

Sunday, September 8th

18:00 20:00 Registration

Monday, September 9th

08:30 09:45 Registration and opening

09:45 10:30 Plenary I: Anatoly Zayats, King's College London, United Kingdom

Optics at Nanoscale (ONS'19)

Optical Microsystems (OμS'19)

Light-matter interactions: emission, sensing, imaging I

Near Infrared spectroscopy

10:30 10:50 Invited  
**Assegid Mengistu Flatae**  
 University of Siegen, Germany  
 Plasmon-assisted ultrafast photodynamics in quantum dots

10:30 10:45 Oral  
**Giovanni Maira**  
 CNR-IMM, Italy  
 Optimization of the use of silicon photomultipliers for continuous wave functional near infrared spectroscopy

10:50 11:05 Oral  
**Elisabetta Sepe**  
 SAPIENZA University of Rome, Italy  
 Anisotropic Fluorescence Emission due to Photobleaching at the Surface of 1D-Photonic Crystal Biochips

10:45 11:00 Oral  
**Valentina Di Meo**  
 CNR-IMM, Italy  
 Plasmonic Metasurface based on Cross-Shaped NanoAntennas for Surface Enhanced InfraRed Absorption Applications

11:05 11:40 Coffee break

11:00 11:30 Coffee break

Light-matter interactions: emission, sensing, imaging I

Sensor devices

11:40 12:00 Invited  
**Giovanni Mattei**  
 University of Padova, Italy  
 Quantum emitters coupled to optically engineered nanostructures for enhanced emission and nanolasing

11:30 11:50 Invited  
**Gilberto Brambilla**  
 University of Southampton, UK  
 Structured optical fibres for long-distance distributed sensing

12:00 12:15 Oral  
**Marinella Striccoli**  
 CNR-IPCF, Bari, Italy  
 Spectroscopic signature of quantum dot dimers

11:50 12:05 Oral  
**Emanuele Luigi Sciuto**  
 CNR-IMM, Italy  
 Miniaturizable and integrated sensor for Hg(II) optical detection in water

12:15 12:30 Oral  
**Mohammad Abutoama**  
 University of the Negev, Israel  
 Field Enhancement Investigation using the Extended to Localized Surface Plasmon Coupling Configurations in the Prism and Grating Geometries

12:05 12:20 Oral  
**Francesco Della Corte**  
 Università Mediterranea Reggio Calabria, Italy  
 Direct measurement of the junction temperature of Light Emitting Diodes through a non-invasive technique

12:30 12:45 Oral  
**Gur Lubin**  
 Weizmann Institute of Science, Israel  
 Quantum imaging with SPAD arrays

12:20 12:35 Oral  
**Agostino Occhicone**  
 Sapienza University of Rome, Italy  
 Experimental Evidence of Mid-infrared Bloch Surface Waves

12:35 12:55 Invited  
**Paolo Antonio Netti**  
 Italian Institute of Technology, Italy  
 Material-cytoskeleton-nuclear-envelope axis: an engineering view of mechanobiology

13:00 14:30 Lunch

Emerging technologies: metamaterials, nonradiating modes, topological insulator I			
14:30	14:50	Invited	<b>Boubacar Kanté</b> University of California Berkeley, USA Topological sources of light
14:50	15:10	Invited	<b>Didier Felbacq</b> Université de Montpellier, France An algebraic geometry approach to photonic topological insulators
15:10	15:25	Oral	<b>Silvia Romano</b> CNR-IMM, Italy Dual surface-enhanced fluorescence imaging and ultra-high FOM sensing in all-dielectric metasurfaces
15:25	15:40	Oral	<b>Hanan Ali</b> College of Physical Science and Technology, China Circular dichroism from sickle-shaped chiral metamaterial structure operating in the mid-infrared region
15:40	16:10	Coffee break	
Materials for photonics: quantum dots, perovskite nanostructures, 2D nanomaterials			
16:10	16:30	Invited	<b>Davide Boschetto</b> École Polytechnique, France Transient non thermal state and coherent phonon hardening in prototype Mott compound $V_2O_3$
16:30	16:45	Oral	<b>Felice Gesuele</b> Università degli Studi di Napoli Federico II, Italia Multi-imaging analysis of exciton states in monolayer transition metal dichalcogenides and van der Waals heterostructures
16:45	17:00	Oral	<b>Anna Vinattieri</b> INSTM-Firenze, Italy Non-linear exciton dynamics in CsPbBr <sub>3</sub> nanometric thin films
17:00	17:15	Oral	<b>Naomi Falsini</b> INSTM-Firenze, Italy A new route to large-area thin film deposition of inorganic perovskites: RF-Magnetron sputtering deposition of CsPbBr <sub>3</sub>
17:15	17:30	Oral	<b>Tomasz Czyszanski</b> Lodz University of Technology, Poland Monolithic deep-subwavelength grating as transparent electrode of polarized light

Special Session - Optical biosensing and imaging: from fundamentals to applications			
14:30	14:50	Invited	<b>Katerina Kusova</b> Institute of Physics of the Czech Academy of Sciences, Czech Republic Silicon nanocrystals: indirect- and direct-bandgap luminescent material
14:50	15:05	Oral	<b>Anna Chiara De Luca</b> CNR-IBBC, Italy Raman microscopy for cellular investigations: from cell identification to imaging
15:05	15:20	Oral	<b>Maria Francesca Santangelo</b> CNR-IMM, Italy Real time ATP bioluminescence monitoring on 3D printed LoC by highly sensitive SiPM
15:20	15:40	Invited	<b>Paola Ceroni</b> University of Bologna, Italy Luminescent silicon nanocrystals as bioimaging probes
15:40	16:10	Coffee break	
Special Session - Optical biosensing and imaging: from fundamentals to applications			
16:10	16:30	Invited	<b>Francesca Santoro</b> Italian Institute of Technology, Italy Interfaces in 3D bioelectronics
16:30	16:45	Oral	<b>Bruno Miranda Romuald Houdre</b> Ecole Polytechnique Fédérale de Lausanne, Switzerland From rigid to flexible plasmonic sensors for biomedical applications
16:45	17:00	Oral	<b>Stefano Lettieri</b> CNR-ISASI, Italy Gram-type Differentiation via statistical analysis of optically trapped bacteria in hollow photonic crystal cavities
17:00	17:15	Oral	<b>Chiara Schiattarella</b> CNR-IMM, Italy Toward unconventional TiO <sub>2</sub> -based optodes for oxygen detection
17:15	17:30	Oral	<b>Time-gated imaging of luminescent microporous silicon nanoparticles in living Hydra polyps</b>
Smart Optics			
17:30	17:50	Invited	<b>Johannes Feldmann</b> University of Muenster, Germany All-optical neural networks with phase-change photonics

				17:50	18:05	Oral	<b>Eugenio Fazio</b> Sapienza University of Rome, Italy	Stigmergic reinforcement learning using all-optical solitonic x-junctions
				18:05	18:20	Oral	<b>Tommaso Isernia</b> Università Mediterranea of Reggio Calabria, Italy	Towards an effective inverse design of artificial materials based devices through the Scattering Matrix Method
18:30	20:00	Poster Session and Welcome Cocktail						
		<b>Pasquale Memmolo</b> CNR-ISASI, Italy	Imaging of Diatoms species by Fourier Ptychographic Microscopy					
		<b>Teresa Crisci</b> CNR-IMM, Italy	Near-infrared Erbium/Silicon Schottky photodetectors integrated with a silicon-on-insulator waveguide					
		<b>Pasquale Memmolo</b> CNR-ISASI, Italy	Identification and classification of anemic erythrocytes by Holographic Learning					
		<b>Eugenio Fazio</b> Sapienza University of Rome, Italy	Active Reflection and Refraction of Soliton Waveguides on Electric Interfaces					
		<b>Nicola Lovecchio</b> Sapienza University of Rome, Italy	Electrowetting-based Lab-on-Chip System for Biosensing Applications					
		<b>Teresa Cacace</b> CNR-ISASI, Italy	Scatterer thickness influence on “shift” optical memory effect range					
		<b>Francesca Costantini</b> Sapienza University of Rome, Italy	Detection of Fluorescence-based Aptamer Assay Through Thin Film Optoelectronic					
		<b>Davide De Maio</b> University of Napoli “Federico II”, Napoli, Italy	Performance of a solar thermal collector based on Compound Parabolic Concentrator under high vacuum					
		<b>Ota Kunt</b> Dresden Integrated Center for Applied Physics, Germany	Exceptional points in k-space optically anisotropic microcavities					
		<b>Maurizio Artoni</b> University of Brescia, Italy	Color Entanglement in Metamaterials					

Tuesday, September 10th

9:15	10:00	Plenary II: Graham Reed, University of Southampton, UK							
		Nanophotonics I					Special Session - Space exploration and Human spaceflight: new challenges for photonic and microsystems		
10:00	10:20	Invited	<p><b>Marco Centini</b> Sapienza, University of Rome, Italy</p>	<p>Revisiting the Yagi-Uda Nanoantenna Design for Tailored Infrared Thermal Radiation</p>	10:00	10:20	Invited	<p><b>Maria Antonietta Ferrara</b> CNR-IMM, Italy</p>	<p>Volume Holographic Optical Elements: new challenges in space applications</p>
10:20	10:35	Oral	<p><b>Mariano Pascale</b> Università degli Studi di Napoli "Federico II", Italy</p>	<p>Full-Wave Mode Hybridization in Nanoparticle Dimers</p>	10:20	10:35	Oral	<p><b>Izabela Naydenova</b> Technological University Dublin, Ireland</p>	<p>Photopolymer microstructures created by holographic recording for application in sensing and light shaping and redirection</p>
10:35	10:50	Oral	<p><b>Krzysztof Czajkowski</b> University of Warsaw, Poland</p>	<p>Multipole analysis of amorphous arrays of dielectric nanoresonators</p>	10:35	10:50	Oral	<p><b>Stefano Guido</b> University of Naples "Federico II", Italy</p>	<p>Blood-on-chip microfluidics for biomedical applications in space</p>
10:50	11:05	Oral	<p><b>Dominika Świtlik</b> University of Warsaw, Poland</p>	<p>On using bulk sensitivity parameters of single plasmonic nanodisks to quantify local layer thickness and refractive index</p>	10:50	11:05	Oral	<p><b>Christophe Minetti</b> Université libre de Bruxelles, Belgium</p>	<p>Hydrodynamics of a large population of Red Blood Cells under shear flow with Digital Holographic Microscopy</p>
11:05	11:30	Coffee break							
		Emerging technologies: metamaterials, nonradiating modes, topological insulator II					Special Session - Space exploration and Human spaceflight: new challenges for photonic and microsystems		
11:30	11:50	Invited	<p><b>Andrea Di Falco</b> University of St Andrews, UK</p>	<p>Flexible holographic metasurfaces</p>	11:30	11:50	Invited	<p><b>Leonardo Surdo</b> European Space Agency, Netherlands</p>	<p>European space strategies for future space human explorations</p>
11:50	12:05	Oral	<p><b>Quentin Flamant</b> Univ. Bordeaux, CNRS, France</p>	<p>Optical magnetism in self-assembled metamaterials</p>	11:50	12:05	Oral	<p><b>Monica Monici</b> University of Florence, Italy</p>	<p>NIR laser therapy by MLS-Mis device for treating neuropathic pain</p>
12:05	12:20	Oral	<p><b>Concita Sibilìa</b> Sapienza, University of Rome, Italy</p>	<p>Enantioselectivity of chiral molecules on asymmetric hole array substrate</p>	12:05	12:20	Oral	<p><b>Gemma Rius</b> Institute of Microelectronics of Barcelona, Spain</p>	<p>Customized micro and nano technologies to enable new miniaturized platforms and components for Space exploration</p>
12:20	12:35	Oral	<p><b>Michael Mazilu</b> University of St Andrews, UK</p>	<p>Optical eigenmodes description of photon eigenstates</p>	12:20	12:35	Oral	<p><b>Tianheng Zhao</b> University of Cambridge, UK</p>	<p>Printing of Responsive Photonic Cellulose Nanocrystal Micro-Film Arrays as humidity sensors</p>
					12:35	12:50	Oral	<p><b>Vanja Miskovic</b> Universite libre de Bruxelles, Belgium</p>	<p>Flexible Liquid Crystal Temperature Monitoring System for monitoring the Wound Healing Process</p>
13:00	14:30	Lunch							
					12:50	13:05	Oral	<p><b>Aniello Pelella</b> CNR-IMM, Italy</p>	<p>Remote electrical powering over Fiber Optics in Space environment</p>

Special session - Waves in Complex Photonic Media: Fundamentals and Device Applications I			
14:30	14:50	Invited	<b>Claudio Conti</b> Università di Roma La Sapienza, Italy <b>Deep reservoir computing in tumor cells and Ising machines by spatial light modulators</b>
14:50	15:10	Invited	<b>Lucio Andreani</b> University of Pavia, Italy <b>Slow Light to Reduce the Energy Dissipation of Mach-Zehnder Modulators in Silicon Photonics</b>
15:10	15:30	Invited	<b>Francesco Riboli</b> CNR-INO, Italy <b>Information Entropy of the Local Density of States in 2D disordered photonic systems</b>
15:30	16:00	Coffee break	
Special session - Waves in Complex Photonic Media: Fundamentals and Device Applications I			
16:00	16:20	Invited	<b>Uwe Grimm</b> The Open University, Walton Hall, UK <b>Diffraction of aperiodically ordered structures</b>
16:20	16:40	Invited	<b>Marcel Filoche</b> École polytechnique, France <b>Modeling light absorption and emission in disordered GaN-based semiconductors</b>
16:40	17:00	Invited	<b>Cefe López</b> Instituto de Ciencia de Materiales de Madrid, Spain <b>Establishing spectral correlations in random laser networks</b>
17:00	17:15	Oral	<b>Marco Leonetti</b> Istituto Italiano di Tecnologia, Roma, Italy <b>Transverse localization of light, applications, experiments and theory</b>

Special Session- Optical Systems for Solar Energy			
14:30	14:50	Invited	<b>Elisa Sani</b> CNR-INO, Italy <b>Novel materials for sunlight absorption and energy transfer</b>
14:50	15:05	Oral	<b>Davide De Maio</b> CNR-IMM, Italy <b>A Solar Selective Absorber for high vacuum flat solar thermal panels</b>
15:05	15:25	Invited	<b>Peter Bermel</b> Purdue University, United States <b>Ultra-high efficiency compact solar modules enabled by photonic superprisms</b>
15:25	15:55	Coffee break	
Special Session- Optical Systems for Solar Energy			
15:55	16:15	Invited	<b>Salvatore Lombardo</b> CNR-IMM, Italy <b>Bifacial Si heterojunction solar cells: impact of defects and optimization of bifaciality</b>
16:15	16:30	Oral	<b>Carmine D'Alessandro</b> CNR-IMM, Italy <b>An instrument to evaluate Selective Solar Absorber properties in operating conditions</b>
Imaging and spectroscopy			
16:30	16:50	Invited	<b>Valerio Pruneri</b> ICFO, Spain <b>Large field of view imaging with classical and quantum light</b>
16:50	17:05	Oral	<b>Andrea Caroppo</b> CNR-IMM, Italy <b>Experimental study on the use of a Time-of-Flight depth-camera for facial expression recognition in the field of AAL</b>
17:05	17:25	Invited	<b>Roberto Pini</b> CNR-IFAC, Italy <b>Strategies based on Surface and Tip Enhanced Raman Spectroscopy for detection and study of Alzheimer's biomarkers</b>
17:25	17:40	Oral	<b>Filippo Causa</b> University of Naples Federico II, Italy <b>miRNA quantification in-flow by coherent imaging technique</b>
17:40	17:55	Oral	<b>David Dannhauser</b> Istituto Italiano di Tecnologia, Italy <b>Label-free investigation and separation of cells using coherent imaging techniques and viscoelastic forces</b>



				Lab-on-chip devices	
17:55	18:10	Oral	<b>Nicola Lovecchio</b> Sapienza University of Rome, Italy	Lab-on-Chip System for Electrochemiluminescence Detection Based on Thin/Thick Film Technologies	
18:10	18:25	Oral	<b>Sara Coppola</b> CNR-ISASI, Italy	Pyro-electric effect for designing microfluidic chip and micro-optical components	
Social dinner					

## Wednesday, September 11th

9:00	9:45	Plenary III: Alberto Diaspro, Nanoscopy, IIT-CHT Erzell, Italy							
		Nanophotonics II					Optical cavities sensors		
9:45	10:05	Invited	<b>Francesco Banfi</b> Université Lyon1 and CNRS, France	Photoacoustic investigation of nanogranular ultra-thin films	09:45	10:05	Invited	<b>Yves-Alain Peter</b> Polytechnique Montreal, Canada	Sensing and Tuning with Optical Microresonators on Chip
			<b>Femius Koenderink</b> Center for Nanophotonics, AMOLF, The Netherlands	Phase and polarization-resolved radiation patterns of single nano-objects and embedded eigenstates	10:05	10:25	Invited	<b>Gianluca Gagliardi</b> CNR-INO, Italy	Optical sensing and opto-mechanics with liquid droplet microresonators
10:05	10:25	Invited	<b>Stefano Trillo</b> University of Ferrara, Italy	Topographic fibers: a platform for fundamental physical phenomena	10:25	10:40	Oral	<b>Marco Pisco</b> University of Sannio, Italy	Lab-on-fiber accelerometers using micro-mechanical structure
10:25	10:45	Invited	<b>Shuwen Chen</b> National University of Defense Technology, China	Squeezing of light with pyramidal horn nanoantenna	10:25	10:40	Oral	<b>Maurizio Casalino</b> CNR-IMM, Italy	Near-Infrared Resonant Cavity Enhanced Graphene/Silicon Photodetectors
10:45	11:00	Oral			10:40	11:00	Invited		
11:00	11:30	Coffee break							
		Light-matter interactions: emission, sensing, imaging II					Digital holography		
11:30	11:50	Invited	<b>Cristian Ciraci</b> Istituto Italiano di Tecnologia, Italy	Microscopic response of large plasmonic systems via quantum hydrodynamic theory: application to strong light-matter interactions	11:30	11:50	Invited	<b>Fernando Mendoza</b> Centro de Investigaciones en Optica, A.C., Optical Metrology, Mexico	Digital Holographic Interferometry with photons and electrons: looking at cells and nano materials
			<b>Fabio Antonio Bovino</b> Università di Roma La Sapienza, Italy	Coherence and simmetry properties of the Stokes vector of the photoluminescence generated by a periodic array of aluminum nanoantennas	11:50	12:05	Oral	<b>Lisa Miccio</b> CNR-ISASI, Italy	Photorefractive materials to interface biological samples
11:50	12:10	Invited	<b>John Bignon</b> Institut Foton, Univ Rennes, France	Deep-red photoluminescence waveguiding in centimeters-long hybrid active microwires	11:50	12:05	Oral	<b>Teresa Cacace</b> CNR-ISASI, Italy	Compact modules for digital holographic microscopy in microfluidics
12:10	12:25	Oral	<b>Xavier Zambrana-Puyalto</b> Istituto Italiano di Tecnologia, Genova, Italy	Probing light-matter interactions with vortex beam-induced circular dichroism	12:05	12:20	Oral	<b>Silvio Montresor</b> Le Mans University, France	A deep learning based algorithm applied to the processing of phase data in digital holography
12:25	12:40	Oral	<b>Li Wang</b> Beijing University of Technology, China	Dual - parameter measurement for connecting of PCF and FBG with temperature - pressure by Sagnac interferometer	12:20	12:35	Oral	<b>Lisa Miccio</b> CNR-ISASI, Italy	Label-free morphological biomarkers for early diagnosis in oncology
12:40	12:55	Oral			12:35	12:50	Oral		
13:00	14:30	Lunch							

<b>Special session: Waves in Complex Photonic Media: Fundamentals and Device Applications II</b>			
14:30	14:50	Invited	<b>Jacopo Bertolotti</b> University of Exeter, UK <b>Blind Ghost Imaging</b>
14:50	15:10	Invited	<b>Romolo Savo</b> ETH Zurich, Switzerland <b>Second harmonic generation in complex assemblies of oxides nanoparticles</b>
15:10	15:30	Invited	<b>Fabrizio Sgrignuoli</b> Boston University, USA <b>3D light localization in hyperuniform sub-random media</b>
15:30	16:00	<b>Coffee break</b>	
<b>Special session: Waves in Complex Photonic Media: Fundamentals and Device Applications II</b>			
16:00	16:20	Invited	<b>Filippo Caruso</b> LENS, Firenze, Italy <b>to be defined</b>
16:20	16:40	Invited	<b>Amit Agrawal</b> The National Institute of Standards and Technology (NIST), USA <b>Spatiotemporal Shaping of Optical Fields Using Metasurfaces</b>

<b>Optical manipulation</b>			
14:30	14:50	Invited	<b>Mercedes Carrascosa</b> Universidad Autónoma de Madrid, Spain <b>Manipulation, trapping and splitting of water and aqueous bio-droplets by photovoltaic optoelectronic tweezers</b>
14:50	15:05	Oral	<b>Stefania Privitera</b> CNR-IMM, Italy <b>Photo-electrochemical water splitting through silicon based photovoltaics</b>
15:05	15:25	Invited	<b>Alessandro Busacca</b> Università degli Studi di Palermo, Italy <b>to be defined</b>
15:25	15:40	Oral	<b>Eljesa Murtezi</b> Johannes Kepler Universität Linz, Austria <b>Controlling the photochemistry: Photo-oxidation confined to the nanoscale via stimulated emission depletion</b>
15:40	16:00	<b>Coffee break</b>	
<b>Special session: Optical Quantum Technologies</b>			
16:00	16:20	Invited	<b>Lorenzo Colace</b> University Roma Tre, Italy <b>Colloidal Quantum Dots: materials, technology and application prospects</b>
16:20	16:35	Oral	<b>Mikhail Lisitskiy</b> CNR-ISASI, Italy <b>A superconducting quantum network as a platform for quantum simulation of complex magnetic systems</b>
16:35	16:50	Oral	<b>Mikkel Ejrnaes</b> CNR-SPIN, Italy <b>Superconducting Nanowire Single Photon Detectors: properties, applications and recent developments</b>
<b>Plasmonic devices</b>			
16:50	17:05	Oral	<b>Massimo Rippa</b> CNR-ISASI, Italy <b>Rotavirus detection by Octupolar Functionalized LSPR Nanosensors</b>
17:05	17:20	Oral	<b>Bartolomeo Della Ventura</b> Politecnico di Milano, Italy <b>Plasmonic Enhanced Fluorescence for Multiplexing Biosensing</b>
17:20	17:35	Oral	<b>Marco Consales</b> University of Sannio, Italy <b>Optical Fiber Meta-Tip: a Novel Platform for Highly Sensitive Detection of Molecular Interactions</b>
17:35	17:50	Oral	<b>Armando Ricciardi</b> University of Sannio, Italy <b>Smart Microgels for Lab on Fiber Technology</b>