CURRICULUM VITAE

Giuseppe Emanuele Lio, Ph.D.

I Part – Personal details

Name and Surname	*Giuseppe Emanuele Lio*
Date of birth	
Place of birth	
Nationality	
Current academic/work position, specifying if permanent/tenured position	*Research Associate (fixed-term, RTDa) at Physics Department of University of Florence, Italy*
Languages spoken	*Italian (mother tongue) and English*

II Part – Academic titles

Title name and type	Achievement date	Institute and Country	Final grade	Thesis title
PhD in *Science and Technology of Physics, Chemistry and Materials*	13th April 2021	University of Calabria, Rende (CS), Italy & Institute of Nanotechnology - National Research Council (CNR Nanotec), Rende (CS), Italy	Excellent	*Hyper Resolute Laser-Writing mediated by tailored ENZ Metamaterials: The specific case of All-Dielectric Broadband Metalenses*
Master degree in Science and Engineering of Innovative and Functional Materials	21st September 2017	University of Calabria, Rende (CS), Italy & University of Technology of Troyes (UTT), Troyes, France	110/110	*Design and Realization of a nano-guided Hybrid system to implement a Photonic Transistor*
Bachelor degree in Science of Innovative Materials and Nanotechnologies	24th September 2015	University of Calabria, Rende (CS), Italy	101/110	*Plasmons in materials Beyond Graphene: from the fundamental research to THz applications*

III Part – Other qualifications

III.1 – Teaching activity in Italian or foreign universities:

Dates		Institute and Country	Short description of the teaching activity
from 01/03/24	to 30/06/24	University of Florence, Italy	Lecturer of the *Laboratory of Physics* class at the Material Sciences course, bachelor degree course in Material Sciences. (Total course hours 36)
from 01/09/23	to 23/12/23	University of Florence, Italy	Lecturer of the *Laboratory of Physics* class at the Chemistry Department, bachelor degree course in Chemistry. (Total course hours 60)
from 01/09/22	to 23/12/22	University of Florence, Italy	Lecturer of the *Laboratory of Physics* class at the Chemistry Department, bachelor degree course in Chemistry. (Total course hours 60)
from 01/03/20	to 30/06/20	University of Calabria, Rende (CS), Italy	Lecturer of the *Physical materials characterization* class at the Physics Department, bachelor degree course in Science of Innovative Materials and Nanotechnologies. (Total course hours 48)
from 01/03/19	to 30/06/19	University of Calabria, Rende (CS), Italy	Lecturer of the *Physical materials characterization* class at the Physics Department, bachelor degree course in Science of Innovative Materials and Nanotechnologies. (Total course hours 48)

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III.2 – Certified study or research activity in Italian or foreign institutions

Dates		Institute and Country	Short description of the study/research activity
From 31/12/21	Ongoing (2 years and 4 months)	Cooling Photonics (company, BCN, Spain)	As a research associate at University of Florence and according to the employment agreement, I worked with the *R&D of Cooling Photonics* to address specific tasks such as the design of tailored metasurfaces to improve the Passive Radiative Cooling performances of several materials. With them we are now working to test specialized experimental apparatus designed for different applications.
From 9/23	to 11/23	Visiting Researcher at Catalan Institute of Nanotechnology (ICN^2) in BCN, Spain	Short visiting experience in ICN^2 laboratories for manufacturing innovative FreeForm metasurfaces for new technologies and Passive Radiative Cooling materials.
from 04/01/21	to 30/12/21	National Institute of Optics – National Research Council (CNR-INO), Florence, Italy	Researcher Fellow (Post-Doc). There G.E. Lio worked on complex photonics systems devoted to realize reconfigurable and unidirectional Physcial Unclonable Function (PUF) devices. Scientific supervisors: Dr. F. Riboli and Prof. D.S. Wiersma.
from 09/2019	to 12/2019	Case Western Reserve University, Department of Physics, Cleveland, Ohio, USA	Visiting period as Research Scholar. In that period G.E. Lio harnessed on Machine Learning algorithms to prototype new generation of metamaterials, ENZ materials and modeling quantum emitters for QED systems. Scientific supervisor: Prof. G. Strangi.
from 01/04/17	to 13/07/17	University of Technology of Troyes (UTT), Troyes, France	Erasmus Plus (Traineeship). This period was focused on the design and realization of a nano-guided hybrid system to implement photonic devices and new techniques of photopolymerization by evanescent wave. Scientific supervisors: Prof. S. Bleize, Prof. R. Bachelot and Prof. C. Couteau.
from 15/03/21	to 19/03/21	Lake Como School of Advanced Studies, Como, Italy	International winter school Machine Learning Photonics
from 15/06/18	to 18/06/18	Cetraro, Cosenza, Italy	International School of Plasmonics and Optics

III.3 - Projects:

Dates		Institute and Country	Short description of the activity
From 15/12/23	to 07/03/24 (submission)	Chemistry and Physics Department, University of Florence, Sesto Fiorentino (FI), Italy	G.E. Lio was the **co-coordinator** of the EIC Pathfinder Open 2024 project titled *FU2RECEPTs*. The latter involve a consortium of academic partners (UniFi (Dept. of Chemistry and Physics), University of Cantabria) a research center (CNR-INO) and a SMI (ChipShop Microfluidics). The project is under evaluation.
From 20/02/24	On going (24 M)	Physics Department, University of Florence, Sesto Fiorentino (FI), Italy Cooling Photonics, Barcelona, Spain (Company)	G.E. Lio is the **PI** of the *technological transfer agreement* titled *FRESCO- Florence RadiativE passive Cooling Open – board Data Logger.* The PI and his team are providing experimental apparatus (tailored data logger) for passive radiative cooling measurements to the Cooling Photonics company. The latter is one of the up coming players in the field of manufacturing passive cooling materials for building and automotive. **Budget: 14k €** (the project is registered at UniFi with the code 738/2024)
From 22/03/2024	On going (12 M)	Physics Department, University of Florence, Sesto Fiorentino (FI), Italy	G.E. Lio is the ***PI*** of the project FReeform mEtasurfaces for paSsive radiative Cooling 2 (IsCb7_FRESCO2 - HP10C1D8RJ) project aimed at obtaining computational resources at the CINECA infrastructure. The project is oriented on designing and engineering metasurfaces to improve the efficiency of photovoltaic cells that are covered with high emissive patterned polymer layers that allows exploiting the Passive Radiative Cooling principle. The FRESCO2 involves also the specific calculation of the absorption layer per layer and the angular emissivity.

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			Budget: ~ 70k $ (CPUs and GPUs on G100 and Leonardo HPCs)
From 06/09/2023	On going (18 M)	Physics Department, University of Calabria, Rende (CS), Italy	G.E. Lio as a inventor of the patent WO2022258554, he is covering the role of **Key Personnel** in the Proof of concept project titled *BiOt (Bisturi Ottico da taglio e coagulazione di tessuti per applicazioni chirurgiche avanzate). Programma di valorizzazione denominato "Unical Pathways (UP)", Piano Nazionale di Ripresa e Resilienza, Missione 1 – Componente 2 – Investimento 6 – NextGenerationEU.* **Budget: 70k €** (CUP "BiOt", C28H23000270002)
From 15/04/24	to 25/11/24 (submissi on)	European Laboratory for Non Linear Spectroscopy (LENS), University of Florence, Sesto Fiorentino (FI), Italy	G.E. Lio was the **coordinator** of the EIC Pathfinder Challenges 2023 project titled *VertCool*. The latter involve a consortium of academic partners (LENS, UniPD, UPC) research centers (CAE, Tubitak) and two SMI (Cooling Photonics, Consorzio CREO). The project was not selected for funding despite receiving a very positive evaluation.
From 14/03/2023	to 14/02/24	Physics Department, University of Florence, Sesto Fiorentino (FI), Italy	G.E. Lio is the ***PI*** of the project FReeform mEtasurfaces for paSsive radiative COoling (IsCa7_FRESCO - HP10C2WR99) project aimed at obtaining computational resources at the CINECA infrastructure. The project is oriented on designing and engineering metasurfaces to improve the efficiency of photovoltaic cells that are covered with high emissive patterned polymer layers that allows exploiting the Passive Radiative Cooling principle. **Budget: ~27k $** (CPUs and GPUs on G100 HPC)
from 01/05/19	to 01/02/21	Physics Department, University of Calabria, Rende (CS), Italy With Case Western Reserve University, Cleveland, Ohio, USA	G.E. Lio actively participated in the writing and execution of the *Biosensing paradigm shift based on artificial nano materials engineered by machine learning (IsC78 NOSE - HP10CMZNRA)* project aimed at obtaining computational resources at the CINECA infrastructure. The project focused on the design and implementation of a deep machine learning neural network capable of predicting and engineering metamaterials and diffractive optical elements through inverse design techniques. This project activity resulted in the following work [15, 22, 24 ,27] reported in Part IV of this paper. **Budget: ~10k $** (CPUs and GPUs on Marconi 100 HPC)
from 09/07/21	to 14/09/21	(CNR-INO), Florence, Italy (LENS), Florence, Italy Physics Department, University of Calabria, Rende (CS), Italy	The undersigned actively contributed to the formation of a scientific collaboration between the University of Calabria, CNR-INO, and LENS to write the *Hyper resolution ultra-thin metalenses for liquid-crystals based on reconfigurable imaging systems (HYRIM)* project for the SONY RESEARCH AWARD PROGRAM. The project was not selected for funding despite receiving a very positive evaluation.

III.4 - Organization, supervision and coordination of national and international research groups or participation in any research group:

Dates		Research group/programme	Role and short description of the activity
from 01/01/21	On going	Physics Department, University of Florence, Italy CoolingPhotonics Company, Barcelona, Spain	G.E. Lio, as researcher associate funded by the FSE-REACT National Operational Program for Innovation (DM 1062) related to Action VI Green Themes, is responsible for and an active member of the scientific collaboration between the Department of Physics, University of Florence and CoolingPhotonics. The undersigned designs and implements systems that integrate passive radiative cooling technologies for applications in photovoltaics with the goal of increasing the yield and efficiency of photovoltaic cells while reducing thermal emissions.

from 04/01/21	to 04/11/23	National Institute of Optics – National Research Council (CNR-INO), Florence, Italy European Laboratory for Non-linear Spectroscopy (LENS), Florence, Italy Yale University, Yale, USA Ludwig Maximilian University of Munich, Monaco, Germania	G.E. Lio, during his research grant at CNR-INO and LENS, participated in the research activities under the Italy-USA-Germany project in the Highly Secure Nonlinear Optical PUFs (AFOSR/RTA2 A.2.e. Information Assurance and Cybersecurity) program for the realization of non-clonable optical physical functions with nonlinear responses in the visible wavelengths. This project activity produced the following scientific papers [11,12] reported in Part IV of this CV. G.E. Lio in these publications is first author and corresponding, respectively.
from 01/04/17	On going	Physics Department, University of Calabria, Rende (CS), Italy Institute of Nanotechnology - National Research Council (CNR Nanotec), Rende (CS), Italy University of Technology of Troyes (UTT), Troyes, France	Direction of research activities under the collaboration between the University of Calabria, CNR Nanotec and UTT. The undersigned serves as project manager and is responsible for the characterization of devices, analysis of collected data, identification and resolution of detected technological problems, and participation in the writing of scientific and technical publications. The results obtained are documented in the following papers [6,17,24,25,34,36, 39], which can be found in the list of publications in Part IV.
from 01/08/20	to 31/12/20	Physics Department, University of Calabria, Rende (CS), Italy	Direction of research activities concerning the study of reconfigurable high-birefringence liquid crystal meta-surfaces operating in the near-infrared (λ≈1550 nm). This research activity produced the article [29] in the list of publications (Part IV). G.E. Lio is the first author and originator of the project presented in this research activity.
from 01/09/19	to 01/12/23	Physics Department, University of Calabria, Rende (CS), Italy Military University of Technology, Warsaw, Poland *Active metamaterials based on new generation liquid crystals (LCMETA)*	Key Personnel and research collaborator on active and configurable liquid crystal-based metamaterial systems. This research activity produced the articles [3, 8] in the list of publications (Part IV). G.E. Lio is the first author in both papers.
from 01/11/18	to 13/04/21	Collaboration between: Physics Department, University of Calabria, Rende (CS), Italy Institute of Nanotechnology - National Research Council (CNR Nanotec), Rende (CS), Italy	Direction and coordination of research activities on the *Hyper-Resolution in Direct Laser Writing by Tailored Metal/Insulator/Metal Nanocavities* project, attested by publication [27], found in the list of publications in Part IV, in which G.E. Lio is listed as first author and corresponding co-author.
from 01/11/17	to 31/10/20	Collaboration between: Institute of Nanotechnology - National Research Council (CNR Nanotec), Rende (CS), Italy Institute of Nanotechnology - National Research Council (CNR Nanotec), Lecce, Italy	Development of optical metamaterials with implications in hyper-resolution for two-photon 3D lithography techniques, characterization of metamaterials for high-sensitivity and selectivity biosensors, characterization of plasmonic nanostructures, numerical simulations of ordered and disordered systems with plasmonic responses in the visible wavelengths when stressed by external stresses. The collaboration produced the following publications [7, 10, 13, 14, 25, 27, 30, 31, 32, 33, 35, 41] reported in Part IV of this paper.

III.5 – Ownership of patents and certified devices

Title	*OPTICAL SCALPEL AND METHOD OF MANUFACTURING*
Description	The invention uses a metamaterial-based technology (called near-zero epsilon) to convert incident light into heat. It results confined and localized so that a scalpel can be made for precision intra-dermal surgeries.
Submission No.	WO2022258554 ID number: *102021000014924* Alternative No. *IT202100014924 IO 110649* European Patent *PCT/EP2022/065294* Publication date 15/12/2022
License No.	INV. A61B182
Name of the owner	The patent ownership is divided as follows: 50% University of Calabria and 50% the inventors
Name of the inventor	Giuseppe Emanuele Lio, Antonio Ferraro, Roberto Caputo
Date of submission	08/06/2021
Website link	https://patentscope.wipo.int/search/en/detail.jsf?docId=WO2022258554

Title	*FLORENCE RADIATIVE PASSIVE COOLING OPEN (FRESCO) -BOARD*
Description	The OSHWA certification is related to a open hardware and firmware device able to measure the main features of Passive Radiative Cooling materials such as temperature drop and cooling power.
Submission No.	Version 2 Date (last release) 19/04/2024 Previous version V1 21/10/2022
License No.	UID IT0000015 Previous version IT0000011
Name of the owner	*Giuseppe Emanuele Lio, Lorenzo Pattelli and Roberto Concas (100% ownership)*
Name of the inventor	Giuseppe Emanuele Lio, *, Lorenzo Pattelli and Roberto Concas*
Website link	https://certification.oshwa.org/it000015.html

III.6 – Speeches in national and international conferences and congresses:

Date of the conference/congress	**Organising body and place of the conference**	**Conference/Congress title** *(please specify if national or international)*	**Speech title** *(please specify if invited speaker)*
from 05/07/2023 to 07/07/2023	Plasmonica 2023, Politecnico di Milano, Milano, Italia	Plasmonica 2023	Invited oral Fano-resonant hybrid metastructures with ultra-high sensing performances
from 04/06/2023 to 10/06/2023	16th Mediterranean Workshop and Topical Meeting - Novel Optical Materials and Application, NOMA 2023, Cetraro (CS), Italia	16th Mediterranean Workshop and Topical Meeting - Novel Optical Materials and Application, NOMA	Invited oral Strain-adjustable reflectivity of polyurethane nanofiber membrane for thermal management applications
from 28/11/22 to 30/11/22	Institute of Fundamental and Frontier Sciences University of Electronic Science and Technology of China, Chengdu, P. R. China	2nd Interdisciplinary Forum of Frontier Sciences (2nd IFSS). International Conference	Invited oral *Physical Unclonable Functions: from unclonability demonstration to real devices*
from 15/07/22 to 17/07/22	Italian Conference on Optics and Photonics (ICOP2022), held in Trento, Italy	Italian Conference on Optics and Photonics (ICOP2022), International Conference	Invited oral *Tailored Epsilon Near Zero Metamaterials for Hyper Resolute Direct Laser Writing*
from 15/07/22 to 17/07/22	Italian Conference on Optics and Photonics (ICOP2022), held in Trento, Italy	Italian Conference on Optics and Photonics (ICOP2022), International Conference	Invited oral *Optical nanocavity enabling hyper resolution in 2D and 3D two photon direct writing lithography*
from 15/07/22 to 17/07/22	Italian Conference on Optics and Photonics (ICOP2022), held in Trento, Italy	Italian Conference on Optics and Photonics (ICOP2022), International Conference	Invited poster exposition della società italiana di ottica e fotonica (SIOF) e IEEE Photonics per premiazione "Best PhD Thesis Awards"

			Tailored Epsilon Near Zero Metamaterials for Hyper Resolute Direct Laser Writing
Date 24/05/22	iLight Workshop, held at the Physics Department, University of Florence, Italy	iLight Workshop National Conference	Invited Oral *Painting with light*
from 13/12/21 to 15/12/21	Vebleo online conference on Science, Engineering and Technology (Session 7)	Vebleo online conference on Science International Conference	Invited oral as Vebleo Junior Fellow *Achieving hyper-resolution in direct laser writing using epsilon-near-zero metamaterials*
Date 21/09/21	3rd EUIMWP PhD and ECI meeting, COST EUIMWP (CA 16220), held online at University of Calabria, Rende (CS), Italy	3rd EUIMWP PhD and ECI meeting, COST EUIMWP (CA 16220) International Conference	Invited oral *Achieving hyper-resolution in direct laser writing using epsilon-near-zero metamaterials*
Data 28/06/21	Current Trends and Perspectives on the Synthesis & Use of Nanomaterials and Nanotechnologies for Sustainable Energy Solutions Online Conference	Current Trends and Perspectives on the Synthesis & Use of Nanomaterials and Nanotechnologies for Sustainable Energy Solutions International Conference	Invited oral *Hyper Resolute Photopolymerization Towards 2D and 3D Nanodevice*
from 26/12/21 to 27/06/21	17th International Conference on Optics, Lasers and Photonics, held in Osaka, Giappone Online Conference	17th International Conference on Optics, Lasers and Photonics International Conference	Invited oral as Keynote Speaker *Achieving hyper-resolution in direct laser writing using epsilon-near-zero metamaterials*
from 21/10/20 to 22/10/20	Nanotechnology 2020, California, USA Online Conference	Nanotechnology 2020, California, USA International Conference	Invited oral *Hyper resolute photopolymerization: from plasmonics anti-counterfeiting to flat optics applications*
from 31/01/19 to 01/02/19	1st EUIMWP PhD and ECI meeting tenutosi a Ljubljana, Slovenia	1st EUIMWP PhD and ECI meeting, COST EUIMWP (CA 16220) International Conference	Invited oral *Design and realization of a nano-guided hybrid system to implement a photonic transistor*
from 17/09/19 to 21/09/19	104th Congresso Nazionale della Società Italiana di Fisica (SIF), Cosenza, Italy	Società di Italiana di Fisica (SIF) International Conference	Oral *Design and realization of a nano-guided hybrid system to implement a photonic transistor*

III.7 – National and international awards for research activities:

Date of issue	**Name/Title of the award** *(please specify if national or international)*	**Awarding body and Country**	**Notes**
06/07/2023	Early Career Forum 2024, International award	American Chemical Society, USA	The award is reserved to celebrating the contributions of distinguished early career investigators with a paper publication in ACS Applied Optical Materials.

17/06/2022	Best PhD Thesis Award, National award	Italian Society on Optics and Photonics (SIOF), Italia	
06/05/2022	Best Doctoral Thesis in Applied Photonics 2021, International award	IEEE Photonics Society, Italian Chapter, Italia	IEEE Photonics Society, Award section: http://www.ieee-photonics.it
12/2020	Educational Award Winners, International award	Edmund Optics	Ranking of finalists: https://www.edmundoptics.com/promotions/educational-award/2020-winners/

III.8 – Any additional title or qualification:

Name of the title or qualification	Dates	Short description
National Scientific qualification as associate Professor in Experimental physics of matter. (SSD FIS/03, SC 02/B1)	From 06/12/2023 to 06/12/2034	*National Scientific qualification as associate professor in the Italian higher education system, in the call 2021/2023 (Ministerial Decree n. 553/2021 and 589/2021) for the disciplinary field of 02/B1 - Experimental physics of matter. (Academic Recruitment Field 02/B - Physics of matter, according tothe national classification).*
National Scientific qualification as associate Professor in Applied physics, physics teaching and history of physics (SSD FIS/07, SC 02/D1)	From 11/01/2023 to 11/01/2034	National Scientific qualification as associate in the Italian higher education system, in the call 2021/2023 (Ministerial Decree n. 553/2021 and 589/2021) for the disciplinary field of 02/D1 – Applied physics, physics teaching and history of physics. (Academic Recruitment Field 02/D - Applied physics, physics teaching and history of physics, according to the national classification).
Guest Editor of the Special Issue in Crystals	Active from 1 year	All the details are available at the following link https://www.mdpi.com/journal/crystals/special_issues/Active_Hybrid_Soft_Metamaterials
Editor of AIP Publishing Books	2020-2021	Editor and Author of three Chapter in the book *Hybrid Flatland Metastructures:* https://aip.scitation.org/isbn/9780735422872
Reviewer for the following journals: *Advanced optical materials, Laser & Photonics Reviews, Journal of Applied Physics, Materials, Nanomaterials, Photonics, Crystals, Applied Nano, etc.*	2018 – on going	See G.E. Lio's ORCID profile for all the details https://orcid.org/0000-0002-8925-7202
Co-Supervisor of the MSc thesis in Computer Science, Università degli Studi della Calabria, Rende (CS), Italy	Academic year 2019/2020	Thesis title: Parallelizing computation by OpenMP tailored on Mie-theory for multiple gold nanoparticles. Student: Pietro Napoli.
Co-Supervisor of the MSc thesis in Engineer and Materials Science, Università degli Studi della Calabria, Rende (CS), Italy	Academic year 2019/2020	Thesis title: *Optically tunable P-T Symmetric system via Liquid Crystals.* Student: Dante Maria Aceti.
Co-Supervisor of the BSc thesis in Materials Science, Università degli Studi della Calabria, Rende (CS), Italy	Academic year 2018/2019	Theis title: *Numerical study of strong coupled nanoparticles system at the nanoscale.* Student: Martina Scaramuzzo.
Attendance in poster session at: Italian Conference on Optics and Photonics (ICOP2022), held in Trento, Italy	from 15/06/22 to 17/06/22	Poster title: *Plasmonic metastructures tailored to stimulate high local heating* - by **G.E.Lio**, A. Ferraro, G. Palermo J.M. Djouda, T. Maurer e R. Caputo.
Co-author in oral contribution at: 12th International conference on Metamaterials,	from 19/07/22 to 22/07/22	Oral contribute title: *Hyper resolute two-photon direct laser writing for realization of 2D and 3D nanostructures* – by **G. E.**

Photonics Crystals and Plasmonics – Torremolinos, Spain		**Lio**, A. Ferraro, T. Ritacco, D. M. Aceti, A. De Luca, M. Giocondo, Roberto Caputo.
Organizer committee of: 15th Mediterranean Workshop and Topical Meeting - Novel Optical Materials and Application, NOMA 2022, Cetraro (CS), Italy	from 22/05/22 to 28/05/22	Wide-ranging conference on new and emerging technologies. The event emphasizes materials used in optics and photonics and how they are revolutionizing applications in the fields of applied physics and life sciences.
Attendance in poster session at: 15th Mediterranean Workshop and Topical Meeting - Novel Optical Materials and Application, NOMA 2022, Cetraro (CS), Italy	from 22/05/22 to 28/05/22	Poster title: *Multi-physical modeling of passive radiative cooling materials for building applications* - by **G.E. Lio**, J. Werlé, D.S. Wiersma and L. Pattelli.
Co-author in oral contribution at: 15th Mediterranean Workshop and Topical Meeting - Novel Optical Materials and Application NOMA 2022, Cetraro (CS), Italy	from 22/05/22 to 28/05/22	Oral contribute title: *Optical nanocavity enabling hyper resolution in 2D and 3D two photon direct writing lithography* – by **G.E Lio**, A. Ferraro, T. Ritacco, D. M. Aceti, A. De Luca, M. Giocondo, and R. Caputo.
Attendance in poster session at: 15th Mediterranean Workshop and Topical Meeting - Novel Optical Materials and Application NOMA 2022, Cetraro (CS), Italy	from 22/05/22 to28/05/22	Poster title: *Plasmonic metastructures tailored to stimulate high local heating* – by **G.E. Lio**, A. Ferraro, A. Hmina, G. Palermo, J. Marae Djouda, T. Maurer, and R. Caputo.
Co-autore in contributo orale Nanoinnovation 2021, Roma, Italy	from 21/09/21 to 24/09/21	Oral contribute title: *Hyper resolution in two-photon direct laser writing towards additive manufacturing nanostructure*s, by **G.E. Lio**, A. Ferraro, T. Ritacco, D. M. Aceti, A. De Luca, M. Giocondo, and R. Caputo.
Invited seminar at: CNR-Nanotech, Lecce, Italy	09/06/2021	Seminar title: *Achieving hyper-resolution in direct laser writing using epsilon-near-zero metamaterials* – **G.E. Lio**.
Attendance in poster session at: Plasmonica 2019, Naples, Italy	from 19/06/21 to 21/06/21	Poster title: *A robust ellipsometric analysis of nanoscale layered structures* by **G.E. Lio**, G. Palermo, R. Caputo and A. De Luca.
Attendance in poster session at: Plasmonica 2019, Naples, Italy	from 19/06/21 to 21/06/21	Poster title: *Nanoscale numerical behavior of flexible plasmonic materials* by **G.E. Lio**, G. Palermo, R. Caputo and A. De Luca.
Attendance in poster session at: Novel Optical Materials and Applications, NOMA2019, Cetraro (CS), Italy	from 02/06/19 to 08/06/19	Poster title: *A robust ellipsometric analysis of nanoscale layered structures* by **G.E. Lio**, G. Palermo, R. Caputo and A. De Luca.
Attendance in poster session at: Novel Optical Materials and Applications, NOMA2019, Cetraro (CS), Italy	from 02/06/19 to 08/06/19	Poster title: *Nanoscale numerical behavior of flexible plasmonic materials* by **G.E. Lio**, G. Palermo, R. Caputo and A. De Luca.
Attendance in poster session at: Plasmonica 2018, Florence, Italy	from 04/07/18 to 06/07/18	Oral contribute title: *Design and realization of a nano-guided hybrid system to implement a photonic transistor* by **G.E. Lio**, J.B. Madrigal, X. Xu, S. Pierini, C. Couteau, J. Safi, R. Bachelot, R. Caputo, S. Blaize.
Attendance in poster session at: NanoPlasm 2018, Cetraro (CS), Italy	from 10/06/18 to 15/06/18	Oral contribute title: *Design and realization of a nano-guided hybrid system to implement a photonic transistor* by **G.E. Lio**, J.B. Madrigal, X. Xu, S. Pierini, C. Couteau, J. Safi, R. Bachelot, R. Caputo, S. Blaize.

IV Part – Authored or co-authored scientific publications

No.	Type of scientific product	Author/s	Publication title	Title of the journal and its code	Year of publication
1.	Article	**Giuseppe Emanuele Lio**, Jèrèmy Werlé, Mariacarla Arduini, Diederik Wiersma, Jochen Manara, Lorenzo Pattelli	*Radiative Cooling Potential of a Water Based Paint Formulation under Realistic Application Conditions*	ACS Applied Optical Materials (In press) Doi:10.1021/acsaom.4c00099	2024
2.	Article	Antonio De Luca, Vincenzo Caligiuri, Aniket Patra, Maria P De Santo, Agostino Forestiero, Giuseppe Papuzzo, Dante M Aceti, **Giuseppe E Lio**, Riccardo Barberi	A Double Plasmonic/Photonic Approach for Multilevel Anticounterfeit and Food Safety Applications	Novel Optical Materials, pp 195:223 Doi:10.1142/9789811280603_0007	2024
3.	Article	**Giuseppe Emanuele Lio**, Antonio Ferraro, Bruno Zappone, Janusz Parka, Ewa Schab-Balcerzak, Cesare Paolo Umeton, Francesco Riboli, Rafał Kowerdziej, Roberto Caputo	Unlocking Optical Coupling Tunability in Epsilon-Near-Zero Metamaterials Through Liquid Crystal Nanocavities	Adv. Optical Mater. 2023, 2302483 Doi: 10.1002/adom.202302483	2023
4.	Article	Giovanni Santi, Alain J. Corso, Denis Garoli, **Giuseppe Emanuele Lio**, Marco Manente, Giulio Favaro, Marco Bazzan, Giampaolo Piotto, Nicola Andriolli, Lucanos Strambini, Daniele Pavarin, Leonardo Badia, Remo Proietti Zaccaria, Philip Lubin, Roberto Ragazzoni & Maria G. Pelizzo	Swarm of lightsail nanosatellites for Solar System exploration	Scientific Reports volume 13, Article number: 19583 (2023) Doi: 10.1038/s41598-023-46101-3	2023
5.	Article	V Caligiuri, S Siprova, A Patra, **G E Lio**, R Termine, S Cilurzo, A Golemme, and A De Luca	Coexisting and cooperating light–matter interaction regimes in a polaritonic photovoltaic system	Journal of Optics, Volume 25, Number 10 Doi: 10.1088/2040-8986/acf2ac	2023
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Legal notes and self-declaration affidavit

The present Curriculum Vitae has been written according with the following Italian/European laws:

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