

**SPP9**

The 9<sup>th</sup> International Conference on  
**Surface Plasmon Photonics**

May 26 – May 31, 2019 Copenhagen, Denmark

## Welcome to Scandic Copenhagen



### Program SPP9, Sunday May 26

15:00 - 18:00 - Registration

17:00 - 18:00 - Welcome reception with snacks and drinks

**HEIDELBERG**  
INSTRUMENTS

**POLYTEKNIK** 



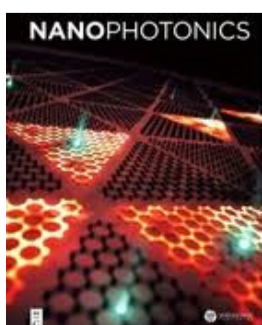
VILLUM FONDEN  


nea!spec see the nanoworld

**NKT** Photonics



Thomas B.  
Thriges Fond



**INI4**  
NIL TECHNOLOGY

 **INDEPENDENT  
RESEARCH FUND  
DENMARK**

**SDU**   
UNIVERSITY OF  
SOUTHERN DENMARK

## Program SPP9, Monday 27 May

07:00-09:00	<b>Registration</b>	
09:00-09:15	<b>Welcome with Professor Sergey I. Bozhevolnyi</b>	
09:15-10:15	<b>Thomas Ebbesen, Invited plenary speaker</b> University of Strasbourg, France <i>Polaritons in Material Science</i>	
10:15 - 10:45	<b>Coffee Break</b>	
	Session 1a room? <b>Metasurfaces 1</b> Chair:	Session 1b room? <b>Quantum Plasmonics 1</b> Chair:
10:45 - 11:20	<b>Federico Capasso, Invited speaker</b> Harvard University, Massachusetts, US <i>Polariton Metasurface Optics</i>	<b>Francisco J García-Vidal, Invited speaker</b> Universidad Autónoma de Madrid, Spain <i>Organic molecules strongly coupled to plasmonic cavities</i>
11:20 - 11:45	<b>Peining Li</b> CIC Nanogune, Spain <i>Infrared hyperbolic metasurface based on nanostructured van der Waals materials</i>	<b>Benjamin Vest</b> Institut d'Optique Graduate School, France <i>Revisiting quantum optics with single surface plasmons</i>
12:00 - 13:30	<b>Lunch</b>	
	Session 2a room? Chair: <b>Metasurfaces 2</b>	Session 2b room? Chair: <b>Quantum Plasmonics 2</b>
13:30 - 14:05	<b>Hatice Altug, Invited speaker</b> EPFL Lausanne, CH <i>Nanophotonic Metasurfaces for Biosensors and Bioimaging</i>	<b>Jeremy Baumberg, Invited speaker</b> University of Cambridge, UK <i>Plasmonic Nano-Actuators: Moving Nanomachines by Light</i>
14:05 - 14:30	<b>Jose Garcia-Guirado</b> ICFO, Spain <i>Enantio-Selective Sensing Using Plasmonic Racemic Arrays</i>	<b>Ya-Lun Ho</b> University of Tokyo, Japan <i>On-chip fabricated non-transfer plasmonic-waveguide nanolaser</i>
14:30 - 14:50	<b>Inki Kim</b> <b>Carlsberg Foundation Scholarship</b> POSTECH, South Korea <i>Geometric metasurfaces enabled transformative flat optical devices</i>	<b>Xiao Xiong,</b> <b>Carlsberg Foundation Scholarship</b> A*STAR, Singapore <i>Quantum plasmonic immunoassay sensin</i>
14:50 - 15:20	<b>Coffee Break</b>	
	Session 3a room? Chair: <b>Bio Sensing</b>	Session 3b room? Chair: <b>Graphene Plasmonics 1</b>
15:20 - 15:55	<b>Romain Quidant, Invited speaker</b> ICFO, Spain <i>Dielectric nanoresonators for reconfigurable planar optics and biosensing</i>	<b>Frank Koppens, Invited speaker</b> ICFO, Spain <i>Topological plasmons, polaritonic metasurfaces and twist-plasmonics</i>
15:55 - 16:20	<b>Oara Neumann</b> Rice University, Texas, US <i>Plasmonic Nanostructures for Imaging &amp; Targeting Drug Delivery</i>	<b>Dmitri Svintsov</b> Moscow Institute of Physics and Technology, Russia <i>Plasmon-assisted terahertz detection in graphene transistors</i>
16:20 - 16:40	<b>Jacob Engelberg</b> <b>Carlsberg Foundation Scholarship</b> Hebrew University of Jerusalem, Israel <i>Near-IR Wide Field-of-View Huygens Metalens for Outdoor Imaging Applications</i>	<b>Álvaro Cuartero</b> <b>Carlsberg Foundation Scholarship</b> Universidad Autónoma de Madrid, Spain <i>Light-Forbidden Transitions in Plasmon-Emitter Interactions beyond the Weak-Coupling Regime</i>
18:00 - 19:00	City Hall Reception	

### Program SPP9, Tuesday 28 May

	Session 4a room? Chair: <b>Quantum Plasmonics 3</b>	Session 4b room? Chair: <b>Electron- Plasmon Interactions 1</b>
09:00 - 09:35	<b>Teri W. Odom, Invited speaker</b> Northwestern University, Illinois, US <i>Conformal Solid-state Emitters Coupled to Plasmonic Nanoparticle Arrays</i>	<b>Jennifer A. Dionne, Invited speaker</b> Stanford University, California, US <i>The Light Years: Combined optical and environmental electron microscopy to visualize plasmonic processes with atomic-scale resolution</i>
09:35 - 10:00	<b>Tomas Neuman</b> University of the Basque Country / CSIC, Spain Controlling molecular vibrations through resonant surface-enhanced Raman scattering	<b>Valerio Di Giulio</b> ICFO, Spain Probing out-of-equilibrium optical excitations with fast electrons
10:00 - 10:20	<b>Adriana Canales Ramos</b> <b>Carlsberg Foundation Scholarship</b> Chalmers University of Technology, Sweden <i>Collective Strong Light-Matter Coupling in Hierarchical Microcavity-Plasmon-Exciton Systems</i>	<b>Marty Oelschläger</b> <b>Carlsberg Foundation Scholarship</b> Humboldt University Berlin, Germany <i>Non-conservative Dispersion Forces and Collective Interface Plasmon- Polaritons</i>
10:15 - 10:45	<b>Coffee Break</b>	
	Session 5a room? Chair: <b>Quantum Plasmonics 4</b>	Session 5b room? Chair: <b>Graphene Plasmonics 2</b>
10:40 - 11:15	<b>Luis Martín-Moreno Invited speaker</b> University of Zaragoza, Spain <i>Theory on Waveguide QED with molecules</i>	<b>Javier F. García de Abajo, Invited speaker</b> ICFO, Spain <i>Plasmonics in Two-Dimensional Crystals</i>
11:15 - 11:40	Eduardo Brioso Dias ICFO, Spain <i>Fundamental limits in the coupling between light and 2D polaritons using point and line scatterers</i>	Sanshui Xiao Technical University of Denmark, Denmark <i>Graphene plasmonic photodetector with the bandwidth beyond 110 GHz</i>
12:00 - 13:30	<b>Lunch</b>	
13:15 - 13:30	<b>Neaspec presentations, room ?</b>	
	Session 6a room? Chair: <b>Energy Harvesting</b>	Session 6b room? Chair: <b>Graphene Plasmonics 3</b>
13:30 - 14:05	<b>Mark Brongersma, Invited speaker</b> Stanford University, California, US <i>Optical Emission and Absorption Near a Metasurface Mirror</i>	<b>Rainer Hillenbrand, Invited speaker</b> CIC nanoGUNE, Spain <i>Phonon Polariton Nanophotonics based on 2D Materials</i>
14:05 - 14:30	<b>Shai Tseses</b> Technion, Israel <i>Optical skyrmions: a new texture of light</i>	<b>Pablo Alonso-González</b> University of Oviedo, Spain <i>In-Plane Anisotropic and Ultra-Low Loss Polaritons in a Natural van der Waals Crystal</i>
14:30 - 14:50	<b>Souvik Ghosh</b> <b>Carlsberg Foundation Scholarship</b> Indian Institute of Science, India <i>Active nanomanipulation with magnetically actuated mobile plasmonic nanotweezers</i>	<b>Aleksandr Petrov</b> <b>Carlsberg Foundation Scholarship</b> Moscow Institute of Physics and Technology, Russia <i>Perturbation theory for two-dimensional hydrodynamic plasmons</i>
14:50 - 15:10	<b>Coffee Break</b>	
	Session 7a room? Chair: <b>Electron- Plasmon Interactions 2</b>	Session 7b room? Chair: <b>Novel Plasmonic Materials 1</b>
15:10 - 15:45	<b>Alexandre Bouhelier, Invited speaker</b> CNRS, France <i>Electrically-connected optical tunnel antennas as atomic-scale transducers</i>	<b>Alexandra Boltesseva, Invited speaker</b> Purdue University, Indiana, US <i>Tailorable Nanophotonics with 2D and Transdimensional Materials</i>
15:45 - 16:10	<b>Philippe Tassin</b> Chalmers University, Sweden <i>Asymmetric plasmon propagation and propagation length enhancement in current-carrying graphene</i>	<b>Katja Hoeflich</b> Helmholtz-Zentrum Berlin für Materialien und Energie, Germany <i>The resonant behavior of a single plasmonic helix</i>
16:10 - 16:45	<b>Anatoly V. Zayats, Invited speaker</b> King's College London, UK <i>Hot-electron effects in electrically-driven plasmonic nanostructures: sensing, chemistry and artificial synapses</i>	<b>Nicholas X. Fang, Invited speaker</b> Massachusetts Institute of Technology, Massachusetts, US <i>Quasi-2D Plasmons in Optical Coatings: From Emission Engineering to NanoKirigami</i>

## Program SPP9, Wednesday 29 May

	Session 8a room ? Chair: ? <b>Novel Phenomena &amp; Applications 1</b>	Session 8b room ? Chair: ? <b>Novel Plasmonic Materials 2</b>
09:00 - 09:35	<b>Nikolay I. Zheludev, Invited speaker</b> University of Southampton, UK <i>"Plasmonics" in free space &amp; atomic-scale far-field all-optical displacement metrology</i>	<b>Harald Giessen, Invited speaker</b> University of Stuttgart, Germany <i>In-Situ Thin Film Nanoscale Hydrogenography in Magnesium Plasmonics</i>
09:35 - 10:10	<b>Francesco De Angelis, Invited speaker</b> Istituto Italiano di Tecnologia, Italy <i>3D plasmonic nanostructures for hybrid bio-interfaces</i>	<b>Alexandre Dmitriev, Invited speaker</b> University of Gothenburg, Sweden <i>Magnetic, chemical and electrical steering of the nanoscale optical antennas</i>
10:10 - 10:40	<b>Coffee Break</b>	
	Session 9a room ? Chair: ? <b>Ultrafast &amp; Nonlinear Phenomena 1</b>	Session 9b room ? Chair: ? <b>Hot Electrons 1</b>
10:40 - 11:15	<b>Mark Stockman, Invited speaker</b> Georgia State University, Georgia, US <i>Quantum Solids in Ultrafast Strong Laser Fields: Topological Phenomena</i>	<b>Jacob Khurgin, Invited speaker</b> Johns Hopkins University, Maryland, US <i>Short yet eventful life of hot carriers in plasmonic metals</i>
11:15 - 11:40	<b>Lei Shi</b> Fudan University, China <i>Observation of Polarization Vortices in Momentum Space</i>	<b>Steven Jones</b> Chalmers University of Technology, Sweden <i>Thermoplasmonics: new avenues for active particle manipulation</i>
11:40 - 12:00	<b>Emanuele Galiffi</b> <b>Carlsberg Foundation Scholarship</b> Imperial College London, UK <i>Singular Graphene Metasurfaces</i>	<b>Aurélian John-Herpin</b> <b>Carlsberg Foundation Scholarship</b> EPFL, Switzerland <i>Plasmon-enhanced infrared spectroscopy for highly sensitive molecular studies in complex biosystems</i>
13:00 - 18:00	Excursion (with lunch bag or sandwich before leaving)	
19:00 - 00:00	Conference Dinner at Scandic Copenhagen	

# Program SPP9, Thursday 30 May

	Session 10a room ? Chair: ? <b>Quantum Plasmonics 5</b>	Session 10b room ? Chair: ? <b>Ultrafast &amp; Nonlinear Phenomena 2</b>
09:00 - 09:35	<b>Vladimir I Shalaev, Invited speaker</b> Purdue University, Indiana, US <i>High-speed, room-temperature quantum nanophotonics on a hybrid plasmonic-dielectric platform</i>	<b>Gennady Shvets, Invited speaker</b> Cornell University, New York, US <i>Ultrafast Nonlinear Optics In Time-Varying All-Dielectric Metasurfaces With Free Carriers</i>
09:35 - 10:10	<b>Timur Shegai, Invited speaker</b> Chalmers University of Technology, Sweden <i>Strong plasmon-exciton interactions at a single nanoantenna level</i>	<b>Christoph Lienau, Invited speaker</b> Carl von Ossietzky University in Oldenburg, Germany <i>Watching electrons move: Towards ultrafast microscopy with novel plasmon-based light and electron sources</i>
10:10 - 10:35	<b>Coffee Break</b>	
	Session 11a room ? Chair: ? <b>Quantum Plasmonics 6</b>	Session 11b room ? Chair: ? <b>Novel Phenomena &amp; Applications 2</b>
10:35 - 11:10	<b>Päivi Törmä, Invited speaker</b> Alto University, Finland <i>Bose-Einstein condensation and K-point lasing in plasmonic lattices</i>	<b>John Pendry, Invited speaker</b> Imperial College, UK <i>Singularities and their limitations for field enhancement</i>
11:10 - 11:35	<b>Niclas Sven Mueller</b> Freie Universität Berlin, Germany <i>Plasmon-Polaritons in the Ultrastrong Coupling Regime in Gold Nanoparticle Crystals</i>	<b>Jared Strait</b> National Institute of Standards and Technology, Maryland, US <i>Revisiting the photon-drag effect in metal films</i>
11:35 - 12:00	<b>Tigran Shahbazyan</b> Jackson State University, Mississippi, US <i>Cooperative emission mediated by energy transfer to a plasmonic antenna</i>	<b>Eliran Talker</b> The Hebrew University of Jerusalem, Israel <i>Observation of plasmonic enhanced EIT and velocity selective optical pumping measurements with atomic vapor</i>
12:00 - 13:30	<b>Lunch</b>	
13:15 - 13:30	<b>Asger Sollerup Jensen, NKT presentations, room ?</b>	
	Session 12a room ? Chair: ? <b>Hot Electrons 2</b>	Session 12b room ? Chair: ? <b>Metasurfaces 3</b>
13:30 - 14:05	<b>Peter Nordlander, Invited speaker</b> Rice University, Texas, US <i>Plasmon-induced hot carrier generation, relaxation, and applications</i>	<b>Thomas Zentgraf, Invited speaker</b> University of Paderborn, Germany <i>Nonlinear metasurface holography and imaging</i>
14:05 - 14:30	<b>Alexander Block</b> ICFO, Spain <i>Tracking Ultrafast Hot Electron Diffusion in Space and Time by Ultrafast Thermo-modulation Microscopy</i>	<b>Alexander S. Roberts</b> University of Southern Denmark, Denmark <i>Laser Writing of Bright Colors on Near-Percolation Plasmonic Reflector Arrays</i>
14:30 - 14:50	<b>Taeko Matsukata</b> <b>Carlsberg Foundation Scholarship</b> Tokyo Institute of Technology, Japan <i>Higher-order electric and magnetic multipole modes visualized by STEM-Cathodoluminescence</i>	<b>Marie Rider</b> <b>Carlsberg Foundation Scholarship</b> Imperial College London, UK <i>Topological quantum dots: a novel platform for Quantum Optics</i>
14:50 - 15:10	<b>Coffee Break</b>	
	Session 13a room ? <b>Ultrafast &amp; Nonlinear Phenomena 3</b> Chair: ?	Session 13b room ? <b>Novel Plasmonic Materials 3</b> Chair: ?
15:10 - 15:45	<b>Javier Aizpurua, Invited speaker</b> Material Physics Center CSIC-UPV/EHU, Spain <i>Ultrafast Photocurrents Induced by Single-Cycle Optical Pulses in Plasmonic Nanogaps</i>	<b>Shanhui Fan, Invited speaker</b> Stanford University, California, US <i>Aspects of plasmonic device theory: absence of one-way modes in non-reciprocal plasmonics, and graphene plasmonic reflectors</i>
15:45 - 16:10	<b>Fumihiko Kannari</b> Keio University <i>Fabrication and in situ evaluation of nano graphene wire employing ultrafast nanofocused surface plasmon polariton pulses</i>	<b>Debdatta Ray</b> EPFL, Lausanne, Switzerland <i>Extending the limits of conventional plasmonics with low temperature alloying of noble metals</i>
16:10 - 16:45	<b>Alejandro Manjavacas, Invited speaker</b> University of New Mexico, New Mexico, US <i>Collective effects on periodic arrays of plasmonic nanostructures</i>	<b>Naomi Halas, Invited speaker</b> Rice University, Texas, US <i>Sustainable Plasmonics: a focus on Aluminum</i>
18:00 - 21:00	Poster Session with sandwich and beverages	

## Program SPP9, Friday 31 May

	Session 14a room ? <b>Plasmonic Devices 1</b> Chair: ?	Session 14b room ? <b>Novel Phenomena &amp; Applications 3</b> Chair: ?
09:00 - 09:35	<b>Harry Atwater, Invited speaker</b> California Institute of Technology, California, US <i>Tunable Plasmonic Interactions in Graphene: Perfect Absorption, Near Field Modulation and Bright Spontaneous Emission</i>	<b>Nader Engheta, Invited speaker</b> University of Pennsylvania, Pennsylvania, US <i>4D Metamaterials: Salient Features and Potential Applications</i>
09:35 - 10:00	<b>Martin Thomaschewski</b> University of Southern Denmark, Denmark <i>All-plasmonic directional coupler modulator based on strip-loaded waveguides on lithium niobate</i>	Andre-Pierre Blanchard-Dionne EPFL, Lausanne, Switzerland <i>Machine Learning for Color Generation Using Plasmonic Materials</i>
10:10 - 10:40	<b>Coffee Break</b>	
	Session 15a room ? <b>Plasmonic Devices 2</b> Chair: ?	Session 15b room ? <b>Metasurfaces 4</b> Chair: ?
10:40 - 11:05	<b>Evangelia Chatzianagnostou</b> Aristotle University of Thessaloniki, Greece <i>An Integrated Plasmophotonic Interferometric Sensor for High-Sensitivity Refractometric Sensing</i>	<b>Yuan Sheng Fang</b> UC Berkeley, California, US <i>A Novel Layer-by-Layer Approach for Fabrication of Graded Plasmonic Gratings for Infrared Spectroscopy</i>
11:05 - 11:30	<b>Christian Haffner</b> ETH Zurich, CH <i>High-Quality Hybrid-Plasmonic Resonators for Low-Speed Applications</i>	<b>Shunsuke Murai</b> Kyoto University, Japan <i>Enhanced photoluminescence and directional white-light generation by plasmonic arrays on phosphor plates</i>
11:30 - 12:00	<b>Closing Ceremony. Goodbye with a "To go lunch bag"</b>	