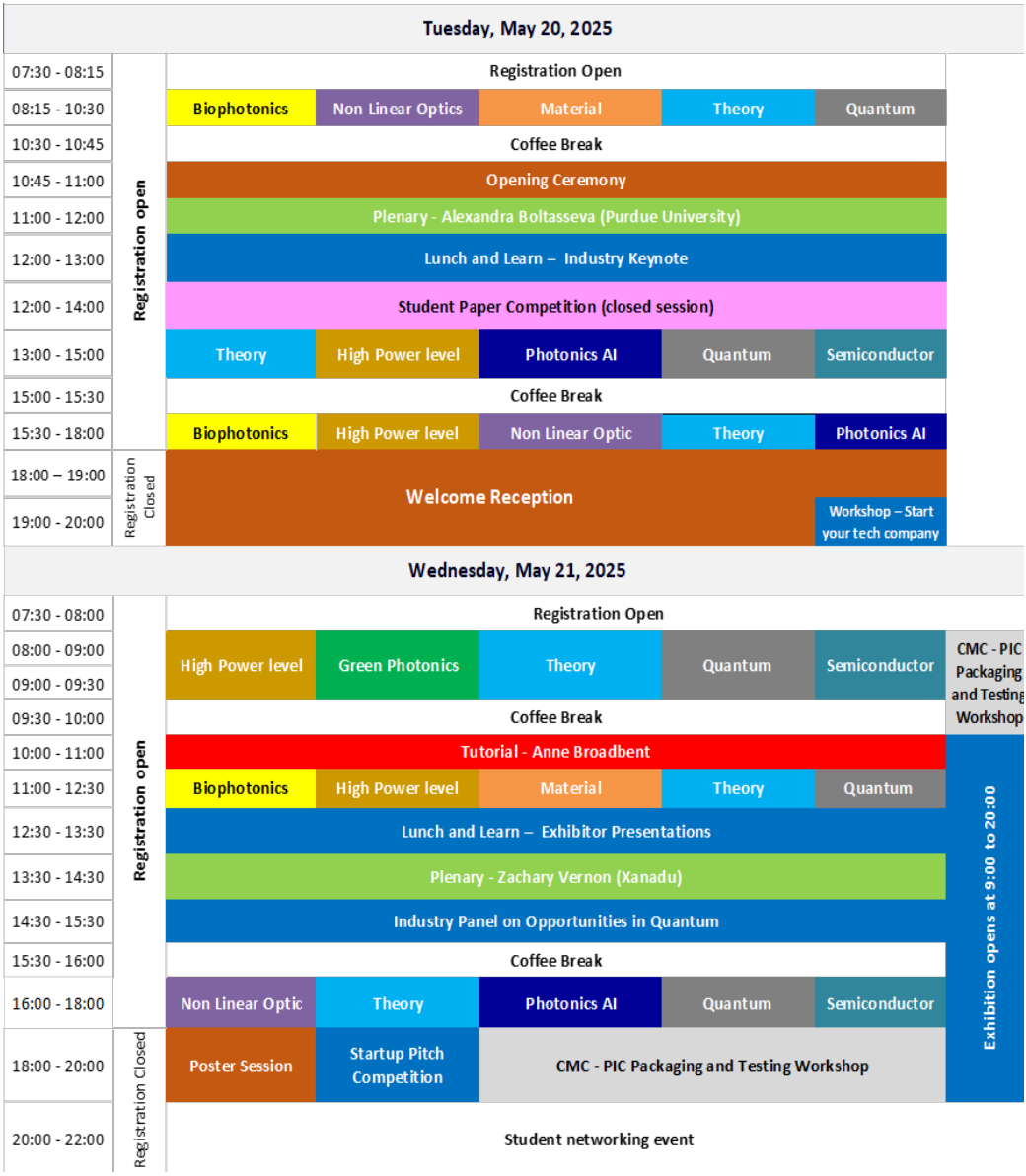
PHOTONICS NORTH | 2025

ROGERS CENTRE OTTAWA, CANADA
MAY 20-23, 2025

CONFERENCE PROGRAM

PROGRAM AT A GLANCE



PROGRAM AT A GLANCE

Thursday, May 22, 2025							
07:30 - 08:00		Registration Open					
08:00 - 09:30	Registration Open	High Power level	Theory	Photonics AI	Quantum	Semiconductor	Exhibition 9:00 to 15:30
09:30 - 10:00		Coffee Break					
10:00 - 12:00		Biophotonics	High Power level	Photonics AI	Quantum	Semiconductor	
12:00 - 13:00		Lunchtime Panel on Semiconductor Photonics - Canada and the World					
13:00 - 15:00		Biophotonics	Non Linear Optic	Material	Theory	Quantum	
15:00 - 15:30		Coffee Break					
15:30 - 16:30		Tutorial - Jeff Lundeen (University of Ottawa)					
16:30 - 18:30		Biophotonics	Green Photonics	Non Linear Optic	Quantum	Semiconductor	
18:30 - 20:30	Reg Closed	OZ Opics 40's Anniversary Celebration - Factory Tour and BBQ Social			CMC - PIC Packaging and Testing Workshop		
Friday, May 23, 2025							
07:30 - 08:00		Registration Open					
08:00 - 10:20	Registration Open	Biophotonics	Green Photonics	Non Linear Optic	Material	Quantum	
10:20 - 10:40		Coffee Break					
10:40 - 11:40		Plenary - Gerd Leuchs (Max Plank)					
11:40 - 12:00		Closing Ceremony					
12:00 - 13:00		Lunch and Learn – Career development					
13:00 - 15:00		Biophotonics	High Power level	Green Photonics	Quantum	Semiconductor	
15:00 - 15:20	Reg Closed	Coffee Break					
15:20 - 17:00		Biophotonics	Green Photonics	Non Linear Optic	Photonics AI	Quantum	

Table of Contents

Photonics North 2025
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pn.info@conferium.com

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Université Laval, Canada

Welcoming message

Dear colleagues,
We have the pleasure of inviting you to attend the 2025 Photonics North Conference that will take place at the Rogers Centre in Ottawa (Canada) from May 20 to 23, 2025.

This internationally recognized event aims to reinforce the connections between theory and application and build stronger ties between university research and industry needs. We welcome leading researchers to share their latest findings, as well as industry exhibitors to present their products and services. We are also delighted to be joined by students who have chosen photonics as a career path: Photonics North is a great opportunity to network with key players in the community.

2025 has been declared the International Year of Quantum Science and Technology by the United Nations. In line with this celebration, we have given the 2025 Photonics North conference a theme: Quantum Research and Applications. While ample space will be devoted to this theme via dedicated Plenary and Tutorial talks, the conference will maintain its traditional structure, with topical sessions covering all relevant aspects of modern photonics.

Similar to last year, we will also be hosting industry-related events, creating many opportunities for companies to showcase their products and technologies; network with other business leaders; meet end users, as well as identify and talk to potential employees.

To conclude, we wish to convey our gratitude to Dr Jinyang Liang and Dr Lora Ramunno, for their outstanding contribution to Photonics North 2025 as Program Co-Chairs. We would also like to sincerely thank our Session Chairs, partners, supporters, and numerous volunteers; without them, the conference would simply not be possible.

Looking forward to seeing you in Ottawa!

Conference Co-Chairs
Luca Razzari
INRS-EMT, Montréal, Canada

Peter C. Mason
National Research Council Canada

General Information

Venue

Rogers Centre Ottawa
55 Colonel By Drive, Ottawa, ON K1N
Phone: 1-613-563-1984 or +1-800-450-0077

Parking

The parking nearest to Rogers Centre Ottawa is a 2-storey underground facility providing 730 spaces. It features three entrances located on Daly Avenue and Nicholas Street South. The three exits are located on Nicholas Street South.
Entry points to both the Rogers Centre Ottawa and the Rideau Centre shopping complex are located on both levels on the north and west walls. There are four handicap spaces per level located on the north wall near the Rideau Centre entrances.

Registration

All participants should register at registration desk located in the RC Alcove on the 2nd floor and it will be open at the Conference venue:

Tuesday, May 20	07:30 - 19:00
Wednesday, May 21	07:30 - 19:00
Thursday, May 22	07:30 - 19:00
Friday, May 23	07:30 - 15:00

Exhibition Hall

Wednesday, May 21	9:00 - 20:00
Thursday, May 22	9:00 - 15:30

Name Badge

Please wear your name badge at all times. This will ensure your access to the conference rooms and Exhibition Hall.

Certifcate of Attendance

An official Certificate of Attendance will be available on demand.

Internet Access / Mobile Phone

Free internet access is available to all participants at the Conference venue. During the meetings, please turn off your mobile.

Network name: PN2025

Password: PhotonicsNorth

Disclaimer

The Photonics North 2025 secretariat and organizers cannot assume liability for personal accidents, loss of or damage to private property of participants, and accompagnying persons, either during or directly arising from the Photonics North 2025 Conference. Participants should make their own arrangement with respect to health and travel insurance.

Security & Safety

Please do not leave bags and luggage unattended at any time, whether inside or outside session rooms.

Industry Related Events

TUESDAY, MAY 20, 2025

Lunch Session – Industry Keynote
Hamid Arabzadeh (Ranovus)
Room: Gatineau Salon, from 12:00 - 13:00

Industry Session - Collaborating with the NRC through Challenge Programs
Chair : Lynne Genik (NRC)
Click here for more information
Room: 204, from 17:15 - 18:00

Workshop – Start Your Tech Company
Uncover the opportunities and challenges of starting a company in the photonics.
Chair: Kexing Liu (QGenX)
Speakers: Yoann Jestin (Ki3 Photonics), Helene-Sarah Becotte (Jay Photonics) and Lynn McNeil (CMC - FABrIC)

Room: Salon Gatineau, from 19:00 - 20:00

WEDNESDAY, MAY 21, 2025

EXHIBITION
Please visit our partners in Trillium Room on level 4.
09:00 - 20:00

Photonics Integrated Circuit (PIC) Packaging and Testing
Click here for more information
Room 102, from 08:00 - 10:00
Room: Salon Gatineau, from 18:00 - 20:00

Lunch Session - Exhibitor Presentations
Discover our partners' company, technology and products while enjoying your lunch.
Room: Gatineau Salon, from 12:30 to 13:30

Startup Pitch Competition
Pitch your big idea to start a company to a group of business leaders and investors. The event is open to all attendees. Pitch presenters must register in advance using the link : click here

Chair: Kexing Liu (QGenX)
Juges : Jim Hjartarson (InPho), Duncan Stewart (BDC), Joanne Wong (REDDS Capital), Paul Slaby (CSC), Velko Tzolov (CPFC) and Lynn McNeil (CMC - FABrIC)
Room : 202, from 18:00 to 20:00

THURSDAY, MAY 22, 2025

EXHIBITION
Please visit our partners in Trillium Room on level 4.

09:00 - 15:30

Lunchtime Panel on Semiconductor Photonics - Canada and the World
Moderator : Duncan Stewart (BDC)
Panelists : Velko Tzolov (CPFC), Paul Slaby (CSC), Lynn McNeil (CMC - FABrIC) and Jeff McNamee (SECTR)
Room: Gatineau Salon, from 12:00 to 13:00

Photonics Integrated Circuit (PIC) Packaging and Testing
Room: Gatineau Salon, from 18:30 - 20:30
Click here for more information

OZ Optics BBQ event
OZ Optics Facility at 219 Westbrook Rd, Carp, Ottawa, 6pm to 9pm
Click here for more information
Shuttle service from 6 pm (from Rogers Center) to 9:30 pm (from OZ Optics)

FRIDAY, MAY 23, 2025

Lunch and Learn – Career Development
Moderators : Ella Wiggins(Invest Ottawa)
Panelists : Daniel Hutama (CPFC), Kaustubh Vyas (GenISys) and Eddith Ducharme (Optonique)
Room: Gatineau Salon, from 12:00 to 13:00

Photonics

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Training & Upskilling

FABrIC—funded by the Government of Canada and managed by **CMC Microsystems**—supports training and reskilling courses designed to equip industry and academia with the skills needed to strengthen the semiconductor industry in Canada.

- Technology for Non-techies (TNT) Series
- Active Silicon Photonics
- Passive Silicon Photonics
- Silicon Quantum Photonics

Device design & prototyping

Tools and prototyping services are available for FABrIC members from the post-secondary sector in Canada who hold a subscription with CMC Microsystems. Learn more about accessing tools, university labs and support online.

Foundry technologies available

- ***Advanced Micro Foundry*** Silicon Photonics
- ***Applied NanoTools*** NanoSOI, Silicon Nitride Fabrication Process
- ***Ferinand Braun Institut*** Compound Semiconductor Epitaxy
- ***GlobalFoundries.*** 28SLPe, GF Fotonix (TM), Silicon Photonics

Learn More!

Stop by and visit CMC Microsystems in the exhibition area or learn more about the FABrIC project online

FABrIC

FABrIC accelerates the development of made-in-Canada IoT products and semiconductor manufacturing processes, trains Canadian talent, strengthens supply chains, and builds connections across the Canadian semiconductor ecosystem.

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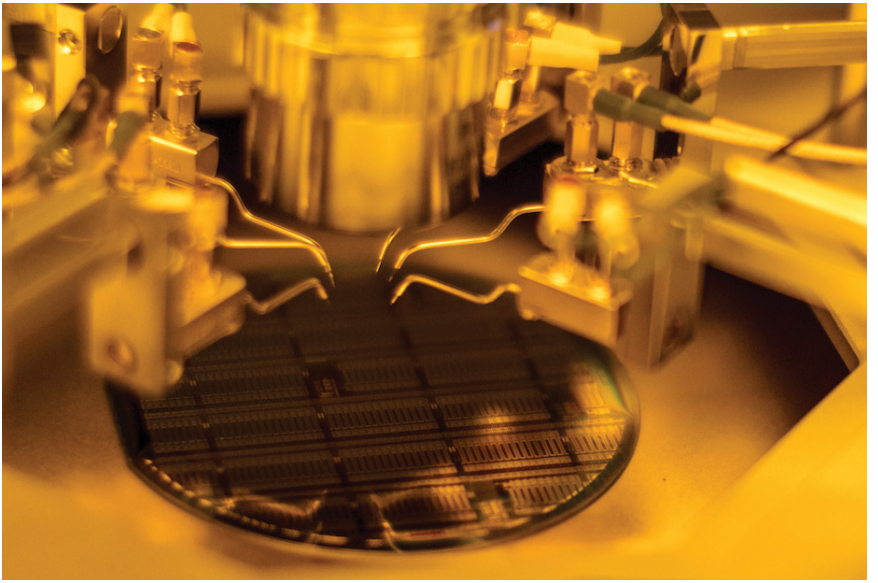

Expertise. Collaboration. Infrastructure.

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Le Conseil national de recherches du Canada est particulièrement bien placé pour stimuler l'innovation photonique et quantique.

Alexander Munro
Business Development Officer, Quantum and Nanotechnologies Research Centre

Alexander Munro
Agent, Développement des affaires, Centre de recherche en quantique et en nanotechnologies

Alexander.Munro@nrc-cnrc.gc.ca, 514-448-7698

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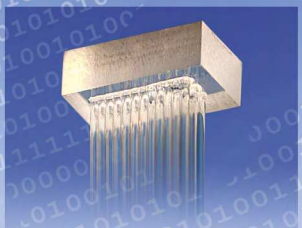

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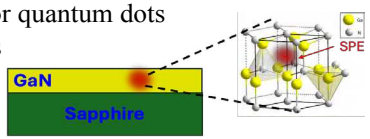
AQUA

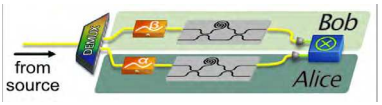
Photon sources

Quantum frequency combs
Semiconductor quantum dots
Metamaterials



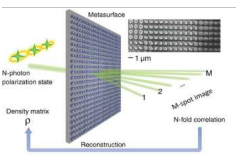
Quantum key distribution

Multi-user entanglement distribution
High-dimensional space-multiplexed architectures



Quantum imaging and sensing

Integrated THz frequency combs
Quantum meta-optics
Single-photon cameras



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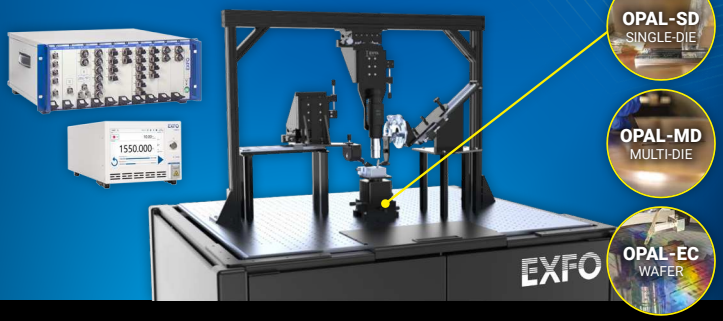

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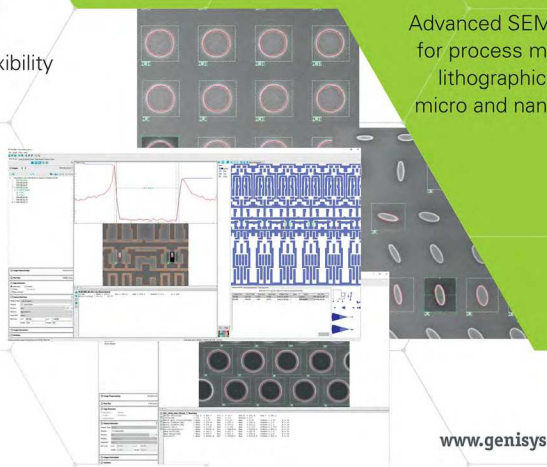

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Student Networking Event at Photonics North 2025

Hosted by the INRS Photonics Student Association

INRS Photonics Student Association | Association étudiante en photonique

OPTICA SPIE. IEEE Photonics Society

Date: Wednesday, May 21, 2025
Time: 8:00 pm – 11:00 pm (After the Poster Session)
Location: Level One Pub, 14 Waller St, Ottawa, ON, K1N 9C4 (8 min walk from Rogers Center)
Event Overview: This networking event will be a unique chance for **Optica**, **SPIE**, and **IEEE Photonics Society student members** from across Canada and beyond to connect, share ideas, and build professional relationships in a relaxed and welcoming environment. The event will feature an icebreaker quiz, with teams of four or five students of different chapters to encourage interaction, with complimentary food and a free drink for each attendee. A prize will be given to the best team. Following the quiz, we will host an informal networking session to encourage further connections among participants.

Spots are limited
– FREE for any Chapter Members
– 15$ for non-member students

Reserve your spot now!

For additional information, please contact:
association.photonique@inrs.ca

Co-hosting student chapters

uOttawa STUDENT CHAPTER OPTICA SPIE.

OPTICA Advancing Optics and Photonics Worldwide Chapitre étudiant de l'ÉTS

OPTICA Advancing Optics and Photonics Worldwide Formerly OSA Queen`s University Optica Student Chapter

Oral Presentations

Tuesday, May 20, 2025

BIOPHOTONICS, NOVEL SENSING, AND ADVANCED IMAGING - PART 1 OF 9

201

Chair: Parsin Haji Reza, Univ of Waterloo, Canada

Sangeeta Murugkar, Carleton University, Canada

08:15 - 08:30 QUANTUM CASCADE LASER SYSTEM FOR STANDOFF CHEMICAL SENSING
Nelson Rowell, National Research Council Canada, Canada
Nelson Rowell, Robert Rinfret, Li-Lin Tay

08:30 - 08:45 LONG-INFRARED REMOTE SENSING BASED ON PHOTONICS CHAOS GENERATED BY QUANTUM CASCADE LASERS
Sara Zaminga, Telecom Paris, France
Sara Zaminga, Thomas Poletti, Frederic Grillot

08:45 - 09:00 DEVELOPMENT OF A SILICON NITRIDE WAVEGUIDE-BASED BIOSENSOR FOR HUMAN IGG SENSING
Niloofar Majidian Taleghani, McMaster University, Canada
Niloofar Majidian Taleghani, Andrea Larraga Urdaz, Linan Cui, Batoul Hashemi, Cameron Naraine, Ayse Turak, Kyla Sask, Niko Hildebrandt, Pavel Cheben, Ponnambalam Ravi Selvaganapathy, Jonathan Bradley

09:00 - 09:15 DEVELOPMENT OF NEW OPTICAL TECHNIQUES FOR RAPID BIODOSIMETRY
Sangeeta Murugkar, Carleton University, Canada
Haydn Flemming, Parminder Riarh, Teresa Buragina, Justin Gagnon, Connor McNairn, Sanjeena Dang (Subedi), Vinita Chauhan, Jamie Inman, Sangeeta Murugkar

09:15 - 09:40 DECONSTRUCTING THE EXTRACELLULAR MATRIX: UNDERSTANDING COLLAGEN REMODELING IN FIBROTIC AND BIOENGINEERED TISSUES USING SHG MICROSCOPY
Leila Mostaço-Guidolin, Carleton University, Canada
Leila Mostaço-Guidolin

09:40 - 10:05 POLARIZATION-RESOLVED SECOND HARMONIC GENERATION MICROSCOPY FOR FIBRILLAR STRUCTURES
Danielle Tokarz, Saint Mary's University, Canada
MacAulay Harvey, Richard Cisek, Caylee MacDonald, Danielle Tokarz

10:05 - 10:30 DEVELOPMENTS IN WIDE-FIELD FLUORESCENCE-DETECTED PHOTOTHERMAL INFRARED (FL-PTIR) SPECTROMICROSCOPIC IMAGING OF CELLS
Kathleen Gough, University of Manitoba, Canada

NONLINEAR OPTICS, NANOPHOTONICS AND PLASMONICS - PART 1 OF 7

202

Chair: Pablo Bianucci, Concordia University, Canada

08:30 - 08:45 QUALITY OF MID-IR PLASMON RESONANCES IN HIGHLY MISMATCHED ALLOYS
Gavin Frodsham, University of Ottawa, Canada
Gavin Frodsham, Hassan Allami, Jacob J. Krich

08:45 - 09:00 TUNING PROXIMITY ERROR CORRECTION FOR PLASMONIC METASURFACES
Athulya Thulaseedharan, University of Ottawa, Canada
Athulya Thulaseedharan, Lais Fujii dos Santos, Sina Aghili, Ksenia Dolgaleva

09:00 - 09:15 SURFACE PLASMON ENHANCEMENT OF FLUORESCENCE ON SILVER NANOGRATINGS
Maryam Sadat Amiri Naeini, University of Ottawa, Canada
Maryam Sadat Amiri Naeini, Pierre Berini

09:15 - 09:30 EXCITATION AND DISPERSION CHARACTERISTICS OF TRANSVERSE MAGNETIC SUPERMODES IN PLASMONIC OPTICAL FIBERS.
Binny Jind, University of Ottawa, Canada
Binny Jind, Pierre Berini

09:30 - 09:45 LASER MODIFICATION OF POLYMER-EMBEDDED METAL NANORODS FOR PLASMONIC COLOUR PICTURE GENERATION
Andrew Hainer, University of Ottawa, Canada
Andrew Hainer, Ariana Rodríguez Escamilla, David Girard, Pierre Berini, Arnaud Weck

09:45 - 10:00 MODELING EPSILON-NEAR-ZERO PLASMONIC ELECTRO-OPTIC MODULATORS
Masoud Shabaninezhad, University of Ottawa, Canada
Masoud Shabaninezhad, Hamid Mehrvar, Eric Bernier, Lora Ramunno, Pierre Berini

10:00 - 10:25 TUNABLE OPTICAL RESPONSES OF PLASMONIC NANOSTRUCTURES MEDIATED BY PHASE CHANGE MATERIALS VIA PHOTOTHERMAL PROCESSES
Ali Hatef, Nipissing University, Canada
Ali Hatef

PHOTONIC MATERIALS - PART 1 OF 4

204

Chair: Sylvain G. Cloutier

08:15 - 08:30 INVESTIGATING RESIDUAL STRESS AND CRACKING LIMITS IN THICK SILICON NITRIDE FOR SCALABLE PHOTONIC INTEGRATED CIRCUITS THROUGH EXPERIMENTAL AND COMPUTATIONAL APPROACHES
Brahim Ahammou, INRS - Institut national de la recherche scientifique, Canada
Brahim Ahammou, Youssef Ouldhnini, Abir Radi, Majid Taghavi Dehaghani,

Boris Le Drogoff, Kulbir Ghuman, Mohamed Chaker

08:30 - 08:45 ENGINEERING A LOW-LOSS ALUMINUM NITRIDE ON INSULATOR PLATFORM FOR INTEGRATED PHOTONICS
Redouane Amrar, Universite de Sherbrooke, Canada
Redouane Amrar, Ali Soltani, Guillaume Beaudin, Gabriel Droulers, Simon Loquai, Paul Charette

08:45 - 09:00 PT-SYMMETRIC SYSTEM IN THE ABSENCE OF GAIN OR LOSS
Johannes Bentzien, Institute of Physics, University of Rostock, Germany
Johannes Bentzien, Julien Pinske, Lukas J. Maczewsky, Steffen Weimann, Matthias Heinrich, Stefan Scheel, Alexander Szameit

09:00 - 09:15 INFLUENCE OF LIGANDS ON CHARGE TRANSPORT IN CIS QUANTUM DOT PHOTODETECTORS
Yizun Wang, University of Waterloo, Canada
Yizun Wang

09:15 - 09:30 FIELD EFFECT TRANSISTOR DEMONSTRATION USING PULSED LASER DEPOSITED MOS2/MOO3 HETEROSTRUCTURES
Andres Forero Pico, University of Alberta, Canada
Andres Forero Pico, Jyoti Yadav, Haotian Yu, Manisha Gupta

09:30 - 09:45 PHOTOSENSITIVITY OF PULSE LASER DEPOSITION GROWN MONOLAYER AND BULK MOS2/P-SI PHOTODIODES
Muhammad Islam, Department of Electrical and Computer Engineering, University of Alberta, Canada
Muhammad Islam, Jyoti Yadav, Manisha Gupta

09:45 - 10:00 LARGE AREA PHOTODETECTOR FABRICATION USING PULSED LASER DEPOSITED WS2 ON SI SUBSTRATES
Jyoti Yadav, University of Alberta, Canada
Jyoti Yadav, Muhammad Islam, Manisha Gupta

10:00 - 10:35 TANTALUM-BOOSTED GALLATE GLASS: A GAME CHANGER FOR NONLINEAR MID-INFRARED FIBER OPTICS
Theo Guerineau, COPL - Université Laval, Canada
Theo Guerineau, Albert Dupont, Esteban Serrano, Steeve Morency, Bertrand Kibler, Jerome Lapointe, Philippe Labranche, Frédéric Smektala, Evelyne Fargin, Thierry Cardinal, Martin Bernier, Réal Vallée, Younès Messaddeq

PHOTONIC THEORY, DESIGN, AND SIMULATIONS - PART 1 OF 8

209

Chair: Jonathan Bradley

08:30 - 08:45 BROADBAND AND COMPACT TE1 TO TE0 MODE CONVERTER BASED ON BEZIER CURVES
Ziyin Wei, University of Toronto, Canada
Ziyin Wei, J. Stewart Aitchison

08:45 - 09:00 EXPERIMENTAL DEMONSTRATION OF HIGH-EFFICIENCY SILICON NITRIDE GRATING COUPLERS FOR O-BAND APPLICATIONS

William Fraser, Carleton University, Canada

William Fraser, Radovan Korek, Daniel Benedikovic, Cameron Horvath, Shurui Wang, Martin Vachon, Rubin Ma, Jens H. Schmid, Pavel Cheben, Winnie Ye

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09:00 - 09:15 EXPERIMENTAL DEMONSTRATION OF PHOTONIC SUBTRACTION AND ADDITION OF MICROWAVE SIGNALS

Blaise Tshibangu Mbuebue, Instituto Nacional de Astrofísica, Óptica y Electrónica (INAOE), Mexico

Blaise Tshibangu Mbuebue, Roberto Rojas-Laguna, Juan Carlos Colín-Ortega, Ignacio Enrique Zaldivar-Huerta

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09:15 - 09:40 DISTRIBUTED ACOUSTIC SENSING: FADING NOISE AND IMPACT OF OPTICAL PRE-AMPLIFICATION

Gabriele Bolognini, National Research Council, Italy

Gabriele Bolognini, Lun-Kai Cheng, Wim de Jong, Lorenzo Scherino, Rob Jansen, Leonardo Rossi

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09:40 - 10:05 FOUNDRY-READY DESIGN OF ACTIVE PHOTONIC COMPONENTS USING A MULTI-PHYSICS SIMULATION PLATFORM

Prashanta Kharel, Flexcompute, United States of America

Prashanta Kharel, Lucas Gabrielli, Charles Wojcik, Weiliang Jin, Marc Gisbert, Xinzhong Chen, Tyler Hughes, Zongfu Yu

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QUANTUM LIGHT-MATTER INTERACTIONS: SENSING, COMMUNICATIONS, AND INFORMATION PROCESSING - NANOPHOTONICS

GATINEAU SALON

Chair: Benjamin Sussman

08:15 - 08:30 LOCAL-REALISM VIOLATION WITH MINIMAL POST-SELECTION ON TWO-QUBIT STATES PRODUCED FROM SPATIALLY INCOHERENT LIGHT

Cheng Li, University of Ottawa, Canada

Cheng Li, Jeremy Upham, Boris Braverman, Robert W. Boyd

08:30 - 08:45 ENGINEERING QUBIT DYNAMICS IN OPEN SYSTEMS WITH PHOTONIC SYNTHETIC LATTICES

Tareq Jaouni, University of Ottawa, Canada

Francesco Di Colandrea, Tareq Jaouni, John Grace, Dilip Paneru, Mirko Arienzo, Alessio D'Errico, Ebrahim Karimi

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08:45 - 09:00 IMPROVEMENT OF NITROGEN-VACANCY MAGNETOMETER SENSITIVITY USING PHOTONIC NANOSTRUCTURES

Alexandre Guilbault, Université de Sherbrooke, Canada

Alexandre Guilbault, Dominic Lepage, Serge Ecoffey, Dominique Drouin

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09:00 - 09:15 YIG PHOTONIC CRYSTALS

Alireza Rashedi, University of Alberta, Canada
Alireza Rashedi, John Davis

09:15 - 09:30 HYBRID CAVITY-METASURFACE DESIGN TO ENHANCE MOLECULAR STRONG LIGHT-MATTER COUPLING AT TERAHERTZ FREQUENCIES
Ahmed Jaber, University of Ottawa, Canada
Ahmed Jaber, Michael Reitz, Avinash Singh, Ali Maleki, Yongbao Xin, Brian Sullivan, Ksenia Dolgaleva, Robert W. Boyd, Claudiu Genes, Jean-Michel Ménard

09:30 - 09:55 QUANTUM OPTICS WITH PHOTONIC NANOSTRUCTURES
Michael Reimer, IQC/University of Waterloo, Canada
Michael Reimer

09:55 - 10:20 CIRCULAR BRAGG RESONATORS INTEGRATED WITH NANOWIRE QUANTUM DOTS FOR EMISSION RATE ENHANCEMENT
David Northeast, NRC, Canada
David Northeast

PLENARY LECTURE 1 - ALEXANDRA BOLTASSEVA (PURDUE UNIVERSITY) - QUASI-2D MATERIALS: FROM TAILORABLE PHOTONICS TO NEW PHENOMENA

GATINEAU SALON

Chair: Lora Ramunno, University of Ottawa, Canada

Jinyang Liang, INRS - Université du Québec, Canada

11:00 - 12:00 QUASI-2D MATERIALS: FROM TAILORABLE PHOTONICS TO NEW PHENOMENA
Alexandra Boltasseva, Purdue University, United States of America
Alexandra Boltasseva

PHOTONIC THEORY, DESIGN, AND SIMULATIONS - PART 2 OF 8

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Chair: Ahmad Atieh, Optiwave Systems Inc, Canada

13:00 - 13:25 RECENT PROGRESS IN GLASS MODIFICATION WITH AN ULTRAFAST LASER
Raman Kashyap, Fabulas Laboratory, Department of Engineering Physics, Department of Electrical Engineering, Polytechnique Montreal, Canada
Foroogh Jafari, Qingtao Chen, Anthony Roberge, Jean-Sébastien Boisvert, Sébastien Loranger, Raman Kashyap

13:25 - 13:50 NANO-ENGINEERED FOUNDATIONS FOR SCALABLE PHOTONICS: UNIFORM CORE-SHELL PEROVSKITES WITH INTRINSIC STABILITY AND DYNAMIC EMISSION BEHAVIOUR
Ayse Turak, Concordia University, Canada
Ayse Turak

13:50 - 14:15 COPOLYMERS USED AS DOPANTS IN ACRYLATE-BASED RESINS FOR THE FABRICATION OF WAVEGUIDES WITH VAT PHOTOPOLYMERIZATION

Alexandre Pohl, Federal University of Technology - Parana, Brazil
Andreia Macedo, Carlos Ernesto Morales-Alvarado, João Pedro Jankosz, Paula Rodrigues, Juan González, Neri Volpato, Alexandre Pohl

14:15 - 14:30 SIMULATIONS OF LASER-INDUCED METALLIC NANOROD SHRINKING IN POLYMER-BASED NANOCOMPOSITES FOR COLOUR FORMATION
David Girard, University of Ottawa, Canada
David Girard, Aram Melkonyan, Jean-Philippe Colombier, Pierre Berini, Arnaud Weck

14:30 - 14:45 COMPACT SUBWAVELENGTH GRATING-ASSISTED TFLN WAVELENGTH DEMULTIPLEXER WITH ULTRA-LOW LOSS
Leila Mehrvar, McMaster University, Canada
Leila Mehrvar, Alaa Sultan, Mostafa Khalil, Saeed Oghbaey, Tyler Kashak, Ahmad Atieh, Chang-Qing Xu

14:45 - 15:00 LOOKING AT OPTICS AT A NEW ANGLE: IT'S MAGIC!
Ilya Golub, Algonquin College, Canada
Svetlana Khonina, Andrey Ustinov, Ilya Golub

HIGH-POWER LASER TECHNOLOGY, ULTRAFAST OPTICS AND APPLICATIONS - PART 1 OF 7

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Chair: Arkady Major, University of Manitoba, Canada

13:00 - 13:25 TAPERED FIBER AMPLIFIERS: HARNESSING THE POWER OF LIGHT
Regina Gumenyuk, Tampere University, Finland
Regina Gumenyuk

13:25 - 13:50 ALMANTAS GALVANAUSKAS - COHERENTLY COMBINED FEMTOSECOND FIBER LASERS - PATHWAYS TO POWER SCALABLE MULTI-TW DRIVERS OF LASER PLASMA ACCELERATORS AND SECONDARY RADIATION SOURCES
Jones, R. Jason

13:50 - 14:05 TWO-COLOR NONLINEAR AMPLIFICATION IN LARGE MODE AREA YB-DOPED FIBER
Dean Eaton, University of Waterloo, Canada
Dean Eaton, Mingjian Lyu, Samuel Laketa, Kyle MacRobbie, Donna Strickland

14:05 - 14:20 TUNABLE FEMTOSECOND SOURCE BASED ON SPATIOTEMPORAL NONLINEAR ENHANCEMENT FOR FIBER-LASER-BASED MICROSCOPY APPLICATIONS
Bahareh Hosseini Fakhar, Institut national de la recherche scientifique, Centre Énergie Matériaux Télécommunications, Canada
Bahareh Hosseini Fakhar, Zeinab Norouzinik, Kourosh Zarekarizi, François Légaré, Reza Safaei

14:20 - 14:35 INTENSITY NOISE SUPPRESSION IN PHASE-BIASED NALM MODE-LOCKED FIBER LASERS
Gil Porat, University of Alberta, Canada
Saeid Ebrahimzadeh, James Maldaner, Sakib Adnan, Campbell Rea, Yishen Li,

Gil Porat

14:35 - 14:50 813-NM SINGLE-FREQUENCY FIBER LASER FOR SR OPTICAL LATTICE CLOCKS
Yalina Garcia-Puente, Polytechnique Montreal and MPB Communications Inc., Canada
Yalina Garcia-Puente, Raman Kashyap, Vladimir Karpov

PHOTONICS AND ARTIFICIAL INTELLIGENCE - PART 1 OF 6

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Chair: Sean Molesky, Polytechnique Montreal, Canada

13:00 - 13:35 PROGRAMMING LIGHT DIFFRACTION FOR INFORMATION PROCESSING AND COMPUTATIONAL IMAGING
Aydogan Ozcan, UCLA, United States of America
Aydogan Ozcan

13:35 - 14:00 QUANTUM FREQUENCY CIRCUITS FOR INFORMATION PROCESSING
Michael Kues, Leibniz University Hannover, Institute of Photonics, Germany
Michael Kues, Anahita Khodadad Kashi

14:00 - 14:15 OPTICAL RESERVOIR COMPUTING FOR PARALLEL SIGNAL PROCESSING
Luigi Di Lauro, INRS-EMT, Canada
Luigi Di Lauro, A. Aadhi, Pavel Dmitriev, Bennet Fischer, Imtiaz Alamgir, Celine Mazoukh, Nicolas Perron, Evgeny Viktorov, Anton Kovalev, Armaghan Eshaghi, Mario Chemnitz, Piotr Roztocki, Shervin Vakili, Brent E. Little, Sai T. Chu, David J. Moss, Roberto Morandotti

14:15 - 14:30 RESERVOIR COMPUTING BASED ON ALL-OPTICAL NONLINEARITY
Zhuohong Li, Institut national de la recherche scientifique, Canada
Zhuohong Li, Imtiaz Alamgir, Luigi Di Lauro, Nicolas Perron, Pavel Dmitriev, Md Mahadi Masnad, Celine Mazoukh, Evgeny A. Viktorov, Brent E. Little, Sai T. Chu, David J. Moss, Roberto Morandotti

14:30 - 14:45 PARALLEL IMAGE PROCESSING USING INCOHERENT OPTICAL GENERAL MATRIX MULTIPLICATION
Farshid Ashtiani, Nokia Bell Labs, United States of America
Farshid Ashtiani, Mohamad Hossein Idjadi

14:45 - 15:00 DEEP LEARNING SOLVING HIGH-RESOLUTION AND LARGE FIELD-OF-VIEW TRADE-OFF IN QUANTITATIVE PHASE IMAGING.
Corentin Soubeiran, Université Laval, CERVO Brain Research Center, Canada
Corentin Soubeiran, Maxime Moreaud, Johan Chaniot, Céline Larivière-Loiselle, Mohamed Haouat, Erik Bélanger, Pierre Marquet

QUANTUM LIGHT-MATTER INTERACTIONS: SENSING, COMMUNICATIONS, AND INFORMATION PROCESSING - QUANTUM INFORMATION AND INTERACTION

GATINEAU SALON

Chair: Proppe, Andrew

13:00 - 13:35 MAGNETO-OPTICAL TRAPPING OF NEUTRAL ATOMS WITH LIGHT-INDUCED FICTITIOUS MAGNETIC FIELDS
Boris Braverman, University of Toronto, Canada
Nicholas Sullivan, Shira Jackson, ByungChan Ha, Boris Braverman

13:35 - 14:00 USING SUPERRADIANCE TO ENHANCE PHOTON STORAGE AND GENERATION IN COLD ENSEMBLE-BASED RUBIDIUM QUANTUM MEMORIES
Lindsay LeBlanc, University of Alberta Department of Physics, Canada
Anindya Rastogi, Travis Hosack, Amaru Gael Moya Ragal, Erhan Saglamyurek, Lindsay LeBlanc

14:00 - 14:15 RESONANCE FLUORESCENCE OF AN ARTIFICIAL ATOM WITH TIME-DELAYED COHERENT FEEDBACK
Gavin Crowder, University of Ottawa, Canada
Gavin Crowder, Ching Yeh Chen, Zheng-Qi Niu, Ping Yi Wen, Yen-Hsiang Lin, Jeng-Chung Chen, Zhi-Rong Lin, Lora Ramunno, Stephen Hughes, Franco Nori, IoChun Hoi

14:15 - 14:30 STATISTICS OF SPONTANEOUS PHOTOCURRENT IN LT-GAAS ELECTRODES DRIVEN BY BRIGHT-SQUEEZED VACUUM
David Purschke, Joint Attosecond Science Laboratory, Canada
David Purschke, Kasia Kowalczyk, Sam Lemieux, Kamalesh Jana, Nida Haram, Shima Gholam-Mirzaei, Neda Boroumand, Yonghao Mi, André Staudte, David Villeneuve, Thomas Brabec, Paul Corkum, Giulio Vampa

14:30 - 14:45 TIME-BIN ENCODED FOUR-QUBIT GHZ STATE: GENERATION AND CHARACTERIZATION
Ashutosh Singh, University of Calgary, Canada
Ashutosh Singh, Leili Esmaeilifar, Nasser Gohari Kamel, Pascal Lefebvre, Daniel Oblak

14:45 - 15:00 SPACE-TIME MULTIPLEXING FOR ULTRAFAST QUANTUM IMAGING
Vincent Quenneville-Guay, Institut national de la recherche scientifique (INRS), Canada
Vincent Quenneville-Guay, Bienvenu Ndagano

SEMICONDUCTOR PHOTONICS - PART 1 OF 7

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Chair: Winnie Ye, Carleton University, Canada

13:00 - 13:25 EMERGING PHOTONIC PLATFORMS: SURPASSING THE LIMITATIONS OF SILICON
Giuseppe Leo, Laboratoire Matériaux et Phénomènes Quantiques (MPQ),

Université Paris Cité, Paris 75205, France, France

Ana Maria Statie, Pablo Bedoya, Jonathan Peltier, Clément Ben Braham, Luca Lovisolo, Francesco-Rinaldo Talenti, Roy Prosopio Galarza, Alicia Ruiz-Caridad, Sylvain Guerber, Ausrine Bartasyte, Guy Aubin, Samson Edmond, Guillaume Agnus, Ludovic Largeau, Nathaniel Findling, Etienne Herth, Ali Belarouci, Bertrand Szelag, Eric Cassan, Delphine Marris-Morini, Daniele Melati, Philippe Lecoeur, Aristide Lemaitre, Sylvia Matzen, Giuseppe Leo, Yohan Désières, Thomas Maroutian, Carlos Alonso-Ramos, Laurent Vivien

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13:25 - 13:50 PROGRAMMABLE PHOTONIC CIRCUITS FOR OPTICAL SIGNAL PROCESSING

Wim Bogaerts, Ghent University - IMEC, Belgium

Wim Bogaerts, Hong Deng, Yu Zhang, Xiangfeng Chen, Lukas Van Iseghem, Nagarjun Katta Pradeep Kumar, Antonio Ribeiro, Ferre Vanden Kerchove, Umar Khan, Hasan Salmanian, Jing Zhang, Emadreza Soltanian, Mario Pickavet, Guy Torfs, Gunther Roelkens

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13:50 - 14:05 DENSER OPTICAL INPUTS/OUTPUTS INTEGRATION USING 80 UM DIAMETER OPTICAL FIBER ARRAY ATTACH PROCESS

Louis-Michel Collin, IBM Semiconductor, Canada

Paul Gond-Charton, Louis-Michel Collin, Steve Pellerin, Sébastien Gouin, Patrick Jacques, Michelle Sevigny, Chantal Eyamie, Badr Terjani, Elaine Cyr

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14:05 - 14:20 UNIFORM SAMPLED SUBWAVELENGTH GRATING WAVEGUIDE BRAGG GRATING

Xi Wang, McGill University, Canada

Xi Wang, Lawrence R. Chen

14:20 - 14:35 EXPLORING DIRAC GRATINGS IN SILICON PHOTONICS

Shayan Saeidi, University of Ottawa, Canada

Shayan Saeidi, Pavel Cheben, Jens H. Schmid, Pierre Berini

14:35 - 15:00 EPITAXIAL ALUMINUM NITRIDE ON SAPPHIRE WAVEGUIDES FOR EXTENDED SUPERCONTINUUM GENERATION

Camille-Sophie Brès, Ecole Polytechnique Fédérale de Lausanne, Switzerland

Camille-Sophie Brès, Samantha Sbarra, Samuele Brunetta, Jean-François Carlin, Nicolas Grandjean, Raphaël Butté

BIOPHOTONICS, NOVEL SENSING, AND ADVANCED IMAGING - PART 2 OF 9

GATINEAU SALON

Chair: Albert Stolow, University of Ottawa, Canada

Kamran Avanaki, University of Illinois Chicago, United States of America

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15:30 - 15:55 STRUCTURED LIGHT IN VISION-SCIENCE APPLICATIONS

Dmitry Pushin, Institute for Quantum Computing, University of Waterloo, Canada

Dmitry Pushin, David Cory, Davis Garrad, Connor Kapahi, Mukhit Kulmaganbetov, Melanie Mungalsingh, Iman Salehi, Andrew Silva, Taranjit Singh, Ben Thompson, Dusan Sarenac

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15:55 - 16:20 TRANSLATIONAL CLINICAL BIOPHOTONICS

Juergen Popp, Leibniz Institute of Photonic Technology, Germany

Juergen Popp

16:20 - 16:45 MOTION-TOLERANT 3D VOLUMETRIC MULTIPHOTON MICROSCOPY IMAGING OF HUMAN SKIN IN VIVO WITH SUBCELLULAR RESOLUTION AND EXTENDED FIELD OF VIEW

Haishan Zeng, BC Cancer Research Institute, University of British Columbia, Canada

Haishan Zeng

16:45 - 17:00 LABEL-FREE VIRTUAL PATHOLOGY WITH PHOTON ABSORPTION REMOTE SENSING MICROSCOPY

Benjamin Ecclestone, University of Waterloo, Canada

Benjamin Ecclestone, James Tweel, Alexander Tummon Simmons, Deepak Dinakaran, Parsin Haji Reza

17:00 - 17:15 LOW-COST RAMAN SPECTROSCOPY FOR DETECTION OF LUNG CANCER IN A NATIONAL BLOOD PLASMA BIOBANK

Katherine Ember, Polytechnique Montreal, Canada

Katherine Ember, Frédérick Dallaire, Éloïse DAmours, Marwa Bounaas, Juliette Selb, Nassim Ksantini, Frédéric Lesage, Frédéric Leblond

17:15 - 17:30 FAST, NOISE-FREE AND LABEL-FREE: ADVANCING CELL IMAGING WITH VIDEO-RATE POLYCHROMATIC DIGITAL HOLOGRAPHIC MICROSCOPY

Céline Larivière-Loiselle, Université Laval, Canada

Céline Larivière-Loiselle, Mohamed Haouat, Erik Bélanger, Pierre Marquet

17:30 - 17:45 COMPARATIVE ANALYSIS OF POLARIZATION TECHNIQUES IN SECOND HARMONIC GENERATION MICROSCOPY

Sasha MacArthur, Saint Mary's University, Canada

Sasha MacArthur, MacAulay Harvey, Richard Cisek, Danielle Tokarz

HIGH-POWER LASER TECHNOLOGY, ULTRAFAST OPTICS AND APPLICATIONS - PART 2 OF 7

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Chair: Arkady Major, University of Manitoba, Canada

15:30 - 15:55 CHERENKOV THZ DEMONSTRATOR WITH MULTISTAGE DEPRESSED COLLECTOR DRIVEN BY OVERSIZED ANNULAR ELECTRON BEAM: CONCEPT AND FIRST STEPS TOWARD EXPERIMENT.

Ivan Konoplev, UKAEA, United Kingdom

Ivan Konoplev, Amy MacLachlan, Liang Zhang, Chris Rowley, Liam Young, Ella Bartley, Kevin Ronald, Alan Phelps, Heather Lewtas

15:55 - 16:20 FROM SINGLE PULSES TO SINGLE PHOTONS: BREAKTHROUGHS IN TERAHERTZ DETECTION TECHNIQUES

Angela Gamouras, National Research Council Canada, Canada

Angela Gamouras, Nicolas Couture, Wei Cui, Markus Lippl, Defi J. J. Fandio, Aswin Vishnuradhan, Eeswar Yalavarthi, Rachel Ostic, Nicolas Joly, Jean-Michel Menard

16:20 - 16:35 SINGLE-SHOT ULTRAFAST MICROSCOPIC IMAGING WITH TERAHERTZ RADIATION

Gabriele Nistico, Institut national de la recherche scientifique, Canada
Junliang Dong, Alessandro Tomasino, Pei You, Gabriele Nistico, Amine Zitouni, Boris Le Drogoff, Mohamed Chaker, Aycan Yurtsever, Roberto Morandotti

16:35 - 16:50 IMAGING A TERAHERTZ-PULSE-INDUCED TOPOLOGICAL PHASE TRANSITION WITH SUBATOMIC RESOLUTION
Vedran Jelic, National Research Council Canada, Canada
Vedran Jelic, Stefanie Adams, Daniel Maldonado-Lopez, Ismail A. Buliyaminu, Mohamed Hassan, Jose L. Mendoza-Cortes, Tyler L. Cocker

16:50 - 17:05 SINGLE-SHOT DETECTION OF TERAHERTZ WAVES GENERATED WITH AN OSCILLATOR LASER
Gabriel Gandubert, École de technologie supérieure, Canada
Gabriel Gandubert, Joel Edouard Nkeck, Jonathan Lafrenière-Greig, Xavier Ropagnol, Sota Mine, Kosuke Murate, François Blanchard

17:05 - 17:20 TERAHERTZ POLARIMETRIC SYSTEM BASED ON POLARIZATION SENSITIVE FREQUENCY SELECTIVE SURFACES
Redwan Ahmad, École de technologie supérieure (ÉTS), Canada
Redwan Ahmad, Jonathan Lafrenière-Greig, Xavier Ropagnol, François Blanchard

17:20 - 17:35 HIGH-SENSITIVITY DETECTION OF 4 THZ RADIATION BY PARAMETRIC UPCONVERSION IN AN ORGANIC CRYSTAL BNA
Aswin Vishnuradhan, University of Ottawa, Canada
Aswin Vishnuradhan, Wei Cui, Hesam Heydarian, Eeswar Yalavarthi, Nicolas Couture, Angela Gamouras, Jean-Michel Ménard

17:35 - 17:50 LIGHTWAVE-DRIVEN TERAHERTZ TIME-DOMAIN SPECTROSCOPY OF A SINGLE ATOMIC DEFECT
Vedran Jelic, National Research Council Canada, Canada
Vedran Jelic, Stefanie Adams, Mohamed Hassan, Kaedon Cleland-Host, S. Eve Ammerman, Tyler L. Cocker

NONLINEAR OPTICS, NANOPHOTONICS AND PLASMONICS - PART 2 OF 7

202

Chair: Pablo Bianucci, Concordia University, Canada

15:30 - 16:05 NONLINEAR OPTICAL RESPONSE OF SOLIDS AT THE THZ FREQUENCIES
Ksenia Dolgaleva, University of Ottawa, Canada
Ksenia Dolgaleva, Soheil Zibod, Payman Rasekh, Murat Yildrim, Wei Cui, Ravi Bhardwaj, Jean-Michel Ménard, Robert W. Boyd

16:05 - 16:30 WAVEGUIDE OPTIMIZATION CRITERIA FOR THZ GENERATION THROUGH STIMULATED RAMAN SCATTERING IN HYDROGEN-FILLED HOLLOW-CORE FIBER
Sébastien Loranger, Polytechnique Montreal, Canada
Sébastien Loranger, David Novoa

16:30 - 16:55 SINGLE-SHOT BROADBAND DETECTION OF TERAHERTZ WAVES
François Blanchard, École de technologie supérieure (ÉTS), Canada
Joel Edouard Nkeck, Gabriel Gandubert, Sota Mine, Jonathan Lafrenière-Greig, Xavier Ropagnol, Kosuke Murate, François Blanchard

16:55 - 17:10 ULTRAFAST CARRIER DYNAMICS IN UNDOPED INSB DRIVEN BY INTENSE THZ PULSES
Carlos Miguel Garcia Rosas, Institut national de la recherche scientifique, Canada
Carlos Miguel Garcia Rosas, Xavier Ropagnol, Vineet Gupta, Abhishek Gupta, József András Fülöp, Tsuneyuki Ozaki

17:10 - 17:25 TOWARDS COMPACT AND SENSITIVE THZ DETECTION BY PLASMONIC-ENHANCED ELECTRO-OPTIC SAMPLING
Hesam Heydarian, Department of Physics, University of Ottawa, Canada
Hesam Heydarian, Xitong Xie, Aswin Vishnuradhan, Wei Cui, Arnaud Weck, Angela Gamouras, Jean-michel Ménard

PHOTONIC THEORY, DESIGN, AND SIMULATIONS - PART 3 OF 8

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Chair: Pavel Cheben

15:30 - 16:15 THE SINGULARITIES OF LIGHT: INTENSITY, PHASE, POLARISATION
Michael Berry, University of Bristol, United Kingdom
Michael Berry

16:15 - 16:40 ADVANCED PERIODIC STRUCTURES FOR SILICON PHOTONIC FILTERS AND ANTENNAS
Jose Manuel Luque-González, University of Malaga, Spain
Jose Manuel Luque-González, Alejandro Fernández-Hinestrosa, Alejandro Sánchez Sánchez, Miguel Barona-Ruiz, Pablo Ginel-Moreno, Alejandro Sánchez-Postigo, Laureano Moreno Pozas, Gonzalo Wangüemert-Pérez, Robert Halir, Jose de Oliva Rubio, Alejandro Ortega Moñux, Jens H. Schmid, Pavel Cheben, Iñigo Molina-Fernández

16:40 - 17:05 FLEXIBLE SYSTEM-LEVEL CHARACTERIZATION OF PHOTONIC INTEGRATED CIRCUITS IN OPTISYSTEM
Ahmad Atieh, Optiwave Systems Inc, Canada
Ahmad Atieh, Cem Bonfil, Benoit Vanus, Mike Raytchev

17:05 - 17:20 A HIGH-SPEED OPTICAL NAND/AND LOGIC OPERATION USING A TWIN MODULATOR IN A MICRORING
Pooya Pileh Chiha, McGill University, Canada
Pooya Pileh Chiha, Jose Garcia-Echeverria, David R. Rolston, Odile Liboiron-Ladouceur, Nate J. Quitoriano

17:20 - 17:35 HUYGENS' META-WAVEGUIDES FOR HIGH-POWERED SPECTRAL INTEGRITY IN SILICON PHOTONICS
Gabriel Flizikowski, University of Ottawa, Canada
Gabriel Flizikowski, Ozan Oner, M. Saad-Bin-Alam, Jens H. Schmid, Pavel Cheben, Ksenia Dolgaleva

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Chair: Sean Molesky, Polytechnique Montreal, Canada

15:30 - 15:55 ADVANCING PHOTONIC COMPUTATION WITH SOUND WAVES
Grigorii Slinkov, Max Planck Institute for the Science of Light, Germany
Grigorii Slinkov, Jesús Humberto Marines Cabello, Olivia Saffer, Niklas Braband, Andreas Geilen, Steven Becker, Birgit Stiller

15:55 - 16:20 THE MANY FACES OF OPTICAL NEURAL NETWORKS
Alexander Lvovsky, University of Oxford, United Kingdom
Alexander Lvovsky

16:20 - 16:35 INVERSE DESIGN OF PHOTONIC SYSTEMS
Benjamin MacLellan, L'Institute de la Recherche Scientifique, Ki3 Photonics Technologies, Canada
Benjamin MacLellan, Piotr Roztocki, Julie Belleville, Luis Romero Cortés, Kaleb Ruscitti, Bennet Fischer, José Azaña, Roberto Morandotti

16:35 - 16:50 A REVERSIBLE QUANTUM PHOTONIC FULL ADDER GATE USING A UNITARY MATRIX
Shafiqul Hai, Lakehead University, Canada
Shafiqul Hai, Ayyappa Koppuravuri, Muzammil Ahmed

16:50 - 17:05 STATES ESTIMATION VIA PHOTONIC QUANTUM EXTREME LEARNING MACHINE
Danilo Zia, Sapienza - University of Rome, Italy
Danilo Zia

Wednesday, May, 21 2025

HIGH-POWER LASER TECHNOLOGY, ULTRAFAST OPTICS AND APPLICATIONS - PART 3 OF 7

201

Chair: Ksenia Dolgaleva, University of Ottawa, Canada

08:00 - 08:15 INVESTIGATION OF WATER VAPOR ABSORPTION IN THE THZ SPECTRAL REGION FOR FUTURE WIRELESS COMMUNICATIONS.
Eeswar Yalavarthi, University of Ottawa, Canada
Eeswar Yalavarthi, Wei Cui, Aswin Vishnuradhan, Nicolas Couture, Angela Gamouras, Jean-Michel Ménard

08:15 - 08:30 FREE SPACE NIR OPTICAL COMMUNICATIONS LINK MODEL VALIDATION USING SCINTILLATION AND LINK PERFORMANCE CHARACTERIZATION
Valentin Daniel, University of Ottawa, Canada
Ross Cheriton, Idriss Ali, Valentin Daniel, D. Paige Wilson, Ahmad Atieh, Xiaoran Xie, Guocheng Liu, Zhenguo Lu, Karin Hinzer

08:30 - 08:45 DOWNLINK OPTICAL BEACON FOR THE CANADIAN QEYSSAT DEMONSTRATOR MISSION
Roman Kruzelecky, MPB Communications Inc., Canada
Roman Kruzelecky, Qi Yang Peng, David Fernie, Aliaksandr Murzionak, Kamel Tagzeria, Juan Castano, Ian Gleizer, Ian Sinclair, Michel Corriveau, Jeff Cain, Hugh Podmore, Roman Malicki, Paul Serpa

08:45 - 09:00 SCALABLE PHASE TRIMMING OF NON-HYDROGEN-LOADED PLANAR LIGHTWAVE CIRCUITS WITH A KRYPTON FLUORIDE LASER
Oksana Kutova, Department of Electronics, Carleton University, Canada
Oksana Kutova, Serge Bidnyk, Ksenia Yadav, Ashok Balakrishnan, Jacques Albert, Hubert Jean-Ruel

09:00 - 09:15 FABRICATION OF TYPE-II FIBER BRAGG GRATINGS WITH A 300 NM PERIOD USING TIGHTLY FOCUSED VIOLET FEMTOSECOND PULSES AND THE PHASE MASK TECHNIQUE
Abdullah Rahnama, National Research Council Canada, Canada
Abdullah Rahnama, Cyril Hnatovsky, Rune Lausten, Manjula De Silva, Stephen J. Mihailov

09:15 - 09:30 OBSERVATION OF SLOW LIGHT IN DOT-BRAGG GRATING WAVEGUIDES INSCRIBED BY FEMTOSECOND LASER
Qingtao Chen, Polytechnique Montréal, Canada
Qingtao Chen, Jean-Sébastien Boisvert, Foroogh Jafari, Mohammad S. Sharawi, Sébastien Loranger, Raman Kashyap

GREEN PHOTONICS, ENERGY, AND RELATED TECHNOLOGIES - PART 1 OF 5

202

Chair: Masazumi Fujiwara, Okayama University, Japan

Sharif Sadaf, Institut national de la recherche scientifique (INRS), Canada

08:00 - 08:15 DESIGN METHOD FOR GENERATING MULTIPLE COLORS WITH THICKNESS MODULATED THIN-FILM OPTICAL FILTERS FOR SILICON SOLAR CELLS
Paramita Bhattacharyya, McMaster University, Canada
Paramita Bhattacharyya

08:15 - 08:30 OPTOELECTRONIC INGAN NEUROMORPHIC SYNAPSE FOR ARTIFICIAL INTELLIGENCE APPLICATIONS
Arnob Ghosh, Institut national de la recherche scientifique (INRS)-University of Quebec, Canada
Arnob Ghosh, Dipon Kumar Ghosh, Nirmal Anand, Christy Giji Jenson, Fardin Ahmed, Md Zunaid Baten, Sharif Sadaf

08:30 - 08:55 CONTINUOUS-WAVE ELECTRICALLY-PUMPED ALGAN-BASED UV-A LASERS WITH A BURIED TUNNEL JUNCTION
Shamsul Arafin, The Ohio State University, United States of America
Shamsul Arafin

08:55 - 09:30 PHOTON MANAGEMENT THROUGH SINGLET AND TRIPLET ENERGY TRANSFER IN

HALIDE PEROVSKITE NANOCRYSTAL-DYE HYBRIDS
Prashant Kamat, University of Notre Dame, United States of America
Prashant Kamat

PHOTONIC THEORY, DESIGN, AND SIMULATIONS - PART 4 OF 8

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Chair: Jose Manuel Luque Gonzalez, University of Málaga, Spain

08:00 - 08:15 CALIBRATION OF A MICROSCOPE-COUPLED FTIR FOR LIGHT EMISSION MEASUREMENTS
Maxime Brazeau, University of Ottawa, Canada
Maxime Brazeau, Mathieu Giroux, Raphael St-Gelais

08:15 - 08:30 SWG INVERSE DESIGNED ON-CHIP LENS FOR ULTRACOMPACT SPOT-SIZE CONVERSION
Alejandro Sánchez Sánchez, University of Malaga, Spain
Alejandro Sánchez Sánchez, Carlos Perez Armenta, José Manuel Luque-González, Robert Halir, Gonzalo Wangüemert-Pérez, Alejandro Ortega Moñux, Iñigo Molina-Fernández

08:30 - 08:45 ON-CHIP OPTICAL AMPLIFIERS ON LOW AND MODERATE CONFINEMENT SILICON NITRIDE WAVEGUIDE
Batoul Hashemi, McMaster University, Canada
Batoul Hashemi, Bruno L. Segat Frare, Yuxuan Gao, Niloofar Majidian Taleghani, Hamidu Mbonde, Pooya Torab Ahmadi, Ponnambalam Ravi Selvaganapathy, Peter Mascher, Andrew Knights, Jonathan Bradley

08:45 - 09:10 PHOTONICS INTEGRATION FOR QUANTUM INFORMATION APPLICATIONS
Mario Dagenais, University of Maryland, United States of America
Mario Dagenais

09:10 - 09:55 ADVANCEMENTS IN QUANTUM DOT LASERS AND NON-CLASSICAL LIGHT SOURCES
Yasuhiko Arakawa, The University of Toko, Japan
Yasuhiko Arakawa

QUANTUM LIGHT-MATTER INTERACTIONS: SENSING, COMMUNICATIONS, AND INFORMATION PROCESSING - QUANTUM EMITTERS

GATINEAU SALON

Chair: Bienvenu Ndagano, INRS, Canada

08:00 - 08:15 BANDWIDTH ENHANCEMENT OF SELF-INJECTION-LOCKING FEEDBACK LOOP FOR INAS/INP QUANTUM-DOT COHERENT-COMB LASERS
Yang Qi, National Research Council Canada, Canada
Yang Qi, Chun-Ying Song, Philip Poole, Guocheng Liu, Jiaren Liu, Martin Vachon, John Weber, Pedro Barrios, Xiaoran Xie, Ping Zhao, Mohamed Rahim, Philip Waldron, Zhenguo Lu

08:15 - 08:30 QUANTUM EMISSION IN WSE2 MONOLAYER TRANSFERRED ONTO INP NANOWIRES
Palwinder Singh, Dalhousie University, Canada
Palwinder Singh, Megha Jain, Jasleen Kaur Jagde, David Northeast, Dan Dalacu, Kimberley Hall

08:30 - 08:45 ENHANCING PHOTOLUMINESCENCE IN SINGLE-WALLED CARBON NANOTUBE FILMS: OVERCOMING DEGRADATION FOR ADVANCED OPTICAL APPLICATIONS
HeeBong Yang, University of Waterloo, Canada
HeeBong Yang, Na Young Kim

08:45 - 09:00 MODE MATCHING TO NANOWIRE QUANTUM DOTS FOR WAVEGUIDE-QED
Matteo Pennacchietti, University of Waterloo, Institute for Quantum Computing, Canada
Matteo Pennacchietti, Tarun Patel, Sayan Gangopadhyay, Dan Dalacu, Philip Poole, Robin Williams, Michael Reimer

09:00 - 09:35 OPTIMIZED LASER DRIVING PULSES FOR BRIGHT, MULTIPLEXED QUANTUM LIGHT SOURCES
Kimberley Hall, Dalhousie University, Canada
Kimberley Hall, Ali Binai-Motlagh, Grant Wilbur, Nour Allam

SEMICONDUCTOR PHOTONICS - PART 2 OF 7

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Chair: Jens Schmid, National Research Council Canada, Canada

08:00 - 08:15 THE COMPARISON OF STEADY STATE GAIN COMPETITION BETWEEN QD-SOA AND EDFA
Xiaoran Xie, Concordia University, Canada
Xiaoran Xie, Chun-Ying Song, Guocheng Liu, Philip Poole, Jiaren Liu, Pedro Barrios, Daniel Poitras, Penghui Ma, John Weber, Ping Zhao, Mohamed Rahim, Martin Vachon, Silas Chen, Xiupu Zhang, Zhenguo Lu

08:15 - 08:30 NPIN JUNCTION DESIGN FOR 100GHZ INP-BASED MACH-ZEHNDER MODULATORS
Gavin Forcade, Ciena, Canada
Gavin Forcade, Sebastian Schaefer, Ronald Millett, Karin Hinzer, Kelvin Prosyk

08:30 - 08:55 HIGH-PERFORMANCE SURFACE GRATING COUPLERS FOR FIBER-CHIP AND FREE-SPACE COUPLING
Alejandro Sánchez-Postigo, Universidad de Málaga, Spain
Alejandro Sánchez-Postigo, Miguel Barona-Ruiz, Pablo Ginel-Moreno, Jens H. Schmid, Alejandro Ortega-Moñux, Gonzalo Wangüemert-Pérez, José Manuel Luque-González, Robert Halir, Pavel Cheben, Íñigo Molina-Fernández

08:55 - 09:30 A NEW PARADIGM FOR PHOTONIC INTEGRATION - DIRECT LATERAL III-V GROWTH ON SOI FOR LASERS AND MORE
Kei May Lau, Hong Kong Univ. of Science & Technology, Hong Kong
Kei May Lau

TUTORIAL 1 - ANNE BROADBENT (UNIVERSITY OF OTTAWA) - QUANTUM CRYPTOGRAPHY

GATINEAU SALON

Chair: Lora Ramunno, University of Ottawa, Canada
Lora Ramunno, University of Ottawa, Canada

Jinyang Liang, INRS - Université du Québec, Canada

10:00 - 11:00 QUANTUM CRYPTOGRAPHY
Anne Broadbent, University of Ottawa, Canada
Anne Broadbent

BIOPHOTONICS, NOVEL SENSING, AND ADVANCED IMAGING - PART 3 OF 9

201

Chair: Albert Stolow, University of Ottawa, Canada

Parsin Haji Reza, Univ of Waterloo, Canada

11:00 - 11:35 VIBRATIONAL PHOTOTHERMAL IMAGING
Ji-Xin Cheng, Boston University, United States of America
Ji-Xin Cheng

11:35 - 12:00 PHOTO-THERMAL RAPID ASSAYS FOR SENSITIVE AND AFFORDABLE MASS TESTING
Nima Tabatabaei, York University, Canada
Derek Hayden, Nima Tabatabaei

12:00 - 12:25 CHARACTERIZING THE MECHANICAL PROPERTIES OF SIMPLE TISSUES WITH COMBINED ATOMIC FORCE MICROSCOPY AND OPTICAL MICROSCOPY
Andrew Harris, Carleton University, Canada
Andrew Harris

12:25 - 12:40 CALIBRATION-FREE GAS MEASUREMENTS USING A MID-IR GASB-BASED DFB DIODE LASER
Jalal Norooz Oliaee, National Research Council Canada, Canada
Jalal Norooz Oliaee, Meghan Beattie, Joel Corbin

HIGH-POWER LASER TECHNOLOGY, ULTRAFAST OPTICS AND APPLICATIONS - PART 4 OF 7

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Chair: Arkady Major, University of Manitoba, Canada

11:00 - 11:25 HOW ARE ULTRA-SHORT PULSE HIGH FIELD SCIENCE AND QUANTUM ELECTRONICS RELATED?
Chandrashekhar Joshi, University of California Los Angeles, United States of America

Chandrashekhar Joshi, Noa Nambu

11:25 - 11:50 OLEG PRONIN - X2 AND X3 MULTIPASS NONLINEAR OPTICS: OVERVIEW AND RECENT PROGRESS

, ,
Jones, R. Jason - ,

11:50 - 12:15 HARMONIC GENERATION FOR DUAL FREQUENCY COMB SPECTROSCOPY IN THE DEEP ULTRAVIOLET

R. Jason Jones, University of Arizona, United States of America
R. Jason Jones

12:15 - 12:30 NONLINEAR POLARIZATION ROTATION AND AMPLIFICATION AT EXTREME INTENSITIES
T. J. Hammond, University of Windsor, Canada
Nathan G. Drouillard, Fadi Farook, Meerna Albert, Rachel Durling, Jordan Saad, Jeffrey G. Rau, T. J. Hammond

PHOTONIC MATERIALS - PART 2 OF 4

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Chair: Sylvain G. Cloutier

11:00 - 11:25 HOW EXOTIC OXIDE GLASSES CAN PROVIDE SOLUTIONS FOR INTEGRATED OPTICS
Thierry Cardinal, ICMCB - Université de Bordeaux, France
Thierry Cardinal, Fouad Alassani, Rayan Zaiter, Alexandre Fargues, Veronique Jubera, Matthieu Lancry, Réal Vallée, Yannick Petit, Lionel Canioni

11:25 - 11:40 TUNABLE EMISSION FROM EUROPIUM-DOPED SILICON OXYNITRIDE THIN FILMS
Fahmida Azmi, McMaster University, Canada
Fahmida Azmi

11:40 - 11:55 TOPOLOGICAL PHOTONICS IN TWISTED FIBER
Nathan Roberts, National Research Council of Canada, Canada
Nathan Roberts, Brook Salter, Jack Binysh, Peter Mosley, Anton Souslov

11:55 - 12:20 HIGH-POWER ULTRA-BROADBAND SUPERCONTINUUM GENERATION IN TAPERED CHALCOGENIDE FIBERS
Frederic Smektala, Université Bourgogne Europe - CNRS, France
Frederic Smektala, Esteban Serrano, Frédéric Desevedavy, Grégory Gadret, Pierre Matthey, Bertrand Kibler

PHOTONIC THEORY, DESIGN, AND SIMULATIONS - PART 5 OF 8

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Chair: Mario Dagenais, University of Maryland, United States Of America

11:00 - 11:45 APPLICATIONS OF OPTICAL MICROCOMBS:
David Moss, Optical Sciences Centre, Australia

David Moss

11:45 - 12:10 HARNESSING NONLINEARITIES IN SILICON NANOSTRUCTURES
Carlos Alonso-Ramos, C2N, France
Carlos Alonso-Ramos

12:10 - 12:35 APPLICATIONS OF OPTICAL NONLINEAR SYSTEMS IN COMMUNICATIONS AND COMPUTING
Periklis Petropoulos, Optoelectronics Research Centre, University of Southampton, United Kingdom
Periklis Petropoulos, Hao Liu, Kyle Bottrill

12:35 - 12:50 PARAMETERIZING ARBITRARY SHAPES FOR OPTIMIZATION OF OPTOMECHANICAL CAVITIES
Al-Waleed El-Sayed, University of Calgary, Canada
Al-Waleed El-Sayed, Paul Barclay, Dan-Xia Xu, Yuri Grinberg, Pavel Cheben

QUANTUM LIGHT-MATTER INTERACTIONS: SENSING, COMMUNICATIONS, AND INFORMATION PROCESSING - QUANTUM INTEGRATED CIRCUIT

GATINEAU SALON

Chair: Benjamin Sussman

11:00 - 11:25 SIMULATING LOSSY AND PARTIALLY DISTINGUISHABLE QUANTUM OPTICAL CIRCUITS: THEORY, ALGORITHMS AND APPLICATIONS TO EXPERIMENT VALIDATION AND STATE PREPARATION
Nicolás Quesada, Polytechnique Montréal, Canada
Nicolás Quesada

11:25 - 11:40 MEASURING IMPOSSIBLE PARAMETERS WITH INDEFINITE CAUSAL ORDER
Khabat Heshami, National Research Council Canada, Canada
Aaron Goldberg, Khabat Heshami

11:40 - 11:55 MULTIMODE AND RANDOM-ACCESS OPTICAL QUANTUM MEMORY VIA ADIABATIC PHASE IMPRINTING
Nasser Gohari Kamel, University of Calgary, Canada
Nasser Gohari Kamel, Sourabh Kumar, Ujjwal Gautam, Erhan Saglamyurek, Vahid Salari, Daniel Oblak

11:55 - 12:10 QUANTUM TOMOGRAPHY WITH SPIN-ORBIT PHOTONIC CIRCUITS
Francesco Di Colandrea, University of Naples, Italy
Francesco Di Colandrea, Tareq Jaouni, Nazanin Dehghan, Alessio D'Errico, Lorenzo Amato, Filippo Cardano, Ebrahim Karimi

12:10 - 12:25 NUMBER 21 FACTORIZATION WITH SHOR'S ALGORITHM USING FREQUENCY AND TIME QUDITS WITHIN A SINGLE PHOTON
Jinwon Yoo, INRS, Canada
Jinwon Yoo, Nicola Montaut, Matteo Piccolini, Stefania Sciara, Rosario Lo Franco, Roberto Morandotti

PLENARY LECTURE 2 - ZACHARY VERNON (XANADU) - PHOTONIC QUANTUM COMPUTING WITH XANADU

GATINEAU SALON

Chair: Lora Ramunno, University of Ottawa, Canada

Jinyang Liang, INRS - Université du Québec, Canada

13:30 - 14:30 PHOTONIC QUANTUM COMPUTING WITH XANADU
Zachary Vernon, Xanadu, Canada

NONLINEAR OPTICS, NANOPHOTONICS AND PLASMONICS - PART 3 OF 7

201

Chair: Ksenia Dolgaleva, University of Ottawa, Canada

16:00 - 16:15 MANIPULATING THE THERMAL EMISSION COHERENCE FROM SILICON DIOXIDE THIN FILMS IN THE MID-INFRARED REGION
Maryam Abbasi, University of Ottawa, Canada
Maryam Abbasi, M. Zahirul Alam, Jeremy Upham, Florentina Gannott, Gerd Leuchs, Robert W. Boyd

16:15 - 16:30 PHOTOREFRACTIVE RESONANCE TUNING AND CAVITY-ENHANCED THIRD HARMONIC GENERATION IN A DIAMOND NANOCAVITY
Sigurd Flagan, University of Calgary, Canada
Joe Itoi, Elham Zohari, Al-Waleed El-Sayed, Nicholas Sorensen, Sigurd Flagan, Paul Barclay

16:30 - 16:45 TOWARDS A LONG-RANGE MID-INFRARED OPTICAL COMMUNICATION TESTBED FOR WEATHER-RESISTANT OPTICAL SATCOM USING C-BAND TRANSMITTERS AND SILICON DETECTORS
Ross Cheriton, National Research Council Canada, Canada
Ross Cheriton, Liam Flannigan, Saeed Rizi, Mostafa Khalil, Mahmoud Gadalla, Daniel Poitras, Liam Graham, Chang-Qing Xu

16:45 - 17:00 INCREASING EXCITON-PLASMON COUPLING IN MONOLAYER MOS2 WITH LITHOGRAPHY AND LIFETIME ENHANCEMENT
Nathanael Eddy, Queen's University, Canada
Nathanael Eddy, Kurt Tyson, Robert Knobel

17:00 - 17:15 PICOMETER RESOLUTION ON-CHIP SPECKLE SPECTROMETERS
Sebastian Schulz, University of Waterloo, Canada
Bhupesh Kumar, Graham Bruce, Luca Dal Negro, Sebastian Schulz

17:15 - 17:30 SPHERICAL REPRESENTATION OF PARITY-TIME AND ANTI-PARITY-TIME STATES IN BRAGG GRATINGS
Tianyi Hao, University of Ottawa, Canada
Tianyi Hao, Pavel Cheben, Jens H. Schmid, Pierre Berini

PHOTONIC THEORY, DESIGN, AND SIMULATIONS - PART 6 OF 8

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Chair: Dawson Bonneville, University of Twente, Netherlands

16:00 - 16:25 SILICON NITRIDE FOR MONOLITHIC INTEGRATION OF COMPOUND SEMICONDUCTOR ON SILICON
Frederic Gardes, University of Southampton, United Kingdom
Frederic Gardes, Ilias Skandalos, Isaac Johnson, Qianbin Luo, Michelle Paparella, Xingshi Yu, Thalia Dominguez-Bucio, Afrooz Shoaa, Theodore Rangarajan, Alexander Flint, Ipsita Chakraborty, Ioannis Zeimpekis, Alwyn Seeds, Huiyun Liu, Lifeng Bao, Chong Chen, Mingchu Tang, Jae-Seong Park, Huiwen Deng

16:25 - 16:50 QUANTUM DOT COHERENT COMB LASER-BASED PHOTONICS INTEGRATED CHIPS
Zhenguo Lu, Quantum and Nanotechnologies Research Centre, National Research Council Canada, Canada
Zhenguo Lu, Yang Qi, Eric Liu, Philip Poole, Jiaren Liu, Pedro Barrios, Martin Vachon, Chunying Song, Mohamed Rahim, Ping Zhao, Christopher Richard, Francis Duhamel, Jean-Michel Fortier, Fahimeh Armin, Justin Alexander, Mathieu Lebeuf, Assane Ndieguene, Damien Michel, Yiran Guan, Jianping Yao

16:50 - 17:15 PHOTONICS AND PLASMONICS INTEGRATED MICROSYSTEMS AND APPLICATIONS
Muthukumaran Packirisamy, Concordia University, Canada
Muthukumaran Packirisamy

17:15 - 17:30 PHASE RELATIONS IN 3 DOUBLY-RESONANT COUPLED DOPOS
Lais Fujii dos Santos, University of Ottawa, Canada
Lais Fujii dos Santos, Ksenia Dolgaleva

17:30 - 17:45 A NEW APPROACH FOR INTEGRATED SIMULATION AND LAYOUT OF PHOTONIC INTEGRATED CIRCUITS.
Dominic Gallagher, Photon Design Ltd, United Kingdom
Dominic Gallagher

17:45 - 18:00 IMPACT OF LUMINESCENT COUPLING ON MULTIJUNCTION INGAAS PHOTONIC POWER CONVERTERS UNDER CURRENT MISMATCHED CONDITIONS IN THE C-BAND
D. Paige Wilson, SUNLAB, School of Electrical Engineering and Computer Sciences, University of Ottawa, Canada
D. Paige Wilson, Gavin P. Forcade, Robert F. H. Hunter, Alex W. Walker, Yuri Grinberg, Jacob J. Krich, Karin Hinzer

PHOTONICS AND ARTIFICIAL INTELLIGENCE - PART 3 OF 6

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Chair: Antonio Calà Lesina, Leibniz University Hannover, Germany

16:00 - 16:25 OPTIMIZING NANOPHOTONIC INVERSE DESIGN WITH REINFORCEMENT LEARNING, DEEP TEMPLATE NETWORKS, AND STOCHASTIC METHODS

Carsten Schuck, University of Münster, Germany
Carsten Schuck

16:25 - 16:50 DIFFERENTIABLE NANO-PHOTONICS: PHYSICS INFORMED LEARNING AND INVERSE DESIGN
Peter Wiecha, LAAS-CNRS Toulouse, France
Peter Wiecha, Sofia Ponomareva, Antoine Azéma, Dalin Soun, Abdourahman Khaireh-Walieh

16:50 - 17:15 FREEFORM METASURFACE INVERSE DESIGN BEYOND LOCALLY PERIODIC APPROXIMATION
Zin Lin, Virginia Tech, United States of America
Zin Lin

17:15 - 17:40 OPTIMIZATION AND MACHINE LEARNING FOR THE INVERSE DESIGN OF PHOTONIC INTEGRATED DEVICES
Daniele Melati, Centre de Nanosciences et de Nanotechnologies, Université Paris-Saclay, CNRS, France
Daniele Melati

17:40 - 18:05 INTEGRATED NONLINEAR PHOTONICS WITH COMPUTATIONAL OPTIMIZATION
Kiyoul Yang, Harvard university, United States of America
Kiyoul Yang

QUANTUM LIGHT-MATTER INTERACTIONS: SENSING, COMMUNICATIONS, AND INFORMATION PROCESSING - QUANTUM EMITTERS

GATINEAU SALON

Chair: Proppe, Andrew

16:00 - 16:25 INDISTINGUISHABLE SINGLE-PHOTON EMISSION FROM INDIVIDUAL LEAD-HALIDE PEROVSKITE NANOCRYSTALS
Brahim Lounis, Université de Bordeaux, Institut dOptique and CNRS, France
Brahim Lounis

16:25 - 16:50 ULTRAFAST COLLOIDAL QUANTUM DOT SINGLE PHOTON SOURCES IN THE TELECOM USING PLASMONIC NANOCAVITIES
Maiken H. Mikkelsen, Duke University, United States of America
Maiken H. Mikkelsen

16:50 - 17:05 BRIGHT ENTANGLED PHOTON PAIR GENERATION FROM A QUANTUM DOT IN A WEAK NANOWIRE CAVITY.
Tarun Patel, IQC, University of Waterloo, Canada
Tarun Patel, Matteo Pennacchietti, Greg Holloway, Sayan Gangopadhyay, Dan Dalacu, Philip Poole, Sasan V. Grayli, Michael Reimer

17:05 - 17:20 HIGH PURCELL CAVITY FOR EFFICIENT NANOWIRE QUANTUM DOT SOURCES
Sasan V. Grayli, Institute for Quantum Computing/University of Waterloo, Canada

Sayan Gangopadhyay, Sasan V. Grayli, Sathursan Kokilathasan, Matteo Pennacchietti, Tarun Patel, Philip Poole, Robin Williams, Dan Dalacu, Michael Reimer

17:20 - 17:35 RESONANT EXCITATION OF NANOWIRE QUANTUM DOTS
Sayan Gangopadhyay, University of Waterloo, Canada
Sayan Gangopadhyay, Lingxi Yu, Kai-sum Chan, David Northeast, Dan Dalacu, Philip Poole, Michael Reimer

SEMICONDUCTOR PHOTONICS - PART 3 OF 7

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Chair: Alejandro Sanchez-Postigo, Universidad de Málaga, Spain

16:00 - 16:25 RECENT PROGRESS ON GREEN LIGHT GENERATION AND MANIPULATION THROUGH NON-LINEAR WAVEGUIDE TECHNOLOGY
Shamsul Arafin, The Ohio State University, United States of America
Shamsul Arafin

16:25 - 16:50 BUILDING BLOCKS AND HETEROGENEOUS PHOTONIC INTEGRATION PLATFORMS FOR AI-ML AGE
Di Liang, University of Michigan, United States of America
Di Liang

16:50 - 17:05 DEMONSTRATION OF A 2-D DENSE OPTICAL PHASED ARRAY WITH AN ENHANCED LONGITUDINAL STEERING RANGE
Ilyas Kandid, Carleton University, Canada
Ilyas Kandid, Jianhao Zhang, Shahrzad Khajavi, Pavel Cheben, Jens H. Schmid, Winnie Ye

17:05 - 17:20 MICRO-TRANSFER-PRINTED MICRO-OPTICAL ELEMENTS
Ronald Cok, X-Celeprint, Inc., United States of America
Ronald Cok, Kevin Oswalt, Andrea Bertoncini, Joerg Smolenski, Wilfried Noell, Thomas Hessler

17:20 - 17:35 PERFORMANCE INVESTIGATIONS OF INAS/INP QUANTUM-DOT COHERENT COMB LASER WITH FIBER OPTICS USING PHOTONIC WIRE BONDING
Yang Qi, National Research Council Canada, Canada
Yang Qi, Xiaoran Xie, Guocheng Liu, Philip Poole, Jiaren Liu, Ping Zhao, Mohamed Rahim, Pedro Barrios, Mathieu Lebeuf, Annabelle Gascon, Fahimeh Armin, Damien Michel, Justin Alexander, Christopher Richard, Francis Duhamel, Jean-Michel Fortier, Assane Ndieguene, Zhenguo Lu

17:35 - 18:00 THEORETICAL INSIGHTS INTO NEXT-GENERATION HOT CARRIER SOLAR CELLS
Lado Filipovic, Institute for Microelectronics, TU Wien, Austria
Lado Filipovic

STUDENT NETWORKING EVENT Hosted by the INRS Photonics Student Association
Location: Level One Pub, 14 Waller St, Ottawa, ON, K1N 9C4 (8 min walk from Rogers Center)
20:00 - 23:00 STUDENT NETWORKING EVENT AT PHOTONICS NORTH 2025

Thursday, May 22, 2025

HIGH-POWER LASER TECHNOLOGY, ULTRAFAST OPTICS AND APPLICATIONS - PART 3 OF 7

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Chair: Bernd Witzel, Ulaval, Canada

08:00 - 08:15 EFFECT OF EVEN AND ODD BURST PACKETS ON THE SURFACE MORPHOLOGY AND CHEMISTRY OF LASER-IRRADIATED COPPER AND SILVER
Ariana Rodríguez Escamilla, University of Ottawa, Canada
Ariana Rodríguez Escamilla, Andrea Román, David Girard, Arnaud Weck

08:15 - 08:30 CHARACTERIZING LASER-INDUCED MELTING OF GLUCOSE USING REAL-TIME PUMP-PROBE MONITORING
Subhrojyoti Bhattacharya, University of Ottawa, Canada
Subhrojyoti Bhattacharya, Breeana Elliott, Aswin Vishnuradhan, Eeswar Yalavarthi, Angela Gamouras, Jean-Michel Ménard

08:30 - 08:45 POLARIZATION-DEPENDENT ZBLAN FIBER COUPLER FOR NPE MODE-LOCKING
Gebrehiwot Tesfay Zeweldi, McGill University, Canada
Gebrehiwot Tesfay Zeweldi, Nasrollah Karampour, Martin Rochette

08:45 - 09:00 ALL-FIBER Q-SWITCHED MID-INFRARED RING CAVITY LASER
Nasrollah Karampour, McGill university, Canada
Nasrollah Karampour, Gebrehiwot Tesfay Zewedi, Md Moinul Islam Khan, Martin Rochette

09:00 - 09:15 TOWARD REAL-TIME BROADBAND RAMAN SPECTROSCOPY
Nathan G. Drouillard, University of Windsor, Canada
Nathan G. Drouillard, Duncan England, T. J. Hammond

09:15 - 09:30 A DUAL-COMB SPECTROSCOPY SYSTEM FOR THE DETECTION OF RARE-EARTH MINERALS
Errol Bowman, University of British Columbia, Canada
Errol Bowman, Christina Hofer, Avery Wong, John J. McCauley, Dylan P. Tooley, Andrew Jarymowycz, Hope Dannar, Arthur K. Mills, Mark C. Phillips, R. Jason Jones, David J. Jones

PHOTONIC THEORY, DESIGN, AND SIMULATIONS - PART 7 OF 8

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Chair: Carlos Ramos

08:00 - 08:15 SWITCHING TIME TUNING IN MZI SWITCH LEVERAGING THERMAL CROSSTALK AND DIFFERENTIAL CONTROL
Mohammad Rezaul Islam, McMaster University, Canada

Mohammad Rezaul Islam, Manuel A. Mendez-Rosales, Ranjan Das, Andrew Knights

08:15 - 08:30 NEAR-UNITARY TWO-MODE TRANSFORMATIONS USING A SEQUENCE OF THIN SINUSOIDAL GRATINGS
Arman Mansouri, University of Ottawa, Canada
Arman Mansouri, Michael Weil, Manuel Ferrer-Garcia, Jeffrey Lundeen

08:30 - 08:45 A THREE-WAVEGUIDE COUPLER BASED SILICON PHOTONIC MAGIC-T
Mohamed A. Swillam, American Univeristy in Cairo, Egypt
Hamdy Elshehaby, Mohamed A. Swillam

08:45 - 09:10 WAVEGUIDE BRAGG GRATINGS FOR OPTICAL SIGNAL PROCESSING: FROM SUBWAVELENGTH GRATING TO PHASE-APODIZED STRUCTURES
Hao Sun, Institut National de la Recherche Scientifique - Centre Énergie Matériaux Télécommunications, Canada
Hao Sun, Bruno Taglietti, Xi Wang, Saket Kaushal, Mauricio Tosi, Marvin Bustillos, Lawrence R. Chen, José Azaña

09:10 - 09:35 HYBRID INTEGRATION OF 2D DICHALCOGENIDES FOR LOW POWER SATURABLE ABSORPTION IN PHOTONIC INTEGRATED CIRCUITS
Newton C. Frateschi, University of Campinas, Brazil
Newton C. Frateschi, Maria Carolina Volpato, Gustavo H. Magro, Pierre-Louis de Assis

09:35 - 10:00 RECENT ADVANCES IN NANOPHOTONIC COUPLERS
Radovan Korcek, National Research Council of Canada (NRC), Canada
Radovan Korcek, William Fraser, Daniel Benedikovic, Pavel Cheben, David Medina, Carlos Alonso-Ramos, Laurent Vivien, Samson Edmond, Quentin Wilmart, Thalia Dominguez-Bucio, Frederic Gardes, Jens H. Schmid, Winnie N. Ye

PHOTONICS AND ARTIFICIAL INTELLIGENCE - PART 4 OF 6

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Chair: Stefanie Czischek, University of Ottawa, Canada

08:00 - 08:15 HYBRID QUANTUM CLASSICAL PHOTONIC NEURAL NETWORKS
Tristan Austin, Centre for Nanophotonics, Department of Physics, Engineering Physics, and Astronomy, Queen's University, Canada
Tristan Austin, Andrew Hayman, Simon Bilodeau, Nir Rotenberg, Bhavin J. Shastri

08:15 - 08:30 LEVERAGING NEURAL NETWORKS FOR FAST LIGHT STATISTICS INFERENCE FROM PHOTON NUMBER MEASUREMENTS
Nicolas Dalbec-Constant, National Research Council Canada and University of Ottawa, Canada
Nicolas Dalbec-Constant, Guillaume Thekkadath, Andrew Proppe, Duncan England, Philip Bustard, Frédéric Bouchard, Benjamin Sussman

08:30 - 08:55 PHOTONICS FOR HIGH-SPEED NEUROMORPHIC COMPUTING
Antonio Hurtado, University of Strathclyde, United Kingdom
Antonio Hurtado

08:55 - 09:20 MACHINE LEARNING IN NONLINEAR FIBER-OPTICS
Goëry Genty, Tampere University, Finland
Goëry Genty

QUANTUM LIGHT-MATTER INTERACTIONS: SENSING, COMMUNICATIONS, AND INFORMATION PROCESSING - QUANTUM OPTOMECHANICS

GATINEAU SALON

Chair: Bienvenu Ndagano, INRS, Canada

08:00 - 08:15 OPTIMAL SIDEBAND PUMPING FOR OPTOMECHANICAL ENTANGLEMENT
Paul Hughes, Queen's University, Canada
Paul Hughes, Marc Dignam

08:15 - 08:30 TOWARDS INTEGRATED QUANTUM STATE CHARACTERIZATION VIA WEAK MEASUREMENTS
Lambert Giner, Université de Moncton, Canada
Shane Gervais, Lambert Giner

08:30 - 08:55 QUANTUM OPTOMECHANICAL SENSING OF GRAVITATIONAL WAVES AND DARK MATTER
John Davis, University of Alberta, Canada
John Davis

08:55 - 09:20 NONLINEAR QUANTUM OPTICS WITH QUANTUM DOTS
Nir Rotenberg, Queen's University, Canada
Nir Rotenberg

SEMICONDUCTOR PHOTONICS - PART 4 OF 7

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Chair: Daniele Melati, CNRS, Université Paris-Saclay, France

08:00 - 08:15 INGAASP WAVEGUIDES: DISPERSION ENGINEERING AND NONLINEAR OPTICAL PROCESSES
Garen Simpson, University of Ottawa, Canada
Garen Simpson, Ozan Oner, Rania Mahjoub, Ksenia Dolgaleva

08:15 - 08:40 RECENT PROGRESS IN SIC INTEGRATED NONLINEAR AND QUANTUM PHOTONICS
Andrew Poon, Hong Kong University of Science and Technology, Hong Kong
Andrew Poon

08:40 - 09:05 ADVANCED DESIGNS OF OPTICAL ANTENNA AND OPTICAL PHASED ARRAY
Jianhao Zhang, National Research Council Canada, Canada
Jianhao Zhang, Pavel Cheben, Jens H. Schmid

09:05 - 09:20 DIRECTIONAL AND CONTRA-DIRECTIONAL COUPLING OF HUYGENS' METAWAVEGUIDES FOR DISPERSION ENGINEERED MICRO-RING AND RACETRACK RESONATORS
M. Saad-Bin-Alam, National Research Council Canada, Canada
M. Saad-Bin-Alam, Jens H. Schmid, Pavel Cheben

BIOPHOTONICS, NOVEL SENSING, AND ADVANCED IMAGING - PART 4 OF 9

201

Chair: Sangeeta Murugkar, Carleton University, Canada

Kamran Avanaki, University of Illinois Chicago, United States of America

10:00 - 10:35 OPTICAL IMAGING IN RADIATION THERAPY
Brian Pogue, University of Wisconsin-Madison, United States of America
Brian Pogue

10:35 - 11:00 SUPERFINE NEEDLE OPTICAL MICROENDOSCOPE FOR SMALL-INVASIVE CANCER DIAGNOSTICS
Alexandre Douplik, Toronto Metropolitan University, Canada
Alexander DIppolito, Kate Dingle, Vivianne Freitas, Alexandra Easson, Alexandre Douplik

11:00 - 11:15 WHOLE-EYE OCT IMAGING REVEALS PANNEXIN1-LINKED REFRACTIVE ERRORS IN ZEBRAFISH
Shiva Sabour, York University, Canada
Shiva Sabour, Sarah Houshangi-Tabrizi, Christiane Zoidl, Georg R. Zoidl, Nima Tabatabaei

11:15 - 11:30 TOWARDS PHOTONIC APERTURE SYNTHESIS FOR ULTRAHIGH RESOLUTION ASTRONOMICAL IMAGING
Ross Cheriton, National Research Council Canada, Canada
Ross Cheriton, Emma Rautio-Roe, Glen Herriot, Alexis Hill, William Thompson, Thushara Gunaratne, Zoran Ljusic, Brent Carlson, Siegfried Janz

11:30 - 11:45 BIMETAL SURFACE PLASMON WAVEGUIDE BIOSENSORS WITH ON-CHIP MICROFLUIDICS
Deepthi Sekhar, University of Ottawa, Canada
Deepthi Sekhar, Pierre Berini

HIGH-POWER LASER TECHNOLOGY, ULTRAFAST OPTICS AND APPLICATIONS - PART 6 OF 7

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Chair: Bernd Witzel, Ulaval, Canada

10:00 - 10:25 ADVANCING ULTRAFAST SCIENCE: INNOVATIVE MICROFLUIDIC SOURCES FOR XUV AND SOFT-X RAY GENERATION
Caterina Vozzi, CNR - Istituto di Fotonica e Nanotecnologie, Italy
Caterina Vozzi

10:25 - 10:50 GIULIO VAMPA - ATTOSECOND QUANTUM OPTICS: FROM PHOTON BUNCHED HIGH HARMONICS TO QUANTUM TERAHERTZ CURRENTS

Jones, R. Jason

10:50 - 11:05 TRANSVERSE SPATIAL COHERENCE MODEL OF SPATIALLY RESOLVED HIGH HARMONICS FROM MGO

Katarzyna Kowalczyk, INRS, Canada

Katarzyna Kowalczyk, Adam Wyatt, Hortense Allegre, Yu Zhang, Emma Springate, John Tisch, Jon Marangos, Mary Matthews

11:05 - 11:20 COHERENCE PROPERTIES OF ULTRAVIOLET DISPERSIVE WAVE EMISSION IN GAS-FILLED ANTI-RESONANT HOLLOW CORE FIBERS

Michael Hemsworth, UBC, Canada

Michael Hemsworth, Art Mills, David Jones

11:20 - 11:35 QUANTUM OPTICAL ORIGINS OF COMPETING MECHANISMS DRIVING HIGH-HARMONIC GENERATION IN GASES

Adam Thorpe, University of Ottawa, Canada

Adam Thorpe, Thomas Brabec

11:35 - 11:50 LASER THRESHOLD ELLIPTICITY IN THE MULTIPHOTON IONIZATION REGIME FOR GALLIUM RESONANT HARMONIC

Ramin Ghahri, INRS, Canada

Ramin Ghahri, Tsuneyuki Ozaki

PHOTONICS AND ARTIFICIAL INTELLIGENCE - PART 5 OF 6

202

Chair: Stefanie Czischek, University of Ottawa, Canada

10:00 - 10:35 ANALOG IMAGE PROCESSING WITH NONLINEAR FLAT OPTICS

Costantino De Angelis, University of Brescia, Italy

Costantino De Angelis, Domenico de Ceglia

10:35 - 10:50 INVERSE DESIGN OF GAIN-COMPENSATED PLASMONIC CAVITY MODES

Juanjuan Ren, Queen's University, Canada

Juanjuan Ren, Stephen Hughes

10:50 - 11:05 QUANTUM STATE DISCRIMINATION WITH OPTICAL METASURFACES

Mengfan Jiang, McGill University, Canada

Mengfan Jiang, Lin Deng, Kai Wang

11:05 - 11:30 NONLINEAR GENERATION OF ORBITAL ANGULAR MOMENTUM IN METASURFACES

Giuseppe Leo, MPQ, Université Paris Cité & CNRS, France

Célestin Lescable, Ruyue Que, Laure Coudrat, Andrea Gerini, Martina Morassi, Aristide Lemaitre, Nikolaos Efremidis, Aloyse Degiron, Giuseppe Leo

QUANTUM LIGHT-MATTER INTERACTIONS: SENSING, COMMUNICATIONS, AND INFORMATION PROCESSING - PROGRAMMABLE QUANTUM CIRCUIT

GATINEAU SALON

Chair: Proppe, Andrew

10:00 - 10:15 1D AND 2D QUANTUM WALKS ON A REPROGRAMMABLE SPIN-ORBIT PHOTONICS PLATFORM

Alessio D'Errico, University of Ottawa, Canada

Alessio D'Errico, Maria Gorizia Ammendola, Nazanin Dehghan, Lukas Scarfe, Francesco Di Colandrea, Lorenzo Marrucci, Ebrahim Karimi, Filippo Cardano

10:15 - 10:30 PROGRAMMABLE PHOTONIC QUANTUM CIRCUITS WITH ULTRAFAST TIME-BIN ENCODING

Frédéric Bouchard, National Research Council Canada, Canada

Frédéric Bouchard

10:30 - 10:45 PICOSECOND SWITCHING OF ULTRAFAST PHOTONS IN THE TELECOM BAND

Kate Fenwick, University of Ottawa | National Research Council of Canada, Canada

Kate Fenwick, Alicia Sit, Timothy Lee, Andrew Proppe, Guillaume Thekkadath, Duncan England, Philip Bustard, Frédéric Bouchard, Jeffrey Lundeen, Benjamin Sussman

10:45 - 11:00 QUANTUM WALKS FOR TIME-BIN ENTANGLEMENT GENERATION AND PROCESSING IN SYNTHETIC PHOTONIC LATTICES

Agnes George, INRS-EMT, Canada

Agnes George, Monika Monika, Farzam Nosrati, Stefania Sciara, Riza Fazili, André Luiz Marques Muniz, Arstan Bisianov, Nicola Montaut, Rosario Lo Franco, William J. Munro, Mario Chemnitz, Ulf Peschel, Roberto Morandotti

11:00 - 11:15 QUANTUM WALKS OVER DIFFERENT TOPOLOGIES

Farid Ghobadi, University of Ottawa, Canada

Farid Ghobadi, Alessio D'Errico, Francesco Di Colandrea, Nazanin Dehghan, Maria Gorizia Ammendola, Ebrahim Karimi

11:15 - 11:40 STRUCTURED PHOTONS FOR HIGH-DIMENSIONAL QUANTUM INFORMATION PROCESSING: CHALLENGES AND ADVANCES

Ebrahim Karimi, University of Ottawa, Canada

Ebrahim Karimi

11:40 - 12:05 LONG-DISTANCE QUANTUM COMMUNICATION WITH SINGLE-PHOTON EMITTERS

Joseph Ho, Heriot-Watt University, United Kingdom

Joseph Ho, Frederik Brooke Barnes, Roberto G. Pousa, Fabrizio Chiriano, Christopher L. Morrison, Zhe Xian Koong, John Jeffers, Daniel K. L. Oi, Brian D. Gerardot, Alessandro Fedrizzi

SEMICONDUCTOR PHOTONICS - PART 5 OF 7

204

Chair: Winnie Ye, Carleton University, Canada

10:00 - 10:35 ADVANCES IN QUANTUM AND SMART PHOTONICS IN FIBER-BASED SYSTEM
Roberto Morandotti, Institut national de la recherche scientifique, Canada
Imtiaz Alamgir, Luigi Di Lauro, Stefania Sciara, Monika Monika, Abdul Aadhi, Farzam Nosrati, Pavel Dmitriev, Agnes George, Celine Mazoukh, Nicolas Perron, Bennet Fischer, Riza Fazili, Arstan Bisianov, Armaghan Eshaghi, Piotr Roztocki, Evgeny A. Viktorov, Anton Kovalev, Shervin Vakili, Rosario Lo Franco, William J. Munro, Mario Chemnitz, Ulf Peschel, Brent E. Little, Sai T. Chu, David J. Moss, Roberto Morandotti

10:35 - 11:00 SILICON AND GERMANIUM PHOTONICS FOR MID-IR APPLICATIONS
Goran Mashanovich, University of Southampton, United Kingdom
Goran Mashanovich

11:00 - 11:25 METAMATERIAL DEVICES FOR FREE-SPACE OPTICAL SYSTEMS
Daniele Melati, Centre de Nanosciences et de Nanotechnologies, Université Paris-Saclay, CNRS, France
Daniele Melati

11:25 - 11:40 INVESTIGATION OF PROCESS SENSITIVITY AND MATERIAL PROPERTIES OF GE-BASED VCSELS
Guangrui Xia, The University of British Columbia, Canada
Wenhan Dong, Zeyu Wan, Yun-Cheng Yang, Chao-Hsin Wu, Ruitao Wen, Guangrui Xia

11:40 - 11:55 EXCITATION POWER DEPENDENCE OF PHOTOLUMINESCENCE EMISSION IN PARTIAL VCSELS ON BULK GAAS AND GE SUBSTRATES
Guangrui Xia, The University of British Columbia, Canada
Zeyu Wan, Saeid Kamal, Muhammad Haroon Qaiser, Yun-Cheng Yang, Ben Britton, Chao-Hsin Wu, Guangrui Xia

BIOPHOTONICS, NOVEL SENSING, AND ADVANCED IMAGING - PART 5 OF 9

201

Chair: Nima Tabatabaei, York University, Canada

Andrew Harris, Carleton University, Canada

13:00 - 13:15 OPTICAL DECIPHERING OF ALGAE STRESS RESPONSE USING HYPERSPECTRAL IMAGING TECHNIQUE
Dhilippan Mamsapuram Panneerselvam, Concordia University, Optical Bio-Microsystem Laboratory, Canada
Dhilippan Mamsapuram Panneerselvam, Muthuumaran Packirisamy

13:15 - 13:30 HIGH SENSITIVITY FIBER BRAGG GRATING RELATIVE HUMIDITY SENSORS FABRICATED WITH POLYIMIDE TUBING

Huimin Ding, National Research Council of Canada, Canada
Huimin Ding, Stephen J. Mihailov, Cyril Hnatovsky, Robert Walker, Ping Lu, Manjula De Silva

13:30 - 13:45 A PORTABLE FIBER-BASED LASER-ASSISTED PRINTER
Ahad Mohammadi, University of Montreal, Canada
Ahad Mohammadi, Christos Boutopoulos

13:45 - 14:00 COMPACT METHANE SENSOR FOR UAV DEPLOYMENT BASED ON MID-IR TUNABLE DIODE LASER ABSORPTION SPECTROSCOPY
Meghan Beattie, National Research Council of Canada (NRC), Canada
Meghan Beattie, Chase Sun, Joel Corbin, Jalal Norooz Oliaee

14:00 - 14:15 FEMTOSECOND LASER INSCRIPTION OF ALL-FIBER BRAGG GRATING BASED SPECTROMETER USING THE PHASE MASK TECHNIQUE
Abdullah Rahnama, National Research Council Canada, Canada
Abdullah Rahnama, Cyril Hnatovsky, Rune Lausten, Robert Walker, Manjula De Silva, Stephen J. Mihailov

14:15 - 14:30 NOVEL TOTAL ABSORPTION OPTICAL SPECTROSCOPIC APPROACH USING PHOTON ABSORPTION REMOTE SENSING
Jodh Dhillon, University of Waterloo, Canada
Jodh Dhillon, Parsin Haji Reza, Deepak Dinakaran

14:30 - 14:45 A NEW DESIGN FOR CONFOCAL FLUORESCENCE MICROSCOPY TO ENABLE SCANLESS IMAGING
Soheila Akbari, York University, Canada
Soheila Akbari, Nima Tabatabaei

NONLINEAR OPTICS, NANOPHOTONICS AND PLASMONICS - PART 4 OF 7

202

Chair: Claudine Allen, COPL - Université Laval, Canada

13:00 - 13:25 TEMPERATURE DYNAMICS OF FUNDAMENTAL MICROWAVE RESONANCES IN AQUEOUS SPHERES
Aaron Slepkov, Trent University, Canada
Yuchen Song, Aaron Slepkov

13:25 - 13:50 OPTICAL BISTABILITY IN CHIP-SCALED RING RESONATORS
Giuseppe Brunetti, Politecnico di Bari, Italy
Giuseppe Brunetti, Caterina Ciminelli

13:50 - 14:05 EXPERIMENTAL OBSERVATION OF LANDAU LEVELS IN STRAINED SILICON PHOTONIC CRYSTALS
Maria Barsukova, Department of Physics, The Pennsylvania State University, United States of America
Maria Barsukova, Fabien Grisé, Zeyu Zhang, Sachin Vaidya, Jonathan Guglielmon, Michael Weinstein, Li He, Bo Zhen, Randall McEntaffer, Mikael Rechtsman

14:05 - 14:20 MULTILAYER INTEGRATION PLATFORM FOR DENSE OPTICAL PHASED ARRAYS
Sarra Salhi, Centre de nanosciences et nanotechnologies, France
Sarra Salhi, Jean-Rene Coudevylle, Eric Cassan, Carlos Alonso-Ramos, Daniele Melati

14:20 - 14:35 DEVELOPMENT OF MICROFABRICATION PLATFORM AND PROCESS DESIGN KIT FOR THIN-FILM LITHIUM NIOBATE PHOTONIC INTEGRATED CIRCUITS
Hassane Oulachgar, INO, Canada
Hassane Oulachgar, Francis Provençal, Volodymyr Kyrytsya, Carl Larouche, Kevin Briand, Alain Picard, Jason Miazga, Michel Poirier, Alex Paquet, Christian Tardif, Francois Babin, Dali Berthiaume, Christine Alain, André Fougères

14:35 - 14:50 INTEGRATED FABRY-PEROT RESONATOR BASED ON BRAGG GRATING MIRRORS
Mohamed A. Swillam, The American University in Cairo, Egypt
Thomas Mikhail, Seif Swillam, Mohamed A. Swillam

PHOTONIC MATERIALS - PART 3 OF 4

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Chair: Tigran Galstian, Université Laval, Canada

13:00 - 13:35 MINIATURIZED MICROSCOPE FOR NONINVASIVE IMMUNE SYSTEM MONITORING IN HUMANS.
Arutyun Bagramyan, Harvard University, United States of America
Arutyun Bagramyan, Juwell W. Wu, Kamdin Mirsanaye, Clemens Alt, Charles P. Lin

13:35 - 13:50 DIAMOND-COATED DEVICES - NEW OPPORTUNITIES FOR ENHANCED OPTICAL LABEL-FREE SENSING
Mateusz Smietana, Warsaw University of Technology, Poland
Mateusz Smietana, Mehdi Raji, Stepan Potocky, Bartlomiej Stonio, Agnieszka Martychowiec, Marcin Koba, Alexander Kromka, Robert Bogdanowicz

13:50 - 14:05 LIGHT STIMULI DRUG DELIVERY IN CORE-SHELL UP-CONVERSION NANOPARTICLES @ METAL ORGANIC FRAMEWORK NANOPLATFORM
Sidney Ribeiro, Institute of Chemistry, São Paulo State University, Brazil
Sidney Ribeiro, Marina Abuçafy

PHOTONIC THEORY, DESIGN, AND SIMULATIONS - PART 8 OF 8

209

Chair: Frederic Gardes, University of Southampton, United Kingdom

13:00 - 13:25 PHOTONIC STRUCTURES FOR NOVEL CLOSE-TO-EYE DISPLAY TECHNOLOGY BASED ON NONLINEAR WAVE-MIXING
Peter G. R. Smith, University of Southampton, United Kingdom
Peter G. R. Smith, Goronwy Tawy, Rex Bannerman, James Gates, Glenn

Churchill

13:25 - 13:50 PHOTONIC-ELECTRONIC SPIKING NEURONS FOR HIGH-SPEED AND EFFICIENT NEUROMORPHIC TECHNOLOGIES
Antonio Hurtado, University of Strathclyde, United Kingdom
Antonio Hurtado

13:50 - 14:15 COMMERCIALLY COMPETITIVE OPTICAL GAIN IN ERBIUM DOPED POLYCRYSTALLINE ALUMINIUM OXIDE SPIRAL WAVEGUIDE AMPLIFIERS
Dawson Bonneville, University of Twente, Netherlands
Dawson Bonneville, Carlos E. Osornio, Meindert Dijkstra, Sonia García-Blanco

14:15 - 14:30 MOMENTUM MODULATION USING A SUPERPOSITION OF VOLUME BRAGG GRATINGS
Michael Weil, University of Ottawa, Canada
Michael Weil, Nicholas Sorensen, Manuel Ferrer-Garcia, Jeffrey Lundeen

14:30 - 14:45 VEHICLE DETECTION AND ANALYSIS ON BRIDGE WITH O-OTDR
Gabriele Bolognini, National Research Council, Italy
Leonardo Rossi, Lun-Kai Cheng, Wim de Jong, Luca Scherino, Rob Jansen, Gabriele Bolognini

QUANTUM LIGHT-MATTER INTERACTIONS: SENSING, COMMUNICATIONS, AND INFORMATION PROCESSING - QUANTUM COMMUNICATION AND CONTROL

GATINEAU SALON

Chair: Benjamin Sussman

13:00 - 13:25 FOND MEMORIES: CONTROLLING PHOTONS IN THE ULTRAFAST DOMAIN WITH CHI-3 NONLINEAR OPTICS
Philip Bustard, National Research Council, Canada
Philip Bustard

13:25 - 13:40 PROPERTIES OF AN ULTRAFAST PHOTON
Joscelyn van der Veen, University of Toronto, Canada
Joscelyn van der Veen, Daniel James

13:40 - 13:55 ADVANCED TECHNIQUES FOR FREE-SPACE QUANTUM KEY DISTRIBUTION PROTOCOLS - CHANNEL MONITORING AND MODE SELECTION
Lukas Scarfe, University of Ottawa, Canada
Lukas Scarfe

13:55 - 14:10 INVESTIGATING THE PERFORMANCE OF ADAPTIVE OPTICS ON DIFFERENT BASES OF SPATIAL MODES IN TURBULENT CHANNELS
Rojan Abolhassani, University of Ottawa, Canada
Rojan Abolhassani, Lukas Scarfe, Alessio D'Errico, Francesco Di Colandrea, Khabat Heshami, Ebrahim Karimi

14:10 - 14:25 ULTRAFAST SYNCHRONIZATION WITH TWO-PHOTON INTERFERENCE
Alicia Sit, National Research Council of Canada, Canada
Alicia Sit, Frédéric Bouchard, Duncan England, Philip Bustard, Benjamin Sussman

TUTORIAL 2 - JEFF LUNDEEN (UNIVERSITY OF OTTAWA) - FROM PHOTONS TO SQUEEZING: AN INTRODUCTION TO QUANTUM OPTICS

GATINEAU SALON

Chair: Lora Ramunno, University of Ottawa, Canada

Jinyang Liang, INRS - Université du Québec, Canada

15:30 - 16:30 FROM PHOTONS TO SQUEEZING: AN INTRODUCTION TO QUANTUM OPTICS
Jeffrey Lundeen, University of Ottawa, Canada
Jeffrey Lundeen

BIOPHOTONICS, NOVEL SENSING, AND ADVANCED IMAGING - PART 6 OF 9

201

Chair: Sangeeta Murugkar, Carleton University, Canada

Haishan Zeng, BC Cancer Research Institute, University of British Columbia, Canada

16:30 - 16:55 A NEW RAMAN SPECTROSCOPY METHOD IN TISSUE FOR IMPROVED COLLECTION EFFICIENCY
Daniel Côté, CERVO BRain Research Center and Universite Laval, Canada
Daniel Côté, Elahe Parham, Maxime Tousignant-Tremblay, Mireille Quéméner, Martin Parent

16:55 - 17:20 NON-CONTACT BIOMECHANICAL IMAGING OF CELLS AND TISSUING USING BRILLOUIN MICROSCOPY
Jitao Zhang, Michigan State University, United States of America
Jitao Zhang

17:20 - 17:35 CHIRP-MODULATION STIMULATED RAMAN SCATTERING (CM-SRS) MICROSCOPY
Albert Stolow, University of Ottawa, Canada
Adrian Pegoraro, Siddarth Shivkumar, Leah Frackleton, Albert Stolow

17:35 - 17:50 ADVANCING MICROMETER-SCALE RADIATION DOSIMETRY WITH RAMAN MICRO-SPECTROSCOPY: LIMITATIONS AND POTENTIAL SOLUTIONS
Connor McNairn, Carleton University, Canada
Connor McNairn, Iymad Mansour, Prarthana Pasricha, Bryan Muir, Rowan Thomson, Sangeeta Murugkar

17:50 - 18:05 APPLICATIONS OF A RAMAN SPECTROSCOPY PLATFORM FOR BIOFLUID-BASED DIAGNOSTICS IN A CLINICAL SCREENING
Esmat Zamani, Polytechnique Montréal, Canada
Esmat Zamani, Katherine Ember, Juliette Selb, Frédéric Leblond

GREEN PHOTONICS, ENERGY, AND RELATED TECHNOLOGIES - PART 2 OF 5

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Chair: Ray LaPierre, McMaster University, Canada

Sharif Sadaf, Institut national de la recherche scientifique (INRS), Canada

16:30 - 16:55 USING ORGANIC CONJUGATED POLYMERS TO RECYCLE WASTE HEAT
Emanuele Orgiu, Institut national de la recherche scientifique - University of Quebec, Canada
Emanuele Orgiu

16:55 - 17:30 NON-DESTRUCTIVE NANOSCALE OPTICAL QUENCHING TECHNIQUE FOR SUB-MICROMETER LIGHT EMITTING DIODE ARRAYS AND TAILOR-MADE QUANTUM PHOTONIC DEVICES
Yong-Hoon Cho, Korea Advanced Institute of Science and Technology (KAIST), South Korea
Yong-Hoon Cho

17:30 - 17:55 INTEGRATIVE MID-INFRARED OPTOELECTRONICS
Oussama Moutanabbir, École Polytechnique de Montréal, Canada
Oussama Moutanabbir

17:55 - 18:20 ON THE EXTERNAL QUANTUM EFFICIENCY OF GREEN INGAN NANOLEDS FOR AR/VR APPLICATIONS
Nirmal Anand, Institut national de la recherche scientifique (INRS), Canada
Nirmal Anand, Christy Jenson, Dipon Kumar Ghosh, Md Afjalur Rahman, Sharif Sadaf

NONLINEAR OPTICS, NANOPHOTONICS AND PLASMONICS - PART 5 OF 7

202

Chair: Sébastien Loranger, Polytechnique Montréal, Canada

16:30 - 16:45 TOWARDS SINGLE-MOLECULE STRONG-COUPLING IN PLASMONIC NANOCAVITY SYSTEMS
Li-Lin Tay, National Research Council Canada, Canada
Li-Lin Tay, John Hulse, Hal Bowen-Smith

16:45 - 17:10 ACHIEVING FEMTOSECOND LASER 3D PRINTING OPTO-MICROFLUIDICS
Qiying Chen, Memorial University of Newfoundland, Canada
Qiying Chen, Daiying Zhang, Liqiu Men

17:10 - 17:35 STRUCTURED RANDOM LIGHT, ORBITAL ANGULAR MOMENTUM AND NUMBER FACTORIZATION
Sergey Ponomarenko, Dalhousie University, Canada
Sergey Ponomarenko

17:35 - 18:00 TRANSPARENT CONDUCTORS AND TIME-VARYING MEDIA
Marcello Ferrera, Heriot-Watt University, United Kingdom

Marcello Ferrera, Wallace Jaffray, Sven Stengel

18:00 - 18:15 SYNTHESIS AND FORMATION OF PLASMONIC SNO2@AU (PURPLE OF CASSIUS) NANOSTRUCTURES USING REVERSE MICELLE TEMPLATING FOR CHEMIRESISTIVE GAS SENSING APPLICATIONS
Raaja Rajeshwari Manickam, Concordia University, Canada
Raaja Rajeshwari Manickam

QUANTUM LIGHT-MATTER INTERACTIONS: SENSING, COMMUNICATIONS, AND INFORMATION PROCESSING - QUANTUM ENGINEERING ON CHIP

GATINEAU SALON

Chair: Bienvenu Ndagano, INRS, Canada

16:30 - 16:45 A PULSED SINGLE-MODE TYPE-0 SQUEEZED LIGHT SOURCE IN THIN-FILM LITHIUM NIOBATE NANOPHOTONICS
Martin Houde, Polytechnique Montreal, Canada
Martin Houde, Liam Beaudion, Kazuki Hirota, Rajveer Nehra, Nicolás Quesada

16:45 - 17:00 ADAPTIVE NON-GAUSSIAN QUANTUM STATE ENGINEERING
Valerio Crescimanna, University of Ottawa, Canada
Valerio Crescimanna, Shang Yu, Khabat Heshami, Raj Patel

17:00 - 17:15 ON-CHIP GENERATION OF PHOTON-ADDED TWO-MODE SQUEEZED THERMAL STATES OF LIGHT
Dylan van Eeden, Queen's University, Canada
Dylan van Eeden, Marc Dignam

17:15 - 17:40 DYNAMICAL RESONANCE FLORESCENCE IN CAVITY AND WAVEGUIDE QED
Stephen Hughes, Queen's University, Canada
Stephen Hughes

SEMICONDUCTOR PHOTONICS - PART 6 OF 7

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Chair: Jens Schmid, National Research Council Canada, Canada

16:30 - 16:55 HARNESSING AND TAMING NONLINEAR EFFECTS IN DIAMOND NANOPHOTONICS
Paul Barclay, University of Calgary, Canada
Paul Barclay

16:55 - 17:20 MACHINE LEARNING-DRIVEN DESIGN FOR PRECISE PHASE CONTROL IN INTEGRATED PHOTONICS
Ksenia Yadav, Enablence Technologies, Canada
Ksenia Yadav, Serge Bidnyk, Ashok Balakrishnan

17:20 - 17:45 ENHANCING INTEGRATED PHOTONICS PROTOTYPING: DEVELOPMENTS IN DESIGN, FABRICATION, AND MEASUREMENT AT ANT
Cameron Horvath, Applied Nanotools Inc., Canada

Cameron Horvath, Jocelyn N. Westwood-Bachman, Nandini Debnath, Batoul Hashemi, Niloofar Majidian Taleghani, Ponnambalam Ravi Selvaganapathy, Jonathan Bradley, Mirwais Aktary

17:45 - 18:10 POLARIZATION BEAM SPLITTERS AND ROTATORS IN THE SILICON NITRIDE PLATFORM FOR THE 950 NM AND 1300 NM WAVELENGTHS
Zindine Mokeddem, Centre de nanosciences et nanotechnologies, France
Zindine Mokeddem, Laurent Vivien, Eric Cassan, Delphine Marris-Morini, Pavel Cheben, Jens H. Schmid, Dan-Xia Xu, Yuri Grinberg, Carlos Alonso-Ramos, Daniele Melati

18:10 - 18:25 A DIODE-RESISTOR MODEL TO UNDERSTAND LEAKAGE CURRENT IN HIGH POWER BURIED HETEROSTRUCTURE SEMICONDUCTOR DIODE LASERS
Muhammad Mohsin, National Research Council Canada, Canada
Ciaran McDonald-Jensen, Muhammad Mohsin, Mohamed Rahim, Ping Zhao, Grzegorz Pakulski, Philip Waldron, Darren Goodchild, Bernard Paquette, Jean Lapointe, Donald Bedard, Christina Elliott, Xueping Zhen

Friday, May 23, 2025

BIOPHOTONICS, NOVEL SENSING, AND ADVANCED IMAGING - PART 7 OF 9

201

Chair: Dmitry Pushin, University of Waterloo, Institute for Quantum Computing, Canada

Daniel Cote, U. Laval, Canada

08:00 - 08:15 2D LOCK-IN AMPLITUDE-PHASE CORRELATIONS IN COHERENT RAMAN MICROSCOPY: APPLICATION TO LITHIUM ORES
Alexander Harper, University of Ottawa Department of Chemistry, Canada
Alexander Harper, Jonathan Boisvert, Siddarth Shivkumar, Leah Frackleton, Malcolm Latorre, Tassos Grammatikopoulos, Adrian Pegoraro, Albert Stolow

08:15 - 08:30 CHIRP-MODULATION STIMULATED RAMAN SCATTERING MICROSCOPY FOR ENHANCED BACKGROUND-FREE IMAGING OF BIOLOGICAL STRUCTURES AND BIOMATERIALS
Mehdi Alizadeh, University of Ottawa, Canada
Mehdi Alizadeh, Adrian Pegoraro, Malcolm Latorre, May Griffith, Virginijus Barzda, Albert Stolow

08:30 - 08:55 IS IT POSSIBLE TO DETECT GLIOMA INVASIONS IN NEUROSURGERY USING INTRAOPERATIVE RAMAN SPECTROSCOPY?
Frederic Leblond, Polytechnique Montreal, Canada
Frederic Leblond

08:55 - 09:20 SHEDDING LIGHT ON MOLECULAR PHOTOSWITCH DESIGN WITH QUANTUM MECHANICAL MODELLING
Coral Hillel, York University, Dept. Physics and Astronomy, Canada
Ozzy Mermut, Coral Hillel, Christopher Barrett, William Pietro

09:20 - 09:45 FEASIBILITY OF PHOTOACOUSTIC IMAGING FOR FUNCTIONAL BRAIN MONITORING IN

NON-HUMAN PRIMATES
Xinmai Yang, University of Kansas, United States of America
Xinmai Yang, Xueding Wang

09:45 - 10:10 LOCUS-SPECIFIC OPTICAL REGULATION OF BIOCHEMICAL PROCESSES IN LIVE CELLS
Chi Zhang, Purdue University, United States of America
Chi Zhang

GREEN PHOTONICS, ENERGY, AND RELATED TECHNOLOGIES - PART 3 OF 5

204

Chair: Gwenole Jacopin, Institut Néel, CNRS, France

Sharif Sadaf, Institut national de la recherche scientifique (INRS), Canada

08:00 - 08:15 NOVEL DESIGN OF A DUAL-WAVELENGTH MID-INFRARED KTA-BASED OPTICAL PARAMETRIC OSCILLATOR FOR URBAN METHANE MONITORING IN AN INTEGRATED PATH DIAL SYSTEM
Taieb Gasmi, Saint Louis University-Madrid Campus, Spain
Taieb Gasmi

08:15 - 08:30 TOP-DOWN NANOWIRE MICROLED ON BULK GAN SUBSTRATES FOR DROOP-FREE EXTERNAL QUANTUM EFFICIENCY
Christy Giji Jenson, Institut national de la recherche scientifique (INRS), Canada
Christy Giji Jenson, Nirmal Anand, Grzegorz Muziol, Sharif Sadaf

08:30 - 08:45 SOLAR-PUMPED AND RADIATION-BALANCED LASING SCHEME FOR AN OUTER SPACE ENVIRONMENT
Ahmed Jaber, University of Ottawa, Canada
Ahmed Jaber, Michael Küblböck, Jean-Michel Ménard, Hanieh Fattahi, Claudiu Genes

08:45 - 09:10 ASSESSING THE EFFICIENCY OF LEDS AND MICRO-LEDS BY CATHODOLUMINESCENCE SPECTROSCOPY
Gwenole Jacopin, Institut Neel - CNRS, France
Gwenole Jacopin

09:10 - 09:35 SEMICONDUCTOR NANOWIRES FOR ENERGY CONVERSION DEVICES
Ray LaPierre, McMaster University, Canada
Ray LaPierre

09:35 - 10:10 ENERGY HARVESTING, ELECTROCATALYSIS AND PLASMON-ASSISTED ELECTROCATALYSIS USING SINGLE-CRYSTAL PLASMONIC METALS AND ALLOYS
Gary W. Leach, Simon Fraser University, Canada
Gary W. Leach, Albert Adserias, Sasan V. Grayli, Kelsy Yuan, Eric Fell

NONLINEAR OPTICS, NANOPHOTONICS AND PLASMONICS - PART 6 OF 7

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Chair: Jayshri Sabarinathan, The University of Western Ontario, Canada

08:10 - 08:25 OPTICAL CONTROL AND COHERENT AMPLIFICATION VIA CHIRALLY COUPLED QUANTUM EMITTERS

Cedric Dufresne, Queen's University, Canada

Cedric Dufresne, Nir Rotenberg

08:25 - 08:40 EXPERIMENTAL DEMONSTRATION OF KERR COMBS IN SURFACE NANOSCALE AXIAL PHOTONIC MICRORESONATORS

Emily Eadie, Department of Physics, Concordia University, Canada

Emily Eadie, Samar Deep, Pablo Bianucci

08:40 - 08:55 PHASE STABILIZATION OF A SOLITON MICROCOMB USING MICROWAVE INJECTION LOCKING

Curtis Menyuk, University of Maryland, Baltimore County, United States of America

Tanvir Mahmood, James Cahill, Patrick Sykes, Logan Courtright, Curtis Menyuk, Weimin Zhou

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08:55 - 09:20 CONTROLLING THE PHOTOLUMINESCENCE STABILITY AND THE ENERGY LEVELS OF COLLOIDAL QUANTUM-DOT PHOTON EMITTERS IN PLASTIC OPTICAL FIBERS

Claudine Allen, Université Laval - COPL, Canada

Claudine Allen, William Forrester, Alexandre Sagona, Wei Shi, Olivier-Michel Tardif

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09:20 - 09:45 UNVEILING LIGHT-MATTER INTERACTIONS AT SINGLE NANOPARTICLE LEVEL AND ULTRAFAST TIMES

Aycan Yurtsever, Institut national de la recherche scientifique, Centre Énergie Matériaux Télécommunications, Canada

Aycan Yurtsever

09:45 - 10:20 QUANTUM NOISE STRUCTURE OF KERR MICROCOMBS

Melissa Guidry, MIT-LIGO, United States of America

Melissa Guidry

PHOTONIC MATERIALS - PART 4 OF 4

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Chair: Tigran Galstian, Université Laval, Canada

08:00 - 08:15 ULTRA-BROADBAND FLAT-TOP QUANTUM-DOT MODE-LOCKED LASERS THROUGH DISPERSION ENGINEERING

Guocheng Liu, National Research Council Canada, Canada

Guocheng Liu, Penghui Ma, Jiaren Liu, Philip Poole, Daniel Poitras, Pedro Barrios, Zhenguo Lu

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08:15 - 08:30 THZ EMISSION ENGINEERING USING RESONANT III-V SEMICONDUCTOR METAMATERIALS

Sina Aghili, University of Ottawa, Canada

Sina Aghili, Mohammad Reza Mohammadpour, Athulya Thulaseedharan, Rasoul Alaee, Ksenia Dolgaleva

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08:30 - 08:45 ENHANCED SECOND-ORDER NONLINEARITY IN VAPOR-DEPOSITED ORGANIC THIN FILMS FOR INTEGRATED PHOTONICS

Pierre-Luc Thériault, Polytechnique Montréal, Canada

Pierre-Luc Thériault, Heorhii Humeniuk, Gabriel Juteau, Zhechang He, Dmytro Perepichka, Stéphane Kéna-Cohen

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08:45 - 09:10 QLEDS: PERSPECTIVES AND IDEAS FOR ADDRESSING THE OUTSTANDING STABILITY AND FABRICATION CHALLENGES

Hany Aziz, University of Waterloo, Canada

Mohsen Azadinia, Atefeh Ghorbani Koltapeh, Dong Seob Chung, Tyler Davidson-Hall, Fatemeh Samaeifar, Saad Ben Mobarak, Hany Aziz

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09:10 - 09:35 HIGH DETECTIVITY INFRARED AND TERAHERTZ RADIATION SENSING USING FREQUENCY-NOISE-OPTIMIZED NANOMECHANICAL RESONATORS

Raphael St-Gelais, University of Ottawa, Canada

Raphael St-Gelais

09:35 - 10:00 ELECTRO RESPONSIVE PHOTONIC MATERIALS MAY REVOLUTIONIZE OPTICAL MICROSCOPY.

Tigran Galstian, Université Laval, Canada

Tigran Galstian

QUANTUM LIGHT-MATTER INTERACTIONS: SENSING, COMMUNICATIONS, AND INFORMATION PROCESSING - QUANTUM SENSING AND COMMUNICATION

GATINEAU SALON

Chair: Bienvenu Ndagano, INRS, Canada

08:00 - 08:15 DIFFRACTION OF CORRELATED BI-PHOTONS THROUGH TRANSPARENT SAMPLES

Nazanin Dehghan, University of Ottawa, Canada

Nazanin Dehghan, Alessio D'Errico, Yingwen Zhang, Ebrahim Karimi

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08:15 - 08:30 BEAM TRACKING BEYOND THE HEISENBERG UNCERTAINTY LIMIT

Yingwen Zhang, University of Ottawa, Canada

Yingwen Zhang, Duncan England, Noah Lupu-Gladstein, Frédéric Bouchard, Guillaume Thekkadath, Philip Bustard, Ebrahim Karimi, Benjamin Sussman

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08:30 - 08:45 QUANTUM KEY DISTRIBUTION WITH SQUEEZED COHERENT LIGHT IN PHOTONIC BLOCKADE REGIME

Evgeny Moiseev, Mcgill University, Canada

Evgeny Moiseev, Amirali Ektheraei, Kai Wang

08:45 - 09:00 TELECOM-COMPATIBLE QUANTUM KEY DISTRIBUTION IMPLEMENTED VIA TIME-BIN ENTANGLED PHOTONIC QUDITS

Stefania Sciara, Institut national de la recherche scientifique - Centre Énergie Matériaux et Télécommunications (INRS-EMT), Canada

Stefania Sciara, Hao Yu, Mario Chemnitz, Nicola Montaut, Benjamin Crockett,

Bennet Fischer, Robin Helsten, Benjamin Wetzel, Thorsten Albert Goebel, Ria G. Kraemer, Brent E. Little, Sai T. Chu, Stefan Nolte, Zhiming Wang, José Azaña, William J. Munro, David J. Moss, Roberto Morandotti

09:00 - 09:15 END-TO-END VARIATIONAL QUANTUM SENSING
Benjamin MacLellan, University of Waterloo, Institute for Quantum Computing, Ki3 Photonics Technologies, Canada
Benjamin MacLellan, Piotr Roztocki, Stefanie Czischek, Roger Melko

09:15 - 09:40 SCULPTING LIGHT: USING PHOTON MOMENTUM TO CREATE NEW IMAGING TECHNIQUES
Jeffrey Lundeen, University of Ottawa, Canada
Jeffrey Lundeen

09:40 - 10:05 RYDBERG EXCITON QUANTUM TECHNOLOGIES
Na Young Kim, University of Waterloo, Canada
Na Young Kim, HeeBong Yang

PLENARY LECTURE 3 - GERD LEUCHS (MAX PLANK) - QUANTUM TECHNOLOGIES AND THE ROLE OF THE MEASUREMENT PROCESS

GATINEAU SALON

Chair: Lora Ramunno, University of Ottawa, Canada

Jinyang Liang, INRS - Université du Québec, Canada

10:40 - 11:40 QUANTUM TECHNOLOGIES AND THE ROLE OF THE MEASUREMENT PROCESS
Gerd Leuchs, Universität-Erlangen-Nürnberg, Germany
Gerd Leuchs, Luis L. Sánchez-Soto

BIOPHOTONICS, NOVEL SENSING, AND ADVANCED IMAGING - PART 8 OF 9

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Chair: Frédéric Leblond, Polytechnique Montreal, Canada

Jitao Zhang, Michigan State University, United States Of America

13:00 - 13:25 TRANSLATIONAL PHOTOACOUSTIC IMAGING IN NEPHROLOGY AND HEPATOLOGY
Eno Hysi, St. Michael's Hospital/University of Toronto, Canada
Eno Hysi

13:25 - 13:50 POLARIZATION-RESOLVED OPTICAL COHERENCE TOMOGRAPHY REVEALS LIGHT-INDUCED PHOTORECEPTOR OUTER SEGMENT SHRINKAGE AND SUBRETINAL SPACE EXPANSION
Xincheng Yao, University of Illinois Chicago, United States of America
Xincheng Yao, Shaiban Ahmed, Taeyoon Son

13:50 - 14:05 NUMERICAL CORRECTION OF AXIAL CHROMATIC ABERRATION IN TELECENTRIC OFF-AXIS POLYCHROMATIC DIGITAL HOLOGRAPHIC MICROSCOPY FOR ENHANCED QUANTITATIVE PHASE IMAGING
Mohamed Haouat, Centre de recherche CERVO, Canada
Mohamed Haouat, Céline Larivière-Loiselle, Corentin Soubeiran, Erik Bélanger,

Pierre Marquet

14:05 - 14:20 A MICROFLUIDIC AND DIGITAL HOLOGRAPHY-BASED PLATFORM FOR LABEL-FREE IDENTIFICATION OF DISEASE-ASSOCIATED BIOPHYSICAL CELL PHENOTYPES
Erik Bélanger, Centre de recherche CERVO, Université Laval, Canada
Erik Bélanger

14:20 - 14:35 MEGAHERTZ-RATE SCHLIEREN IMAGING USING DIFFRACTION-GATED REAL-TIME ULTRAHIGH-SPEED MAPPING PHOTOGRAPHY
Patrick Kilcullen, Institut national de la recherche scientifique, Canada
Patrick Kilcullen, Xianglei Liu, Youmin Wang, Brandon Helfield, Jinyang Liang

HIGH-POWER LASER TECHNOLOGY, ULTRAFAST OPTICS AND APPLICATIONS - PART 7 OF 7

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Chair: Giulio Vampa, National Research Council Canada, Canada

13:00 - 13:15 RECENT PROGRESSES ON LASER ION ACCELERATION USING INNOVATIVE TARGET DESIGNS
Emmanuel d'Humières, Université de Bordeaux, France
Emmanuel d'Humières, Clément Lacoste, Arthur Hirsch, Khalil Aliane, Weipeng Yao, Philippe Nicolaï, Didier Raffestin, Vladimir Tikhonchuk, Nicolas Luchier, Patrizio Antici, Fabien Souris, Matthieu Bardon, Julien Fuchs

13:15 - 13:30 ASYMMETRIC BOND DISSOCIATION OF VIBRATIONALLY EXCITED NO2 IN PHASE-LOCKED W-2W INTENSE LASER FIELDS
Yuki Ono, Nagoya University, Japan
Yuki Ono, Hiroka Hasegawa, Akitaka Matsuda, Akiyoshi Hishikawa

13:30 - 13:45 ULTRAFAST DYNAMICS OF MOLECULAR DIMERS IN STRONG LASER FIELDS
Yonghao Mi, University of Ottawa, Canada
Nida Haram, Shima Gholam-Mirzaei, Pooya Ghavami, Heide Ibrahim, Paul Corkum, André Staudte, Yonghao Mi

13:45 - 14:00 COUPLING PROPERTIES OF BROADBAND TERAHERTZ PULSES IN A CIRCULAR HOLLOW-CORE WAVEGUIDE
Deepak Kararwal, École de technologie supérieure, India
Deepak Kararwal, Joel Edouard Nkeck, Xavier Ropagnol, Emmanuel Abraham, François Blanchard

GREEN PHOTONICS, ENERGY, AND RELATED TECHNOLOGIES - PART 4 OF 5

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Chair: Oussama Moutanabbir, École Polytechnique de Montréal, Canada

Sharif Sadaf, Institut national de la recherche scientifique (INRS), Canada

13:00 - 13:25 INVESTIGATION OF THE FAR-UV EFFICIENCY OF ALGAN/ALN NANOSTRUCTURES:

STRANSKI-KRASTANOV QUANTUM DOTS VERSUS ULTRA-THIN QUANTUM WELLS

Jesus Cañas, CNRS-Institut NEEL, France

Jesus Cañas, Ettore Cocatto, Nevine Rochat, Adeline Grenier, Alexandre Palais, David Cooper, Edith Bellet-Amalric, Lorenzo Rigutti, Stephen T. Purcell, Eva Monroy

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13:25 - 13:50 UV-INDUCED PERSISTENT PHOTOCONDUCTIVITY IN A-IGZO TFTS FOR OPTOELECTRONIC SYNAPSES

Dipon Kumar Ghosh, INRS-EMT, Canada

Dipon Kumar Ghosh, Christy Giji Jenson, Arnob Ghosh, Md Afjalur Rahman, Md Moinul Islam, Nirmal Anand, Md Zunaid Baten, Sharif Sadaf

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13:50 - 14:15 NANODIAMOND QUANTUM SENSORS AND THEIR POTENTIAL APPLICATIONS IN ENERGY RESEARCH

Masazumi Fujiwara, Okayama University, Japan

Masazumi Fujiwara

14:15 - 14:40 TELECOM WAVELENGTH SINGLE-PHOTON SOURCES BASED ON SEMICONDUCTOR NANOWIRE QUANTUM DOTS

Sofiane Haffouz, National Research Council of Canada, Canada

Sofiane Haffouz, Philip Poole, Dan Dalacu, Robin Williams

14:40 - 14:55 DETERMINISTIC QUANTUM EMISSION FROM P-GAN DEFECTS AND INGAN/GAN DOT-IN-NANOWIRES

Md Zunaid Baten, Institut national de la recherche scientifique (INRS), Canada

Md Zunaid Baten, Nirmal Anand, Sadat Tahmeed Azad, Christy Giji Jenson, Md Fardin Ahmed, Vincent Quenneville-Guay, Bienvenu Ndagano, Sofiane Haffouz, Haipeng Tang, Sharif Sadaf

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14:55 - 15:10 UNDERSTANDING THE PHOTOPHYSICAL PROPERTIES OF NEAR-INFRARED DEFECT QUANTUM EMITTERS IN P-TYPE GAN

Nirmal Anand, Institut national de la recherche scientifique (INRS), Canada

Nirmal Anand, Md Zunaid Baten, Christy Jenson, Md Fardin Ahmed, Vincent Quenneville-Guay, Bienvenu Ndagano, Sharif Sadaf

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QUANTUM LIGHT-MATTER INTERACTIONS: SENSING, COMMUNICATIONS, AND INFORMATION PROCESSING - QUANTUM MICROSCOPY AND PRECISION MEASUREMENT

GATINEAU SALON

Chair: Proppe, Andrew

13:00 - 13:25 QUANTUM MICROSCOPY FOR BIOMEDICINE

Robert W. Boyd, University of Ottawa, Canada

Robert W. Boyd

13:25 - 13:50 CONNECTIONS BETWEEN QUANTUM NON-DEMOLISHING DYNAMICS AND EXCEPTIONAL POINTS IN MULTIMODE SQUEEZING

Kai Wang, McGill University, Canada

Evgeny Moiseev, Kai Wang

13:50 - 14:05 SUPER-RESOLVED ENHANCED QUANTUM LIGHT-MATTER INTERACTION EVIDENCED AT THE SINGLE-MOLECULE LEVEL
R. Margoth Córdova-Castro, Department of Physics, University of Ottawa, Canada
R. Margoth Córdova-Castro

14:05 - 14:20 TOWARDS QUANTITATIVE SUPER-RESOLUTION FLUORESCENCE MICROSCOPY USING PHOTON-NUMBER-RESOLVING DETECTORS
Guillaume Thekkadath, National Research Council Canada, Canada
Guillaume Thekkadath, Nicolas Dalbec-Constant, Andrew Proppe, Duncan England, Philip Bustard, Frederic Bouchard, Ben Sussman

14:20 - 14:35 PHASE ESTIMATION AT THE QUANTUM LIMIT WITH TRANSITION EDGE SENSORS
Jonathan Baker, University of Ottawa, National Research Council of Canada, Canada
Jonathan Baker, Nicolas Dalbec-Constant, Frédéric Bouchard, Guillaume Thekkadath, Duncan England, Philip Bustard, Benjamin Sussman

14:35 - 14:50 OPTIMAL PULSES FOR DIPOLE MOMENT ESTIMATION WITH COHERENT STATES
Karthik Chinni, Polytechnique Montreal, Canada
Karthik Chinni, Francesco Albarelli, Alexandre de Camargo, Rodrigo Vargas-Hernández, Nicolás Quesada

SEMICONDUCTOR PHOTONICS - PART 7 OF 7

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Chair: Zindine Mokeddem, Centre for Nanosciences and Nanotechnologies, France

13:00 - 13:25 2D MATERIAL COMPOSITES FOR INFRARED PHOTODETECTORS
John Yeow, University of Waterloo, Canada
John Yeow

13:25 - 13:50 INSULATION AND PLANARIZATION OF NANOWIRE LEDS
David Laleyan, NS Nanotech Canada, Canada
David Laleyan, Binh Le, Seth Coe-Sullivan

13:50 - 14:05 OPTIMIZING P3HT: ZY-4CL BLENDS FOR BALANCED GREEN AND RED LIGHT DETECTION IN ORGANIC PHOTODETECTORS
Hossein Anabestani, McGill University, Canada
Hossein Anabestani, Zeljko Zilic, Sharmistha Bhadra

14:05 - 14:20 GOLD HYPERDOPED SILICON PHOTODETECTORS FOR SHORT WAVE INFRARED APPLICATIONS
Derrick Wu, SUNLAB, University of Ottawa, Canada
Derrick Wu, Mathieu de Lafontaine, Pierre Berini, Jeffrey Warrender, Karin Hinzer, Jacob J. Krich

14:20 - 14:35 SPECTROSCOPIC CHARACTERIZATION OF FEMTOSECOND LASER ABLATION OF SILICON

IN AIR AND LIQUID MEDIUM

Melika Afshar, Ottawa University, Canada

Melika Afshar, Jaspreet Walia, Pierre Berini, Fabio Variola, Ravi Bhardwaj

BIOPHOTONICS, NOVEL SENSING, AND ADVANCED IMAGING - PART 9 OF 9

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Chair: Eno Hysi, St. Michael's Hospital/University of Toronto, Canada

Xinmai Yang, University of Kansas, United States Of America

15:45 - 16:00 INVESTIGATION OF NON-RADIATIVE RELAXATION DYNAMICS UNDER PULSED EXCITATION USING PHOTON ABSORPTION REMOTE SENSING: A PROOF-OF-PRINCIPLE STUDY IN MECHANICAL SENSING

Aria Hajiahmadi, University of Waterloo, Canada

Aria Hajiahmadi, Channprit Kaur, Benjamin Ecclestone, James Tweel, James Tummon Simmons, Parsin Haji Reza

16:00 - 16:15 IN SITU CHARACTERIZATION OF ULTRASHORT PULSES IN NONLINEAR MICROSCOPY USING FRINGE-AVERAGED COLLINEAR FREQUENCY-RESOLVED OPTICAL GATING

Leah Frackleton, University of Ottawa, Canada

Leah Frackleton, Alexander Harper, Malcolm Latorre, Adrian Pegoraro, Albert Stolow, Siddarth Shivkumar

16:15 - 16:30 VERIFICATION OF OPTICAL MEASUREMENT FOR DEEP PART INSIDE SCATTERING PHANTOM BY USING PULSED ULTRASOUND MODULATED SPECKLE IMAGING

Takafumi Shimada, Department of Bioengineering, The University of Tokyo/ Technology Research Laboratory, Shimadzu Corporation, Japan

Takafumi Shimada, Lisa Ishikawa, Hideaki Katsu, Keiichi Nakagawa, Takahide Hatahori

16:30 - 16:45 LASER MICROMACHINING OF SILICON NITRIDE TRAMPOLINES OPERATING AT THE FUNDAMENTAL TEMPERATURE FLUCTUATION-NOISE LIMIT

Zachary Louis-Seize, University of Ottawa, Canada

Zachary Louis-Seize, Yahya Saleh, Chang Zhang, Timothy Hodges, Mohammed Shakir, Mathis Turgeon-Roy, Arnaud Weck, Raphael St-Gelais

16:45 - 17:00 HIGH-SPEED SUPERPIXEL COMPLEX FIELD MODULATION USING A TEXAS INSTRUMENTS PHASE LIGHT MODULATOR

Patrick Kilcullen, Institut national de la recherche scientifique, Canada

Patrick Kilcullen, Jingdan Liu, Youmin Wang, Lei Gong, Jinyang Liang

GREEN PHOTONICS, ENERGY, AND RELATED TECHNOLOGIES - PART 5 OF 5

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Chair: Md Zunaid Baten, Institut national de la recherche scientifique (INRS), Canada

Sharif Sadaf, Institut national de la recherche scientifique (INRS), Canada

15:20 - 15:45 MEASURING GAN NANOWIRE JUNCTION POTENTIALS

Karen L. Kavanagh, Simon Fraser University, Canada

Karen L. Kavanagh, Anitha Jose, Melissa Radford

15:45 - 16:00 PREDICTIVE MODEL FOR ATTENUATION OF FREE-SPACE LASER POWER AND DATA TRANSMISSION BASED ON REAL TIME WEATHER CONDITIONS
Valentin Daniel, Université d'Ottawa, Canada
Valentin Daniel, Firdos Kanwal, Ross Cheriton, Ahmad Atieh, Karin Hinzer

16:00 - 16:15 SCALABLE INGAN/GAN NANOWIRES SELF-POWERED PHOTOELECTROCHEMICAL PHOTODETECTOR
Md Afjalur Rahman, Institut national de la recherche scientifique (INRS)-EMT, Canada
Md Afjalur Rahman, Kishan Lal Kumawat, Nirmal Anand, Dipon Kumar Ghosh, Christy Giji Jenson, Md Moinul Islam, Md Zunaid Baten, Sharif Sadaf

16:15 - 16:30 CONTROLLING THE CORRELATIVE MICROWAVE BANDWIDTH AND BIT-ENERGY FOR BATIO3 THIN-FILM CRYSTAL WAVEGUIDE ELECTRO-OPTIC MODULATORS
DeGui Sun, Changchun University of Science and Technology, China (People's Republic of)
DeGui Sun, Junyu Zhang, Zi Wang, Na Sun, Miao Yu, Xueping Wang

16:30 - 16:45 PLASMONIC AU/P-GAN NANOSTRUCTURED PHOTOCATALYSTS FOR PHOTOELECTROCHEMICAL CO2 REDUCTION
Md Moinul Islam, Institut national de la recherche scientifique (INRS), Canada
Md Moinul Islam, Md Afjalur Rahman, Nirmal Anand, Dipon Kumar Ghosh, Christy Giji Jenson, Md Zunaid Baten, Sharif Sadaf

NONLINEAR OPTICS, NANOPHOTONICS AND PLASMONICS - PART 7 OF 7

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Chair: Ali Hatef, Nipissing University, Canada

15:20 - 15:35 METASURFACES INCORPORATING GRADED INDEX EPSILON-NEAR-ZERO MATERIAL
Sebastian Schulz, University of Waterloo, Canada
Anindita Das, Laura Wynne, Andrea Di Falco, Sebastian Schulz

15:35 - 15:50 TENSORIAL NONLINEAR RESPONSE IN DIELECTRIC METASURFACES
Giacomo Balistreri, INRS - EMT, Canada
Giacomo Balistreri, Fuyong Yue, Nicola Montaut, Fabrizio Riminucci, Andrea Toma, Riccardo Piccoli, Stefano Cabrini, Roberto Morandotti, Luca Razzari

15:50 - 16:05 ENHANCED THZ NONLINEARITY IN A MULTI-LAYER GRAPHENE DEVICE ON A METASURFACE
Ali Maleki, University of Ottawa, Canada
Ali Maleki, Moritz Heindl, Yongbao Xin, Robert W. Boyd, Georg Herink, Jean-Michel Ménard

16:05 - 16:20 HOLLOW NANOPILLARS AS A PLASMONIC PLATFORM FOR A HIGH ENHANCEMENT OF LOCAL FIELDS
Yaryna Mamchur, University of Ottawa, Canada

Yaryna Mamchur, R. Margoth Córdova-Castro, Dirk Jonker, Ketki Srivastava, Jeremy Upham, Arturo Susarrey-Arce, Robert W. Boyd

PHOTONICS AND ARTIFICIAL INTELLIGENCE - PART 6 OF 6

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Chair: Antonio Calà Lesina, Leibniz University Hannover, Germany

15:20 - 15:45 QUANTUM PHOTONIC NEURAL NETWORKS
Nir Rotenberg, Queen's University, Canada
Nir Rotenberg

15:45 - 16:00 ALGORITHMICALLY OPTIMIZED METAL-INSULATOR-METAL NANOPILLAR-BASED BIOSENSORS FOR ENHANCED SENSITIVITY
Abdul Hadi Syed, University of Alberta, Canada
Abdul Hadi Syed, Andres Forero Pico, Manisha Gupta

16:00 - 16:15 REINFORCEMENT LEARNING EMPOWERED DIGITAL PRE-DISTORTION IN NON-DIFFERENTIABLE CHANNEL
Arash Rabiepoor, Université Laval, Canada
Arash Rabiepoor, Ming Zeng, Leslie Rusch

16:15 - 16:30 ENHANCING CHEMICAL CONTRAST IN HYPERSPECTRAL CARS MICROSCOPY USING A SHALLOW LEARNING APPROACH
John Shafe-Purcell, Trent University, Canada
John Shafe-Purcell, Aaron Slepkov

QUANTUM LIGHT-MATTER INTERACTIONS: SENSING, COMMUNICATIONS, AND INFORMATION PROCESSING - QUANTUM SENSORS AND PROCESSORS

GATINEAU SALON

Chair: Benjamin Sussman

15:20 - 15:45 SCALING AND NETWORKING A MODULAR PHOTONIC QUANTUM COMPUTER
Jonathan Lavoie, Xanadu Quantum Technologies Inc, Canada
Jonathan Lavoie

15:45 - 16:00 PHOTONIC QUANTUM PROCESSOR FOR NOVEL APPLICATIONS
Monika Monika, Fraunhofer IOF, Germany
Monika Monika, Carlos Andres Sevilla Gutierrez, Cristina Josefina Amaya Mendez, Dmitriy Mitin, Idoia Ugarte Olcoz, Luis Javier González Martin Del Camp, Marius Leyendecker, Michael Reibe, Oskar Kohout, Reinhard Geiss, Thomas Müller-Wirts, Umair Ashraf Mir, Varun Raj Kaipalath, Volodymyr Zubariev, Frank Setzpfandt, Fabian Oliver Steinlechner

16:00 - 16:15 ENHANCED FOUR-WAVE MIXING USING ITO AT EPSILON-NEAR-ZERO ON SILICON NITRIDE WAVEGUIDES
Arash Mokhtari Ardekani, University of Ottawa, Canada

	Arash Mokhtari Ardekani, Pierre Berini
16:15 - 16:30	DELAY-MODIFIED SUPER-RADIANCE IN WAVEGUIDE QED CIRCUITS Sofia Arranz Regidor, Queen's University, Canada Sofia Arranz Regidor, Stephen Hughes

Poster Presentations

Wednesday, May 21, 2025

FROM 09:00 TO 20:00

AND

Thrusday, May 22, 2025

FROM 09:00 TO 15:30

POSTER SESSION

Poster board : 1 A COMPACT LASER-IMAGING SENSOR FOR MEASUREMENT OF ANGLE-RESOLVED LIGHT SCATTERING BY GASES AND AEROSOL PARTICLES

Alireza Moallemi, National Research Council Canada, Canada

Alireza Moallemi, Nicaulas Sabourin, Jalal Norooz Oliaee, Timothy Sipkens, Joel Corbin

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Poster board : 3 AUTOMATIC CLASSIFICATION OF DEFECTIVE WELDING IN IMAGES AUTOMOTIVE PARTS USING DEEP LEARNING

Miguel Torres-Cisneros, Universidad de Guanajuato, Mexico

Jose Ruiz-Pinales, Rafael Guzmán-Cabrera, Marycarmen Pena-Gomar, Miguel Torres-Cisneros

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Poster board : 7 STUDY OF PLASMONIC INTERACTION IN GOLD NANOPARTICLES ON GLASS SUBSTRATES: COMPARISON BETWEEN NORMAL INCIDENCE AND KRETSCHMANN CONFIGURATION

Miguel Torres-Cisneros, Universidad de Guanajuato, Mexico

Papy Kahenga-Lubuku, Marycarmen Pena-Gomar, Francisco Castillo-Rivera, Natanael Cuando-Espitia, Victor Coello, Rafael Guzmán-Cabrera, Miguel Torres-Cisneros

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Poster board : 9 COMPARATIVE ANALYSIS OF SINGLE-MODE, POLARIZATION-INSENSITIVE SILICON NITRIDE MICRORING RESONATORS AT TELECOM WAVELENGTHS FOR REFRACTIVE INDEX BIOSENSORS.

Niloofar Majidian Taleghani, McMaster University, Canada

Niloofar Majidian Taleghani, Cameron Naraine, Batoul Hashemi, Jens H. Schmid, Andrew Knights, Pavel Cheben, Ponnambalam Ravi Selvaganapathy, Jonathan Bradley

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Poster board : 11 FIBER-BASED OCT GUIDED SUBRETINAL INJECTION IN EX-VIVO MICE EYES

Shakiba Davani, Université de Montréal, Canada

Shakiba Davani, Bruno Larrivée, Christos Boutopoulos

Poster board : 13 LABEL-FREE SPECTROSCOPIC ACCURATE DIFFERENTIATION OF TUMORAL AND NON-TUMORAL BREAST TISSUE USING ARTIFICIAL INTELLIGENCE

Juan Carlos González Pérez, Universidade Federal de Minas Gerais, Brazil

Paulo Henrique Amaral, Maria Ivonete Nogueira da Silva, Leticia Conceição, Paulo Guilherme de Oliveira Salles, Juan Carlos González Pérez

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Poster board : 15 MACHINE LEARNING ELLIPSOMETRY AS A POWERFUL TOOL FOR TUMORAL EPITHELIAL CELL LINE RECOGNITION

Maria Ivonete Nogueira da Silva, Universidade Federal de Minas Gerais, Brazil

Maria Ivonete Nogueira da Silva, Paulo Henrique Amaral, Lidia Andrade, Juan Carlos González Pérez

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Poster board : 17 MECHANICAL DESIGN CONSIDERATION OF SERPENTINE SPRING FOR MONOLITHIC ACTUATOR PLATFORM

Muthukumaran Packirisamy, University of Concordia, Canada

Mehdi Kharazmi, Muthukumaran Packirisamy

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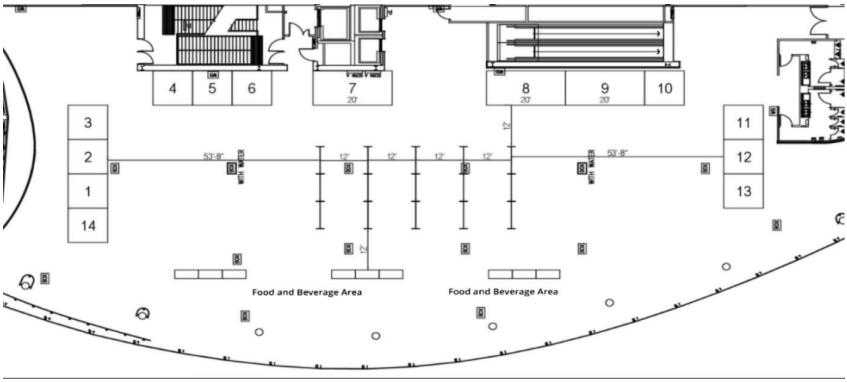

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