelle aree depresse." Cluster 26 Materiali Innovativi. Project title: "Metodologie e diagnostiche per materiali e ambiente." Dates: 21/12/2001 to 31/12/2004.
- 1997 **Assignment** for setting up experiments on cold atoms at the Department of Physics, University of Pisa (6 months).

**TEACHING ACTIVITIES**

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Despite the CNR is not an academic institution, I have been teaching at both undergraduate and graduate level in several universities. Mainly general topics in photonics, plasmonics, optical forces, atomic physics. The courses at the graduate level are often taught in English because of international students present in the audience.

- 2008 – to date Member of the **Board of the Doctorate School** in Physics of the University of **Messina**. Here I teach an advanced course on optical forces on particles and atoms (8 hours/year).
- 2013 Course on optical forces, trapping and manipulation of particles and atoms (15 hours) within the advanced Master II level "Beyond Nano", **Università della Calabria**, Department of Physics, Arcavacata (Rende).
- 2012 Internal course (10 hours) at the **Scuola Superiore di Catania**, Mediterranean University Center, Università di Catania, within the subject "Synthesis, nanocharacterization, and optical trapping of nanostructures materials"
- 2012 Course on lasers, photonics and optical forces (14 hours) within the advanced Master II level "Nanotechnologies for sustainable energies", **Università di Palermo**, Department of Electrical, Electronic, and Telecommunications.
- 2009 – 2010 Course of basic Physics (40 hours) at the Faculty of Architecture, **Università "Mediterranea" di Reggio Calabria**.

**SUPERVISION OF POSTDOCTORAL RESEARCHERS AND DOCTORAL STUDENTS**

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- 2021 – 2024 Sonia Marrara (PhD in Physics, University of Messina) – *Optical and acoustic tweezers*
- 2020 – 2023 David Bronte Ciriza (PhD in Physics, University of Messina) – *Active matter in optical landscapes*
- 2020 – 2022 Alessandro Magazzù (post-doc) – *SPACE Tweezers project*.
- 2018 – 2021 Paolo Polimeno (PhD in Physics, University of Messina) – *Electromagnetic scattering calculations for optical trapping and space applications*
- 2017 – 2020 Francesco Patti (PhD in Physics, University of Messina) – *Light scattering in the T-matrix for formalism and applications*
- 2014 – 2016 Dr. Donatella Spadaro (post-doc) – *SOCIAL-NANO project*.
- 2013 – 2015 Alessandro Magazzù (PhD in Physics, University of Messina) – *Optical trapping and thermal dynamics of Silicon nanowires*
- 2011 – 2015 Marco Monaca (PhD in Electronic Engineering, University of Messina) – *Optical trapping of nanostructures*
- 2011 – 2014 Roberto Stassi (co-supervisor, PhD in Physics, University of Messina) – *Cavity QED with artificial atoms: strong and ultrastrong coupling regime*
- 2011 – 2014 Rania Sayed (PhD in Physics, University of Messina) – *Optical Trapping of Micro and Nanoparticles with Optical Feedback*
- 2008 – 2011 Alessandro Ridolfo (co-supervisor, PhD in Physics, University of Messina) – *Quantum Optical Properties of Strongly Coupled Systems*

**SUPERVISION OF MASTER AND BACHELOR STUDENTS**

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- 2017 – 2018 Paolo Polimeno (Master in Physics, University of Bologna)
- 2014 – 2015 Mara Di Filippo (Bachelor in Chemistry, University of Messina)
- 2012 – 2013 Giulia Rambaldi (Bachelor in Physics, University of Messina)
- 2012 – 2013 Sebastiano Vasi (Master in Physics, University of Messina)
- 2011 – 2012 Paolo Pirrone (Bachelor in Engineering, University of Messina)
- 2011 – 2012 Giuseppe Chirieleison (Bachelor in Engineering, University of Messina)
- 2010 – 2011 Rosario Stornante (Bachelor in Physics, University of Catania)
- 2009 – 2010 Sebastiano Vasi (Bachelor in Physics, University of Messina)
- 2008 – 2009 Marco Monaca (Master in Engineering, University of Reggio Calabria)
- 2008 – 2009 Giuseppe Cassone (Bachelor in Physics, University of Messina)
- 2008 – 2009 Emanuele Cavallaro (Bachelor in Physics, University of Messina)
- 2006 – 2007 Fedora Palmisano (Master in Electronic Engineering, University of Messina)
- 2005 – 2006 Giovanni Corvitto (Bachelor in Electronic Engineering, University of Messina)
- 2005 – 2006 Giuseppe Sindoni (Bachelor in Physics, University of Messina)
- 2004 – 2005 Francesco Previti (Master in Electronic Engineering, University of Messina)

**SUPERVISION OF VISITING PHD STUDENTS & UNDERGRADUATE STUDENTS**

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2021	Berk Cicek – Visiting PhD Student Bilkent University, Turkey (2 months).
2017	Silvie Bernatova – Visiting PhD Student ISI-CAS, Czech Republik (1 month).
2016	Fatemeh Kalantarifard – Visiting PhD Student Bilkent University, Turkey (3 months).
2015	Thomas Smart – Visiting PhD Student University College London, UK (1 month).
2012	Marios Sergides – Visiting PhD Student University College London, UK (1 week).
2012	Susan E. Skelton – Visiting PhD Student University College London, UK (1 week).
2010	Giulia Privitera – Visiting PhD Student University of Cambridge, UK (2 weeks).
2010	Oksana Trushkevych – Visiting PhD Student University of Cambridge, UK (2 weeks).
2009	Tawfique Hasan – Visiting PhD Student University of Cambridge, UK (1 month).
2005 – 2015	Tutor of more than 25 students for their university training stage (3 months each) at the CNR-IPCF (Messina) within the Physics, Chemistry, and Electronic Engineering courses of the Universities of Messina, Reggio Calabria, and Catania.

**COLLABORATIONS**

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Prof. Giovanni Volpe (University of Gothenburg, Sweden); Prof. Philip H. Jones (University College London, UK); Prof. Nader Engheta (University of Pennsylvania, USA); Prof. Vincenzo Amendola (University of Padua, Italy); Prof. Andrea C. Ferrari (University of Cambridge, UK); Prof. Rosalba Saija (University of Messina, Italy); Prof. Alessandra Rotundi (Università “Parthenope” Napoli, Italy); Dr. Angela Ciaravella (INAF Palermo, Italy); Prof. Giuseppe Strangi (Case Western Reserve University, Cleveland, USA); Prof. Dario Pisignano (Università di Pisa, Italy); Dr. Luana Persano & Dr. Andrea Camposeo (CNR-NANO, Pisa, Italy); Prof. Giorgio Volpe (University College London, UK); Prof. Gabriella Cipparrone (University of Calabria, Rende, Italy); Prof. Francesco Priolo (University of Catania, Italy); Prof. Antonio Sasso & Dr. Giuseppe Pesce (University Federico II, Naples, Italy); Dr. Pavel Zemanek (ISI-CAS, Brno, Czech Republik); Prof. Simon Hanna (University of Bristol, UK); Prof. Paolo Biagioni (Politecnico di Milano, Italy); Prof. Alessandro Veltri (University San Francisco de Quito, Ecuador).

**MEMBERSHIP OF SCIENTIFIC SOCIETIES**

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I am a Fellow member of [Optica \(Formerly the Optical Society of America\)](#), a member of [EPS – The European Physical Society](#), and [APP – Accademia Peloritana dei Pericolanti](#). Within these societies, I serve as **Advisor** for the “**Messina OSA Student Chapter**” (2011 - present) and the “**Messina Young Minds Group**” (2010 - present). I have also **Chaired** the “**Optical Cooling & Trapping**” **OSA Technical Group** (2013-2015), promoting and sponsoring activities at several topical conferences. I am **Program Committee member** for the OPTICA conference “Optical Manipulation and its Applications” and I served as **Program Chair** for the year 2021.

**SERVICE AND PROFESSIONAL ACTIVITIES (SELECTED)**

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2011 – to date	<b>Advisor</b> of the "OSA Student Chapter Messina". Initiative promoted and sponsored by the Optical Society of America (OSA).
2010 – to date	<b>Advisor</b> of the EPS "Young Minds" group-Messina. Initiative promoted and sponsored by the European Physical Society (EPS).
2020 – to date	<b>Editorial Board Member</b> of “ <b>Nanomaterials</b> ”, MDPI publishing.
2021 – to date	<b>Guest Editor</b> of <b>Frontiers in Photonics</b> , Research Topic in “Control and Manipulation of Light, Particles and their Interactions with Plasmonic and Dielectric Nanostructures” ( <a href="http://www.frontiersin.org/research-topics/18372/">www.frontiersin.org/research-topics/18372/</a> )
2020 – 2021	<b>Guest Editor</b> of <b>EPJ Plus</b> , Focus Point Issue on “Light pressure across all scales” ( <a href="http://epjplus.epj.org/component/toc/?task=topic&amp;id=1328">epjplus.epj.org/component/toc/?task=topic&amp;id=1328</a> ).
2013 – 2015	<b>Chair</b> of the Technical Group on “ <b>Optical Cooling &amp; Trapping</b> ” of the <b>Optical Society of America</b> . (Activities on <a href="https://www.facebook.com/groups/OpticalCoolingTrappingOSA/">www.facebook.com/groups/OpticalCoolingTrappingOSA/</a> )
2014 – 2015	<b>Guest Editor</b> of <b>Optics Express (OSA)</b> , Feature Issue vol. 23, Issue 8 (2015) dedicated to “Optical Cooling & Trapping” ( <a href="http://www.osapublishing.org/oe/abstract.cfm?uri=oe-23-8-9917">www.osapublishing.org/oe/abstract.cfm?uri=oe-23-8-9917</a> ).
2014 – 2015	<b>Guest Editor</b> of <b>JOSA B (OSA)</b> , Feature Issue vol. 32, Issue 5 (2015) dedicated to “Optical Cooling & Trapping” ( <a href="http://www.osapublishing.org/josab/virtual_issue.cfm?vid=289">www.osapublishing.org/josab/virtual_issue.cfm?vid=289</a> ).
2011– 2012	<b>Guest Editor</b> of <b>Journal of Quantitative Spectroscopy &amp; Radiative Transfer</b> (Elsevier), Special Issue vol. 113, Issue 18 (2012), dedicated to " Electromagnetic & Light Scattering XIII" ( <a href="http://www.sciencedirect.com/science/journal/00224073/113/18">www.sciencedirect.com/science/journal/00224073/113/18</a> ).
2011	<b>Guest Editor</b> of <b>AAPP I Atti dell'Accademia Peloritana dei Pericolanti</b> , vol. 89-S1 (2011), dedicated to " ELS-XIII Conference" (Open Access, ISSN: 03650359, EISSN:18251242).

## ORGANIZATION OF SCIENTIFIC MEETINGS

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2007 – today	<b>Organizer</b> of the national Workshop “Appunti di Fisica Teorica”, the yearly workshop is jointly organized by CNR-IPCF and University of Messina and deals with all aspects of theoretical physics.
2005 – today	<b>Committee Member</b> of the local yearly Seminar Series “Appunti di Fisica”, the seminars are jointly organized by CNR and University of Messina.
12-16 April 2021	<b>Program Chair</b> of “Optical Manipulation and its Applications,” <b>OSA Topical Meeting</b> , Online.
11-13 February 2021	<b>Program Committee Member</b> of “NanoPlasmMeta”, Photoptics2021, Online.
15-17 April 2019	<b>Committee Member</b> of “Optical Manipulation and its Applications,” OSA Topical Meeting, Tucson, Arizona, USA.
5-9 March 2018	<b>Advisory Committee Member</b> of the “12th international conference series on Laser-light and Interactions with Particles” (LIP2018), College Station, Texas, USA.
2-5 April 2017	<b>Committee Member</b> of “Optical Trapping Applications,” OSA Topical Meeting, San Diego, CA.
22-26 April 2016	<b>Advisory Committee Member</b> of the “11th international conference series on Laser-light and Interactions with Particles” (LIP2016), Xian, China.
12-15 October 2015	<b>Local Organizer</b> of “2nd International Conference on Enhanced Spectroscopies”, ICES2015, Messina, Italy.
12-16 April 2015	<b>Committee member</b> of “Optical Trapping Applications,” OSA Topical Meeting, Vancouver, Canada.
26-30 September 2011	<b>Local Organizer</b> of “Electromagnetic and Light Scattering XIII”, ELS-XIII, Taormina, Italy.
13-14 March 2000	<b>Organizer</b> of the international Workshop “Career Opportunities in Academia and Industry”, Linacre College, University of Oxford, Oxford (UK).

## INVITED & PLENARY TALKS

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1. "Optical tweezers: from space to the nanoscale... and back", New Frontiers in Plasmonics and Nano-Optics, Nanoplasm2022, Cetraro, Italy, 13-17 June 2022.
2. Lectures on “Optical tweezers”, School on “Experimental methods for active matter” (Online), March 15-April 1, 2021.
3. “Optical tweezers: from nano to space applications”, Special session “NanoPasmMeta”, Photoptics 2021 (Online), February 11-13, 2021.
4. “Optical tweezers on nanostructures”, Workshop on Novel Features and Applications of Optical Manipulation, IPM, Teheran, Iran (Online), September 8, 2020.
5. “Optical forces on nanostructures”, (Plenary) Photoptics 2020, Valletta, Malta, February 27-29, 2020.
6. “Optical trapping and optical manipulation of nanostructures”, Optical Tweezers: biophysics and beyond, Padova, Italy, November 25-26, 2019
7. “Optical force positioning and aggregation of nanoparticles”, PIERS, Rome, Italy, June 17-20, 2019.
8. “Optical forces for materials and metamaterials”, Discussions on Nano and Mesoscopic Optics, DINAMO2019, San Cristobal, Ecuador, April 22-26, 2019.
9. "Optical forces at the edge", New Frontiers in Plasmonics and Nano-Optics, Nanoplasm2018, Cetraro, Italy, 10-15 June 2018.
10. “Optical trapping of nanostructures. Role of shape and ultra-sensitive spectroscopy” and “Optical trapping in the T-matrix formalism”, 2 Invited Lectures, Optical Trapping Summer School, Gothenbourg, Sweden, 29 May-1 June 2018.
11. “Optical forces and applications”, “Laser and Interactions with Particles 12”, LIP2018, College Station, Texas, USA, March 5-9, 2018.
12. “Optical tweezers for materials”, Discussions on Nano and Mesoscopic Optics, DINAMO2017, Siglufjordur, Iceland, May 14-19, 2017.

13. "Hybridization of Optical Forces", 7<sup>th</sup> International conference on metamaterials, photonic crystals and plasmonics, META2016, Malaga (Spain), 25-28 July 2016.
14. "Optical forces at the mesoscale" (Plenary) New Frontiers in Plasmonics and Nano-Optics, Nanoplasm2016, Cetraro, Italy, 13-17 June 2016.
15. "Optical Trapping of Nanostructures: Role of shape and spectroscopy", Discussions on Nano & Mesoscopic Optics, Dinamo2015, El Chaltén, Patagonia. Argentina, April 8-12, 2015.
16. "Optical Trapping and SERS with Plasmonic Nanoparticles", 11th International Conference on Nanosciences & Nanotechnologies, Nanotextology2014, Thessalonikki, Greece, 8-12 Luglio 2014.
17. "Plasmon-enhanced optical manipulation and SERS with trapped metal nanoparticles", New Frontiers in Plasmonics and Nano-Optics, Nanoplasm2014, Cetraro, Italy, 16-20 Giugno 2014.
18. "Optical Trapping of Nanostructures Femtonewton Force Sensing and Ultra-sensitive Spectroscopy", Convegno: XCVIII Congresso Nazionale Società Italiana di Fisica, Napoli, 17-21 Sett. 2012.
19. "Optical Trapping of Nanostructures: Femtonewton Force Sensing and Ultra-Sensitive Spectroscopy", Convegno INTERNAZIONALE: "NanoSPain2012", Santander, Spain, 27 Feb-1 Mar 2012.
20. Femtonewton Force Sensing and Optical Trapping of Nanotubes and Graphene", International Workshop on Metrology, Standardization and Industrial Quality of Graphene and Nanotubes (MSIGN11), NT11 Satellite Workshop, University of Cambridge, Cambridge, UK, 10-16 July, 2011.
21. "Femtonewton force sensing and optical trapping of nanotubes and graphene", Optical Trapping and Optical Micromanipulation VII, SPIE Optics+Photonics, San Diego, USA, 1-5 Aug 2010.

#### **REFEREE ACTIVITY**

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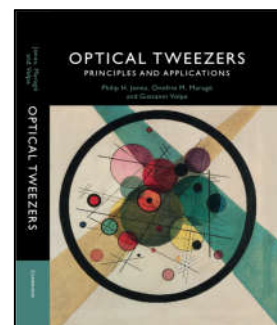
Journals: *Nature Nanotechnology, Nature Photonics, Nature Communications, Scientific Reports, Physical Review Letters, Physical Review A, Optics Letters, Optics Express, JOSA B, Nano Letters, ACS Nano, J. Phys Chem C, Langmuir, J. Quant. Spect. & Rad. Transf., Nanoscale, New Journal of Physics, Nanotechnology, Journal of Optics, Journal of Optics A, Atti Accademia Peloritana Pericolanti.*

Grants: Department of Energy (USA), Medical Research Council (UK), Czech Science Foundation (GA CR, Czech Republic), Swiss National Science Foundation (SNSF, Switzerland), Fondation pour la Recherche Medical (France), Ministero dell'istruzione, dell'università e della ricerca (Miur).

## Publication List – Onofrio M. Maragò

### BOOKS

1. “Optical Tweezers: Principles and Applications” (568pp)  
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### JOURNAL ARTICLES (PEER-REVIEWED, HIGHLIGHTS IN BLUE)

1. Gillibert, R., Magazzù, A., Callegari, A., Bronte Ciriza, D., Foti, A., Donato, M. G., **Maragò, O. M.**, Volpe, G., Lamy de La Chapelle, M., Lagarde, F., Gucciardi, P. G. “Raman tweezers for tire and road wear micro- and nanoparticles analysis” (2022) *Environmental Science: Nano* 9 (1), 145-161 (2022).
2. [Natali, L., Helgadottir, S., \*\*Maragò, O.M.\*\*, Volpe, G. “Improving epidemic testing and containment strategies using machine learning” \(2021\) \*Machine Learning: Science and Technology\* 2, 035007.](#)
3. [Macchi, A., \*\*Maragò, O. M.\*\* “Light pressure across all scales” \(2021\) \*EPJ Plus\* 136, art. 582.](#)
4. [Polimeno, P., Magazzù, A., Iatì, M. A., Saija, R., Folco, L., Bronte Ciriza, D., Donato, M. G., Foti, A., Gucciardi, P. G., Saidi, A., Cecchi-Pestellini, C., Jimenez Escobar, A., Ammannito, E., Sindoni, G., Bertini, I., Della Corte, V., Inno, L., Ciaravella, A., Rotundi, A., \*\*Maragò, O. M.\*\* \(Space tweezers collaboration\), “Optical tweezers in a dusty universe”, \(2021\) \*EPJ Plus\* 136, art. 339.](#)
5. [Polimeno, P., Iatì, M.A., Boschi, C.D.E., Simpson, S.H., Svak, V., Brzobohatý, O., Zemánek, P., \*\*Maragò, O.M.\*\* and Saija, R. “T-matrix calculations of spin-dependent optical forces in optically trapped nanowires” \(2021\) \*EPJ Plus\* 136, art. 86.](#)
6. [Foti, A., Donato, M.G., \*\*Maragò, O.M.\*\*, Gucciardi, P.G. “Optically induced aggregation by radiation pressure of gold nanorods on graphene for SERS detection of biomolecules” \(2021\) \*EPJ Plus\* 136, 30.](#)
7. [Donato, M.G., Patti, F., Saija, R., Iatì, M.A., Gucciardi, P.G., Pedaci, F., Strangi, G., \*\*Maragò, O.M.\*\* “Improved backscattering detection in photonic force microscopy near dielectric surfaces with cylindrical vector beams” \(2021\) \*JQSRT\* 258, 107381.](#)
8. [Pesce, G., Jones, P.H., \*\*Maragò, O.M.\*\* and Volpe, G. “Optical tweezers: theory and practice” \(2020\) \*EPJ Plus\* 135, 949.](#)
9. [Romano, L., Portone, A., Coltelli, M.B., Patti, F., Saija, R., Iatì, M.A., Gallone, G., Lazzeri, A., Danti, S., \*\*Maragò, O.M.\*\*, Camposeo, A., Pisignano, D., Persano, L. “Intelligent non-colorimetric indicators for the perishable supply chain by non-wovens with photo-programmed thermal response” \(2020\) \*Nature Communications\* 11, 1-8.](#)
10. [Desgarceaux, R., Santybayeva, Z., Battistella, E., Nord, A.L., Braun-Breton, C., Abkarian, M., \*\*Maragò, O.M.\*\*, Charlot, B. and Pedaci, F. “High-resolution photonic force microscopy based on sharp nanofabricated tips” \(2020\) \*Nano Letters\* 20, 4249-4255.](#)
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