

The logo for NIFO 16, featuring the text 'NIFO 16' in a stylized, bold, orange font with a slight shadow effect, set against a dark red rectangular background.

THE 16<sup>th</sup> INTERNATIONAL CONFERENCE  
ON NEAR-FIELD OPTICS, NANOPHOTONICS & RELATED TECHNIQUES

The title 'CONFERENCE PROGRAM' is written in a large, bold, orange sans-serif font, centered horizontally across the middle of the page. The background of the entire page is a scenic photograph of a snow-capped mountain range under a clear sky, with a wide, flat valley or plain in the foreground.

August 29 – September 2, 2022  
University of Victoria, Victoria BC Canada



# Contents

NFO16 – General Information.....	2
Preface .....	3
NFO16 Organization Committee.....	4
Maps for Hotel, Conference Venue and Bus Stops.....	5
International Advisory Committee .....	7
International Program Committee.....	8
Summer School Program .....	9
Plenary Sessions.....	10
Oral Sessions .....	16
Poster Sessions.....	29
About Victoria .....	41
Sponsors, Awards and Exhibitors.....	42

# NFO16 – General Information

## Conference Schedules

Summer School: Aug. 29, 2022 (Monday)

Conference: Aug. 30 - Sept. 2, 2022 (Tuesday - Friday)

Location: Michele Pujol Room, Student Union Building

## Registration/Information Desk

Foyer outside of Michele Pujol Room, Student Union Building (SUB)

Monday, Aug. 29: 8:00am-5:00pm

Tuesday, Aug. 30 - Friday, Sep. 2: 8:30am-3:00pm

## Badge

Wearing a badge is mandatory to have access to the scientific sessions, refreshments and social events.

## Coffee Breaks / Lunches

Coffee breaks and lunches are located in Vertigo Room, Student Union Building (SUB).

## Welcome Reception and Banquet Dinner

Location: Delta Hotels by Marriott Victoria

Welcome Reception: Aug. 29, 2022, 5:30pm-7:30pm

Banquet Dinner: Aug. 31, 2022, 6:30pm-9:00pm

## Excursion:

Butchart Gardens, Aug. 31, 2022, 3:00pm-5:00pm

## Local Time: UTC/GMT -7

## Electricity Supply

Standard voltage is 120 V and the frequency is 60 Hz.

## Smoking Policy

Smoking is prohibited inside the premises. Specific places are available for smokers outside the buildings.

## Internet Access

An **Eduroam** connection is available across campus.

Create an Eduroam account before arriving on campus and use this connection throughout the conference.

Alternatively, connect to NFO16 guest Wi-Fi:

Network name: **NFO16** Network pwd: **Victoria1**

## Food Services

[A list](#) of on-campus food service hours & locations.

## Emergency Services

City of Victoria: Dial 911

Campus Security:

(Emergency): 250-721-7599

(Non-Emergency): 250-721-6683

## Bus Routes Downtown - University

Bus terminals are outside of Student Union Building. Routes #4, 7, 11, 14, 15 are between downtown and the University. #14 and 15 have stops closest to Delta Hotels. More details at [BCTransit website](#).

## Taxi Services

Bluebird Cabs Ltd. (250) 382-2222

Victoria Taxi (250) 383-7111

## Other Services at Student Union Building

ZAP Photocopying

Peoples Pharmacy

Banking Machines

## Parking

Visitors to campus may park in parking lots outside of Ring Road at a meter or display a valid hourly/daily/weekly parking permit available from permit dispensers or [online purchase](#). The closest parking lots to the conference are lots 1, 2 and 5. You will need your license plate number to pay.

## Accessibility Information

All conference session rooms are wheelchair-accessible and accessible by elevator. Single-accessible washrooms are located in the SUB and in the Hickman Building (HHB) 126. We are committed to making this conference accessible to all participants. If there is anything we can do to assist you, please let us know.

## Program Changes

NFO16 Organizing Committee cannot assume liability for any change in the program due to external or unforeseen circumstances.

Conference Website: [nfo16.uvic.ca](http://nfo16.uvic.ca)

## Preface

Welcome to NFO-16!

It has been 30 years since the first NFO was held, widely regarded as the premiere conference in the areas of near-field optics, nanophotonics, plasmonics and related techniques.

Following a 2 year COVID delay and a well-attended virtual event, we are delighted to welcome you in-person to Victoria this August-September. Victoria is one of Canada's top tourist destinations, with natural beauty and many activities. The conference sessions will be held at the University of Victoria, which we gratefully acknowledge as being the traditional lands of the lək'wəŋən peoples, lands that have on-going historical relationship with the Songhees, Esquimalt and W̱SÁNEĆ peoples. Between sessions, you can walk up the near-by Mount Tolmie (a hill really) for an outstanding view, or walk down to near-by Cadboro Bay.

The welcome reception and banquet will be held at the Delta Hotels by Marriott Victoria Ocean Pointe Resort in downtown Victoria. Hopefully you will get a chance to explore the inner harbour and its attractions. We will have an excursion to Butchart Gardens, which is billed as Victoria's "must-see oasis" with over a million guests each year.

This year, we have an outstanding international program, with world-leading plenary speakers and exceptional invited speakers. Over 250 abstracts were submitted, we expect an even greater number of participants from around the world. We are grateful to our sponsors the University of Victoria, Université de Technologie de Troyes, ACS Nano Letters and ACS Photonics, as well as Award providers MDPI Photonics, MDPI Nanomaterials, ACS Photonics and Optics Express. We also thank the International Advisory Committee and the International Program Committee for advising on the technical program (including suggesting the invited/plenary speakers and evaluating the submissions).

After NFO-16, we look forward to discovering where this conference will travel next, which will be announced on the last day of the conference. Those interested in hosting should submit an expression of interest (on the website) prior to the conference start.

Thank you for supporting NFO-16, and we look forward to seeing you in person in Victoria!

Best Regards,



Reuven Gordon, Professor  
Conference Chair



Alexandre Brolo, Professor,  
Conference Co-Chair

**P.S. To minimize the chance of COVID spreading, the conference organizers request that delegates wear masks in the technical sessions and during the poster sessions (when not eating or drinking).**

## NFO16 Organization Committee

**Chair: Reuven Gordon, Professor, Department of Electrical and Computer Engineering, University of Victoria**



Dr. Gordon (PhD Cambridge) is a Professor in the Department of Electrical and Computer Engineering, University of Victoria. He has received a Canadian Advanced Technology Alliance Award (2001), an Accelerate BC Industry Impact Award (2007), an AGAUR Visiting Professor Fellowship (2009), the Canada Research Chair in Nanoplasmonics (2009-2019), the Craigdarroch Silver Medal for Research Excellence (2011), a Fulbright Fellowship (2016), an NSERC Discovery Accelerator (2017), the Faculty of Engineering Teaching Award (2017) and a JSPS Invitational Fellowship (2020). He is a Fellow of Optica (formerly OSA), the Society for Photographic Instrumentation Engineers (SPIE), and the Institute for Electrical and Electronic Engineers (IEEE). Dr. Gordon has authored and co-authored over 180 journal papers (including 16 invited contributions). He is co-inventor for five patents and two patent applications. Dr. Gordon is a Professional Engineer of BC. Dr. Gordon has been recognized as an "Outstanding Referee" by the American Physical Society. He has also served as conference chair for several conferences, including SPIE NanoScience + Engineering and NFO16. Dr. Gordon is a Deputy Editor for Optics Express and on the Editorial Advisory Board for Advanced Optical Materials.

**Co-Chair: Alexandre Brolo, Professor, Department of Chemistry, University of Victoria**



*(Photo credit to Jasspreet Sahib)*

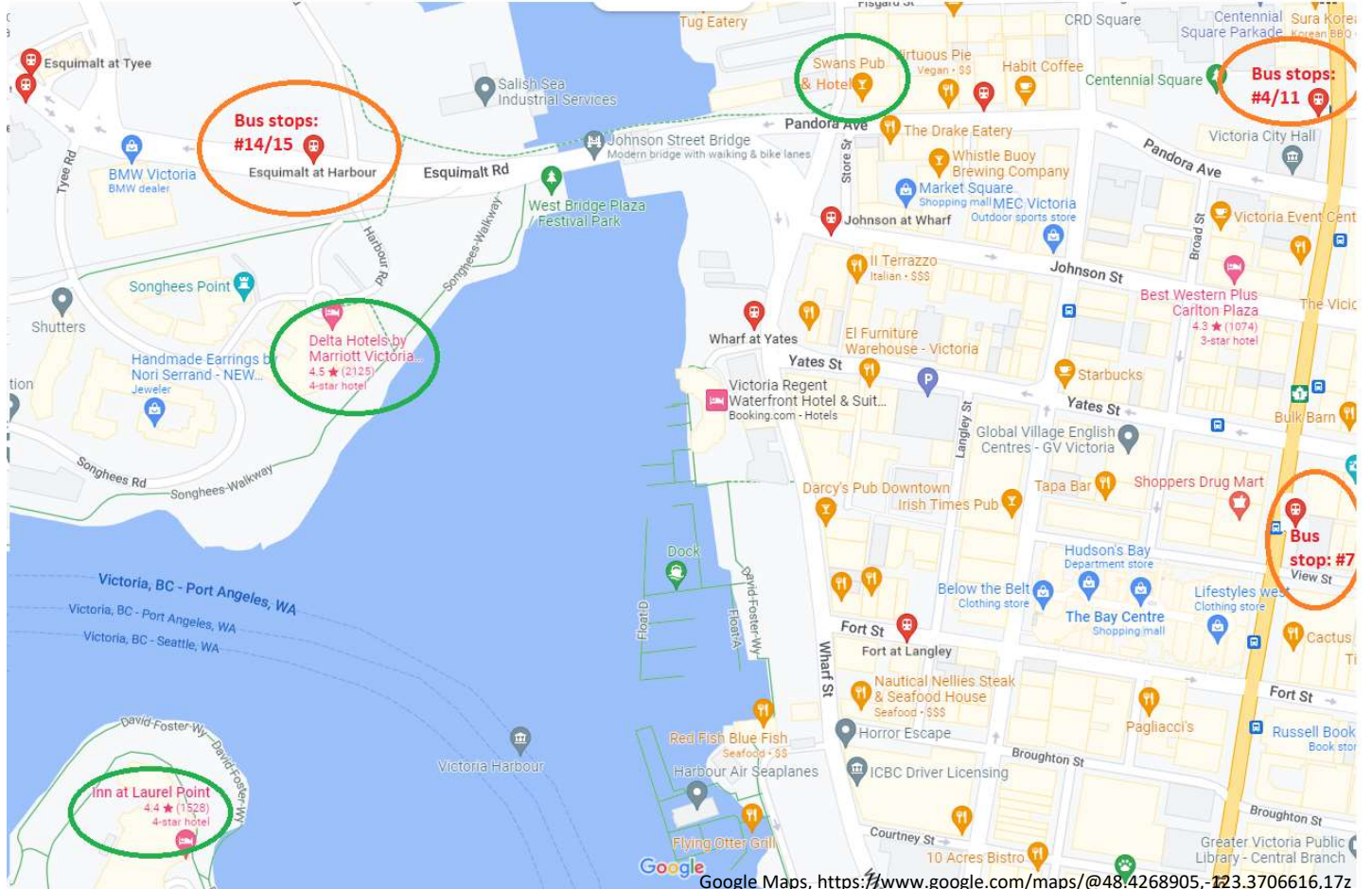
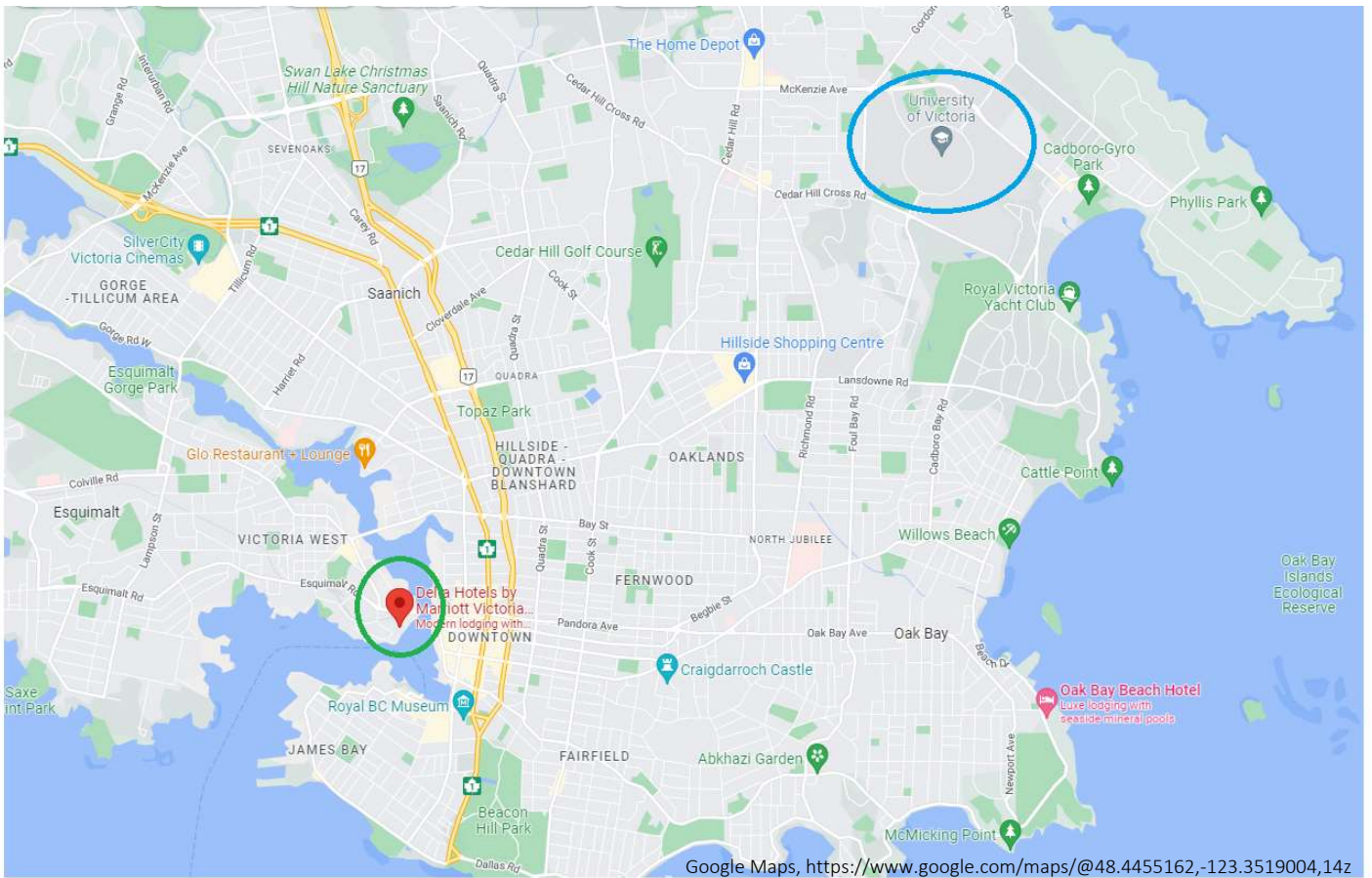
Dr. Alexandre G. Brolo is Professor of Chemistry at the University of Victoria in British Columbia, Canada. He obtained his M.Sc. from the University of Sao Paulo (Brazil) and his Ph.D. from the University of Waterloo (Canada). Dr. Brolo's research interest are of the fabrication of nanostructured metal surfaces; the investigation of their optical properties; and their application in analytical chemistry. He is well-known for his work on the development of new types of surface Plasmon resonance sensors and on the field of surface-enhanced spectroscopy, particularly on surface-enhanced Raman scattering (SERS).

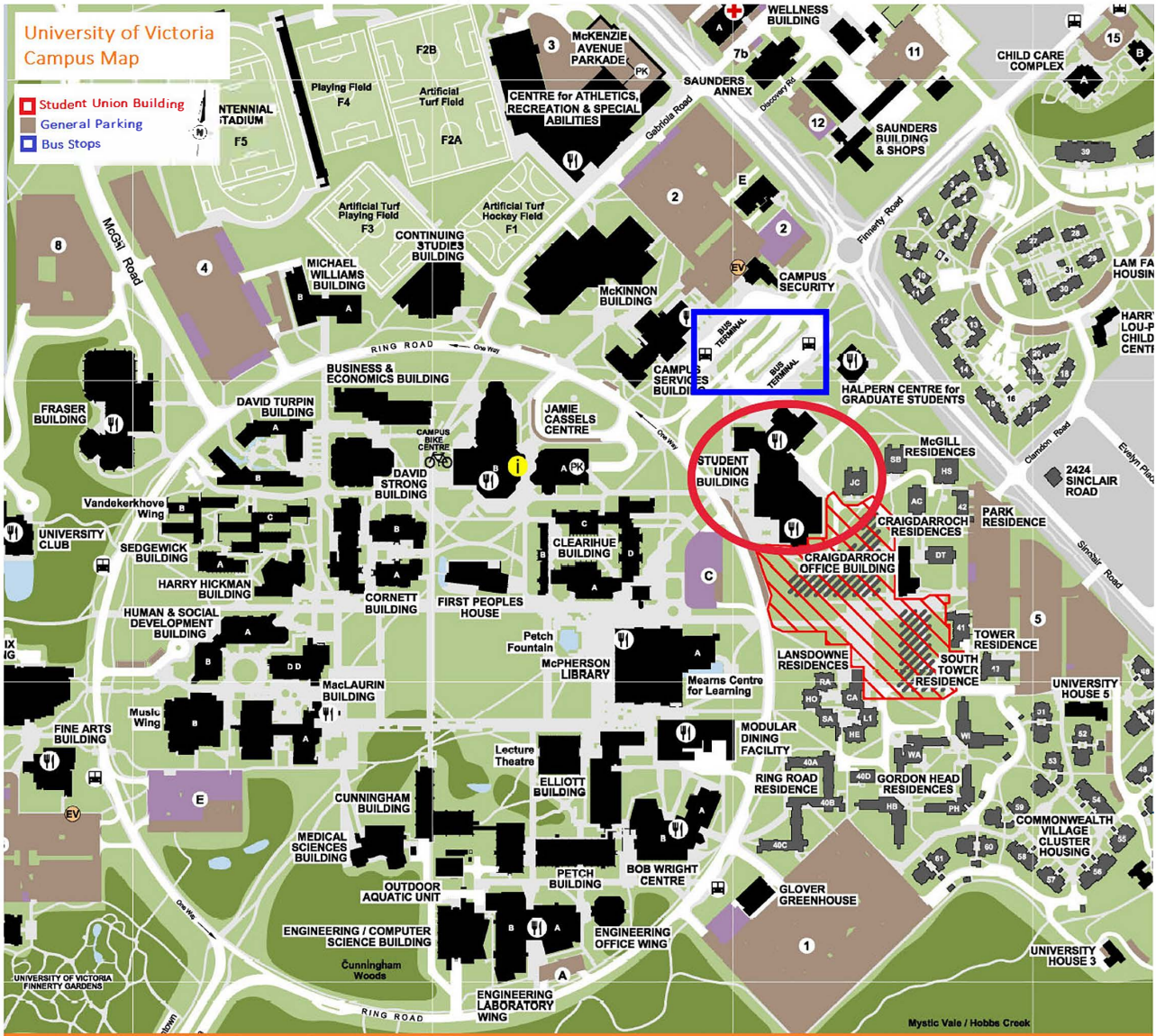
### **Conference Managers:**

Ghazal Hajisalem, University Of Victoria

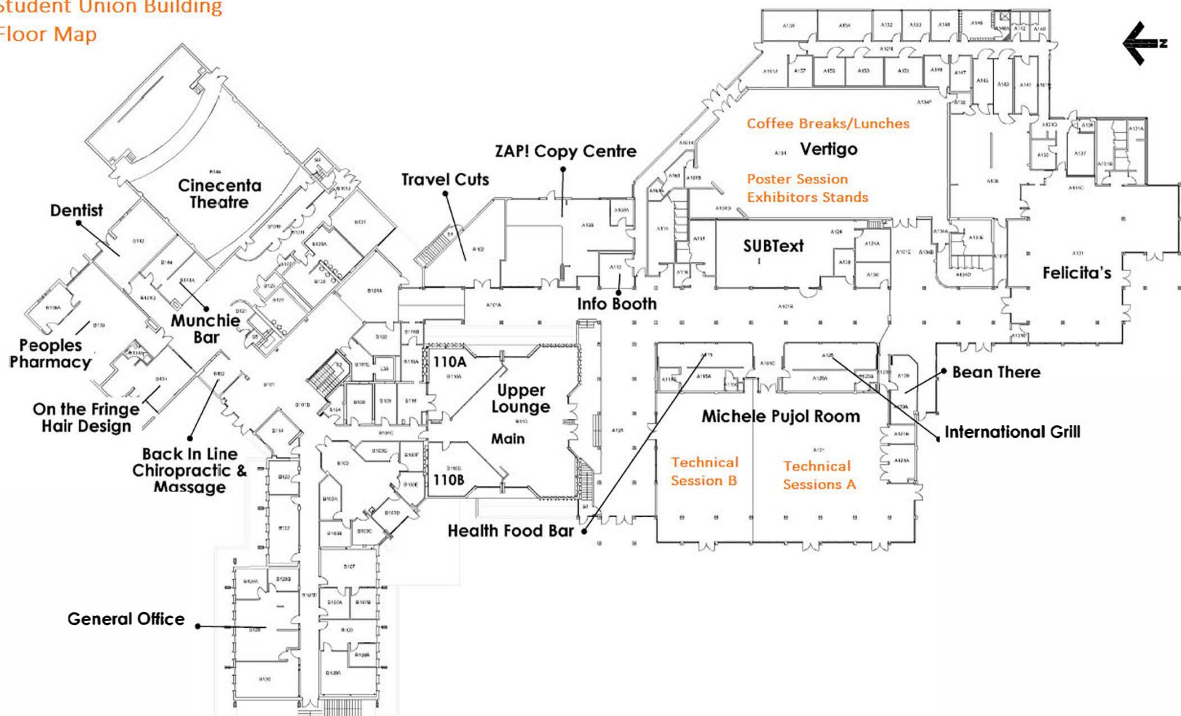
Shelley Ma, University Of Victoria

# Hotel, Conference Venue and Bus Stops





**Student Union Building Floor Map**





## International Advisory Committee

Javier **AIZPURUA**, DIPC and CSIC-UPV/EHU, Spain  
Renaud **BACHELOT**, University of Technology of Troyes, France  
Andrea **BRAGAS**, University of Buenos Aires, Argentina  
Jordan **GERTON**, University of Utah, USA  
Jean-Jacques **GREFFET**, Institute of Optics of Paris, France  
Naomi J. **HALAS**, Rice University, USA  
Bert **HECHT**, University of Würzburg, Germany  
Rainer **HILLENBRAND**, CIC nanoGUNE and Ikerbasque, Spain  
Wonho **JHE**, Seoul National University, Korea  
Satoshi **KAWATA**, Osaka University, Japan  
Yoshimasa **KAWATA**, Shizuoka University, Japan  
Fritz **KEILMANN**, Ludwig Maximilians Universität, Germany  
Ole **KELLER**, University of Aalborg, Denmark  
Joachim **KRENN**, Karl Franzens University Graz, Austria  
Olivier **MARTIN**, EPFL, Switzerland  
Alfred **MEIXNER**, Eberhard Karls University of Tübingen, Germany  
Lukas **NOVOTNY**, ETH Zürich, Switzerland  
Jérôme **PLAIN**, University of Technology of Troyes, France  
Markus **RASCHKE**, University of Colorado, USA  
Vahid **SANDOGHDAR**, Max Planck Institute for the Science of Light, Germany  
P. James **SCHUCK**, Columbia University, USA  
Din Ping  **TSAI**, National Taiwan University, Taiwan  
Niek **VAN HULST**, ICFO, Spain  
Xing **ZHU**, Peking University, China

## International Program Committee

Martin **AESCHLIMANN**, University of Kaiserslautern, Germany

Ritesh **AGARWAL**, University of Pennsylvania, USA

Hatice **ALTUG**, EPFL, Switzerland

Arnaud **ARBOUET**, CEMES-CNRS, France

Guillaume **BAFFOU**, Fresnel Institute, CNRS, Aix Marseille University, France

Paolo **BIAGIONI**, Polytechnic University of Milan, Italy

Joshua **CALDWELL**, Vanderbilt University, USA

Andrea **CENTRONE**, National Institute of Standards and Technology, USA

Wayne **DICKSON**, King's College London, UK

Rubén **ESTEBAN**, DIPIC and CSIC-UPV/EHU, Spain

Monika **FLEISCHER**, Eberhard Karls Universität Tübingen, Germany

Jer-Shing **HUANG**, Leibniz Institute of Photonic Technology, Germany

Chen-Bin (Robin) **HUANG**, National Tsing Hua University, Taiwan

Yasushi **INOUE**, Osaka University, Japan

Francesca **INTONTI**, University of Florence, Italy

Laura Na **LIU**, University of Stuttgart, Germany

Síle NIC **CHORMAIC**, Okinawa Institute of Science and Technology, Japan

David J. **NORRIS**, ETH Zürich, Switzerland

Sang-Hyun **OH**, University of Minnesota, USA

Matthew **PELTON**, University of Maryland, USA

Hrvoje **PETEK**, University of Pittsburgh, USA

Romain **QUIDANT**, ETH Zürich, Switzerland

Ann **ROBERTS**, University of Melbourne, Australia

Claus **ROPERS**, University of Göttingen, Germany

Toshiharu **SAIKI**, Keio University, Japan

Isabelle **STAUDE**, Friedrich-Schiller-University Jena, Germany

Ventsislav K. **VALEV**, University of Bath, UK

Jianfang **WANG**, The Chinese University of Hong Kong, Hong Kong

Jérôme **WENGER**, CNRS-Institut Fresnel, France

Gary P. **WIEDERRECHT**, Argonne National Laboratory, USA

# Summer School Program

Monday August 29, 2022 Michele Pujol Room, Student Union Building

8:00 – 8:30 Check-in, Foyer outside of Michele Pujol Room, Student Union Building (SUB)

8:30 WELCOME

**Reuven GORDON**, University Of Victoria, Canada

8:45 – 10:15

**Renaud BACHELOT**, University of Technology of Troyes (UTT), France

*Probing the near-field*

10:15 – 10:30 Coffee Break, Vertigo Room, Student Union Building

10:30 – 12:00

**Reuven GORDON**, University of Victoria, Canada

*Analytical methods for near-field optics*

12:00 – 1:00 Lunch, Vertigo Room, Student Union Building

1:00 – 2:30

**Stephen HUGHES**, Queen's University, Canada

*Theory and Applications of Quasinormal Modes in Classical and Quantum Nanophotonics*

2:30 – 2:45 Coffee Break, Vertigo Room, Student Union Building

2:45 – 4:15

**Owen MILLER**, Yale University, USA

*Fundamental limits to near-field optical response*

5:30 – 7:30 Welcome Reception

Arbutus Ballroom, Delta Hotels Victoria Ocean Pointe Resort, 100 Harbour Road, Victoria

# Plenary Sessions

Tuesday August 30<sup>th</sup> 9:00 – 9:30AM

**Warwick BOWEN**

University of Queensland

## **Absolute quantum advantage in bioimaging: stimulated Raman microscopy with quantum correlated light**

**Warwick P. Bowen<sup>1</sup>, Catxere A. Casacio<sup>1</sup>, Lars S. Madsen<sup>1</sup>, Alex Terrasson<sup>1</sup>, Muhammad Waleed<sup>1</sup>, Kai Barnscheidt<sup>2</sup>, Boris Hage<sup>2</sup>, Michael A. Taylor<sup>1</sup>, and Jane Doe<sup>1</sup>**

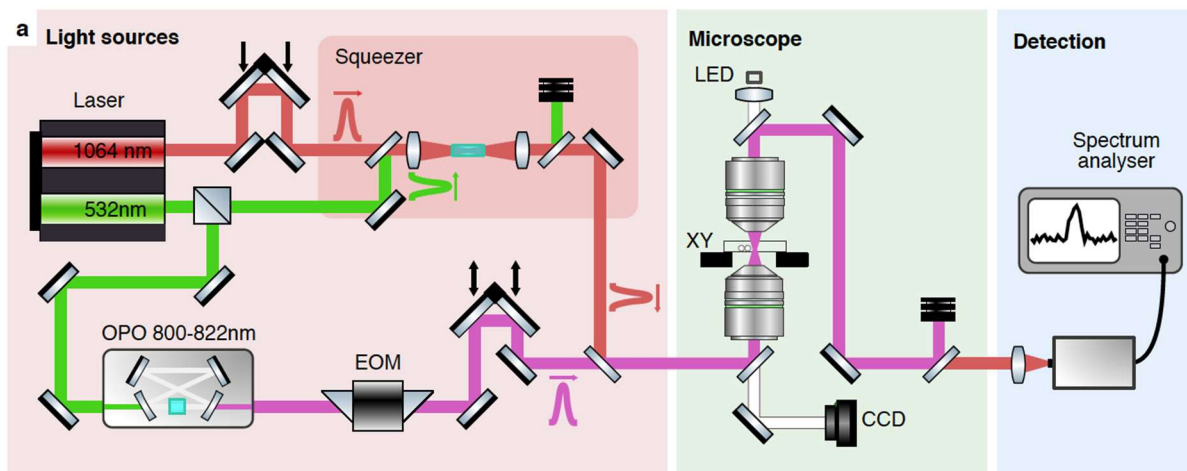
1. The University of Queensland, Brisbane, Australia

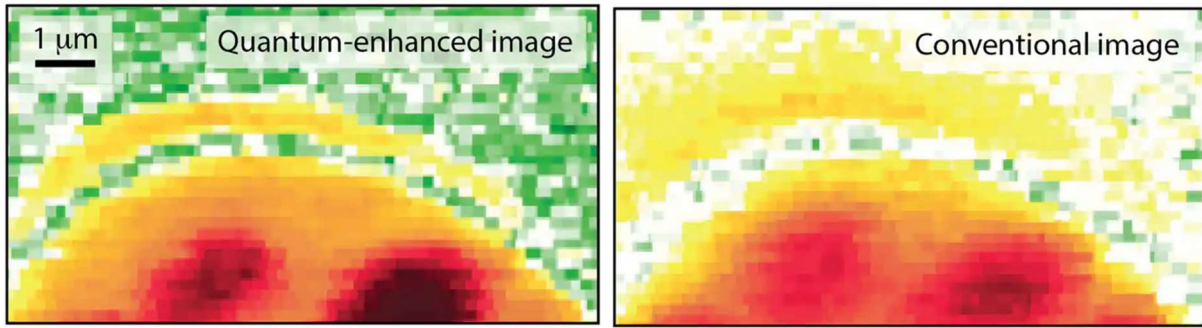
2. Universität Rostock, Rostock, Germany

E-mail: w.bowen@uq.edu.au

It has been recognised since the 1980s that quantum light sources have the potential to improve the performance of microscopes, enhancing the information that can be extracted from biological systems at fixed photon budget [1]. Indeed, today state-of-the-art microscopes use intense lasers that can severely disturb biological processes, function and viability. This introduces hard limits on performance that only quantum photon correlations can overcome [2]. As such, the development of photodamage evading microscopes are widely considered as a key milestone in quantum technology roadmaps (e.g. [3]).

In this talk I will report recent work which demonstrates absolute quantum advantage in biological imaging [3]. We show that quantum correlations enable signal-to-noise beyond the photodamage-free capacity of conventional microscopy. Broadly, this represents the first demonstration that quantum correlations can allow sensing beyond the limits introduced by optical intrusion upon the measurement process. We achieve this in a coherent Raman microscope, which we use to image molecular bonds within a cell with both quantum-enhanced contrast and sub-wavelength resolution. This allows imaging of biological structures that are inaccessible using classical light. Coherent Raman microscopes allow highly selective biomolecular finger-printing in unlabelled specimens, but photodamage is a major roadblock for many applications. By showing that this roadblock can be overcome, our work provides a path towards order-of-magnitude improvements in both sensitivity and imaging speed.





**Fig. 1** *Quantum-enhanced stimulated Raman microscope.* *Top:* microscope design. *Bottom:* comparison of quantum-enhanced and conventional images.

## References

- [1] Slusher, R. E. Quantum optics in the '80s. 1990. *Opt. Photon. News* **1**, 27–30.
- [2] Taylor, M. A. & Bowen, W. P. 2016. Quantum metrology and its application in biology. *Phys. Rep.* **615**, 1–59.
- [3] Casacio, C. A. *et al.*, Quantum-enhanced nonlinear microscopy. 2021. *Nature* **594** 201–206.

Wednesday, August 31<sup>st</sup>, 9:00 – 9:30AM

**Teri W. ODOM**

Northwestern University, 2145 Sheridan Road, Evanston, IL 60208 USA

todom@northwestern.edu

## Nanoscale Optics with Plasmonic Nanoparticle Lattices

This presentation will discuss advances and future prospects in manipulating light at the nanoscale using plasmonic nanoparticle lattices. These meta-surfaces support collective hybrid resonances known as surface lattice resonances with both light scattering and localization properties. First, we will describe the expanded scope of plasmonic lattices based on exquisite tuning of topological symmetries and surface engineering of the nanoparticles [1–4]. Next, we will highlight how the nanoscale cavities combined with quantum emitters show unprecedented nano-lasing properties [5–7]. Finally, we will discuss how this platform is opening new opportunities from ultra-long range and strong coupling to photoelectrocatalysis to auto-regulatory materials [8–11].

### References

- [1] Deng, S.; Li, R.; Park, J.-E.; Guan, J.; Choo, P.; Hu, J.; Smeets, P.J.M.; Odom, T.W. 2020. *PNAS* 117, 23380-23384.
- [2] Li, R.; Bourgeois, M.R.; Cherqui, C.; Guan, J.; Wang, D.; Hu, J.; Schaller, R.; Schatz, G.C.; Odom, T.W. 2019. *Nano Lett.* 19, 6435-6441.
- [3] Juarez, X.; Li, R.; Guan, J.; Reese, T.; Schaller, R.; Odom, T. W. 2022. *ACS Photonics* 9, 52-58.
- [4] Guan, J.; Bourgeois, M.R.; Li, R.; Hu, J.; Schaller, R.D.; Schatz, G.C.; Odom, T.W. 2021. *ACS Nano* 15, 5567-5573.
- [5] Fernandez-Bravo, A.; Wang, D.; Barnard, E.S.; Teitelboim, A.; Tajon, C.; Guan, J.; Schatz, G.C.; Cohen, B.E.; Chan, E.M.; Schuck, P.J.; Odom, T.W. 2019. *Nature Mater.* 18, 1172-1176.
- [6] Guan, J.; Sagar, L.S.; Li, R.; Wang, D.; Bappi, G.; Wang, W.; Watkins, N.; Bourgeois, M.R.; Levina, L.; Fan, F.; Hoogland, S.; Voznyy, O.; Martins de Pina, J.; Schaller, R.D.; Schatz, G.C.; Sargent, E.H.; Odom, T.W. 2020. *ACS Nano* 14, 3426-3433.
- [7] Guan, J.; Li, R.; Juarez, X. G.; Sample, A. D.; Wang, Y.; Schatz, G. C.; Odom, T.W. 2021. *Adv. Mater.* 2103262.
- [8] Sample, A. D.; Guan, J.; Hu, J.; Reese, T.; Cerqui, C. R.; Park, J.; Freire-Fernandez, F.; Schaller, R. D.; Schatz, G. C.; Odom, T.W. 2021. *Nano Lett.* 21, 7775-7780.
- [9] Bodetti, A. K.; Guan, J.; Sentz, T.; Juarez, X.; Newman, W.; Cortes, C.; Odom, T. W.; Jacob, Z. 2022. *Nano Lett.* 22, 22-28.
- [10] Deng, S.; Zhang, B.; Choo, P.; Smeets, P.J.M.; Odom, T.W. 2021. *Nano Lett.* 21, 1523-1529.
- [11] Lee, Y.-A. L.; Mousavikhamene, Z.; Amirthanath, A. K.; Neidhart, S. M.; Krishnaswamy, S.; Schatz, G. C.; Odom, T. W. 2022. *Small* 18, 2103865.

## Plenary Sessions

Thursday September 1<sup>st</sup>, 9:00 – 9:30AM

***Naomi J. HALAS***

Rice University, 6100 Main St., Houston, TX 77005  
halas@rice.edu

### **Nanomaterials and Light for Sustainability and Societal Impact**

Metallic nanoparticles, used since antiquity to impart intense, vibrant color into materials, then brought to scientific attention in the 19th century as “Faraday’s colloid”, have more recently become a central tool in the nanoscale manipulation of light. When excited by light, metallic nanoparticles undergo a coherent oscillation of their conduction electrons- known as a plasmon- which is responsible for their strong light-matter interactions and properties. While the scientific foundation of this field has been built on noble and coinage metals (most typically gold or silver), more recently we have begun to question whether the same or similar properties can also be realized in more sustainable materials. Aluminum, the most abundant metal on our planet, can support high-quality plasmonic properties spanning the UV-to-IR region of the spectrum. Coupling a plasmonic nanoantenna directly to catalytic nanoparticles or individual single-atom catalytic sites transforms the entire complex into an efficient, light-controlled catalyst capable of driving chemical reactions under surprisingly mild, low temperature conditions. This new type of light-based catalyst can be utilized for remediating greenhouse gases, and converting them to useful molecules for industry, or benign molecules for a cleaner planet. We have previously introduced photothermal effects for biomedical therapeutics; now, years after their initial demonstration, this approach is being utilized in human trials for the precise and highly localized ablation of cancerous regions of the prostate, eliminating the highly deleterious side effects characteristic of conventional prostate cancer therapies. Surface-Enhanced Raman Scattering (SERS) spectroscopy has long been hailed as a potentially powerful modality for chemical sensing: we examine how Machine Learning can enhance the practicality of SERS for the identification of environmental contaminants found in complex mixtures.



Friday, September 2<sup>nd</sup>, 9:00 – 9:30AM

***Philipp KUKURA***

University of Oxford

### **Mass photometry: Ultrasensitive light microscopy at the single molecule limit**

Physical and Theoretical Chemistry Laboratory, Department of Chemistry

University of Oxford, South Parks Road, Oxford OX1 3QZ, UK

Kavli Institute for Nanoscience Discovery

E-mail: philipp.kukura@chem.ox.ac.uk

Light scattering-based microscopy has made significant progress over the past decade, reaching the single molecule level both for resonant and non-resonant detection. We have been approaching the challenge of ultrasensitive detection through mass photometry (MP). MP enables not only the detection of single biomolecules in solution without labels, it does so with sufficient accuracy to measure the molecular mass of individual species with high levels of resolution and precision. I will introduce MP in the context of interference techniques more broadly, and explain the key technological steps enabling the current levels of detection sensitivity and measurement precision. I will then illustrate the reach of MP by demonstrating its applicability to both nucleic acids and membrane proteins in addition to lipids, sugars and polypeptides, thereby covering the majority of biomolecules. Combination of this broad applicability with the ability to accurately determine the relative amounts of species in complex mixtures without the need for labels or other sample modifications results in a universal method to study interaction stoichiometries, energetics and kinetics. Taken together, these results establish MP as an extremely powerful, solution-based, label-free, yet single molecule method to quantify and thereby study biomolecular structure and interactions.

# Oral Sessions

<b>Tuesday, August 30</b>		
	Michele Pujol Room - A	Michele Pujol Room - B
8:45-9:00	<b>Opening Ceremony - Alex Brolo</b>	
9:00-9:30	<b>Plenary: W. Bowen</b>	
	Chair: Vahid Sandoghdar	
9:30-10:30	<b>Session A1: Novel Theoretical Approaches to Nano-optics</b>	<b>Session B1: Nanoplasmonics and Optical Antennas I</b>
	Chair: Ruben Esteban	Chair: Jer-Shing Huang
	S. De Liberato - Invited	C. Galland - Invited
	C. Lanza	J. Wang
	J. Ren	M. Becker
10:30-11:00	<b>Coffee Break - Vertigo Room</b>	
11:00-12:30	<b>Session A2: Metamaterials and Metasurfaces I</b>	<b>Session B2: Nanoimaging I</b>
	Chair: Yuri Kivshar	Chair: Guillaume Baffou
	G. Bartal - Invited	A. Polman - Invited
	E. Bailly	A. Arbouet
	M. Liebtrau	C. Lienau
	<b>Session A3: Photochemistry and Hot Electrons I</b>	V. Zenin
	Chair: Pierre Berini	N. Granchi
	O. Henrotte	
	G. W. Leach	
12:30-1:30	<b>Lunch - Vertigo Room</b>	
1:30-3:00	<b>Session A4: 2D Materials I</b>	<b>Session B3: Biophotonics and Emerging Applications (Energy, Info, Bio) I</b>
	Chair: Pablo Alonso-González	Chair: Frank Vollmer
	A. Jorio - Invited	K. Crozier - Invited
	M. Obst	K. Uchiyama
	P. Tang	N. Fardian-Melamed
	<b>Session A5: Enhanced Spectroscopies (Fluorescence, IR, THz, Raman)</b>	<b>Session B4: Nanoplasmonics and Optical Antennas II</b>
	Chair: unconfirmed	Chair: Christophe Galland
	C. Maciel Escudero	D. Friedrich
3:00-3:30	<b>Coffee Break - Vertigo Room</b>	
3:30-5:00	<b>Enhanced Spectroscopies (Fluorescence, IR, THz, Raman) - Cont.</b>	<b>B4: Nanoplasmonics and Optical Antennas II - Cont.</b>
	R. Esteban	P. Pertsch
	I. W. Un	R. Mayer
	J. Aizpurua	P. A. Gonçalves
	T. Saiki	G. P. Acuna
	A. G. Brolo	M. Mayer
	M. E. Temperini	L. Abou-Hamdan
5:00-7:00	<b>Poster Session A</b> Vertigo Room	

Session	Title	Author First Name	Author Last Name	Author Organization
<b>Session A1: Novel Theoretical Approaches to Nano-optics - Chair: Ruben Esteban</b>				
A1-1	Invited: Nanophotonics and Optoelectronics with surface phonon polaritons	Simone	De Liberato	University of Southampton, United Kingdom
A1-2	Anisotropic Polaritons in Heterostructures made of Rotated Thin Layers and Dielectric Spacers	Christian	Lanza	Universidad de Oviedo, Spain
A1-3	Quasnormal mode theory of Purcell factors and chiral radiation from nanophotonic resonators near an exceptional point	Juanjuan	Ren	Queen's University, Canada
<b>Session B1: Nanoplasmonics and Optical Antennas I - Chair: Jer-Shing Huang</b>				
B1-1	Invited: Mid-IR to Visible Optomechanical Transduction with Molecules in a Nanocavity	Christophe	Galland	Ecole Polytechnique Fédérale de Lausanne (EPFL), Switzerland
B1-2	Plasmonic Nanoantennas Made of High-Aspect-Ratio Silver Nanorods	Jianfang	Wang	The Chinese University of Hong Kong, Hong Kong
B1-3	Using a novel scanning probe technique to strongly couple a single quantum dot to a tunable plasmonic nanogap antenna at room-temperature	Michael	Becker	Max Planck Institute for the Science of Light, Germany
<b>Session A2: Metamaterials and Metasurfaces I - Chair: Yuri Kivshar</b>				
A2-1	Invited: Topological transitions and surface umklapp scattering in periodically- modulated metasurfaces beyond the effective medium	Guy	Bartal	Technion - Israel institute of technology, Israel
A2-2	Quantitative modelling and engineering of photoluminescence from light-emitting metasurfaces via absorption calculations	Elise	Bailly	Institut d'Optique, France
A2-3	Nanophotonics controlling free-electron-light-matter interactions	Matthias	Liebtrau	NWO-Institute AMOLF, The Netherlands
<b>Session A3: Photochemistry and Hot Electrons I - Chair: Pierre Berini</b>				
A3-1	2D chemical mapping of light driven reactions by plasmonic nanostructures	Olivier	Henrotte	RCPTM - CATRIN, Palacký University Olomouc, Czech Republic
A3-2	Hot Electron Extraction Enabled by Single-Crystal Metal Films and Nanostructures	Gary W.	Leach	Simon Fraser University, Canada
<b>Session B2: Nanoinaging I - Chair: Guillaume Baffou</b>				
B2-1	Invited: Holography, nanothermometry, and quantum correlations in extreme near fields probed with high-energy electrons	Albert	Polman	NWO-institute AMOLF, The Netherlands
B2-2	Inelastic in-line holography in an ultrafast electron microscope	Arnaud	Arbouet	CEMES-CNRS, France
B2-3	A new broadband, interferometric s-SNOM spectroscopy technique for probing the time-domain response of single Halide Perovskite nanoparticles	Christoph	Lienau	Universität Oldenburg, Germany
B2-4	Extremely confined gap plasmon modes: when nonlocality matters	Vladimir	Zenin	University of Southern Denmark, Denmark
B2-5	Near-field optical study of Hyperuniform Disordered photonic structures	Nicoletta	Granchi	European Laboratory for Non-linear Spectroscopy, LENS, Italy
<b>Session A4: 2D Materials I - Chair: Pablo Alonso-González</b>				
A4-1	Invited: TERS study of phonon localization in low-angle twisted bilayer graphene and other two-dimensional Systes	Ado	Jorio	Universidade Federal de Minas Gerais, Brazil
A4-2	THz-Light Canalization by Phonon Polaritons in 2D van der Waals Materials	Maximilian	Obst	Technische Universität Dresden, Germany

Session	Title	Author First Name	Author Last Name	Author Organization
A4-3	Imaging the Bandgap Shifting in WxMo1-xS2 by Near-Field Broadband Transmittance Microscopy	Po-Wen	Tang	Academia Sinica, Taiwan
<b>Session B3: Biophotonics and Emerging Applications (Energy, Info, Bio) I - Chair: Frank Vollmer</b>				
B3-1	Invited: Nanophotonics-Enabled Mid-Infrared Microspectrometers For Chemical Identification and Related Topics	Kenneth	Crozier	University of Melbourne, Australia
B3-2	Order Structure Recognition by Schubert Polynomials Generated by Optical Near-Field Statistics via Nanometer-Scale Photochromism	Kazuharu	Uchiyama	University of Yamanashi, Japan
B3-3	Seeing the Forces: Single Avalanching Upconverting Nanoparticles as Ultrasensitive Local Force Transducers	Natalie	Fardian-Melamed	Columbia University, United States
B3-4	Imaging life at high temperature enabled by plasmonic heating	Maëlle	Bénéfice	Institut Fresnel - CNRS, France
<b>Session A5: Enhanced Spectroscopies (Fluorescence, IR, THz, Raman) - Chair: Markus Raschke</b>				
A5-1	Probing vibrational strong coupling with tip-enhanced near-field spectroscopy	Carlos	Maciel Escudero	CIC NanoGUNE - BRTA, Spain
A5-2	Molecular optomechanics to address the Raman signal from organic molecules in complex plasmonic nanocavities	Rubén	Esteban	Center for Material Physics (CSIC – UPV/EHU), Spain
A5-3	“Hot” Photoluminescence from metals – theory and comparison to experiments	Ieng Wai	Un	Ben-Gurion University, Israel
A5-4	Atomically-resolved luminescence mapping of Lamb shift, Stark and Purcell effects from a single chromophore-picocavity junction	Javier	Aizpurua	Center for Materials Physics (CSIC-UPV/EHU) and DIPC, Spain
A5-5	Single-millisecond SERS measurement of DNA oligonucleotides with single-base resolution using gold nanoparticle dimers under Brownian motion	Toshiharu	Saiki	Keio University, Japan
A5-6	Dynamic Single-Molecule SERS Fluctuations in an Aqueous Environment	Alexandre G.	Brolo	University of Victoria, Canada
A5-7	Exosome detection using a double resonant nanoantenna device in the mid-infrared range	Maria Eleonora	Temperini	Sapienza University of Rome, Italy
<b>Session B4: Nanoplasmonics and Optical Antennas II - Chair: Christophe Galland</b>				
B4-1	Strong coupling of semiconductor nanocrystals with plasmonic resonators at ambient conditions	Daniel	Friedrich	University of Würzburg, Germany
B4-2	Tunable nano-plasmonic photodetectors	Patrick	Pertsch	University of Würzburg, Germany
B4-3	Engineering polariton launchers for nanophotonic chips	Rafael	Mayer	Brazilian Synchrotron Light Laboratory (LNLS), Brazil
B4-4	Harnessing electron beams to unveil quantum effects in nanoplasmonics	P. André	Gonçalves	ICFO - The Institute of Photonic Sciences, Spain
B4-5	Unidirectional DNA-origami based ultracompact optical antennas for single molecule emission	Guillermo Pedro	Acuna	University of Fribourg, Switzerland
B4-6	Conformational Dynamics of Single Proteins – Exciting Opportunities with Plasmonic Optical Tweezers	Michael	Mayer	University of Fribourg, Switzerland
B4-7	Near- and far-field properties of few element mid-infrared subwavelength antennas	Loubnan	Abou-Hamdan	Institut Langevin/ONERA, France

<b>Wednesday, August 31</b>		
	Michele Pujol Room - A	Michele Pujol Room - B
9:00-9:30	<b>Plenary: T. Odom</b>	
	Chair: James Schuck	
9:30-10:30	<b>Session A6: Metamaterials and Metasurfaces II</b>	<b>Session B5: Other Emerging Areas of Near-field Optics and Nanophotonics I</b>
	Chair: unconfirmed	Chair: Bert Hecht
	Y. Kivshar - Invited	J. Baumberg - Invited
	D. Norris	G. Arend
	B. Fix	R. Mayer
10:30-11:00	<b>Coffee Break - Vertigo Room</b>	
11:00-12:30	<b>Session A7: Ultra-fast Studies</b>	<b>Session B6: Nanoplasmonics and Optical Antennas III</b>
	Chair: Paolo Biagioni	Chair: Alexandre Bouhelier
	M. Raschke	R. Hillenbrand
	W. Luo	C-N. Vu
	T. van Gogh	J. Meier
	E. J. C. Dias	T. L. Lim
	<b>Session A8: Quantitative Phase Imaging</b>	M. Noordam
	Chair: Francesca Intonti	K. Lindfors
	A. J. Meixner	
	G. Baffou	
12:30-1:30	<b>Lunch - Vertigo Room</b>	
1:30-3:00	<b>Session A9: Metamaterials and Metasurfaces III</b>	<b>Session B7: Enhanced Spectroscopies (Fluorescence, IR, THz, Raman)</b>
	Chair: Stefan Maier	Chair: Andrea Centrone
	R. Quidant - Invited	V. Apkarian - Invited
	S. Ebrahimi	<b>Session B8: Quantum Emitters and Quantum Plasmonics</b>
	F. Intonti	Chair: Andrea Centrone
	Y. Abate	R. Bachelot
	M. Saad Bin-Alam	A. Rodriguez Echarri
		C. Tserkezis
		A. Nodar
3:00-9:00	<b>Excursion- Butchart Gardens</b> <b>Banquet - Arbutus Ballroom, Delta Hotels Victoria Ocean Pointe Resort</b>	

Session	Title	Author First Name	Author Last Name	Author Organization
<b>Session A6: Metamaterials and Metasurfaces</b>				
A6-1	Invited: Mie-Resonant Nanophotonics and Metasurfaces	Yuri	Kivshar	Australian National University, Australia
A6-2	Optical and Electronic Fourier Surfaces	David	Norris	ETH Zürich, Switzerland
A6-3	High Q-factor coupled Fabry-Perot plasmonic nanoresonator : description and applications	Baptiste	Fix	French Aerospace Lab-ONERA, France
<b>Session B5: Other Emerging Areas of Near-field Optics and Nanophotonics I - Chair: unconfirmed</b>				
B5-1	Invited: Plasmonic Forces at the Picoscale	Jeremy	Baumberg	University of Cambridge, United Kingdom
B5-2	Optical mode imaging via correlated free-electron cavity-photon pairs	Germaine	Arend	University of Göttingen, Germany
B5-3	Sub-diffractive cavity modes of terahertz hyperbolic phonon polaritons in tin oxide nanobelts	Rafael	Mayer	Brazilian Synchrotron Light Laboratory (LNLS), Brazil
<b>Session A7: Ultra-fast Studies - Chair: Paolo Biagioni</b>				
A7-1	Ultrafast infrared nano-imaging of far-from-equilibrium dynamics	Markus	Raschke	University of Colorado, United States
A7-2	Nonlinear nano-imaging of few-fs coherent dynamics in 2D graphene-semiconductor heterostructures	Wenjin	Luo	University of Colorado Boulder, United States
A7-3	Diffusion and lifetime of optical phase singularities	Thijs	van Gogh	Delft University of Technology, The Netherlands
A7-4	Ultrafast electron probing of plasmon thermal dynamics	Eduardo	J. C. Dias	ICFO - The Institute of Photonic Sciences, Spain
<b>Session A8: Quantitative Phase Imaging - Chair: Francesca Intonti</b>				
A8-1	Phase mapping of the scattering signal from single plasmonic nanoparticles	Alfred J.	Meixner	University of Tuebingen, Germany
A8-2	Quantitative Phase Imaging for Nanophotonics	Guillaume	Baffou	Institut Fresnel - CNRS, France
<b>Session B6: Nanoplasmonics and Optical Antennas III - Chair: Alexandre Bouhelier</b>				
B6-1	Real-space nanoimaging of THz polaritons in the topological insulator Bi <sub>2</sub> Se <sub>3</sub>	Rainer	Hillenbrand	CIC NanoGUNE - BRTA, Spain
B6-2	Gold Bipyramid Nanoparticles on Mirror: A Surface Plasmon Polariton Source	Cam Nhung	Vu	Institut Lumière Matière, France
B6-3	Tunable second harmonic generation in plasmonic nanogaps by local symmetry breaking	Jessica	Meier	University of Würzburg, Germany
B6-4	Near-arbitrary spectral placement of lattice resonances using Fourier analysis	Theng-Loo	Lim	University of Ottawa, Canada
B6-5	Efficient Coupling of Visible Light into a Plasmonic Slit Waveguide	Marc	Noordam	Delft University of Technology, The Netherlands
B6-6	Nanoscale photodetectors based on graphene and graphene nanoribbons for integrated plasmonic circuitry	Klas	Lindfors	University of Cologne, Germany

Session	Title	Author First Name	Author Last Name	Author Organization
<b>Session A9: Metamaterials and Metasurfaces III - Chair: Stefan Maier</b>				
A9-1	Invited: Dielectric meta-optics for reconfigurable planar optics and biosensing	Romain	Quidant	ETH Zürich, Switzerland
A9-2	Hyperbolic Meta-Antennas for Light-Matter Interaction Engineering	Sema	Ebrahimi	University of Technology of Troyes, France & University of Hull, United Kingdom
A9-3	Enhanced fluorescence emission in nano-imprinted rare-earth-doped photonic metasurfaces	Francesca	Intonti	University of Florence, Italy
A9-4	Reconfigurable Hyperbolic Polaritonics with Correlated Oxide Metasurfaces	Yohannes	Abate	University of Georgia, United States
A9-5	Plasmon-assisted lithium niobate metasurface with ultra-high-Q resonances	Md	Saad Bin-Alam	University of Ottawa, Canada
<b>Session B7: Enhanced Spectroscopies (Fluorescence, IR, THz, Raman - Chair: Andrea Centrone</b>				
B7-1	Invited: Atomistic Near-Field Optics	Vartkess	Apkarian	University of California Irvine, United States
<b>Session B8: Quantum Emitters and Quantum Plasmonics - Chair: Andrea Centrone</b>				
B8-1	Advanced hybrid plasmonic nano-emitters using smart photopolymer	Renaud	Bachelot	L2n/CNRS Université de Technologie de Troyes, France
B8-2	Nonlinear plasmonic response in atomically thin metal films	Alvaro	Rodriguez Echarri	ICFO - The Institute of Photonic Sciences, Spain
B8-3	Surface-response functions and their role in emitter—plasmon coupling	Christos	Tserkezis	University of Southern Denmark, Denmark
B8-4	Quantum purity of entangled states of light scattered by a nanostructure	Álvaro	Nodar	Centro de Física de Materiales (CSIC-UPV/EHU), Spain



Thursday, September 1		
	Michele Pujol Room - A	Michele Pujol Room - B
9:00-9:30	<b>Plenary: N. J. Halas</b>	
	Chair: David Norris	
9:30-10:30	<b>Session A10: 2D Materials II</b>	<b>Session B9: Biophotonics and Emerging Applications (Energy, Info, Bio) II</b>
	Chair: Ado Jorio	Chair: Kenneth Crozier
	P. Alonso-González - Invited	F. Vollmer - Invited
	F. C. Barbosa Maia	H. Bechtel
	T. Taubner	V. Deckert
10:30-11:00	<b>Coffee Break - Vertigo Room</b>	
11:00-12:30	<b>Session A11: Optical Trapping and Manipulation I</b>	<b>B9: Biophotonics &amp; Emerging Applications (Energy, Info, Bio) II - Cont.</b>
	Chair: unconfirmed	F. Keilmann
	E. Karakaçi	R. Puro
	O. J. F. Martin	B. O'Callahan
	K. Akbari	<b>Session B10: Tip Enhanced Methods</b>
	Q. Jiang	Chair: unconfirmed
	<b>Session A12: Metamaterials and Metasurfaces IV</b>	P. Biagioni
	Chair: Romain Quidant	S. Gilbert Corder
	R. Sapienza - Invited	R. Polito
12:30-1:30	<b>Lunch - Vertigo Room</b>	
1:30-3:00	<b>Session A12: Metamaterials and Metasurfaces IV - Cont.</b>	<b>B11 - Hot Electrons and Photochemistry</b>
	S. Maier - Invited	Chair: unconfirmed
	F. Nugroho	J. Dionne - Invited
	<b>Session A13: Nanoplasmonics and Optical Antennas IV</b>	<b>Session B12: Other Emerging Areas of Near-field Optics and Nanophotonics II</b>
	Chair: unconfirmed	Chair: Jeremy Baumberg
	K. Munechika	B. Hecht
	J. Symonowicz	F. Kaps
		J. Plain
		S. Arora
3:00-3:30	<b>Coffee Break - Vertigo Room</b>	
3:30-5:00	<b>A13: Nanoplasmonics and Optical Antennas IV - Cont.</b>	<b>B12: Other emerging areas of near-field optics and nanophotonics II - Cont.</b>
	E. Boer-Duchemin	E. Stamatopoulou
	P. Y. Wu	<b>Session B13: Nonlinear Optics</b>
	A. Bouhelier	Chair: Ghazal Hajisalem
	M. Sanz-Paz	J. Cox
	F. Rusconi	M. Karimi
	H. Lourenço-Martins	F. Dell'Ova
		F. Iyikanat
		S. Beer
5:00-7:00	<b>Poster Session B</b> Vertigo Room	

Session	Title	Author First Name	Author Last Name	Author Organization
<b>Session A10: 2D Materials II - Chair: Ado Jorio</b>				
A10-1	Invited: Nanooptics with anisotropic 2D materials	Pablo	Alonso-González	Universidad de Oviedo, Spain
A10-2	Controlling the dynamical photonic properties of phonon-polaritons in two-dimensional crystals by engineering dielectric-metallic substrates	Francisco Carlos	Barbosa Maia	Brazilian Synchrotron Light Laboratory, Brazil
A10-3	s-SNOM probing of optical conductivity reveals the existence of ABCB stacked tetralayer graphene	Thomas	Taubner	RWTH Aachen University, Germany
<b>Session B9: Biophotonics and Emerging Applications (Energy, Info, Bio) II - Chair: Kenneth Crozier</b>				
B9-1	Invited: Molecules on Whispering Gallery Modes: Single Molecule Sensing and Beyond	Frank	Vollmer	University of Exeter, United Kingdom
B9-2	Viewing interfacial chemistry through a graphene window	Hans	Bechtel	Lawrence Berkeley National Laboratory, United States
B9-3	Viral Diagnosis using Nanoscale Vibrational Spectroscopy	Volker	Deckert	FSU Jena, Germany
B9-4	IR nanoscopy of flat-membrane-covered living cells in water	Fritz	Keilmann	LMU, Nanoinstitute, Germany
B9-5	Vibrational exciton nanoscopy: a molecular ruler to image structure, coupling, and disorder on their elementary scales	Richard	Puro	University of Colorado Boulder, United States
B9-6	In-situ biological, chemical, and environmental nano-imaging using in liquid infrared scattering scanning near-field optical microscopy	Brian	O'Callahan	Pacific Northwest National Laboratory, United States
<b>Session A11: Optical Trapping and Manipulation I - Chair: unconfirmed</b>				
A11-1	Interrogating Single Molecule Kinetics of Citrate Synthase with Plasmonic Optical Tweezers	Edona	Karakaçi	University of Fribourg, Switzerland
A11-2	Efficient optically-driven nanomotor designed by deep learning	Olivier J.F.	Martin	Swiss Federal Institute of Technology Lausanne (EPFL), Switzerland
A11-3	Optical Manipulation of Matter Waves	Kamran	Akbari	ICFO - The Institute of Photonic Sciences, Spain
A11-4	Plasmonic nano-optical tweezers towards single quantum dots trapping	Quanbo	Jiang	Université de Technologie de Troyes, France
<b>Session B10: Tip Enhanced Methods - Chair: unconfirmed</b>				
B10-1	Modelling photothermal induced resonance microscopy: the role of interface thermal resistances	Paolo	Biagioni	Politecnico di Milano, Italy
B10-2	Synchrotron Infrared Nanospectroscopic Measurements of Biaxial Anisotropy: Hyperbolic Phonon Polaritons and a Novel Method for Determining the In-Plane Permittivity	Stephanie	Gilbert Corder	Lawrence Berkeley National Laboratory, United States
B10-3	Tip-enhanced infrared nanospectroscopy of proteins in individual lipid membrane patches and extracellular vesicles	Raffaella	Polito	Sapienza University of Rome, Italy
<b>Session A12: Metamaterials and Metasurfaces IV - Chair: Romain Quidant</b>				
A12-1	Invited: Time-varying and reconfigurable driven photonics	Riccardo	Sapienza	Imperial College London, United Kingdom
A12-2	Invited: Metasurfaces for energy conversion and optical information processing	Stefan	Maier	Monash University, Australia

Session	Title	Author First Name	Author Last Name	Author Organization
A12-3	Inverse Designed Plasmonic Metasurface for Ultrasensitive Optical Detection	Ferry Anggoro Ardy	Nugroho	Vrije Universiteit Amsterdam, The Netherlands
<b>Session B11: Hot Electrons and Photochemistry</b>				
B11-1	Invited: Bridging atomic and reactor scales in plasmon catalysis for efficient, selective, and sustainable chemistry	Jennifer	Dionne	Stanford University, United States
<b>Session A13: Nanoplasmonics and Optical Antennas IV - Chair: unconfirmed</b>				
A13-1	Wafer scale production of optical transformer-based Campanile scanning near-field probes integrated on an AFM cantilever	Keiko	Munehika	HighRI Optics Inc., United States
A13-2	Real-Time In-Situ Optical Tracking of Oxygen Vacancy Migration in Memristors	Joanna	Symonowicz	University of Cambridge, United Kingdom
A13-3	Electrical excitation of surface plasmon polaritons with a nano-antenna tunneling junction	Elizabeth	Boer-Duchemin	Université Paris-Saclay, France
A13-4	Routing the Second-Harmonics Generated from a WSe <sub>2</sub> Monolayer in a Plasmonic Nanocircuit	Pei Yuan	Wu	National Tsing Hua University, Taiwan
A13-5	Exploring electrically-induced light emission mechanisms in memristive optical gap antennas	Alexandre	Bouheller	CNRS - French National Centre for Scientific Research, France
A13-6	DNA origami assembled nanoantennas for manipulating single-molecule spectral emission	Maria	Sanz-Paz	Universite de Fribourg, Switzerland
A13-7	Mid-infrared dielectric antennas on ENZ substrates	Francesco	Rusconi	Politecnico di Milano, Italy
A13-8	Mode-selective imaging and control of nano-plasmonic near-fields	Hugo	Lourenço-Martins	Max Planck Institute for Multidisciplinary Sciences, Germany & CEMES-
<b>Session B12: Other Emerging Areas of Near-field Optics and Nanophotonics II - Chair: Jeremy Baumberg</b>				
B12-1	Electrically-connected antennas and nano-circuitry	Bert	Hecht	University of Würzburg, Germany
B12-2	Polarization-sensitive near-field optical microscopy in the mid-infrared wavelength regime	Felix	Kaps	Technische Universität Dresden, Germany
B12-3	Colloidal Aluminum Nanoparticles for UV plasmonic	Jérôme	Plain	University of technology of Troyes and CNRS, France
B12-4	Direct investigation of Anderson localization in topologically non-trivial photonic crystals	Sonakshi	Arora	Delft University of Technology, The Netherlands
B12-5	Disentangling cathodoluminescence spectra in dielectric nanoparticles: role of transition radiation	Elli	Stamatopoulou	University of Southern Denmark, Denmark
<b>Session B13: Nonlinear Optics - Chair: Ghazal Hajjaleem</b>				
B13-1	Nonlinear and quantum nano-optics with atomically-thin materials	Joel	Cox	University of Southern Denmark, Denmark
B13-2	Time-varying gradient metasurface with all-optical beam steering applications	Mohammad	Karimi	University of Ottawa, Canada
B13-3	The case of nonlinear photoluminescence in plasmonics	Florian	Dell'Ova	ICB - UBFC, France
B13-4	Tunable vibrational nonlinear response in monolayer hBN	Fadil	Iyikanat	ICFO - The Institute of Photonic Sciences, Spain
B13-5	Second harmonic generation under doubly resonant lattice plasmon excitation	Sebastian	Beer	Friedrich Schiller University, Germany

<b>Friday, September 2</b>		
	Michele Pujol Room - A	Michele Pujol Room - B
9:00-9:30	<b>Plenary: P. Kukura</b>	
	Chair: unconfirmed	
9:30-10:30	<b>Session A14: Optical Trapping and Manipulation II</b>	<b>Session B14: Metamaterials and Metasurfaces V</b>
	Chair: Reuven Gordon	Chair: J. Huang
	M. Mayer	A. Nguyen
	Ghazal Hajisalem	O. J. F. Martin
	G. Schnoering	L. Mascaretti
10:30-11:00	<b>Coffee Break - Vertigo Room</b>	
11:00-12:30	<b>Session A15: Nanoimaging II</b>	<b>Session B15: Nanoplasmonics and Optical Antennas V</b>
	Chair: Albert Polman	Chair: Rainer Hillenbrand
	S. Sotgiu	J. Huang
	C. Chen	R. Arul
	A. Huber	B. Schurr
	L. Mester	B. Hecht
	A. M. Dubrovkin	L. Jakob
	J. Zhou	B. Kalinic
12:30-1:30	<b>Lunch - Vertigo Room</b>	
1:30-3:00	<b>Session A16: 2D Materials III</b>	<b>Session B16: Photochemistry and Hot Electrons II</b>
	Chair: Olivier Martin	Chair: Gary Leach
	F. Feres	P. Berini - Invited
	J. Martín-Sánchez	Y. Dubi
	C. Eugenio	A. Loirette-Pelous
	L. Orsini	Y. Sivan
	<b>Session A17: Heat at the Nanoscale</b>	<b>Session B17: Nanoplasmonics and Optical Antennas VI</b>
	Chair: Guillaume Baffou	Chair: Klas Lindfors
	M. Deng	S. Gresillon
	M. Pinar Mengüç	
3:00-3:30	<b>Coffee Break - Vertigo Room</b>	
3:30-4:30	<b>Session A18: Quantum Applications: Information Science and Sensing</b>	<b>Session B17: Nanoplasmonics and Optical Antennas VI - Cont.</b>
	Chair: unconfirmed	F. Lamaze
	S. Timsina	K. Braun
	M. H. Eriksen	M. Mivelle
	F. Junior	S. Park
	B. Behera	N. Large
4:30	<b>Closing Remarks: Reuven Gordon</b>	

Session	Title	Author First Name	Author Last Name	Author Organization
<b>Session A14: Optical Trapping and Manipulation II - Chair: Reuven Gordon</b>				
A14-1	Thermal Unfolding and Refolding Trajectory of Single Calmodulin Proteins by Plasmonic Optical Tweezers	Michael	Mayer	University of Fribourg, Switzerland
A14-2	Polarization dependence of double nanohole tweezers for localization and orientation	Ghazal	Hajisalem	University of Victoria, Canada
A14-3	Manipulating and characterizing individual bio-particles in nanochannels	Gabriel	Schnoering	ETH Zürich, Switzerland
<b>Session B14: Metamaterials and Metasurfaces V - Chair: Jer-Shing Huang</b>				
B14-1	Circularly polarized light emission by incandescent metasurfaces	Anne	Nguyen	Institut d'Optique, France
B14-2	Multipoles zoology made simple	Olivier J.F.	Martin	Swiss Federal Institute of Technology Lausanne (EPFL), Switzerland
B14-3	Solar steam generation on scalable ultrathin thermoplasmonic TiN nanocavity arrays	Luca	Mascaretti	Palacký University Olomouc, Czechia
<b>Session A15: Nanoimaging II - Chair: Albert Polman</b>				
A15-1	Photothermal expansion nanoscopy of the strong coupling between a patch nanoantenna and a semiconductor quantum well	Simone	Sotgiu	University of Rome, La Sapienza, Italy
A15-2	Revealing the Local Band Structures of 2D Materials by Near-Field Optical Imaging: Sharp WS <sub>2</sub> /MoS <sub>2</sub> Heterojunction and Graded WxMo1-xS2 Alloy	Chi	Chen	Academia Sinica, Taiwan
A15-3	Infrared correlation nanoscopy with unprecedented spectral coverage	Andreas	Huber	attocube systems AG, Germany
A15-4	High-fidelity nano-FTIR spectroscopy by on-pixel normalization of signal harmonics	Lars	Mester	attocube systems AG, Germany
A15-5	Helicity-dependent photocurrent nanoimaging on topological insulators	Alexander M.	Dubrovkin	Nanyang Technological University, Singapore
A15-6	Near-field optical mapping of Dark excitons at room temperature based on Nano-imprinted pyramid probe	Junze	Zhou	Lawrence Berkeley National Laboratory, United States
<b>Session B15: Nanoplasmonics and Optical Antennas V - Chair: Rainer Hillenbrand</b>				
B15-1	Influence of plasmonic substrate on the whispering-gallery modes in a $\pi$ -conjugated polymer microsphere	Jer-Shing	Huang	Leibniz Institute of Photonic Technology, Germany
B15-2	Giant mid-IR resonant coupling to molecular vibrations in plasmonic nanogaps	Rakesh	Arul	University of Cambridge, United Kingdom
B15-3	A nanoscale plasmonic Su-Schrieffer-Heeger chain	Benedikt	Schurr	University of Würzburg, Germany
B15-4	Light-driven microdrones	Bert	Hecht	University of Würzburg, Germany
B15-5	Nonlinear Pumping of Molecular Vibrations in Plasmonic Nanocavities	Lukas	Jakob	University of Cambridge, United Kingdom
B15-6	Strong Er <sup>(3+)</sup> radiative emission enhancement by quasi-BIC modes coupling in all-dielectric slot nanoantenna arrays	Boris	Kalinic	University of Padova, Italy
<b>Session A16: 2D Materials III - Chair: Olivier Martin</b>				
A16-1	Nano-optics of Epsilon Near Zero materials on metallic substrates	Flávio	Feres	State University of Campinas (UNICAMP), Brazil

Session	Title	Author First Name	Author Last Name	Author Organization
A16-2	Focusing of In-plane Hyperbolic Polaritons in Van der Waals Crystals with Tailored Infrared Nanoantennas	Javier	Martín-Sánchez	Universidad de Oviedo, Spain
A16-3	Observation of phonon polaritons in multilayer hexagonal boron nitride films grown by chemical vapor deposition	Calandrini	Eugenio	CIC NanoGUNE - BRTA, Spain
A16-4	Anomalous coupling in hyperbolic medias	Lorenzo	Orsini	ICFO - The Institute of Photonic Sciences, Spain
<b>Session B16: Photochemistry and Hot Electrons II - Chair: Gary Leach</b>				
B16-1	Invited: Plasmonic hot carriers and their application in catalysis	Pierre	Berini	University of Ottawa, Canada
B16-2	Hot electrons in metal nanostructures – “reality” or “fake news”?	Yonatan	Dubi	Ben-Gurion University of the Negev, Israel
B16-3	Theory of metallic nanostructures photoluminescence under continuous pumping	Aurelian	Loirette-Pelous	Paris-Saclay University, France
B16-4	Distinguishing thermal from non-thermal (“hot”) carriers in illuminated molecular junctions	Yonatan	Sivan	Ben-Gurion University, Israel
<b>Session A17: Heat at the Nanoscale - Chair: Guillaume Baffou</b>				
B15-1	Light-Controlled Near-Field Energy Transfer in Plasmonic Metasurface Coupled MoS2 Monolayer	Miaoyi	Deng	Peking University, China
B15-2	Ordered and Disordered Porous Nanostructures for Passive Radiative Cooling	M. Pinar	Mengüç	Ozyegin University, Turkey
<b>Session B17: Nanoplasmonics and Optical Antennas VI - Chair: Klas Lindfors</b>				
A17-1	Far-field wavefront optimization of the near-field of disordered plasmonic metasurfaces	Samuel	Gresillon	Institut Langevin, Sorbonne Université, France
A17-2	Tuning surface lattice resonance energy levels and their degeneracy by breaking isotropy of nanoparticles arrays	Florian	Lamaze	L2N - University of Technology of Troyes, France
A17-3	Optical antennas driven by inelastic tunnel junctions	Kai	Braun	University of Tuebingen, Germany
A17-4	Generating ultrafast stationary magnetic fields with light in a plasmonic nanostructure	Mathieu	Mivelle	Sorbonne Université, CNRS, France
A17-5	Spectroscopic Mapping of Plasmonic Dynamics on the Surface of Nanoparticle Plasmonic Particles	Sung	Park	Molecular Vista Inc., United States
A17-6	Acousto-Plasmonic Coupling: The Raman Energy Density (RED)	Nicolas	Large	University of Texas at San Antonio, United States
<b>Session A18: Quantum Applications: Information Science and Sensing - Chair: unconfirmed</b>				
B16-1	SQUEEZED STATES FROM PHOTONIC COOPER PAIRS	Sanker	Timsina	University of Victoria, Canada
B16-2	Electro-optical control of atomic bistability with graphene	Mikkel Have	Eriksen	University of Southern Denmark, Denmark
B16-3	Study of correlated Stokes and anti-Stokes components in Surface-enhanced Raman Scattering	Filomeno	Junior	University of Victoria, Canada
B16-4	Sensing angular momentum of light using cavity optomechanical coupled oscillator system	Bishnupada	Behera	University of Calgary, Canada

Poster Sessions

Poster Sessions

Poster session A1: 2D Materials

- A1-P1 **Nano-optical and nano-photocurrent characterization of WSe<sub>2</sub>/MoSe<sub>2</sub> heterostructures**  
*Thomas Darlington, Emanuil Yanev, Kevin W.C. Kwok, Xuehao Wu, Natalie Fardian-Melamed, Abhay N. Pasupathy, James C. Hone, P. James Schuck*
- A1-P2 **Ultrabroadband nanocavity of hyperbolic phonon polaritons in 1D-like  $\alpha$ -MoO<sub>3</sub>**  
*Ingrid D. Barcelos, Thalita A. Canassa, Rafael A. Mayer, Flavio H. Feres, Eynara G. de Oliveira, Alem-Mar B. Goncalves, Hans A. Bechtel, Raul O. Freitas, Francisco C. B. Maia, Diego C. B. Alves*
- A1-P3 **Active Tuning of Highly Anisotropic Phonon Polaritons in Van der Waals Crystal Slabs by Gated Graphene**  
*Gonzalo Alvarez-Pérez, Arturo González-Morán, Nathaniel Capote-Robayna, Kirill V. Voronin, Jiahua Duan, Valentyn S. Volkov, Pablo Alonso-González, and Alexey Y. Nikitin*
- A1-P4 **Twist-tunable polaritonic nanoresonators**  
*O. G. Matveeva, A. I. F. Tresguerres-Mata, R. V. Kirtaev1, K. V. Voronin, J. Taboada-Gutiérrez, C. Lanza-García, J. Duan, J. Martín-Sánchez, V. S. Volkov, P. Alonso-González, A. Y. Nikitin*
- A1-P5 **Super-resolved identification of nanoscale defects in low-dimensional materials by near-field photoluminescence mapping**  
*Jiatai Huang, Benfeng Bai, Pengyi Feng, Tong Cui, and Hong-Bo Sun*
- A1-P6 **Nano-PL mapping of room-temperature strain-localized excitons in array-guided nanowrinkles**  
*Emanuil S. Yanev, Thomas P. Darlington, Matthew Strasbourg, Nicholas J. Borys, James C. Hone, P. James Schuck*
- A1-P7 **Tip-enhanced nano-imaging and control of dark excitons in WSe<sub>2</sub>**  
*Kathryn Hasz, Zucheng Hu, Kyoung-Duck Park, and Markus B. Raschke*
- A1-P8 **Effects of the Dielectric Environment on the Propagation of Phonon Polaritons in Twisted Polaritonic Slabs**  
*Aitana Tarazaga Martín-Luengo, Jiahua Duan, Christian Lanza, Javier Taboada-Gutiérrez, Gonzalo Álvarez-González, Ana Isabel F. Tresguerres-Mata, Javier Martín-Sánchez, Alexey Y. Nikitin, Pablo Alonso-González*
- A1-P9 **Brodbingnagian photon bunching in cathodoluminescence of excitons in WS<sub>2</sub> monolayer**  
*Saskia Fiedler, Sergii Morozov, Leonid Ilushyn, Sergejs Boroviks, Martin Thomaschewski, Jianfang Wang, Timothy J. Booth, Nicolas Stenger, Christian Wolff, and N. Asger Mortensen*
- A1-P10 **In-situ optical tracking of memristive switching in 2D materials**  
*Joanna Symonowicz, Giuliana Di Martino*
- A1-P11 **Orientation-Dependent Interaction between the Magnetic Plasmons in Gold Nanocups and the Excitons in WS<sub>2</sub> Monolayer and Multilayer**  
*Ruoqi Ai, Xinyue Xia, Jianfang Wang*



## Poster session A2: Biophotonics and Emerging Applications (Energy, Info, Bio)

- A2-P1 **Manipulating the fluorescence contrast in liquid-gel phases**  
*Jia-Ru Yu, He-Chun Chou, Wei-Ssu Liao, and Chi Chen*
- A2-P2 **Imparting spectrally selective optical properties to metallic substrates through surface engineering**  
*Sraboni Dey and J. Mitra*
- A2-P3 **Light-controlled microdroplet robot on nanophotonic substrate**  
*Masayuki Naya, Nanami Ohhara, Akinobu Yamaguchi and Toshiharu Saiki*
- A2-P4 **Photonics in Canada**  
*Nikki Bulgarea, Robert Corriveau*
- A2-P5 **Ultrasensitive analysis of nano-matter via scattering: from single proteins and viruses to sub-cellular features**  
*Vahid Sandoghdar*

## Poster session A3: Heat at the NanoScale

- A3-P1 **High throughput imaging of thermal conductivity and interfacial thermal conductance with nanoscale resolution**  
*Andrea Centrone, Mingkang Wang, Georg Ramer, Vladimir Aksyuk*

## Poster session A4: Enhanced Spectroscopies (Fluorescence, IR, THz, Raman)

- A4-P1 **Bloch Surface Waves for surface enhanced Mid-Infrared spectroscopy**  
*Raffaella Polito, Agostino Occhicone, Mariailia Pea, Alberto Sinibaldi, Francesco Mattioli, Sara Cibella, Andrea Notargiacomo, Alessandro Nucara, Paolo Biagioni, Francesco Michelotti, Michele Ortolani, and Leonetta Baldassarre*
- A4-P2 **Monitoring Tautomerization of Single Hypericin Molecules in a Tunable Optical  $\lambda/2$  Microcavity**  
*Quan Liu, Liangxuan Wang, Frank Wackenhut, Marc Brecht, Pierre-Michel Adam, Johannes Gierschner, and Alfred J. Meixner*
- A4-P3 **Plasmon Enhanced High-Frequency Electron Paramagnetic Resonance - utilization of plasmonic metasurface resonators for magnetic field enhancement at THz frequencies**  
*Martin Hrtoň, Lorenzo Tesi, Peter Kepič, Katarína Rovenská, Dominik Bloos, Martin Konečný, Zdeněk Nováček, Vlastimil Křápek, Reiner Hillenbrandt, A. Leavesly, Joris van Slageren, and Tomáš Šikola*
- A4-P4 **AFM-TERS measurements in liquid environment with side illumination/collection**  
*Patrick Hsia, Pierre Burgos, Marc Chaigneau*
- A4-P5 **Molecular Stark Effect at the Nanoscale**  
*Demeiza Wright, Sara Sangtarash, Nicias S. Mueller, Qianqi Lin, Hatem Sadeghi, Jeremy J. Baumberg*
- A4-P6 **Effect of resonant Raman term on single-molecule detection**  
*Abdolvahab Amirsalari, Sylwester Gawinkowski*
- A4-P7 **Terahertz Spoof Surface Plasmon Polariton sensor on thin Silicon-Nitride membrane**  
*Mohsen Haghghat, Levi Smith, Thomas Darcie*
- A4-P8 **Evaluation of SERS substrates through average and high fluctuation regimes**  
*Arash Azarakhshi, Alexandre G. Brolo*
- A4-P9 **Monitoring metabolic alterations in cancer cells upon radiotherapy by SERS**  
*Xiangyu Chen, Javier Plou*
- A4-P10 **Unveiling the role of chemical and electronic structure in plasmon catalysis using alkoxyamines as a chemical probe**  
*Darya Votkina, Pavel Petunin, Andrii Trelin, Oleksiy Lyutakov, Gérard Audran, Rashid Valiev, Sylvain R. A. Marque, and Pavel Postnikov, Yusuke Yamauchi, Olga Guseinikova*

## Poster session A5: Metamaterials and Metasurfaces

- A5-P1 **Near Infrared Waveguide using multilayer ITO metamaterial**  
Shashwata Chattopadhyay and J Mitra
- A5-P2 **Creation of wide stopbands by loading split-ring-resonators to a terahertz guided-wave coplanar strip transmission line**  
Saeid Asadi, Levi Smith, Thomas Darcie
- A5-P3 **Broadband absorber utilizing nonlocal metamaterials**  
Won-Heum Han, Q-Han Park
- A5-P4 **FIB defined curved architectures toward asymmetric chiral metasurfaces**  
Ruhao Pan, Changzhi Gu, Junjie Li

## Poster session A6: Nanoimaging

- A6-P1 **Infrared Near-Field Spectroscopy at the National Synchrotron Light Source II**  
Lukas Wehmeier, Ziheng Yao, Mengkun Liu, and G. Lawrence Carr
- A6-P2 **Near-field hyper-spectral imaging of resonant Mie modes in a dielectric island**  
Francesca Intonti, Nicoletta Granchi, Michele Montanari, Andrea Ristori, Mario Khoury, Mohammed Bouabdellaoui, Chiara Barri, Luca Fagiani, Massimo Gurioli, Monica Bollani, Marco Abbarchi
- A6-P3 **Scanning near-field optical microscopy for probing vectorial optical near field with functional nanoprobe and nanopolarimetry**  
Benfeng Bai and Hong-Bo Sun
- A6-P4 **Observation of the history dependence of two nano-photoisomerization pathways in photochromic single crystals**  
Yuji Arakawa, Kazuharu Uchiyama, Yuki Hashimoto, Kingo Uchida, Hirotsugu Suzui, Makoto Naruse, and Hirokazu Hori
- A6-P5 **Nanoscale imaging of optical near-field distribution by detecting optical field induced force**  
Yuxiao Han, Benfeng Bai
- A6-P6 **A Review of Nanoscale Chemical Imaging Applications Using Photo Induced Force Microscopy**  
Derek B. Nowak, Padraic O'Reilly, Sung I. Park
- A6-P7 **Structural and Optical Identification of Planar Side-Chain Stacking P3HT Nanowires**  
He-Chun Chou, Chung-Kai Fang, Pei-Yun Chung, Jia-Ru Yu, Ing-Shouh Hwang, Jiun-Tai Chen, and Chi Chen

## Poster session A7: Nanoplasmonics and Optical Antennas

- A7-P1 **Using Dispersive Lossy Media to Narrow Plasmon Linewidths**  
Ryan Peck, Ali Khademi, Juanjuan Ren, Stephen Hughes, Alex Brolo, Reuven Gordon
- A7-P2 **Coherent control of plasmon interferences in 2D crystalline cavities for Boolean calculation**  
Florian Dell'Ova, Diana Shakirova, Yoann Brulé, Laureen Moreaud, G rard Colas-Des-Francis, Erik Dujardin and Alexandre Bouhelier
- A7-P3 **Analytic methods to study the properties of electromagnetic waves in plasmonic slot waveguides**  
Amrita Pati and Reuven Gordon
- A7-P4 **Plasmonic nonlinear response from hBN nanoflakes excited with a CW laser**  
Mirali Seved Shariatdoust, Michael Dobinson, Ghazal hajisalem, Reuven Gordon
- A7-P5 **Fundamental limits and complete coupling of light into polaritons**  
Eduardo J. C. Dias, F. Javier Garcia de Abajo
- A7-P6 **Engineering circular dichroism of stretchable chiral metamaterial**  
Florian Lamaze, J r mie B al, Julien Proust, Louis Giraudet
- A7-P7 **Exciting and mapping directional surface plasmon polaritons using automated dual-tip scanning near-field optical microscope**  
Najmeh Abbasirad, Angela Barreda, Michael Steinert, Yi-Ju Chen, Isabelle Staude, Jer-Shing Huang, Frank Setzpfandt and Thomas Pertsch
- A7-P8 **Towards complete optical coupling to ultraconfined surface polaritons**  
Saad Abdullah, Jan Krpensky, Eduardo J. C. Dias, Vahagn Mkhitaryan, F. Javier Garcia de Abajo
- A7-P9 **Aluminum – Zinc Oxide hybrid nanostructures for UV emission**  
Thomas Simon, Sergei Kosichev, Anna Rumyantseva, J r mie B al, Davy G rard and J r me Martin
- A7-P10 **Fast electrical modulation of a single plasmonic nanoresonator**  
Luka Zurak, Jessica Meier, Ren  Kullock, Bert Hecht and Thorsten Feichtner
- A7-P11 **Fractal-like multiresonant aluminum optical antennas – the Cayley Tree**  
Thomas Simon, Xiaoyan Li, J r me Martin, Dmitry Khlopin, Odile St phan, Mathieu Kociak and Davy G rard

## Poster Sess 5:00-7:00 Thursday, September 1

### Poster session B1: Nanoplasmonics and Optical Antennas

- B1-P1 **Fabrication of Sub 5-nm Plasmonic Nano-gap Nanostructures for Extreme Confinements of Optical Fields**  
*Jeetendra Gour, Sebastian Beer, Stefan Nolte, Uwe Zeitner*
- B1-P2 **Geometry optimization of the magnetic Purcell factor in high index dielectric nanostructures**  
*Y. Brûlé, P. Wiecha, A. Cuche, V. Paillard, G. Colas des Francs*
- B1-P3 **Imaging-Based Hydrogen Sensing Based on Fano-like Spatial Distribution of Transmission in a Metal-Insulator-Metal Plasmonic Doppler Grating**  
*Yi-Ju Chen, Fan-Cheng Lin, Ankit Kumar Singh, Lei Ouyang, Jer-Shing Huang*
- B1-P4 **Chiral Scatterometry on Gold-Nanohelicoid-on-Mirror Structures**  
*Yilin Chen, Jianfang Wang*
- B1-P6 **Deep subwavelength control of circularly polarized light by using cathodoluminescence nanoscopy**  
*Zheyu Fang*
- B1-P7 **THz Band-stop Filter using a Bragg Grating**  
*Seyedali Dehghanian, Levi Smith, Thomas Darcié*
- B1-P8 **Fabry-Pérot Phonon Polaritons in Boron Nitride Nanotube Resonators**  
*Cassandra Phillips, Yi-Fang Lai, Gilbert C. Walker*
- B1-P9 **Investigating Spectrum of Double Nanoholes with Different Aperture and Gap Sizes**  
*Behnam Khosravi, Reuven Gordon*
- B1-P10 **Digital harmonic holographic microscope for the study of nanostructures in nonlinear regime**  
*Serena Goldmann, Samuel Grésillon, Ignacio Izeddin, Valentina Krachmalnicoff, Gilles Tessier, Yannick De Wilde*
- B1-P11 **WS2-Flake-Sandwiched, Au-Nanodisk-Enabled High-Quality Fabry-Pérot Nanoresonators for Photoluminescence Modulation**  
*He Huang, Shasha Li, Jianfang Wang*

## Poster session B2: Nonlinear Optics

- B2-P1 **Noncollinearly-aligned dimeric Au nanorods for 2nd-order NLO plasmonics**  
Atsushi Sugita, Shunma Oh
- B2-P2 **Second order non-linear response from azimuthally chirped plasmonic grating**  
Parijat Barman, Denis Akimov, Tobias Meyer, Abhik Chakraborty, Ankit Kumar Singh, Xiaofei Wu, Michael Schmitt, Jürgen Popp, Jer-Shing Huang

## Poster session B3: Novel Theoretical Approaches to Nano-optics

- B3-P2 **Manipulating the quantum field statistics of confine infrared fields via ultrafast modulation of vibrational polaritons**  
Johan F. Triana, Felipe Herrera
- B3-P3 **Analytic approach to reflection and transmission of surface polaritons**  
Wonjae Choi, Q-Han Park

## Poster session B4: Optical Trapping and Manipulation

- B4-P1 **Double Nanohole Optical Tweezers Study of Conformation Changes of pr65**  
Samuel Mathew, Ghazal Hajisalem, Elham Babaei, Michael Dobinson, Reuven Gordon, Mohsin Naqvi, Janet Kumita
- B4-P2 **Isolating Er<sup>3+</sup>-Doped Nanocrystals for single photon Sources at 1550 nm**  
Zohreh Sharifi, Reuven Gordon
- B4-P3 **Enantioselective optical trapping by elliptical plasmonic nanoholes**  
Zhan-Hong Lin, Jiwei Zhang, Ankit Kumar Singh, Xiaofei Wu, and Jer-Shing Huang
- B4-P4 **Probing Raman active acoustic vibrations of single molecule protein: PR65**  
Elham Babaei, Ghazal Hajisalem, Burak Kaynak, Pemra Doruker, Mohsin M. Naqvi, Janet Kumita, Feng-Yu Wang, Jih-Hong Cheng, Che-Min Wu, Shang-Hua Yang, Ivet Bahar, Laura Itzhaki, Reuven Gordon
- B4-P5 **Coupling between Perovskite Quantum Dots in an Plasmonic Optical Tweezer**  
Parinaz Moazzezi, Hao Zhang, Brett Henderson, Vishal Yeddu, Cristina Cordoba, Arthur Blackburn, Makhsud I. Saidaminov, Irina Paci and Reuven Gordon
- B4-P6 **Nanoaperture optical fiber tweezers fabricated with a low-cost colloidal pattern transfer method**  
Michael Dobinson, Reuven Gordon
- B4-P7 **Polarization dependence of double nanohole tweezers for localization and orientation**  
Ghazal Hajisalem, Michael Dobinson, Zohreh Sharifi, Jon Eby and Reuven Gordon

## Poster session B5: Other Emerging Areas of Near-field Optics and Nanophotonics

- B5-P1 **Breakdown of spin-to-helicity locking at the nanoscale in topological photonic crystal edge states**  
Sonakshi Arora, Thomas Bauer, René Barczyk, Nikhil Parapurath, Ewold Verhagen, Kobus Kuipers
- B5-P2 **Plasmon-excited near-field luminescence of semiconductor light sources**  
Vlastimil Krápek, Petr Dvořák, Lukáš Kejík, Zoltán Édes, Michal Kvapil, Michal Horák, Petr Liška, Jan Krpenský, Tomáš Šikola
- B5-P3 **Correlative electron and optical spectroscopy of strongly-coupled mid-infrared plasmon and phonon polaritons**  
Pavel Gallina, Andrea Konečná, Michal Kvapil, Jiří Liška, Vlastimil Krápek, Radek Kalousek, Juan Carlos Idrobo, and Tomáš Šikola
- B5-P4 **Far-field photonic spin texture of thermal radiation from a non-isothermal nano-antenna**  
Parry Y. Chen, Roy Ayash, Chinmay Khandekar, Yonatan Sivan, Z. Jacob
- B5-P5 **Optical phase control in strongly driven infrared nanoresonators assisted by molecular vibrations**  
Felipe Herrera, Maurício Arias, Johan F. Triana
- B5-P6 **Compact 750- $\mu$ J, 75-W, sub-40-fs laser for efficient THz light sources driven by a two-color scheme**  
Christian Grebing, Fabian Stutzki, Sven Breikopf, Oliver Herrfurth, Joachim Buldt, Tino Eidam and Jens Limpert
- B5-P7 **Time-Resolved Cathodoluminescence in a TEM**  
S. Meuret, L. H.G. Tizei, F. Houdellier, S. Weber, Y. Auad, M. Tencé, H.-C. Chang, M. Kociak and A.Arbouet
- B5-P8 **Slot-bridge nanobeam cavities for high Q/V ratios**  
Joshua Fabian, Xiruo Yan, Adan Azem, Donald Witt, Kashif Awan, Matthew Mitchell, Andreas Pfenning, Lukas Chrostowski, and Jeff F. Young
- B5-P9 **iSCAT in Nanofluidic Channels: A Physical Model**  
Philippe Marc Nicollier, Armin Knoll
- B5-P10 **iSCAT Microscopy for Imaging the Interactions of Polymer Dots with HeLa Cells**  
Eric Boateng, Bruno Luppi, William Primrose, Luke Melo, Zachary Hudson, and Edward Grant
- B5-P11 **iSCAT as a high-throughput, accurate and reproducible probe of size distribution in solution-phase suspensions of cellulose nanocrystals**  
Hooman Tavakolizadeh, Mahfuzul Hoque, Luke Melo, Johan Foster and Edward Grant
- B5-P12 **The Solution Transport Limit of Non-Langmuir iSCAT Adsorption**  
Edène Rocheron, Luke Melo, Jake Wong<sup>1</sup>, Edward Grant
- B5-P13 **Detection of Nanoplastics in Mixed Solutions using Interferometric Scattering Microscopy**  
Matthew D. Kowal, Teresa M. Seifried and Edward Grant

## Poster session B6: Photochemistry

B6-P1 **High-throughput synthesis and characterization of compositionally-graded films**

Shahram Moradi, Makhsud Saidaminov

## Poster session B7: Quantitative Phase Imaging

B7-P1 **Defocus Phase Contrast in Photon-Induced Near-field Electron Microscopy**

John H. Gaida, Hugo Lourenco-Martins, Sergey V. Yalunin, Armin Feist, Murat Sivis, Thorsten Hohage, F. Javier García de Abajo, and Claus Ropers

## Poster session B8: Quantum Applications: Information Science and Sensing

B8-P1 **Photon pair directly produced into the guided modes of nonlinear waveguides via down-conversion**

Alvaro Rodríguez Echarri, Joel D. Cox and F. Javier García de Abajo



## Poster session B9: Quantum Emitters and Quantum Plasmonics

- B9-P1 **Sizing single quantum dots in solvent using nano-tweezers**  
*Hao Zhang, Parinaz Moazzezi, Brett Henderson, Cristina Cordoba, Arthur Blackburn, Makhsud I. Saidaminov, Irina Paci and Reuven Gordon*
- B9-P2 **Tip-Enhanced Strong Coupling (TESC): Quantum coherent control of single emitters at room temperature**  
*Benjamin G. Whetten, Kyoung-Duck Park, Molly A. May, Matthew Pelton, and Markus B. Raschke*
- B9-P3 **FRET-mediated Collective Blinking of Self-Assembled Stacks of Semiconducting Nanoplatelets**  
*Zakarya Ouzit, Jiawen Liu, Juan Pintor, Lilian Guillemeny, Benoît Wagnon, Benjamin Abécassis, Laurent Coolen*
- B9-P4 **A scalable route to single-photon sources at low-loss wavelengths by anchoring nanocrystals with a single Er<sup>3+</sup> dopant**  
*Adriaan L. Frencken, Michael Dobinson, Reuven Gordon, Frank C. J. M. van Veggel*
- B9-P5 **Strong coupling dynamics and multi-photon correlations in waveguide QED using three coupled qubits**  
*Sofia Arranz Regidor and Stephen Hughes*
- B9-P6 **Quantum Many-Body Study Of Hybrid Plasmon-Exciton Systems at the Subnanometer Scale: Influence of Electronic Orbital Coupling**  
*Antton Babaze, Ruben Esteban, Andrei G. Borisov and Javier Aizpurua*
- B9-P7 **Electrically-pumped QD emission from single plasmonic nanoantennas**  
*Junyang Huang, Shu Hu, Dean Kos, Jeremy J Baumberg*
- B9-P8 **Addressing the correlations of photons emitted from an ultrastrongly coupled system**  
*Álvaro Nodar, Ruben Esteban, Unai Muniain, Javier Aizpurua, Mikolaj Kajetan Schmidt*
- B9-P9 **First-principles study of plasmon-molecule coupling and charge transfer in Ag nanoparticle dimers**  
*Bruno Candelas, Nerea Zabala, Daniel Sánchez-Portal, Javier Aizpurua*
- B9-P10 **Quantum Surface Effects in a Plasmonic Nanoantenna-Emitter System: Time-Dependent Density Functional Theory vs. Semiclassical Approach**  
*Antton Babaze, Eduardo Ogando, P. Elli Stamatopoulou, Christos Tserkezis, N. Asger Mortensen, Javier Aizpurua, Andrei G. Borisov, and Ruben Esteban*

## Poster session B10: Structural Colour

B10-P1 **Interference-based Wide-range Dynamic Tuning of the Plasmonic Color of Single Gold Nanoparticles**  
Bokusui Nakayama, Hiroki Endo, Yuki Hiruta and Toshiharu Saiki

## Poster session B11: Tip Enhanced Methods

B11-P1 **Furthering nano-optic techniques through the simultaneous integration of heterodyned-tapping-mode AFM**  
Kevin W.C. Kwock, Thomas Darlington, Emanuil S. Yanev, Natalie Fardian-Melamed, Benedikt Ursprung, James C. Hone, P. James Schuck

B11-P2 **ULF TERS imaging –a novel technique for assessing the layer interaction in vertical heterostructures of 2D semiconductors**  
Alvaro Rodriguez, Andrey Kravayev, Matěj Velický, Peng Chen, Xiangfeng Duan, Patrick El-Khoury, Otakar Frank

B11-P3 **TERS Characterization of Functionalized Gold Nanostructures for Improved Biosensors**  
JF Bryce, M. Vega, A. Tempez, T. Brulé, T. Carlier, J. Moreau, P.G. Charette, M. Chaigneau, M. Canva

B11-P4 **Novel integrated III-V/silicon AFM active optical probe for combined AFM/SOM/TERS measurements**  
Alexander A. Ukhanov, Fei-Hung Chu, Gennady A. Smolyakov, Kevin J. Malloy

## Poster session B12: Ultra-fast Studies

B12-P1 **Infrared nano-spectroscopy of antenna coupled intra-molecular vibrational interactions and dynamics**  
Jun Nishida, Roland Wilcken, Johan F. Triana, Aurelian John-Herpin, Hatice Altug, Felipe Herrera, and Markus B. Raschke

B12-P2 **Intraparticle Heat Transfer inside Cross-shaped Nanoparticles Revealed by Femtosecond Transient Spectroscopy**  
M. Vega, JF Bryce, P. Bresson, PL Karsenti, M. Besbes, J. Moreau, P. Gogol, D. Morris, P.G. Charette, M. Canva

B12-P3 **Correlation effects of electrons emitted from needle tips by strongly confined ultrashort optical pulses**  
Stefan Meier, Jonas Heimerl, Peter Hommelhoff

## About Victoria

Victoria is the capital city of British Columbia, with the metropolitan area of Greater Victoria having a population of 344,615. It is located on the southern tip of Vancouver Island, situated on unceded Coast Salish Territories. Besides being known as the “City of Gardens,” it is home to the oldest Chinatown in Canada. Victoria is well situated to take advantage of the natural beauty of Vancouver Island.

### ATTRACTIONS

#### [The Butchart Gardens](#)

The Butchart Gardens is a group of floral display gardens in Brentwood Bay, on Vancouver Island. The gardens have been designated a National Historic Site of Canada and receive over a million visitors each year.

#### [Whale Watching Tours](#)

Whale watching is a major attraction for many visitors coming to Victoria. View Humpbacks on the Strait of Juan De Fuca just off Sooke.

#### [Fisherman's Wharf](#)

Just around the corner from Victoria's Inner Harbour, Fisherman's Wharf is a hidden treasure waiting to be discovered. This unique marine destination offers food kiosks, unique shops and eco-tour adventures in a working harbour setting.

#### [Harbour Ferry Tour](#)

Get a first-hand look at how the harbour functions as a seaport and seaplane airplane terminal as well as a cruise ship and ferry destination. Uncover the secrets of historic landmarks like the Parliament Buildings, First Nation sacred territories, wildlife habitats, and float home communities.

#### [Royal BC Museum and IMAX Victoria](#)

Founded in 1886, the Royal British Columbia Museum consists of The Province of British Columbia's natural and human history museum as well as the British Columbia Provincial Archives. The Royal BC Museum partners with and houses the IMAX Victoria theater, which shows educational films as well as commercial entertainment.

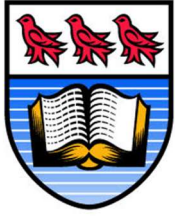
#### [British Columbia Parliament Buildings](#)

Overlooking Victoria's majestic Inner Harbour, the Parliament Buildings and surrounding areas are located in the traditional territories of the Lekwungen people. Visitors are invited to discover the architectural splendour of the Parliament Buildings and learn about British Columbia's Legislative Assembly.

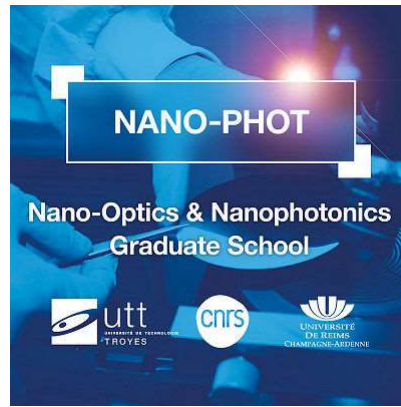
And more attractions can be found at [tourismvictoria.com](http://tourismvictoria.com)!



## Sponsors



University  
of Victoria



## Awards



## Exhibitors



DELTA PHOTONICS  
LIGHTYEARS AHEAD

