

25th CONFERENCE
PHOTONICS
NORTH | 2023

JOIN US IN
PALAIS DES CONGRÈS DE MONTRÉAL
JUNE 12 - 15, 2023

CONFERENCE PROGRAM

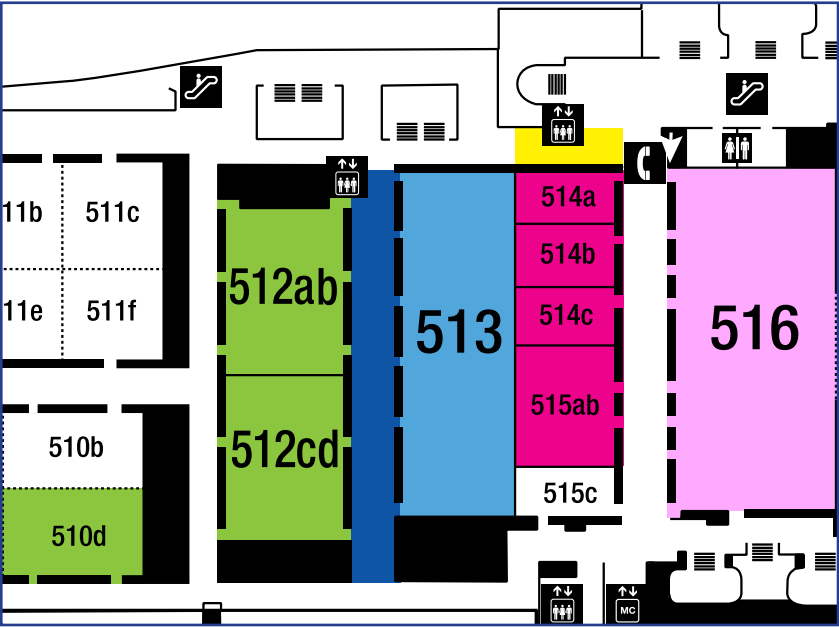


Meeting Rooms Floor Layout

Level 5

-  Elevators
-  Escalators
-  Freight elevators
-  Phones
-  Restrooms

-  Parallel sessions rooms
-  - Registration Desk
- Speaker Ready Desk
-  Plenary (main) session room
-  Lunch rooms
-  - Exhibition Hall
- Coffee Break for June 13 and 14
- Poster sessions
-  Coffee Break for June 12 and 15



PN 2023 - Program at a Glance

Monday, June 12, 2023					
	514a	514b	513	514c	515ab
08:30 - 10:00	Biophotonics	Quantum	Optical	Theory Design	High Power
10:00 - 10:15	Coffee Break - 513 hall				
10:15 - 10:25	Opening Welcome 513				
10:25 - 11:25	Plenary Speaker 1 - Ursula Keller 513				
11:25 - 12:30	Biophotonics	Quantum	Optical	Theory Design	High Power
12:30 - 13:30	Lunch - Presentation from Plenary Speaker Ursula Keller - 512ab		Lunch and Networking - 512cd & 510d		
13:30 - 14:30	Tutorial 1 - José Azaña 513				
14:30 - 16:30	Biophotonics	Quantum	Optical	Theory Design	High Power
16:30 - 16:45	Coffee Break - 513 hall				
16:45 - 18:00	Biophotonics	Quantum	Optical	Theory Design	High Power
18:00 - 20:00	Welcome Reception Chapiteau				
19:00 - 20:00	CMC / Photons Canada Workshop - How to start a company in Photonics 512ab				

Tuesday, June 13, 2023					
	514a	514b	513	514c	515ab
08:30 - 10:30	Biophotonics	Quantum	Optical	Theory Design	High Power
10:30 - 11:00	Coffee Break & Exhibition - 516				
10:30 - 12:00	Photons Canada Pitch Competition 512ab				
11:00 - 12:00	Biophotonics	Quantum	Optical	Theory Design	Nonlinear
12:00 - 13:30	Student-Industry Speed Networking Lunch - 512ab		Lunch and Networking - 512cd & 510d		
	Student Best Paper Award In-Camera Competition - COPL & STARaCom - 514b		Exhibition - 516		
13:30 - 15:00	Exhibitor Product Presentation 512ab				
	Biophotonics	Quantum	Optical	Theory Design	Nonlinear

15:00 - 16:00	Plenary Speaker 2 - Gilles Brassard 513				
16:00 - 16:10	Student Best Paper Award Announcement - COPL and STARaCom 513				
16:10 - 16:30	Coffee Break & Exhibition - 516				
16:30 - 18:00	Exhibitor Product Presentation 512ab				
	Biophotonics	Quantum	Optical	Theory Design	Nonlinear
18:00 - 20:00	Poster Session 1 and Exhibition 516				
18:00 - 19:00	CMC Roadmap Presentations 512ab				

Wednesday, June 14, 2023					
	514a	514b	513	514c	515ab
08:30 - 10:30	Biophotonics	Quantum	Optical	Theory Design	Nonlinear
10:30 - 11:00	Coffee Break & Exhibition - 516				
11:00 - 11:05	Photons Canada special announcement 513				
11:05 - 12:05	Tutorial 2 - Ksenia Yadav 513				
12:00 - 13:00	Lunch and Learn - EPIC Member Presentations - 512ab			Lunch and Networking - 512cd & 510d	
				Exhibition - 516	
13:00 - 13:45	Symposium on Technology and Market Trend 513				
13:45 - 14:30	Panel on Commercializing Photonic Technologies 513				
14:30 - 15:45	Biophotonics	Materials	Photonics and AI	Theory Design	Nonlinear
15:45 - 16:00	Coffee Break & Exhibition - 516				
16:00 - 18:00	Green	Materials	Photonics and AI	Theory Design	Nonlinear
18:00 - 20:00	Poster Session 1 and Exhibition 516				
	Networking with EPIC members 516				

Thursday, June 15, 2023					
	514a	514b	513	514c	515ab
08:30 - 09:30	Tutorial 3 - Pierre Berini 513				
09:30 - 10:45	Green	Materials	Photonics and AI	Optical	Nonlinear
10:45 - 11:00	Coffee Break - 513 hall				
11:00 - 12:00	Plenary Speaker 3 - Andrea Alù 513				
12:00 - 13:00	Lunch and Learn - Protect your research and innovation - 512ab		Lunch and Networking - 512cd & 510d		
13:00 - 15:00	Green	Materials	Photonics and AI	Quantum	Nonlinear
15:00 - 15:15	Coffee Break - 513 hall				
15:15 - 18:00	Green	Materials	Photonics and AI	High Power	Nonlinear

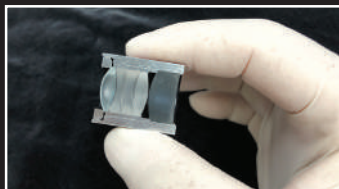
Photonics North 2023
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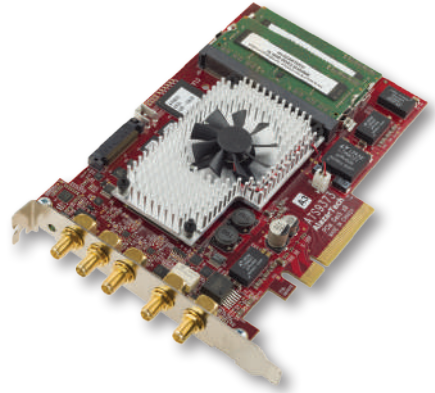
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Advanced Data Acquisition and Signal Processing Solutions

**Booth
#15**



AlazarTech designs and manufactures high-performance data acquisition and signal processing solutions for a wide range of applications, including OCT, spectroscopy, fiber sensing, and lidar.

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Department of Physics and Max Planck
Centre for Extreme and Quantum
Photonics, University of Ottawa, Ottawa,
Canada

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INRS-EMT, Montréal, Canada

Lora Ramunno
University of Ottawa, Ottawa, Canada

Executive Director

Kexing Liu
QGenX Systems, Ottawa, Canada

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Canada

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University of Ottawa, Canada

Tigran Galstian
Université Laval, Canada

Winnie Ye
Carleton University, Canada

Welcoming Message

On behalf of the Photonics North Conference Steering Committee, we welcome you to the 2023 conference.

The conference aims at strengthening the connections between theory and application and building stronger ties between university research and industry needs. We are pleased to have leading researchers share the outcomes of their work and exhibitors from industry present the products and services.

We are also delighted to be joined by students who have chosen photonics as their career path. We invite you to seize the opportunity to develop your network with the photonics research community and industry.

Finally, we wish to convey our gratitude to Dr Luca Razzari and Dr Lora Ramunno for doing an outstanding job as Program Co-Chairs. Thank you also to the partners, supporters, session chairs and many volunteers, without you the conference would not be possible.

Enjoy the conference.

Ebrahim Karimi

Nexus for Quantum Technologies Institute, University of Ottawa, Ottawa, Canada

Conference Chair



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THE EXHIBIT
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General Information

VENUE

Palais des congrès de Montréal
1001 Pl. Jean-Paul-Riopelle
Montréal (Québec) H2Z 1H5
Tel.: 514-871-8122

PARKING

The Palais des congrès de Montréal offers you and your guests 400 paid indoor parking spaces.

The parking is located at 1025 Rue Chenneville, accessible by Avenue Viger.

Visit their website for more information:
www.congresmtl.com

REGISTRATION

All participants should register at registration desk. The registration desk is located in the Foyer 517 and it will be open at the Conference venue:

Monday, June 12	07:30 - 19:00
Tuesday, June 13	08:00 - 19:00
Wednesday, June 14	08:00 - 19:00
Thursday, June 15	08:00 - 15:30

EXHIBITION HALL

Tuesday, June 13	10:30 - 20:00
Wednesday, June 14	10:30 - 20:00

NAME BADGE

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

CERTIFICATE OF ATTENDANCE

An official Certificate of Attendance will be available on demand.

INTERNET ACCESS / MOBILE PHONE

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

Network name:

Palais_des_congrès_de_Montréal

Password: **PCM33758**

DISCLAIMER

The Photonics North 2023 secretariat and organizers cannot assume liability for personal accidents, loss of or damage to private property of participants, and accompanying persons, either during or directly arising from the Photonics North 2023 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.

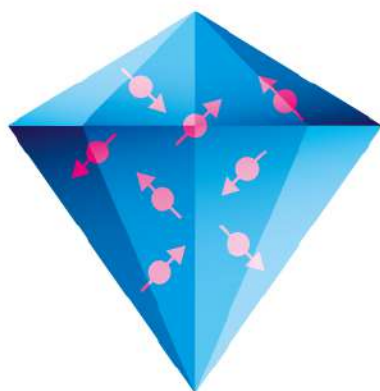
SPEAKER READY DESK

All speakers are required to check in at the Speaker Ready Desk to upload their presentation at least 1 hour prior to the start of their session. The staff will be available to answer your questions and to help you upload your presentation from your USB memory stick.

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Special Events

Monday,
June 12, 2023

WELCOME RECEPTION

Monday, June 12, from 18:00 to 20:00

Chapiteau

The Welcome Reception provides an excellent opportunity to network, meet old friends and colleagues, and visit the Niagara college Photonics Labs.

Drink and food will be offered.

CMC / PHOTONS CANADA WORKSHOP - HOW TO START A COMPANY IN PHOTONICS

Monday, June 12, from 19:00 to 20:00

512ab

Tuesday,
June 13, 2023

PHOTONS CANADA PITCH COMPETITION

Tuesday, June 13, from 10:30 to 12:00

Room 512ab

POSTER SESSION 1

Tuesday, June 13, from 18:00 to 20:00

Room 516

A special time to visit our exhibitors and network with the poster presenters. Poster session provide an opportunity for informal, interactive presentations and discussions.

Drink and light snacks will be offered.

STUDENT-INDUSTRY SPEED NETWORKING - FOR STUDENTS ONLY

Tuesday, June 13, from 12:00 to 13:30

512ab

This special networking students event will be held on Wednesday, June 25, 2023 and it is an opportunity to exchange with number of companies' representatives.

Lunch boxes will be served outside the room.

EXHIBITOR PRODUCT PRESENTATION

Tuesday, June 13, from 13:30 to 15:00 and from 16:30 to 18:00

512ab

CMC ROADMAP PRESENTATIONS

Tuesday, June 13, from 12:00 to 13:30

512ab

Wednesday,
June 14, 2023

LUNCH AND LEARN - EPIC MEMBER PRESENTATIONS

Wednesday, June 14, from 12:00 to 13:00
512ab

All registered participants are invited to this workshop with our Silver partners EXFO & Ehva!

Lunch boxes will be served outside the room.

POSTER SESSION 2 AND NETWORKING WITH EPIC MEMBERS

Wednesday, June 14, from 18:00 to 20:00
516

A special time to visit our exhibitors and network with the poster presenters. Poster session provide an opportunity for informal, interactive presentations and discussions.

Drink and light snacks will be offered.

Thursday,
June 26, 2023

LUNCH AND LEARN - PROTECT YOUR RESEARCH AND INNOVATION

Thursday, June 26, from 12:00 to 13:00
512ab

Lunch boxes will be served outside the room.



The NEXus for Quantum Technologies (NexQT) is an institute which brings together over 80 researchers from the fields of engineering, science, medicine, and law to be a driving force in quantum

research while laying the foundation for a post-quantum world. Spun out from the University of Ottawa, NexQT's interdisciplinary approaches and collaboration with industry and government will allow it to develop technologies for the quantum computing era adapted to social needs for security, privacy, equitable access, and economic prosperity. With the university's proximity to the Kanata-North tech-park and with it being situated in the nation's capital, NexQT is ideally located to take full advantage of governmental and industrial partnerships, and offers the perfect breeding ground to turn innovative ideas into startups. NexQT also has strategic partnerships with other national and international organizations, like Quantum Encryption and Science Satellite (QEYSSat), the Netherlands, top-level Israeli Universities and Institutes, the Max Planck Institute, the NRC, while having also signed an MOU with Xanadu, which is a leader in quantum photonics computing.

Oral Presentations

Monday, June 12, 2023

ROOM: FOYER 517

7:30 - 19:00 REGISTRATION

BIOPHOTONICS, NOVEL SENSING, AND ADVANCED IMAGING - 1 ADVANCED MICROSCOPY AND APPLICATIONS - 1

ROOM: 514A

Chair: Lei Tian, University of Boston, United States of America
Parsin Haji Reza, University of Waterloo, Canada

8:30 - 09:05 **BP-1.2 / BLOOD-COATED SENSOR FOR HIGH-THROUGHPUT PTYCHOGRAPHIC MICROSCOPY**
Guoan Zheng, University of Connecticut, United States of America

9:05 - 09:30 **BP-1.3 / 3D LOCALIZATION MICROSCOPY IN LIVE FLOWING CELLS**
Lucien Weiss, Polytechnique Montréal, Canada

9:30 - 09:45 **BP-1.4 / POLYCHROMATIC DIGITAL HOLOGRAPHIC MICROSCOPY FOR DYNAMIC CELL IMAGING**
Céline Larivière-Loiselle, Université Laval, Canada
Erik Bélanger, Mohamed Haouat, Pierre Marquet

9:45 - 10:00 **BP-1.5 / WAVEGUIDE EVANESCENT FIELD MICROSCOPIES FOR CELL- AND BACTERIA BIOPHYSICS**
Silvia Mittler, University of Western Ontario, Canada

QUANTUM LIGHT-MATTER INTERACTIONS: SENSING, COMMUNICATIONS, AND INFORMATION PROCESSING - 1

ROOM: 514B

Chair: Kent Bonsma-Fisher, University of Ottawa, Canada

8:30 - 08:45 **QLM-1.1 / SUPER RESOLUTION ENHANCEMENT WITH BI-PHOTON SPATIAL MODE DEMULTIPLEXING: ADVANTAGES AND CHALLENGES**
Dilip Paneru, University of Ottawa, Canada
Florence Grenapin, Alessio D'Errico, Ebrahim Karimi

Monday

- 8:45 - 09:00 **QLM-1.2 / FULL SPATIAL CHARACTERIZATION OF ENTANGLED STRUCTURED PHOTONS**
Xiaoqin Gao, University of Ottawa, Canada
 Yingwen Zhang, Alessio D'Errico, Alicia Sit, Khabat Heshami, Ebrahim Karimi
-
- 9:00 - 09:15 **QLM-1.3 / IMAGING THE QUANTUM STATE OF BI-PHOTONS**
Alessio D'Errico, University of Ottawa, Canada
 Nazanin Dehghan, Danilo Zia, Fabio Sciarrino, Ebrahim Karimi
-
- 9:15 - 09:30 **QLM-1.4 / LIGHT-FIELD MICROSCOPE WITH QUANTUM CORRELATED PHOTONS**
Yingwen Zhang, University of Ottawa, Canada
 Duncan England, Antony Orth, Ebrahim Karimi, Benjamin Sussman
-
- 9:30 - 09:55 **QLM-1.5 / EXPERIMENTAL SEPARATION ESTIMATION OF INCOHERENT OPTICAL SOURCES REACHING THE (QUANTUM) CRAMÉR-RAO BOUND**
Clémentine Rouvière, LKB, France
-

OPTICAL COMMUNICATIONS - 1

ROOM: 513

Chair: Roberto Morandotti, INRS-EMT, Canada

- 8:30 - 08:55 **OPT-1.1 / SIMULATION SOLUTIONS FOR ENABLING SILICON PHOTONICS DESIGN FOR MANUFACTURABILITY**
Zeqin Lu, Ansys Inc, Canada, Canada
 Ahsan Alam, Parya Samadian, Federico Gomez, Milad Mahpeykar, Ellen Schelew, James Pond
-
- 8:55 - 09:10 **OPT-1.2 / FIBER-OPTIC TECHNOLOGIES FOR BEYOND-LEO HIGH-CAPACITY OPTICAL DATA LINKS**
Roman Kruzelecky, MPB Communications Inc., Canada
 Qi-Yang Peng, David Fernie, Ian Sinclair, Aliaksandr Murzionak, Piotr Murzionak, Ryan McPherson, Michel Corriveau
-
- 9:10 - 09:25 **OPT-1.3 / POLARIZATION-INSENSITIVE METAMATERIALS EDGE COUPLER FOR SILICON NITRIDE PHOTONICS AT 950NM**
Maziyar Milanizadeh, National Research Council Canada, Canada
 Jens Schmid, Pavel Cheben, Siegfried Janz, Dan-Xia Xu
-
- 9:25 - 09:40 **OPT-1.4 / CONTROLLABLE EMISSION OF FREQUENCY-ENCODED QUDITS IN SILICON PHOTONICS DEVICES: A POSSIBLE WAY TOWARD THE GENERATION OF HIGH-DIMENSIONAL ENTANGLED STATES FOR THE HYPERSPACE CONSORTIUM**
Daniele Bajoni, Università di Pavia, Italy
-
- 9:40 - 09:55 **OPT-1.5 / HYPERSPACE: HYPERENTANGLED QUANTUM COMMUNICATION IN SPACE**
Fabian Steinlechner, Fraunhofer Institute for Applied Optics and Precision Engineering - IOF, Germany
 Karin Burger
-

PHOTONIC THEORY DESIGN AND SIMULATIONS - I

ROOM: 514C

Chair: Jonathan Bradley, McMaster University, Canada

- 8:30 - 08:55 **PTD-1.1 / ASTROPHOTONIC CORRELATION SPECTROSCOPY USING MICRORING RESONATORS**
Ross Cheriton, National Research Council Canada, Canada
Erin Tonita, Volodymyr Artyshchuk, Adam Densmore, Kathryn Jackson, Olivier Lardiere, Jean-Pierre Veran, John Weber, Suresh Sivanandam, Ernst de Mooij, Martin Vachon, Shurui Wang, Dan-Xia Xu, Jens Schmid, Pavel Cheben, Karin Hinzer, Siegfried Janz
- 8:55 - 09:20 **PTD-1.2 / TUNABLE FANO RESONANCES AND AVOIDED CROSSING IN COHERENTLY COUPLED SILICON MICRO-RING RESONATORS (MRRS) WITH FEEDBACK**
Iain Crowe, The University of Manchester, United Kingdom
Hei Chit Leo Tsui, Patrick Sarsfield, Osamah Als Salman, Matthew Halsall, Andrew Knights
- 9:20 - 09:45 **PTD-1.3 / ON-CHIP OPTICAL BEAMFORMING AND SUBWAVELENGTH METAMATERIALS FOR BROADBAND MODE-DIVISION MULTIPLEXING**
David González-Andrade, Centre de Nanosciences et de Nanotechnologies (C2N), CNRS, Université Paris-Saclay, France
Raquel Fernández de Cabo, Jaime Vilas, Thi Hao Nhi Nguyen, Paula Nuño Ruano, Thi-Thuy-Duong Dinh, José Manuel Luque-González, Dorian Oser, Xavier Le Roux, Guy Aubin, Farah Amar, Diego Pérez-Galacho, Irene Olivares, Antonio Dias, Robert Halir, Alejandro Ortega-Moñux, J. Gonzalo Wangüemert-Pérez, Íñigo Molina-Fernández, Eric Cassan, Delphine Marris-Morini, Pavel Cheben, Laurent Vivien, Aitor V. Velasco, Carlos Alonso-Ramos
- 9:45 - 10:00 **PTD-1.4 / NONLINEAR SCATTERING THEORY IN THE TIME DOMAIN**
Jesse Thompson, University of Ottawa, Canada
Joshua Baxter, Izzat Allayarov, Antonio Cala Lesina, Lora Ramunno

HIGH POWER LASER TECHNOLOGY, ULTRAFast OPTICS, AND APPLICATIONS - I

ROOM: 515AB

Chair: Arkady Major, University of Manitoba, Canada

- 8:30 - 08:45 **HPL-1.1 / NARROW SPECTRAL BANDWIDTH PASSIVELY MODE-LOCKED PULSED FIBER SYSTEM AT 1030 NM**
Nitika Vaish, McGill University, Canada
Pin Long, Reza Soltanian, Lawrence Chen
- 8:45 - 09:00 **HPL-1.2 / SPECTRALLY TUNABLE ALL-PM MODE-LOCKED YB:FIBER LASER WITH NJ-LEVEL PULSE ENERGY**
Saeid Ebrahimzadeh Niari, University of Alberta, Canada
Sakib Adnan, Valentina Shumakova, Vito Fabian Pecile, Jakob Fellingner, Michael Leskowschek, Collin Aldia, Aline Mayer, Lukas Perner, Salman Haydar Sarper, Stephane Schilt, Christoph Heyl, Ingmar Hartl, Oliver Heckl, Gil Porat

9:00 - 09:25 **HPL-1.3 / ULTRAFAST THULIUM-DOPED FIBER MAMYSHEV OSCILLATORS: STATE-OF-THE-ART AND FUTURE SCALING PROSPECTS**
Benedikt Schuhbauer, Laser Zentrum Hannover e.V., Germany
Frithjof Haxsen, Uwe Morgner, Jörg Neumann, Dietmar Kracht

9:25 - 09:40 **HPL-1.4 / LOW REPETITION RATE YB-DOPED ALL-FIBER MAMYSHEV OSCILLATOR**
Michel Olivier, Centre d'optique, photonique et laser (Université Laval), Canada
Vincent Boulanger, François Trépanier, Michel Piché

9:40 - 10:05 **HPL-1.5 / COMPACT ULTRAFAST FIBER LASERS FOR NONLINEAR OPTICAL IMAGING**
Kan Kieu, University of Arizona, United States of America

ROOM: 513 HALL

10:00 - 10:15 **COFFEE BREAK**

OPENING WELCOME

ROOM: 513

Chair: Lora Ramunno, University of Ottawa, Canada
Luca Razzari, INRS-EMT, Canada

10:15 - 10:25 **OPENING WELCOME**

PLENARY SPEAKER 1 - URSULA KELLER

ROOM: 513

Chair: Lora Ramunno, University of Ottawa, Canada
Luca Razzari, INRS-EMT, Canada

10:25 - 11:25 **PL-1 / SINGLE-CAVITY DUAL-COMB MODELOCKING AND APPLICATIONS**
Ursula Keller, ETH Zurich, Department of Physics, Switzerland

BIOPHOTONICS, NOVEL SENSING, AND ADVANCED IMAGING - 2 **ULTRAFAST IMAGING**

ROOM: 514A

Chair: Jinyang Liang, Institut national de la Recherche Scientifique, Canada
Lei Tian, University of Boston, United States of America

11:25 - 11:50 **BP-2.2 / ULTRAFAST SENSING AND SCENE RECONSTRUCTION AT THE PHOTON LIMIT**
David Lindell, University of Toronto, Canada

11:50 - 12:15 **BP-2.3 / ULTRAFAST LIGHT FIELD TOMOGRAPHY AND MICROSCOPY**
Liang Gao, University of California, Los Angeles, United States of America

12:15 - 12:40 **BP-2.4 / IMAGING CELL MEMBRANE POTENTIAL CHARGING DYNAMICS WITH SUB-MICROSECOND TIME RESOLUTION USING STREAK CAMERA MICROSCOPY AND STROBE PHOTOGRAPHY**
Joel Bixler, Air Force Research Laboratory, United States of America
Allen Kiester, Bennett Ibey

QUANTUM LIGHT-MATTER INTERACTIONS: SENSING, COMMUNICATIONS, AND INFORMATION PROCESSING - 2

ROOM: 514B

Chair: Yingwen Zhang, University of Ottawa, Canada

-
- 11:25 - 11:50 **QLM-2.1 / ORCA COMPUTING: THE ROUTE FROM NISQ PROCESSORS TO FAULT-TOLERANCE**
Joshua Nunn, University of Bath, United Kingdom
-
- 11:50 - 12:15 **QLM-2.2 / SIMULTANEOUSLY SORTING OVERLAPPING QUANTUM STATES OF LIGHT**
Jonathan Leach, Heriot-Watt University, United Kingdom
-
- 12:15 - 12:30 **QLM-2.3 / DIGITAL PHASE MICROSCOPY WITH CORRELATED PHOTON PAIRS**
Duncan England, National Research Council Canada, Canada
Hazel Hodgson, Yingwen Zhang, Ben Sussman
-

OPTICAL COMMUNICATIONS - 2

ROOM: 513

Chair: Jens Schmid, National Research Council Canada, Canada

-
- 11:25 - 11:50 **OPT-2.1 / ENGINEERING THE DISPERSION OF OPTICAL RINGS WITH IDEAS FROM CONDENSED MATTER PHYSICS**
Pablo Bianucci, Concordia University, Canada
-
- 11:50 - 12:15 **OPT-2.2 / SURFACE PLASMON OPTOELECTRONICS**
Pierre Berini, University of Ottawa, Canada
-
- 12:15 - 12:30 **OPT-2.3 / HIGH-SPEED HYBRID MULTI-MODE FIBER-FREE SPACE OPTICS TRANSMISSION SYSTEM BASED ON ORBITAL ANGULAR MOMENTUM MULTIPLEXED BEAMS**
Mehtab Singh, Chandigarh University, India
Rohit Sharma, **Amit Grover**, **Somia A. Abd El-Mottaleb**
-

PHOTONIC THEORY DESIGN AND SIMULATIONS - 2

ROOM: 514C

Chair: Jianhao Zhang, NRC, Canada

-
- 11:25 - 11:50 **PTD-2.1 / OPTICAL PHASE ARRAY DESIGN FOR SATELLITE COMMUNICATIONS**
Hugh Podmore, Honeywell Aerospace, Canada
Akash Chauhan, **Brett Poulsen**, **Mike Zylstra**, **Xiaochen Xin**, **Mackenzie Essington**, **Ahmed Elsharabasy**, **Alan Scott**, **Jayshri Sabarinathan**, **Winnie N. Ye**, **Amr S. Helmy**, **Regina Lee**
-
- 11:50 - 12:15 **PTD-2.2 / INTEGRATED OPTICAL PHASED ARRAYS: LIDAR, AR DISPLAYS, BIOPHOTONICS, AND BEYOND**
Jelena Notaros, MIT, United States of America
-
- 12:15 - 12:40 **PTD-2.3 / ELECTRON SYNCHROTRON, GERMANY, LARGE MODE AREA ON-CHIP MODE-LOCKED LASERS**
Neetesh Singh, Center for Free Electron Laser Science, Germany
-

HIGH POWER LASER TECHNOLOGY, ULTRAFAST OPTICS, AND APPLICATIONS - 2

ROOM: 515AB

Chair: Bernd Witzel, COPL, Canada

11:25 - 11:50 **HPL-2.1 / MOLECULES IN ACTION: FILMING ULTRAFAST ROAMING DYNAMICS**

Heide Ibrahim, INRS-EMT, Canada

11:50 - 12:15 **HPL-2.2 / ATTOSECOND PHOTOELECTRON SPECTROSCOPY USING HIGH-HARMONIC GENERATION AND SEEDED FREE-ELECTRON LASERS**

Ioannis Makos, Albert-Ludwigs-Universität Freiburg, Germany

12:15 - 12:30 **HPL-2.3 / KERR-BASED PARAMETRIC AMPLIFICATION FOR BROADBAND FEMTOSECOND PULSES**

Nathan Drouillard, University of Windsor, Canada
Sagnik Ghosh, TJ Hammond

LUNCH - PRESENTATION FROM PLENARY SPEAKER URSULA KELLER

ROOM: 512AB

Chair: Lora Ramunno, University of Ottawa, Canada

Luca Razzari, INRS-EMT, Canada

12:30 - 13:30 **PL-1.5 / HOW TO BREAK THROUGH THE GORILLA GLASS CEILING**

Ursula Keller, ETH Zurich, Department of Physics, Switzerland

TUTORIAL 1 - JOSÉ AZAÑA

ROOM: 513

Chair: Luca Razzari, INRS-EMT, Canada

Lora Ramunno, University of Ottawa, Canada

13:30 - 14:30 **T-1 / HIGHLY EFFICIENT PHOTONIC SIGNAL PROCESSING FOR CLASSICAL AND QUANTUM APPLICATIONS**

José Azaña, Institut national de la recherche scientifique - Centre Énergie Matériaux Télécommunications (INRS-EMT), Canada

BIOPHOTONICS, NOVEL SENSING, AND ADVANCED IMAGING - 3

3D IMAGING

ROOM: 514A

Chair: Irene Georgakoudi, Tufts University, United States Of America
Parsin Haji Reza, University of Waterloo, Canada

14:55 - 15:10 **BP-3.2 / VIDEO-RATE MULTI-SCALE BAND-LIMITED ILLUMINATION PROFILOMETRY WITH CUBIC-METER-LEVEL MEASUREMENT VOLUME**
Cheng Jiang, Institut national de la recherche scientifique, Canada
Patrick Kilcullen, Yingming Lai, Siqi Wang, Tsuneyuki Ozaki, Jinyang Liang

15:10 - 15:25 **BP-3.3 / THEORETICAL MODEL TO DERIVE FLUOROPHORE CONCENTRATIONS IN BIOLOGICAL TISSUES FROM SHORT-WAVE INFRARED FLUORESCENCE IMAGES**
Mohammadhossein Salimi, National Research Council Canada, Canada
Umar Iqbal, Binbing Ling, Maria J. Moreno

INFRARED IMAGING

15:25 - 15:50 **BP-3.4 / SHORTWAVE INFRARED TIME AND SPATIAL FREQUENCY DOMAIN IMAGING FOR QUANTITATIVE TISSUE MEASUREMENTS OF WATER, LIPIDS, AND SCATTERING**
Darren Roblyer, Boston University, United States of America

15:50 - 16:05 **BP-3.5 / NEAR-INFRARED LINE-SCANNING PHOTOLUMINESCENCE LIFETIME IMAGING MICROSCOPY**
Miao Liu, Centre Énergie Matériaux Télécommunications, Institut National de la Recherche Scientifique, Canada
Yingming Lai, Xianglei Liu, Fiorenzo Vetrone, Jinyang Liang

16:05 - 16:20 **BP-3.6 / VERSATILE TOMOGRAPHIC PRINTING VIA 3D RAY-TRACING DOSE OPTIMIZATION**
Daniel Webber, National Research Council Canada, Canada
Antony Orth, Yujie Zhang, Michel Picard, Chantal Paquet, Jonathan Boisvert

Monday

QUANTUM LIGHT-MATTER INTERACTIONS: SENSING, COMMUNICATIONS, AND INFORMATION PROCESSING - 3

ROOM: 514B

Chair: Frédéric Bouchard, National Research Council Canada, Canada

14:30 - 14:55 **QLM-3.1 / GENERATION AND MANIPULATION OF NON-CLASSICAL SOURCES USING GAS-FILLED PHOTONIC CRYSTAL FIBERS**

Nicolas Joly, University of Erlangen and Max-Planck Institute for the Science of Light, Germany

14:55 - 15:20 **QLM-3.2 / ULTRA-TUNABLE FREQUENCY CONVERSION FOR PHOTONIC QUANTUM NETWORKS: TOWARDS A UNIVERSAL WAVELENGTH INTERFACE**

Peter Mosley, University of Bath, United Kingdom
Philip Bustard, Charlotte Parry, Tom Wright, Duncan England, Benjamin Sussman, Peter Mosley

15:20 - 15:45 **QLM-3.3 / QUANTUM-ENHANCED INTERFEROMETRIC IMAGING: A STEP TOWARD QUANTUM-ENHANCED VERY-LONG-BASELINE INTERFEROMETRY FOR ASTRONOMY**

Brian Smith, University of Oregon, United States of America

15:45 - 16:00 **QLM-3.4 / A FIBRE-CAVITY QUANTUM MEMORY WITH AN INTEGRATED SPONTANEOUS FOUR-WAVE MIXING PHOTON SOURCE**

Philip Bustard, National Research Council Canada, Canada
Kent Bonsma-Fisher, Daniel Poitras, Duncan England, Benjamin Sussman

16:00 - 16:15 **QLM-3.5 / QUANTUM-LEVEL STORAGE OF TELECOM LIGHT IN A FIBER-INTEGRATED MEMORY**

Kent Bonsma-Fisher, National Research Council, Canada
Cyril Hnatovsky, Duncan England, Philip Bustard, Dan Grobnic, Stephen Mihailov, Benjamin Sussman

16:15 - 16:30 **QLM-3.6 / REALIZING BROADBAND QUANTUM MEMORIES AND SINGLE-PHOTON GENERATION THROUGH ATOMIC SUPERRADIANCE**

Anindya Rastogi, University of Alberta, Canada
Erhan Saglamyurek, Taras Hrushevskyi, Lindsay LeBlanc

Monday

OPTICAL COMMUNICATIONS - 3

ROOM: 513

Chair: Winnie Ye, Carleton University, Canada

14:30 - 15:05 **OPT-3.1 / IMPACT OF QUANTUM DOT LASERS ON SILICON PHOTONICS**
Yasuhiko Arakawa, The University of Tokyo, Japan

15:05 - 15:30 **OPT-3.2 / ENHANCED OPTICAL MODULATION IN SILICON MOSCAP RING MODULATORS**
Graham Reed, Optoelectronics Research Centre, Zepler Institute for Photonics and Nanoelectronics, Faculty of Engineering and Physical Sciences, University of South, United Kingdom

15:30 - 15:45 **OPT-3.3 / 112 GBPS INTEGRATED SINGLE MODE FIBER-FREE SPACE OPTICS TRANSMISSION ENABLED BY POLARIZATION DIVISION MULTIPLEXING FOR LAST-MILE ACCESS NETWORKS**
Mehtab Singh, Chandigarh University, India
Rohit Sharma, Amit Grover, Somia A. Abd El-Mottaleb

15:45 - 16:00 **OPT-3.4 / DIRECT INTENSITY DETECTION OF QAM TELECOMMUNICATIONS SIGNALS**
Connor Rowe, INRS-EMT, Canada
Benjamin Crockett, José Azaña

16:00 - 16:15 **OPT-3.5 / INTRA-CHIP WIRELESS COMMUNICATION USING RF ON-CHIP ANTENNAS IN SILICON PHOTONICS**
Ajaypal Singh Dhillon, McGill University, Canada
Frederick Melanson, Odile Liboiron-Ladouceur

16:15 - 16:30 **OPT-3.6 / DISPERSION-ENGINEERED SLOW LIGHT FOR APPLICATIONS IN OPTICAL COMMUNICATIONS**
Ozan Oner, University of Ottawa, Canada
Kaustubh Vyas, Daniel Espinosa, Sebastian Schulz, Ksenia Dolgaleva

PHOTONIC THEORY DESIGN AND SIMULATIONS - 3

ROOM: 514C

Chair: Michael Sumetsky, Aston University, United Kingdom

14:30 - 14:55 **PTD-3.1 / MID-INFRARED INTEGRATED PHOTONICS FOR EVANESCENT BIOCHEMICAL SPECTROSCOPY**
James Wilkinson, University of Southampton, United Kingdom

14:55 - 15:20 **PTD-3.2 / CHIRP MODULATION STIMULATED RAMAN SCATTERING: COMPLETELY BACKGROUND-FREE COHERENT RAMAN MICROSCOPY**
Albert Stolow, University of Ottawa, Canada

Monday

15:20 - 15:45 **PTD-3.3 / SURFACE PHOTOVOLTAGE SPECTROSCOPY- A POWERFUL TECHNIQUE FOR CHARACTERIZATION OF MATERIALS AND DEVICES**
María Sánchez, University of Havana, Cuba

15:45 - 16:10 **PTD-3.4 / DESIGN AND IMPLEMENTATION OF NM RESOLUTION FS LASER WRITING OF COMPLEX 1ST ORDER FBGS IN OPTICAL FIBRE**
Raman Kashyap, Polytechnique Montréal, Canada
Anthony Roberge

16:10 - 16:35 **PTD-3.5 / MULTI-CAVITY DIELECTRIC MIRRORS FOR SPECTRAL-SPLITTING PHOTOVOLTAIC APPLICATIONS**
Silvia Maria Pietralunga, CNR-Institute for Photonics and Nanotechnologies, Italy
Alessandro Chiasera, Maurizio Ferrari, Stefano Varas, Giacomo Zanetti, Osman Sayginer, Matteo Bonomo, Simone Galliano, Claudia Barolo, Andrea Farina, Silvia Maria Pietralunga

HIGH POWER LASER TECHNOLOGY, ULTRAFAST OPTICS, AND APPLICATIONS - 3

ROOM: 515AB

Chair: Bernd Witzel, COPL, Canada

14:30 - 15:05 **HPL-3.1 / HIGH-POWER LASER SCIENCE AND TECHNOLOGY AT THE ADVANCED LASER LIGHT SOURCE**
Francois Légaré, INRS-EMT, Canada

15:05 - 15:30 **HPL-3.2 / CONTROL AND IMAGING OF EXTREME ULTRAVIOLET RADIATION AT THE NANOSCALE**
Aleksey Korobenko, University of Ottawa, Canada

15:30 - 15:55 **HPL-3.3 / NEW ULTRAFAST LASER SOURCES ENABLED BY OPTICAL SOLITON DYNAMICS IN GAS-FILLED CAPILLARIES**
Christian Brahms, Heriot-Watt University, United Kingdom
Teodora F. Grigorova, Athanasios Lekosiotis, Federico Belli, John C. Travers

15:55 - 16:20 **HPL-3.4 / SINGLE-CYCLE CEP-STABLE CR:ZNS LASERS FOR MULTI-OCTAVE-SPANNING MID-INFRARED GENERATION**
Nathalie Nagl, Max Planck Institute of Quantum Optics, Germany
Maciej Kowalczyk, Philipp Steinleitner, Nicholas Karpowicz, Vladimir Pervak, Aleksander Gluszek, Arkadiusz Hudzikowski, Jaroslaw Sotor, Ka Fai Mak, Ferenc Krausz, Alexander Weigel

16:20 - 16:35 **HPL-3.5 / STUDYING THE OPTICAL PROPERTIES OF 1-DECANOL FOR ULTRASHORT PULSE GENERATION**
Nathan Drouillard, University of Windsor, Canada
TJ Hammond

ROOM: 513 HALL

16:30 - 16:45 **COFFEE BREAK**

BIOPHOTONICS, NOVEL SENSING, AND ADVANCED IMAGING - 4

NOVEL SENSING AND APPLICATIONS - 1

ROOM: 514A

Chair: Darren Roblyer, Boston University, United States Of America

- 16:45 - 17:10
BP-4.1 / LABEL-FREE, OPTICAL SENSING OF MITOCHONDRIAL AND METABOLIC DYSFUNCTION IN LIVING TISSUES
Irene Georgakoudi, Tufts University, United States of America
- 17:10 - 17:25
BP-4.2 / A LOW-COST OPTICAL METHOD IMPROVES RESOLUTION AND CONTRAST OF RETINAL IMAGES WHEN SCREENING FOR SIGHT THREATENING COMPLICATIONS OF DIABETES
Melanie C. W. Campbell, University of Waterloo, Canada
Kaleb B. Felefele, Rahim Dhalla, Julia Zangoulos, Adnan Khan, Joslin Goh, David A. Atchison
- 17:25 - 17:40
BP-4.3 / OPTOPORATION MEDIATED BY GOLD NANOPARTICLES TO INSERT SIRNA IN RETINAL CELLS
Isabelle Largillière, Polytechnique Montréal, Canada
Przemyslaw Sapieha, Michel Meunier
- 17:40 - 17:55
BP-4.4 / SELECTING PLASMONIC NANOHEATERS FOR PHOTOTHERMAL INACTIVATION OF FUNGI
Tulio Pedrosa, UFPE, Brazil
Gabrielli Oliveira, Renato de Araujo

QUANTUM LIGHT-MATTER INTERACTIONS: SENSING, COMMUNICATIONS, AND INFORMATION PROCESSING - 4

ROOM: 514B

Chair: Phil Bustard, National Research Council, Canada

- 16:45 - 17:10
QLM-4.1 / ON-CHIP AND FIBER-BASED SOLUTIONS FOR SCALABLE QUANTUM SIGNAL PROCESSING APPLICATIONS
Nicola Montaut, Institut national de la recherche scientifique (INRS-EMT), Canada
Piotr Roztocki, Hao Yu, Stefania Sciara, Mario Chemnitz, Yoann Jestin, Benjamin MacLellan, Bennet Fischer, Michael Kues, Christian Reimer, Luis Romero Cortes, Benjamin Wetzel, Yanbing Zhang, Sebastien Loranger, Raman Kashyap, Alfonso Cino, Sai T. Chu, Brent E. Little, David J. Moss, Lucia Caspani, William J. Munro, José Azaña, Roberto Morandotti
- 17:10 - 17:25
QLM-4.2 / PHOTONIC QUANTUM WALK WITH ULTRAFAST TIME-BIN ENCODING
Kate Fenwick, University of Ottawa | National Research Council Canada, Canada
Frédéric Bouchard, Philip Bustard, Duncan England, Khabat Heshami, Benjamin Sussman

- 17:25 - 17:40 **QLM-4.3 / ALL-OPTICAL SINGLE PHOTON GATING FOR TEMPORAL NOISE FILTERING IN TELECOM QUANTUM KEY DISTRIBUTION**
Timothy Lee, University of Ottawa, Canada
 Andrew Proppe, James Hubble, Philip Bustard, Frédéric Bouchard, Kate Fenwick, Duncan England, Benjamin Sussman, Jeff Lundeen
-
- 17:40 - 17:55 **QLM-4.4 / IMPROVED VISIBILITY OF SPECTRAL HONG-OU-MANDEL INTERFERENCE EMERGING FROM MULTI-PHOTON COMPONENTS**
Anahita Khodadad Kashi, Leibniz University Hannover, Institute of Photonics, Germany
 Lucia Caspani, Michael Kues
-

OPTICAL COMMUNICATIONS - 4

ROOM: 513

Chair: Jens Schmid, National Research Council Canada, Canada

- 16:45 - 17:00 **OPT-4.1 / EXCESS NOISE CHARACTERIZATION OF ALL-SILICON AVALANCHE PHOTODETECTORS FOR TELECOMMUNICATION BANDWIDTHS**
Yanran Xie, McMaster University, Canada
 Ranjan Das, Andrew Knights
-
- 17:00 - 17:15 **OPT-4.2 / HIGH-SPEED PHOTONIC-WIRELESS LINK IN THE KA-BAND BASED ON MID-INFRARED INTERSUBBAND TECHNOLOGY AND HETERODYNE MIXING**
Pierre Didier, Telecom Paris, France
 Livia Del Balzo, Olivier Spitz, Hyunah Kim, Thomas Bonazzi, Hamza Dely, Djamel Gacemi, Angela Vasanelli, Carlo Sirtori, Frederic Grillot
-
- 17:15 - 17:30 **OPT-4.3 / IMPACT OF GAN MLEDs ASPECT RATIO ON BANDWIDTH AND EFFICIENCY**
Sultan El Badaoui, Commissariat à l'énergie atomique et aux énergies alternatives (CEA) - LETI, France
 Patrick Le Maitre, Anthony Cibie, Fabian Rol, Simon Litschgi, Julia Simon, Marion Volpert, Yannis Le Guennec
-
- 17:30 - 17:45 **OPT-4.4 / INTEGRATED DISTRIBUTED BRAGG REFLECTOR LASERS IN SILICON NITRIDE WAVEGUIDES COATED WITH ERBIUM-DOPED TELLURITE**
Bruno L. Segat Frare, McMaster University, Canada
 Pooya Torab Ahmadi, Batoul Hashemi, Henry C. Frankis, Peter Mascher, Jonathan D. B. Bradley
-
- 17:45 - 18:00 **OPT-4.5 / SPIRAL INTEGRATED OPTICAL AMPLIFIERS ON SILICON NITRIDE WAVEGUIDES COATED WITH ERBIUM-DOPED TELLURIUM DIOXIDE**
Batoul Hashemi, McMaster University, Canada
 Bruno L. Segat Frare, Pooya Torab Ahmadi, Henry C. Frankis, Hamidu M. Mbonde, Peter Mascher, Jonathan D. B. Bradley
-
- 18:00 - 18:25 **OPT-4.6 / WAVEGUIDE TAPER PROFILE OPTIMIZATION FOR COMPACT ON-CHIP ADIABATIC DEVICES**
Can Ozcan, University of Toronto, Canada
 Mo Mojahedi, J. Stewart Aitchison
-

PHOTONIC THEORY DESIGN AND SIMULATIONS - 4

ROOM: 514C

Chair: Silvia Maria Pietralunga, CNR - IFN, Italy

-
- 16:45 - 17:10 **PTD-4.1 / OPTOMECHANICAL OSCILLATIONS IN MICROBUBBLE RESONATORS: ENHANCEMENT, SUPPRESSION AND ROUTE TO CHAOS AND CHAOS TRANSFER**
Silvia Soria Huguet, CNR-IFAC, Italy
Gabriele Frigenti, Daniele Farnesi, Stefano Pelli, Gualtiero Nunzi Conti, Martina Delgado-Pinar, Miguel V. Andrés
-
- 17:10 - 17:35 **PTD-4.2 / OPTOMECHANICAL SENSORS FOR ULTRASOUND APPLICATIONS**
Ray Decorby, University of Alberta, Canada
-
- 17:35 - 18:00 **PTD-4.3 / CORE-SHELL NANOPARTICLES BY REVERSE MICELLE TEMPLATING AS POTENTIAL OPTICAL ISOLATORS**
Ayse Turak, Concordia University, Canada
-

HIGH POWER LASER TECHNOLOGY, ULTRAFAST OPTICS, AND APPLICATIONS - 4

ROOM: 515AB

Chair: Shawn Sederberg, Simon Fraser University, Canada

-
- 16:45 - 17:00 **HPL-4.1 / TIME-RESOLVED VOLUMETRIC MODIFICATION IN FUSED SILICA REVEALS ULTRAFAST ELECTRON DYNAMICS AND SHIELDING**
Martin Zuckerstein, HiLASE Centre Institute of Physics of the Czech Academy of Sciences, Czech Republic
Vladimir Zhukov, Nadezhda M. Bulgakova
-
- 17:00 - 17:15 **HPL-4.2 / TAPERED CHALCOGENIDE-GLASS RODS FOR MULTI-OCTAVE MID-INFRARED SUPERCONTINUUM GENERATION**
Damien Bailleul, Laboratoire Interdisciplinaire Carnot de Bourgogne, France
Esteban Serrano, Frédéric Désévéday, Asuka Nakatani, Tonglei Cheng, Yasukate Ohishi, Bertrand Kibler, Frédéric Smektala
-
- 17:15 - 17:30 **HPL-4.3 / EXAMINING CONFINEMENT LOSS IN ANF FIBERS**
Rania Abouelela, Université Laval, Canada
Steeve Morency, Younès Messaddeq, Sophie LaRoche, Leslie Rusch
-
- 17:30 - 17:45 **HPL-4.4 / ULTRAFAST ALL-OPTICAL DIGITAL PROCESSING IN CARBON DISULFIDE LIQUID-CORE OPTICAL FIBER**
Nicolas Perron, Institut national de la recherche scientifique (INRS-EMT), Canada
Mario Chemnitz, Bennet Fischer, Saher Junaid, Markus Schmidt, Roberto Morandotti
-
- 17:45 - 18:00 **HPL-4.5 / SURFACE MODIFICATION OF THIN BORON DOPED DIAMOND (BDD) ELECTRODES WITH CONTROLLED SP² SITES ULTRASHORT LASER PULSES FABRICATION AND ELECTROCHEMICAL CHARACTERIZATION**
Jan Hrabovsky, HiLASE Centre Institute of Physics of the Czech Academy of Sciences, Czech Republic
Juraž Sladek, Martin Zukestein, Michal Zelensky, Karolina Schwarzova, Andrew Taylor, Soumen Mandal, Oliver Williams, Vincent Mortet, Nadezhda M. Bulgakova
-

ROOM: CHAPITEAU

18:00 - 20:00 **WELCOME RECEPTION**

CMC / PHOTONS CANADA WORKSHOP - HOW TO START A COMPANY IN PHOTONICS

ROOM: 512AB

Chair: Gordon Harling, CMC Microsystems, Canada

19:00 - 20:00 **CMC / PHOTONS CANADA WORKSHOP - HOW TO START A COMPANY IN PHOTONICS**
Gordon Harling, CMC Microsystems, Canada

Monday

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Tuesday, June 13, 2023

ROOM: FOYER 517

8:00 - 19:00 **REGISTRATION**

BIOPHOTONICS, NOVEL SENSING, AND ADVANCED IMAGING - 5 **COMPUTATIONAL IMAGING**

ROOM: 514A

Chair: Lei Li, Rice University, United States Of America
Srivalleesha Mallidi, Tufts University, United States Of America

8:30 - 09:05 **BP-5.1 / DIFFUSERCAM: LENSLESS COMPUTATIONAL IMAGING WITH SCATTERING ELEMENTS**
Laura Waller, UC Berkeley, United States of America

9:05 - 09:20 **BP-5.2 / COMPRESSIVE REAL-TIME AND ULTRAHIGH-SPEED SINGLE-PIXEL IMAGING BY SWEEPED AGGREGATE PATTERNS**
Patrick Kilcullen, Institut national de la recherche scientifique (INRS), Canada
Tsuneyuki Ozaki, Jinyang Liang

9:20 - 09:45 **BP-5.3 / NON-INVASIVE BLOOD ANALYSIS WITH PHASE-CONTRAST MICROSCOPY AND DEEP LEARNING**
Nicholas Durr, Johns Hopkins University, United States of America
Luojie Huang, Marisa Morakis

9:45 - 10:10 **BP-5.4 / ANALYZING CELL AND TISSUE DYNAMICS AT HIGH THROUGHPUT WITH COMPUTATIONAL IMAGING AND DEEP LEARNING**
Shalin Mehta, Chan Zuckerberg Biohub San Francisco, United States of America

10:10 - 10:25 **BP-5.5 / D-HAN: AN END-TO-END ADAPTIVE NEURAL NETWORK FOR SNAPSHOT COMPRESSIVE IMAGING**
Miguel Marquez, Institut national de la recherche scientifique, Canada
Yingming Lai, Xianglei Liu, Cheng Jiang, Shian Zhang, Henry Arguello, Jinyang Liang

Tuesday

QUANTUM LIGHT-MATTER INTERACTIONS: SENSING, COMMUNICATIONS, AND INFORMATION PROCESSING - 5

ROOM: 514B

Chair: Guillaume Thekkadath, National Research Council, Canada

-
- 8:30 - 08:45 **QLM-5.1 / COMPARISON BETWEEN HOMODYNE AND PNR DETECTION SCHEMES FOR QUANTUM KEY DISTRIBUTION**
Amir Yazdanpour, McMaster University, Canada
Mohammad Khajezadeh, Shiva Kumar
-
- 8:45 - 09:00 **QLM-5.2 / GENERATING PHOTON CLUSTER STATES USING LINEARLY TRAPPED IONS**
Zhuoran Bao, University of Toronto, Canada
Daniel James
-
- 9:00 - 09:25 **QLM-5.3 / PHOTONICS EXPERIMENTS ON THE CLOUD**
Aaron Goldberg, National Research Council, Canada
-
- 9:25 - 09:50 **QLM-5.4 / WAVEGUIDED SOURCES OF CONSISTENT, SINGLE-TEMPORAL-MODE SQUEEZED LIGHT: APPLICATIONS TO GAUSSIAN BOSON SAMPLING**
Nicolas Quesada, Polytechnique Montréal, Canada
-
- 9:50 - 10:05 **QLM-5.5 / ENTANGLEMENT GENERATION WITH AN IMPERFECT QUANTUM PHOTONIC NEURAL NETWORK**
Jacob Ewaniuk, Queen's University, Canada
Jacques Carolan, Bhavin Shastri, Nir Rotenberg
-
- 10:05 - 10:20 **QLM-5.6 / ON-CHIP GENERATION AND PROCESSING OF ULTRAFAST TIME-ENTANGLED PHOTONIC QUDITS FOR QUANTUM COMMUNICATIONS**
Stefania Sciara, Institut national de la recherche scientifique (INRS-EMT), Canada
Hao Yu, Mario Chemnitz, Nicola Montaut, Bennet Fischer, Benjamin Crockett, Benjamin Wetzel, Brent E. Little, Sai T. Chu, David Moss, José Azaña, Zhiming Wang, Roberto Morandotti
-

Tuesday

OPTICAL COMMUNICATIONS - 5

ROOM: 513

Chair: Jens Schmid, National Research Council Canada, Canada

-
- 8:30 - 08:55 **OPT-5.1 / EXTENDING THE DIMENSION AND INDEX RANGES OF METAMATERIALS IN SILICON PHOTONICS**
Dan-Xia Xu, AEP, National Research Council Canada, Canada
Jianhao Zhang, Daniele Melati, Siegfried Janz, Jens Schmid, Pavel Cheben, Yuri Grinberg
-
- 8:55 - 09:20 **OPT-5.2 / SUBWAVELENGTH METAMATERIALS FOR OPTICAL ANTENNAS AND SPECTRAL CONTROL**
Iñigo Molina-Fernandez, Universidad de Málaga, Spain
José Manuel Luque-González, J. Gonzalo Wangüemert-Perez, Robert Halir, JOse de Oliva Rubio, Abdelfetah Hadij ElHouati, Pablo Ginel-MOreno, Pavel Cheben, Jens Schmid, Alejandro Ortega-Moñux
-
- 9:20 - 09:45 **OPT-5.3 / QUANTUM DASH OPTICAL FREQUENCY COMB SOURCES FOR OPTICAL COMMUNICATIONS AND MICROWAVE PHOTONICS**
Lawrence Chen, McGill University, Canada
Mostafa Khalil, Yuxuan Xie, Hao Sun, Essam Berikaa, Samiul Alam, David Plant, Jiaren Liu, Zhenguo Lu
-
- 9:45 - 10:00 **OPT-5.4 / COMPARISON BETWEEN KRAMERS-KRONIG AND SELF-COHERENT TRANSCEIVERS FOR FREE SPACE OPTICAL COMMUNICATIONS**
Yeganeh Nasrollahzadeh, McMaster University, Canada
Shiva Kumar, M. Jamal Deen
-
- 10:00 - 10:15 **OPT-5.5 / SELF-HEALING CAPABILITIES OF AIRY BEAMS ON INCOHERENT BACKGROUND: EXPERIMENTAL INVESTIGATION**
Morteza Hajati, Dalhousie University, Canada
Vincent Sieben, Sergey Ponomarenko
-
- 10:15 - 10:30 **OPT-5.6 / VORTEX BEAMS ON INCOHERENT BACKGROUND**
Morteza Hajati, Dalhousie University, Canada
Morteza Hajati, Yangjian Cai, Sergei Popov, Chunhao Liang, Sergey Ponomarenko
-

Tuesday

PHOTONIC THEORY DESIGN AND SIMULATIONS - 5

ROOM: 514C

Chair: Pavel Cheben, NRC, Canada

8:30 - 08:55 **PTD-5.1 / NANOSTRUCTURED ORGANIC OPTOELECTRONICS REVISITED**
Martina Gerken, Kiel University, Germany
Janek Buhl, Hannes Lüder, Martina Gerken

8:55 - 09:30 **PTD-5.2 / OPTICAL FIBER COMMUNICATIONS**
Sir David Payne, University of Southampton, United Kingdom

9:30 - 09:55 **PTD-5.3 / SUBWAVELENGTH ENGINEERING OF SILICON PHOTONICS FOR NONLINEAR AND OPTOMECHANICAL APPLICATIONS**
Jianhao Zhang, C2N, Centre de Nanosciences et de Nanotechnologies, France
Paula Nuño Ruano, Thi-Thuy-Duong Dinh, David González-Andrade, Xavier Le Roux, Miguel Montesinos-Ballester, Christian Lafforgue, David Medina-Quiroz, Daniel Benedikovic, Pavel Cheben, Delphine Marris-Morini, Eric Cassan, Laurent Viven, Norberto Daniel Lanzillotti-Kimura, Carlos Alonso-Ramos

9:55 - 10:20 **PTD-5.4 / OFF-CHIP SURFACE GRATING COUPLERS AND NANO-ANTENNAS FOR OPTICAL COMMUNICATIONS AND PHASED ARRAYS**
Daniel Benedikovic, University of Zilina, Slovakia (Slovak Republic)
Radovan Korcek, William Fraser, Carlos Alonso-Ramos, Laurent Vivien, Xiaochen Xin, Yousef Karimi Yonjali, Pavel Cheben, Jens Schmid, Mazyar Milanizadeh, Tom Smy, Ahmad Atieh, Winnie N. Ye

10:20 - 10:35 **PTD-5.5 / TUNABLE HYBRID PLASMONIC-SEMICONDUCTOR LASER INCORPORATING ENZ MATERIAL**
Shayan Saeidi, University of Ottawa, Canada
Pavel Cheben, Jens Schmid, Pierre Berini

Tuesday

HIGH POWER LASER TECHNOLOGY, ULTRAFAST OPTICS, AND APPLICATIONS - 5

ROOM: 515AB

Chair: François Blanchard, École de technologie supérieure (ÉTS), Canada

- 8:30 - 08:45
- HPL-5.1 / REAL-TIME SPECTRAL CHARACTERIZATION OF THZ-BANDWIDTH WAVEFORMS BY UNWRAPPING A TIME-LENS SPECTROGRAM**
Benjamin Crockett, Institut national de la recherche scientifique (INRS-EMT), Canada
Connor Rowe, José Azaña
- 8:45 - 09:00
- HPL-5.2 / TERAHERTZ MAGNETIC IMPULSES GENERATED FROM COHERENTLY-CONTROLLED SEMICONDUCTOR CURRENTS**
Kamalesh Jana, University of Ottawa, Canada
Yonghao Mi, Søren H. Møller, Shawn Sederberg, Paul B. Corkum
- 9:00 - 09:25
- HPL-5.3 / TERAHERTZ COMPONENTS THROUGH ADDITIVE MANUFACTURING**
Christopher M. Collier, University of British Columbia, Canada
C. Harrison Brodie, Isaac Spotts
- 9:25 - 09:50
- HPL-5.4 / TERAHERTZ PARAMETRIC GENERATOR/DETECTOR FOR NONDESTRUCTIVE TESTING**
Kosuke Murate, Nagoya University, Japan
Sota Mine, Kodo Kawase
- 9:50 - 10:05
- HPL-5.5 / SCANLESS TERAHERTZ IMAGING IN THE TIME DOMAIN**
Luca Zanotto, INRS-EMT, Canada
Giacomo Balistreri, Andrea Rovere, O-Pil Kwon, Roberto Morandotti, Riccardo Piccoli, Luca Razzari
- 10:05 - 10:20
- HPL-5.6 / SINGLE-SHOT ULTRAFAST PHOTOGRAPHY WITH TERAHERTZ WAVES**
Junliang Dong, Institut national de la recherche scientifique, Canada
Pei You, Alessandro Tomasino, Aycan Yurtsever, Roberto Morandotti
- 10:20 - 10:35
- HPL-5.7 / ELECTRO-OPTICAL TERAHERTZ IMAGING USING A POLARIZATION IMAGE SENSOR**
Léo Guiramand, École de technologie supérieure (ÉTS), Canada
Rejeena R. Sebastian, Xavier Ropagnol, François Blanchard

ROOM: 516

10:30 - 11:00 **COFFEE BREAK AND EXHIBITION**

PHOTONS CANADA PITCH COMPETITION

ROOM: 512AB

Chair: Kexing Liu, QGenX Systems, Canada

10:30 - 12:00 PHOTONS CANADA PITCH COMPETITION

BIOPHOTONICS, NOVEL SENSING, AND ADVANCED IMAGING - 6

PHOTOACOUSTIC IMAGING

ROOM: 514A

Chair: Nicholas Durr, Johns Hopkins University, United States Of America
Shalin Mehta, Chan Zuckerberg Biohub, San Francisco, United States Of America

11:00 - 11:25 **BP-6.1 / PANORAMIC PHOTOACOUSTIC COMPUTED TOMOGRAPHY: FROM SMALL-ANIMAL WHOLEBODY IMAGING TO HUMAN BREAST CANCER DIAGNOSIS**

Lei Li, Rice University, United States of America

11:25 - 11:50 **BP-6.2 / PHOTOACOUSTIC IMAGING FOR TREATMENT GUIDANCE, DOSIMETRY AND TUMOR RECURRENCE PREDICTION**

Srivalleesha Mallidi, Tufts University, United States of America

11:50 - 12:05 **BP-6.3 / LABEL-FREE HISTOLOGICAL IMAGING WITH PHOTON ABSORPTION REMOTE SENSING (PARS)**

Benjamin Ecclestone, University of Waterloo, Canada

James Tweel, Marian Boktor, Deepak Dinakaran, John Mackey, Parsin Haji Reza

QUANTUM LIGHT-MATTER INTERACTIONS: SENSING, COMMUNICATIONS, AND INFORMATION PROCESSING - 6

ROOM: 514B

Chair: Benjamin Sussman, NRC, Canada

11:00 - 11:25 **QLM-6.1 / QUANTUM PHOTONICS ENABLING TIME-REVERSAL FOR QUBIT PROCESSES, QUANTUM REINFORCEMENT LEARNING AND QUANTUM NEUROMORPHIC ARCHITECTURES**

Philip Walther, University of Vienna, Austria

11:25 - 12:00 **QLM-6.2 / TBA**

Mikhail Lukin, Harvard University, United States of America

OPTICAL COMMUNICATIONS - 6

ROOM: 513

Chair: Graham Reed, University of Southampton, United Kingdom

11:00 - 11:25 OPT-6.1 / NEW APPLICATIONS OF INTEGRATED OPTICS IN QUANTUM PHOTONICS AND MACHINE LEARNING

Roberto Morandotti, Institut national de la recherche scientifique (INRS-EMT), Canada

Stefania Sciara, Aadhi Abdul Rahim, Nicola Montaut, Imtiaz Alamgir, Bennet Fischer, Hao Yu, Celine Mazoukh, Mario Chemnitz, Brent E. Little, Sai T. Chu, David Moss, Zhiming Wang, Roberto Morandotti

11:25 - 11:50 OPT-6.2 / TRANSITIONING CANADA'S SPACE INDUSTRY FROM RF TO OPTICAL TELECOMMUNICATIONS

Alan Scott, Honeywell International, Canada

Danya Hudson, Brian MacKay, Hugh Podmore, Michael Taylor

11:50 - 12:05 OPT-6.3 / DESIGN OF EFFICIENT SINGLE-ETCH GRATING COUPLERS IN SILICON NITRIDE PHOTONIC PLATFORM

William Fraser, Carleton University, Canada

Daniel Benedikovic, Radovan Korcek, Maziyar Milanizadeh, Jens Schmid, Pavel Cheben, Winnie N. Ye

PHOTONIC THEORY DESIGN AND SIMULATIONS - 6

ROOM: 514C

Chair: Serge Bidnyk, Enablence, Canada

11:00 - 11:25 PTD-6.1 / PRINCIPLES OF SUBWAVELENGTH RESONANT LATTICES: MODELING THE BOUND AND LEAKY CHANNELS BY THE EXACT RYTOV FORMALISM

Robert Magnusson, UT-Arlington, United States of America

Nasrin Razmjooei, Hafez Hemmati, Yeong Hwan Ko

11:25 - 11:50 PTD-6.2 / OPTIMIZATION OF PROCESS DESIGN KIT COMPONENTS FOR RAPID PROTOTYPING OF PHOTONIC INTEGRATED CIRCUITS

Cameron Horvath, Applied Nanotools Inc., Canada

Jocelyn N. Westwood-Bachman, Mirwais Aktary

11:50 - 12:05 PTD-6.3 / TUNING OF PT-SYMMETRIC MICRORING LASERS THROUGH DUAL-WAVELENGTH COUPLER DESIGN

Todd Darcie, Electrical and Computer Engineering Department, University of Toronto, Canada

J. Stewart Aitchison

NONLINEAR OPTICS, NANOPHOTONICS, AND PLASMONICS - 1

ROOM: 515AB

Chair: Pablo Bianucci, Concordia University, Canada

11:00 - 11:25 **NL-1.1 / NONLINEAR TOPOLOGICAL PHOTONICS: FROM SSH TO HOTIS**
Zhigang Chen, Nankai University, China

11:25 - 11:40 **NL-1.2 / HIGH-PERFORMANCE QUANTUM-DASH SEMICONDUCTOR OPTICAL AMPLIFIER OVER WIDE TEMPERATURE RANGE**
Youxin Mao, National Research Council Canada, Canada
Chun-Ying Song, Zhenguo Lu, Philip Poole, Jiaren Liu, Guocheng Liu, Pedro Barrios, Daniel Poitras, John Webe, Ping Zhao, Martin Vachon, Xiaoran Xie, Ahmad Atieh

11:40 - 11:55 **NL-1.3 / COMPACT AND BROADBAND INVERSE TAPER-BASED LIGHT COUPLERS WITH OPTIMIZED PROFILES**
Can Ozcan, University of Toronto, Canada
Mo Mojahedi, J. Stewart Aitchison

ROOM: 512CD & 510D

12:00 - 13:30 **LUNCH AND NETWORKING**

STUDENT - INDUSTRY SPEED NETWORKING LUNCH

ROOM: 512AB

Chair: David H  lie, COPL, Canada

12:00 - 13:30 **STUDENT - INDUSTRY SPEED NETWORKING LUNCH**

STUDENT BEST PAPER AWARD IN-CAMERA COMPETITION - COPL AND STARACOM

ROOM: 514C

Chair: Lora Ramunno, University of Ottawa, Canada
Luca Razzari, INRS-EMT, Canada

12:00 - 13:30 **STUDENT BEST PAPER AWARD IN-CAMERA COMPETITION - COPL AND STARACOM**

ROOM: 516

12:00 - 13:30 **EXHIBITION**

Tuesday

EXHIBITOR PRODUCT PRESENTATION

ROOM: 512AB

Chair: Sparrow McGowan, Photons Canada, Canada

13:30 - 15:00 EXHIBITOR PRODUCT PRESENTATION

BIOPHOTONICS, NOVEL SENSING, AND ADVANCED IMAGING - 7

ADVANCED MICROSCOPY AND APPLICATIONS - 2

ROOM: 514A

Chair: Frédéric Leblond, Polytechnique Montreal, Canada

Amina Hussein, University of Alberta, Canada

13:20 - 13:45 **BP-7.1 / LONG-RANGE CHROMATIC CONFOCAL MICROSCOPY**

Kanwarpal Singh, Max Planck Institute for the Science of Light, Germany
Gargi Sharma

13:45 - 14:00 **BP-7.2 / NANO-SCALE ALIGNMENT FOR STACKED FRESNEL ZONE PLATES BASED ON MOIRÉ FRINGE ANALYSIS**

Siqi Wang, Institut national de la recherche scientifique, Canada
Cheng Jiang, Rob Peters, Mirwais Aktary, Jinyang Liang

14:00 - 14:15 **BP-7.3 / INDIVIDUAL COLLAGEN FIBRILS INVESTIGATED USING POLARIZATION-RESOLVED SECOND HARMONIC GENERATION MICROSCOPY**

MacAulay Harvey, Saint Mary's University, Canada
Richard Cisek, Laurent Kreplak, Danielle Tokarz

14:15 - 14:30 **BP-7.4 / LABEL-FREE CELL PHENOTYPING BY MEASURING VARIOUS BIOPHYSICAL PROPERTIES WITH QUANTITATIVE-PHASE DIGITAL HOLOGRAPHIC MICROSCOPY**

Erik Bélanger, Centre de recherche CERVO, Université Laval, Canada
Gabrielle Jess, Céline Larivière-Loiselle, Sara Mattar, Niraj Patel, Zahra Yazdani, Mohamed Haouat, Johan Chaniot, Émile Rioux-Pellerin, Marie-Ève Crochetière, Jean-Xavier Giroux, Pierre Marquet

14:30 - 14:45 **BP-7.5 / INVESTIGATING THE CRYSTALLINE STRUCTURE OF COLLAGEN-LIKE FIBRILS WITHIN INNER EAR CRYSTALS BY SECOND HARMONIC GENERATION MICROSCOPY**

Danielle Tokarz, Saint Mary's University, Canada
MacAulay Harvey, Richard Cisek, Saranyan Pillai, Sean Christie, Danielle Tokarz

14:45 - 15:00 **BP-7.6 / THE INFLUENCE OF CORNEAL BIREFRINGENCE ON POLARIMETRIC IMAGES OF RETINAL AMYLOID DEPOSITS AS A BIOMARKER OF ALZHEIMER'S DISEASE**

Melanie C. W. Campbell, University of Waterloo, Canada
Erik L. Mason, Melanie C. W. Campbell

QUANTUM LIGHT-MATTER INTERACTIONS: SENSING, COMMUNICATIONS, AND INFORMATION PROCESSING - 7

ROOM: 514B

Chair: Duncan England, NRC, Canada

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- 13:30 - 13:45 **QLM-7.1 / HIGH-DIMENSIONAL ROUND-ROBIN DIFFERENTIAL-PHASE-SHIFT QKD USING ORBITAL ANGULAR MOMENTUM**
Felix Hufnagel, University of Ottawa, Canada
Mikka Stasiuk, Xiaoqin Gao, Frédéric Bouchard, Ebrahim Karimi, Khabat Heshami
-
- 13:45 - 14:10 **QLM-7.2 / OPTICAL QUANTUM NETWORK METROLOGY**
Thomas Gerrits, NIST, United States of America
-
- 14:10 - 14:35 **QLM-7.3 / RECENT DEVELOPMENTS IN STRUCTURED QUANTUM WAVES**
Ebrahim Karimi, University of Ottawa, Canada
-
- 14:35 - 15:00 **QLM-7.4 / COHERENT, ATOM-MEDIATED MICROWAVE-TO-OPTICAL TRANSDUCTION IN A WARM RUBIDIUM VAPOUR**
Lindsay LeBlanc, University of Alberta, Canada
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OPTICAL COMMUNICATIONS - 7

ROOM: 513

Chair: Winnie Ye, Carleton University, Canada

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- 13:30 - 13:55 **OPT-7.1 / LIGHT BY DESIGN: HOW TO ENGINEER LIGHT'S DEGREES-OF-FREEDOM**
Mo Mojahedi, University of Toronto, Canada
-
- 13:55 - 14:20 **OPT-7.2 / OPTICAL FIBERS ACHIEVING WIRELESS SENSING**
Qiyang Chen, Memorial University of Newfoundland, Department of Physics and Physical Oceanography, Canada
Chuantai Shi, Liqiu Men
-
- 14:20 - 14:45 **OPT-7.3 / NONLINEAR PROPERTIES OF HYBRID ZNTE-ON-SI WAVEGUIDES FOR TELECOMMUNICATION APPLICATIONS**
Katherine Stoll, Massachusetts Institute of Technology, United States of America
Harish Bhandari, Oleg Maksimov, Katherine Hansen, Lionel Kimerling, Anuradha Agarwal, Samuel Serna
-
- 14:45 - 15:00 **OPT-7.4 / NOVEL 4-ARM GRATING COUPLER GEOMETRY FOR WAVEFRONT SENSING APPLICATIONS**
Alexander Parent, McMaster University, Canada
Aydin Amini, Steve Hranilovic, Rafael Kleiman, Ruslan Khabibrakhmanov
-

Tuesday

PHOTONIC THEORY DESIGN AND SIMULATIONS - 7

ROOM: 514C

Chair: Hugh Podmore, Honeywell Aerospace, Canada

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- 13:30 - 13:55 **PTD-7.1 / ADVANCES IN MACHINE LEARNING-BASED DESIGN FOR HIGH-VOLUME MANUFACTURING OF PLANAR LIGHTWAVE CIRCUITS**
Serge Bidnyk, Enablence Technologies Inc., Canada
Ksenia Yadav, Ashok Balakrishnan
-
- 13:55 - 14:20 **PTD-7.2 / REDUCTION OF THE QUANTUM DECOHERENCE IN INTEGRATED PHOTONICS USING MACHINE LEARNING**
Pablo Aitor Postigo, University of Rochester, United States of America
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- 14:20 - 14:45 **PTD-7.3 / NANOPHOTONICS FOR CHIRAL QUANTUM OPTICS**
Nir Rotenberg, Queen's University, Canada
-
- 14:45 - 15:00 **PTD-7.4 / TIME DOMAIN TOPOLOGY OPTIMIZATION FOR DISPERSIVE NANOPHOTONICS INVERSE DESIGN**
Johannes Gedeon, Leibniz University Hannover & Cluster of Excellence PhoenixD, Germany
Emadeldeen Hassan, Antonio Calà Lesina
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NONLINEAR OPTICS, NANOPHOTONICS, AND PLASMONICS - 2

ROOM: 515AB

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

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- 13:30 - 14:05 **NL-2.1 / PHOTONIC DEVICES BASED ON CHALCOGENIDE GLASS**
Juliet Gopinath, University of Colorado Boulder, United States of America
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- 14:05 - 14:30 **NL-2.2 / INTEGRATE ELECTRO-OPTIC PULSE GENERATOR**
Mengjie Yu, University of Southern California, United States of America
-
- 14:30 - 14:45 **NL-2.3 / ZBLAN OPTICAL FIBER COUPLERS FOR THE MID-INFRARED**
Gebrehiwot Tesfay Zeweldi, McGill University, Canada
Mohsen Rezaei, Hosne Mobarok Shamim
-
- 14:45 - 15:00 **NL-2.4 / SELF-ASSEMBLED TEMPLATED METAL/METAL OXIDE NANO-JUNCTIONS: A NEW APPROACH TO THE PURPLE OF CASSIUS**
Ramis Arbi, Concordia University, Canada
Muhammad Munir, Seung Il Lee, Ayse Turak
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PLENARY SPEAKER 2 - GILLES BRASSARD

ROOM: 513

Chair: Lora Ramunno, University of Ottawa, Canada

Luca Razzari, INRS-EMT, Canada

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- 15:00 - 16:00 **PL-2 / QUANTUM CRYPTOGRAPHY FROM DREAM TO REALITY (AND BEYOND)**
Gilles Brassard, University of Montréal, Canada
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STUDENT BEST PAPER AWARD ANNOUNCEMENT - COPL AND STARACOM

ROOM: 513

Chair: Lora Ramunno, University of Ottawa, Canada
Luca Razzari, INRS-EMT, Canada

16:00 - 16:10 STUDENT BEST PAPER AWARD ANNOUNCEMENT -
COPL AND STARACOM

ROOM: 516

16:10 - 16:30 COFFEE BREAK AND EXHIBITION

EXHIBITOR PRODUCT PRESENTATION

ROOM: 512AB

Chair: Sparrow McGowan, Photons Canada, Canada

16:30 - 18:00 EXHIBITOR PRODUCT PRESENTATION

BIOPHOTONICS, NOVEL SENSING, AND ADVANCED IMAGING - 8

ADVANCED SPECTROSCOPY AND APPLICATIONS

ROOM: 514A

Chair: Kanwarpal Singh
Melanie Campbell, Physics and Astronomy, University of Waterloo,
Canada

16:30 - 16:55 BP-8.1 / IN SITU RAMAN SPECTROSCOPY AND MACHINE LEARNING
UNVEIL BIOMOLECULAR ALTERATIONS IN INVASIVE BREAST CANCER
Frederic Leblond, Polytechnique Montréal, Canada

16:55 - 17:10 BP-8.2 / SINGLE-POINT METHODOLOGY FOR SALIVA SCREENING
WITH SURFACE-ENHANCED RAMAN SPECTROSCOPY
Esmat Zamani Ahmad, Polytechnique Montréal, Canada
Nassim Ksantini, Guillaume Sheehy, Katherine Ember, Bill Baloukas,
Oleg Zabeida, Tran Trang, Myriam Mahfoud, Jolanta Sapieha, Ludvik
Martinu, Frédéric Leblond

17:10 - 17:35 BP-8.3 / LASER-INDUCED BREAKDOWN SPECTROSCOPY FOR
ANALYSIS OF COMPLEX ENVIRONMENTAL SAMPLES
Amina Hussein, University of Alberta, Canada

17:35 - 17:50 BP-8.4 / PHOTOSYNTHETIC PIGMENT MONITORING IN ALGAL
CELLS USING UV-VIS SPECTROSCOPY: CASE STUDY
IN CHLAMYDOMONAS REINHARTII
Dhilippan Mamsapuram Panneerselvam, Concordia University,
Canada
Muthukumaran Packirisamy

Tuesday

**QUANTUM LIGHT-MATTER INTERACTIONS: SENSING, COMMUNICATIONS,
AND INFORMATION PROCESSING - 8**

ROOM: 514B

**Chair: Kate Fenwick, University of Ottawa, National Research Council of
Canada, Canada**

16:30 - 16:55 **QLM-8.1 / ON-DEMAND GENERATION OF BRIGHT ENTANGLED
PHOTON PAIRS WITH NEAR-UNITY FIDELITY**
Michael Reimer, University of Waterloo, Canada

16:55 - 17:10 **QLM-8.2 / INTENSITY INTERFEROMETRY FOR HOLOGRAPHY WITH
QUANTUM AND CLASSICAL LIGHT**
Guillaume Thekkadath, National Research Council Canada,
Canada
Duncan England, Frédéric Bouchard, Yingwen Zhang, Myungshik Kim,
Benjamin Sussman

17:10 - 17:25 **QLM-8.3 / SNAPSHOT HYPERSPECTRAL IMAGING WITH QUANTUM
CORRELATED PHOTONS**
Yingwen Zhang, University of Ottawa, Canada
Duncan England, Benjamin Sussman

17:25 - 17:40 **QLM-8.4 / QUANTUM OPTICAL DETECTION OF BIOPHOTONS FROM
THE BRAIN**
Vahid Salari, University of Calgary, Canada
Daniel Oblak, Christoph Simon

17:40 - 17:55 **QLM-8.5 / ULTRA-LONG QUANTUM WALKS VIA SPIN-ORBIT
PHOTONICS**
Francesco Di Colandrea, University of Naples, Italy
Amin Babazadeh, Alexandre Dauphin, Pietro Massignan, Lorenzo
Marrucci, Filippo Cardano

Tuesday

OPTICAL COMMUNICATIONS - 8

ROOM: 513

Chair: Inigo Molina-Fernandez, Málaga University, Spain

16:30 - 17:05 OPT-8.1 / CRYSTALLINE OXIDE INTEGRATION IN SILICON PHOTONICS PLATFORM

Laurent Viven, CNRS, University Paris Saclay, C2N, France
Mikhail Dyatlov, Alicia Ruiz-Caridad, Guillaume Marcaud, Christian Lafforgue, Samuel Serna, Karamanis Panaghiotis, Carlos Alonso-Ramos, Joan Manel Ramirez, Thomas Maroutian, Guillaume Agnus, Ludovic Largeau, Eric Cassan, Sylvia Matzen, Delphine Marris-Morini, Nicolas Dubreuil, Michel Rérat, Philippe Lecoeur, Laurent Viven

17:05 - 17:30 OPT-8.2 / LOW LOSS SIN PHOTONIC INTEGRATED CIRCUITS: FROM PROTOTYPE TO VOLUME

Michael Geiselmann, LIGENTEC SA, Switzerland

17:30 - 17:45 OPT-8.3 / REAL-TIME OPTICAL MONITORING SYSTEM BASED ON FREQUENCY-TO-TIME MAPPING CONCEPT

Afsaneh Shoeib, Institut national de la recherche scientifique (INRS) - Centre Énergie Matériaux Communications, Canada
Reza Maram, Pasquale Ricciardi, José Azaña

17:45 - 18:00 OPT-8.4 / ULTRA-COMPACT SILICON PHOTONIC INTERFACE FOR SATELLITE-TO-GROUND DOWNLINKS

Aydin Amini, McMaster University, Canada
Alexander Parent, Steve Hranilovic, Rafael Kleiman

PHOTONIC THEORY DESIGN AND SIMULATIONS - 8

ROOM: 514C

Chair: Daniel Benedikovic, University Science Park, University of Zilina, Slovakia

16:30 - 16:55 PTD-8.1 / STIMULATED BRILLOUIN SCATTERING IN SILICON NITRIDE-BASED PHOTONIC CIRCUITS

David Marpaung, University of Twente, Netherlands

16:55 - 17:20 PTD-8.2 / CONTROLLING THE PHONONS AND PHOTONS IN SILICON-ON-INSULATOR STRUCTURES

Jianhao Zhang, National Research Council Canada, Canada
Paula Nuño Ruano, Xavier Le Roux, Eric Cassan, Delphine Marris-Morini, Laurent Viven, Norberto Daniel Lanzillotti-Kimura, Carlos Alonso-Ramos

17:20 - 17:45 PTD-8.3 / METASURFACE FOR OPTICAL COMMUNICATION APPLICATIONS

Paulo Dainese, Painted Post, United States of America

17:45 - 18:00 PTD-8.4 / OPTO-MECHANICAL PHOTONIC CRYSTAL PHASE TUNER

Brett Poulsen, University of Western Ontario, Canada
Mackenzie Essington, Jayshri Sabarinathan

NONLINEAR OPTICS, NANOPHOTONICS, AND PLASMONICS - 3

ROOM: 515AB

Chair: Kaveh Rahbardar Mojaver, McGill University, Canada

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- 16:30 - 16:55 **NL-3.1 / NONLINEAR MICRORESONATOR PHOTONICS - SYMMETRY BREAKING AND DARK-BRIGHT SOLITON FREQUENCY COMBS**
Pascal Del’Haye, Max Planck Institute for the Science of Light, Germany
 - 16:55 - 17:20 **NL-3.2 / INTEGRATED KERR OPTICAL PARAMETRIC OSCILLATORS FOR EXPANDING LASER WAVELENGTH ACCESS IN SUPPORT OF VISIBLE QUANTUM TECHNOLOGIES**
Kartik Srinivasan, National Institute of Standards and Technology, United States of America
 - 17:20 - 17:45 **NL-3.3 / RIB DISK TOWARD VISIBLE SOLITON MICROCOMB FOR SINGLE MOLECULE SPECTROSCOPY**
Tao Lu, University of Victoria, Canada
Farajollahi Saeed, Hing-Wai Larry, Tao Lu
 - 17:45 - 18:00 **NL-3.4 / SOLITON TRAPPING AND HARMONIC OSCILLATIONS DUE TO NONLINEAR INTERACTIONS IN OPTICAL FIBERS**
Mohammad khajezadeh, McMaster University, Canada
Shiva Kumar
-

CMC ROADMAP PRESENTATIONS

ROOM: 512AB

Chair: Gordon Harling, CMC Microsystems, Canada

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- 18:00 - 19:00 **CMC ROADMAP PRESENTATIONS**
Gordon Harling, CMC Microsystems, Canada
-

Wednesday, June 14, 2023

ROOM: FOYER 517

8:00 - 19:00 REGISTRATION

BIOPHOTONICS, NOVEL SENSING, AND ADVANCED IMAGING - 9

OPTICAL COHERENCE TOMOGRAPHY

ROOM: 514A

Chair: Parsin Haji Reza, University of Waterloo, Canada
Lei Tian, University of Boston, United States of America

8:30 - 08:55 **BP-9.1 / CATHETER-BASED OPTICAL COHERENCE POLARIMETRY**
Martin Villiger, Wellman Center for Photomedicine,
United States of America

8:55 - 09:10 **BP-9.2 / FUNCTIONAL HYPEREMIA IN THE HUMAN RETINA
MEASURED WITH OCT+ERG SYSTEM**
Khushmeet Dhaliwal, University of Waterloo, Canada
Ehsan Imani, Chris Hudson, Tom Wright, Brian Ballios, Kostadinka Bizhva

9:10 - 09:35 **BP-9.3 / OPTICAL COHERENCE TOMOGRAPHY FOR MELANOMA
DIAGNOSTICS**
Kamran Avanaki, University of Illinois Chicago,
United States of America

9:35 - 10:00 **BP-9.4 / LONGITUDINAL OCT IMAGING OF MICROVASCULAR
PROPERTIES IN AGING MOUSE BRAIN**
Jonghwan Lee, Brown University, United States of America
Konrad Walek, Jang-Hoon Lee, Jonghwan Lee

10:00 - 10:15 **BP-9.5 / NON-CONTACT, CELLULAR RESOLUTION IMAGING OF
BIOLOGICAL TISSUE WITH POWELL LENS-BASED SD-OCT**
Keyu Chen, University of Waterloo, Canada
Kostadinka Bizheva

10:15 - 10:30 **BP-9.6 / AUTOMATED TEXTURE-BASED SEGMENTATION OF HAIR
FOLLICLES IN VOLUMETRIC OPTICAL COHERENCE TOMOGRAPHY
IMAGES OF DERMATOLOGIC BURN WOUNDS**
Natalia Demidova, University of Toronto, Canada
Taylor M. Cannon, Néstor Uribe-Patarroyo, Brett E. Bouma

Wednesday

**QUANTUM LIGHT-MATTER INTERACTIONS: SENSING, COMMUNICATIONS,
AND INFORMATION PROCESSING - 9**

ROOM: 514B

Chair: Aaron Goldberg, National Research Council of Canada, Canada

8:30 - 08:45 **QLM-9.1 / IMPROVING ON-DEMAND SINGLE PHOTON SOURCE
COHERENCE AND INDISTINGUISHABILITY THROUGH A TIME-DELAYED
COHERENT FEEDBACK**
Gavin Crowder, University of Ottawa, Canada
Lora Ramunno, Stephen Hughes

8:45 - 09:00 **QLM-9.2 / QUANTUM AND CLASSICAL COHERENCE IN THE
ULTRAFAST REGIME**
Joscelyn van der Veen, University of Toronto, Canada
Daniel James

9:00 - 09:15 **QLM-9.3 / SPATIALLY TWISTED NEMATIC LIQUID-CRYSTAL DEVICES**
Alicia Sit, University of Ottawa, Canada
Alessio D'Errico, Ebrahim Karimi

9:15 - 09:40 **QLM-9.4 / DESIGNING PRECISE ENTANGLING GATES IN SPIN
REGISTERS COUPLED TO DEFECTS**
Evangelia Takou, Virginia Polytechnic Institute and State University,
United States of America
Edwin Barnes, Sophia Economou

9:40 - 10:05 **QLM-9.5 / NANOPHOTONIC SILICON COLOUR CENTRE DEVICES FOR
NETWORKED QUANTUM TECHNOLOGIES**
Daniel Higginbottom, Simon Fraser University, Canada
Stephanie Simmons

10:05 - 10:30 **QLM-9.6 / THE QUANTUM INTERCONNECT BOTTLENECK**
Aharon Brodutch, IonQ Canada , Canada
Ilia Khait

Wednesday

OPTICAL COMMUNICATIONS - 9

ROOM: 513

Chair: Laurent Vivien, CNRS, Univ. Paris Saclay, Centre for Nanoscience and Nanotechnology (C2N), France

8:30 - 08:55 **OPT-9.1 / NONLINEAR DEVICES AND INTERACTIONS FOR OPTICAL TELECOMMUNICATIONS**

Bob Boyd, University of Ottawa, Canada

8:55 - 09:20 **OPT-9.2 / COMPOUND INTEGRATION AND TRIMMING SCHEMES FOR ENHANCED PHOTONIC SYSTEMS**

Frederic Gardes, University of Southampton, United Kingdom
Ilias Skandalos, Thalia Dominguez Bucio, Lorenzo Mastronardi,
Yaonan Hou, Teerapat Rutirawut, Greta De Paoli, Ioannis Zeimpekis,
Alexander Flint, James Gates

9:20 - 09:45 **OPT-9.3 / VERSATILE LASER SOURCE WITH INTEGRATED NONLINEAR PHOTONICS**

Scott B. Papp, NIST and University of Colorado,
United States of America

9:45 - 10:00 **OPT-9.4 / BIDIRECTIONAL ROF 5G FRONTHAUL TRANSMISSION LINKS WITH AN INAS/INP QUANTUM DASH LASER**

Xiaoran Xie, National Research Council Canada, Canada
Guocheng Liu, Khan Zeb, Jiaren Liu, Youxin Mao, Philip Poole, Pedro Barrios, John Weber, Martin Vachon, Nicaulas Sabourin, Xiupu Zhang,
Yu Huang, Jianping Yao, Ke Wu, Zhenguo Lu

10:00 - 10:15 **OPT-9.5 / TOWARDS COMBINATIONAL LOGIC CIRCUITS BASED ON OPTICAL LOGIC GATES**

Jose Garcia-Echeverria, McGill University, Canada
Glenn Cowan, Odile Liboiron-Ladouceur, David Rolston

10:15 - 10:30 **OPT-9.6 / EXPERIMENTAL SOLUTIONS TO THE HIGH-DIMENSIONAL MEAN KING'S PROBLEM**

Tareq Jaouni, Nexus for Quantum Technologies , Canada
Xiaoqin Gao, Soeren Arlt, Alicia Sit, Mario Krenn, Ebrahim Karimi

Wednesday

PHOTONIC THEORY DESIGN AND SIMULATIONS - 9

ROOM: 514C

Chair: Carlos Alonso-Ramos, CNRS, France

-
- 8:30 - 08:55 **PTD-9.1 / DESIGN OF SNAP DEVICES WITH OPTIMIZED TRANSMISSION CHARACTERISTICS: OPTICAL SIGNAL PROCESSORS, MICROWAVE PHOTONIC FILTERS, AND FREQUENCY COMB GENERATORS**
Michael Sumetsky, Aston University, United Kingdom
-
- 8:55 - 09:20 **PTD-9.2 / SILICON RECONFIGURABLE OPTICAL LOGIC USING PHASE-CHANGE MATERIALS**
Winnie N. Ye, Carleton University, Canada
M. A. Ruhul Fatin, Richard Soref, Dusan Gostimirovic
-
- 9:20 - 09:45 **PTD-9.3 / TOWARDS POLARIZATION-AGNOSTIC SILICON PHOTONIC DEVICES THROUGH SWG METAMATERIAL ENGINEERING**
José Manuel Luque-González, Universidad de Málaga, Spain
Carlos Pérez Armenta, Miguel Barona Ruiz, Alejandro Fernández Hinestrosa, J. Gonzalo Wangüemert-Perez, Jens Schmid, Pavel Cheben, Robert Halir, Íñigo Molina-Fernandez, Alejandro Ortega-Moñux
-
- 9:45 - 10:10 **PTD-9.4 / MID-INFRARED SILICON PHOTONIC DEVICES FOR ABSORPTION SPECTROSCOPY**
Goran Mashanovich, University of Southampton, United Kingdom
Chen Wei, Colin Mitchell, David Rowe, Milos Nedeljkovic, Goran Mashanovich
-
- 10:10 - 10:35 **PTD-9.5 / SILICON PHOTODETECTOR OPERATING AT 1550NM UTILIZING SURFACE STATE DEFECTS - APPLICATIONS IN AVALANCHE DETECTION AND ENERGY HARVESTING**
Andrew Knights, McMaster University, Canada
Yuxuan Gao, Feng Guo, Peter Mascher
-

Wednesday

NONLINEAR OPTICS, NANOPHOTONICS, AND PLASMONICS - 4

ROOM: 515AB

Chair: Kartik Srinivasan, National Institute of Standards and Technology, United States Of America

8:30 - 08:45 **NL-4.1 / ROLE OF PUMP STRENGTH ON THE SPATIAL MODES OF SQUEEZED LIGHT: CHARACTERIZING THE EVOLUTION OF THE SCHMIDT MODES**

Mahtab Amooei, University of Ottawa, Canada
Girish Kulkarni, Jeremy Upham, Robert Boyd

8:45 - 09:00 **NL-4.2 / RESONANCE-ENHANCED NONCLASSICAL PHOTON PAIR GENERATION USING TOPOLOGICAL FLOQUET DEFECT MODE RESONANCE**

Shabir Barzanjeh, University of Calgary, Canada

9:00 - 09:25 **NL-4.3 / FULLY ON-CHIP LASER-INTEGRATED SOURCE OF ENTANGLED PHOTON STATES**

Michael Kues, Institute of Photonics, Leibniz University Hannover, Germany
Raktim Haldar, Hatam Mahmudlu, Robert Johanning, Anahita Khodadad Kashi, Albert van Rees, Jörn P. Epping, Klaus Boller

9:25 - 09:50 **NL-4.4 / QUANTUM NANOPHOTONIC HARDWARE: FROM NANOFABRICATION TO QUANTUM CIRCUIT MAPPING**

Marina Radulaski, University of California, Davis,
United States of America

9:50 - 10:15 **NL-4.5 / CRYOGENIC TUNABLE MICROCAVITY FOR CAVITY QED WITH DEFECT CENTERS IN DIAMOND**

Lilian Childress, McGill University, Canada
Cesar Rodriguez Rosenblueth, Lilian Childress

10:15 - 10:30 **NL-4.6 / EFFECT OF STRONG LIGHT-MATTER COUPLING ON EXCITON ENERGY HARVESTING LENGTH-SCALES IN DONOR ACCEPTOR HETEROJUNCTIONS**

Abitha Dhavamani, University of Wisconsin-Madison,
United States of America
Louis Haeberlé, Stéphane Kéna-Cohen, Michael S. Arnold

ROOM: 516

10:30 - 11:00 **COFFEE BREAK AND EXHIBITION**

PHOTONS CANADA SPECIAL ANNOUNCEMENT

ROOM: 513

Chair: Kexing Liu, QGenX Systems, Canada

11:00 - 11:05 **PHOTONS CANADA SPECIAL ANNOUNCEMENT**

TUTORIAL 2 - KSENIA YADAV

ROOM: 513

Chair: Luca Razzari, INRS-EMT, Canada
Lora Ramunno, University of Ottawa, Canada

11:05 - 12:05 T-2 / MACHINE LEARNING FUNDAMENTALS WITH APPLICATIONS
IN PHOTONICS
Ksenia Yadav, Enablence Technologies Inc., Canada

LUNCH AND LEARN - EPIC MEMBER PRESENTATIONS

ROOM: 512AB

Chair: Carlos Lee, EPIC, Canada

12:00 - 13:00 LUNCH AND LEARN - EPIC MEMBER PRESENTATIONS

ROOM: 512CD & 510D

12:00 - 13:00 LUNCH AND NETWORKING

ROOM: 516

12:00 - 13:00 EXHIBITION

SYMPOSIUM ON TECHNOLOGY AND MARKET TREND

ROOM: 513

Chair: Jean-Christophe Gauthier, Optonique, Canada

13:00 - 13:20 PTEI-1 / PLENARY TALK - CARLOS LEE, EPIC

13:20 - 13:40 PTEI-2 / PLENARY TALK - ANDREW BROWN, SPIE

PANEL ON COMMERCIALIZING PHOTONIC TECHNOLOGIES

ROOM: 513

Chair: Velko Tzolov, NRC-CPFC, Canada

13:45 - 14:30 PANEL ON COMMERCIALIZING PHOTONIC TECHNOLOGIES

BIOPHOTONICS, NOVEL SENSING, AND ADVANCED IMAGING - 10

NOVEL SENSING AND APPLICATIONS - 2

ROOM: 514A

Chair: Martin Villiger, Wellman Center for Photomedicine, United States Of America

Jonghwan Lee, Brown University, United States Of America

14:30 - 14:45 BP-10.1 / SPATIALLY-LOCALIZED FUNCTIONALIZATION ON NANOSTRUCTURED SURFACES FOR ENHANCED PLASMONIC SENSING EFFICACY

Jean-François Bryche, Laboratoire Nanotechnologies Nanosystèmes, CNRS, Université de Sherbrooke, Canada
Marlo Vega, Agnès Tempez, Julien Moreau, Thibault Brulé, Thomas Carlier, Marc Chaigneau, Paul Charette, Michael Canva

14:45 - 15:00 BP-10.2 / TERAHERTZ BLOOD GLUCOSE BIOSENSOR USING SPLIT RING RESONATOR PLASMONIC METASURFACE

Arslan Asim, Dalhousie University, Canada
Artorix de la Cruz, Michael Cada, Yuan Ma, Alan Fine, Wendy Gentleman

15:00 - 15:15 BP-10.3 / PLASMONIC METAL-INSULATOR-METAL (MIM) NANORESONATOR BIOSENSING PLATFORM

Dipanjan Nandi, University of Alberta, Canada
Manisha Gupta

15:15 - 15:30 BP-10.4 / NONLINEAR OPTICAL IMPAIRMENTS IN SILICON RING RESONATOR THERMOMETERS AND THEIR MITIGATION

Sergey Dedyulin, National Research Council Canada, Canada
Siegfried Janz, Dan-Xia Xu, Martin Vachon, Shurui Wang, Ross Cheriton, John Weber

15:30 - 15:45 BP-10.5 / NOVEL LOW-AUTOFLUORESCENCE MULTIMODE CIRCULATORS FOR FLUORESCENCE SENSING

Joseph Lamarre, Polytechnique Montréal, Canada
Kathy Beaudette, Lucas Majeau, Caroline Boudoux, Nicolas Godbout

PHOTONIC MATERIALS - 1

ROOM: 514B

Chair: Tigran Galstian, Université Laval, Canada

14:30 - 14:45 **PM-1.1 / TOP-SURFACE MORPHOLOGY CONTROL OF ALGAN NANOWIRES BY SELECTIVE AREA EPITAXY FOR ULTRAVIOLET NANOPHOTONIC DEVICES**

Mohammad Fazel Vafadar, McGill University, Canada
Songrui Zhao

14:45 - 15:00 **PM-1.2 / TRANSIENT ABSORPTION ANALYSIS OF AU NANOPARTICLES ON GLASS AND FTO:GLASS SUBSTRATES**

Harshitha Rajashekhar, University of Alberta, Canada
Navneet Kumar, Saeid Kamal, Karthik Shankar

15:00 - 15:15 **PM-1.3 / UNDERSTANDING STRUCTURE-PROPERTY EFFECTS FOR DEVELOPING MULTIFUNCTIONAL MATERIALS FOR COMBINED USE IN ELECTROFLUOROCHROMIC AND ELECTROCHROMIC DEVICES**

Will Skene, Université de Montréal, Canada
Veronica Wu, Will Skene

15:15 - 15:30 **PM-1.4 / DESIGN OPTIMIZATION FOR LATERAL QUANTUM DOT PHOTODETECTOR ARRAYS**

Yizun Wang, University of Waterloo, Canada
Hrilina Ghosh, Siva Sivoththaman

15:30 - 15:45 **PM-1.5 / CORE-SHELL PEROVSKITE-TIO₂ NANOPARTICLES FOR HIGH STABILITY**

Muhammad Munir, McMaster University, Canada
Ramis Arbi, Jingaln Tan, Ayse Turak

PHOTONICS AND AI - 1

ROOM: 513

Chair: Antonio Calà Lesina, Leibniz Universität Hannover, Germany

14:30 - 14:55 **AI-1.1 / TBA**

Kiyoul Yang, Harvard University, United States of America

14:55 - 15:20 **AI-1.2 / MACHINE LEARNING FOR PHOTONICS**

J. Nathan Kutz, University of Washington, United States of America

15:20 - 15:45 **AI-1.3 / EFFICIENT AND UNIVERSAL INVERSE DESIGN OF NANO-PHOTONIC DEVICES USING REINFORCEMENT LEARNING**

Carsten Schuck, University of Münster, Germany

PHOTONIC THEORY DESIGN AND SIMULATIONS - 10

ROOM: 514C

Chair: José Manuel Luque González, Universidad de Malaga, Spain

14:30 - 14:55 **PTD-10.1 / HIGH DATA THROUGHPUT WIRELESS NETWORKS BASED ON A QUANTUM DASH / DOT MULTI-WAVELENGTH LASER AND MILLIMETER-WAVE-OVER-FIBER TRANSMISSION LINKS**
Zhenguo Lu, Advanced Electronics and Photonics Research Centre, Canada
Guocheng Liu, Khan Zeb

14:55 - 15:20 **PTD-10.2 / PCSELSIM MODELING AND DESIGN TOOL FOR PHOTONIC CRYSTAL SURFACE-EMITTING LASERS**
Weidong Zhou, University of Texas at Arlington, United States of America

15:20 - 15:45 **PTD-10.3 / QKD OVER FSO UNDER DIFFERENT WEATHER CONDITIONS USING OPTISYSTEM SOFTWARE**
Ahmad Atieh, Optiwave Systems Inc, Canada
Abudhahir Buhari

NONLINEAR OPTICS, NANOPHOTONICS, AND PLASMONICS - 5

ROOM: 515AB

Chair: Tao Lu, University of Victoria, Canada

14:30 - 14:55 **NL-5.1 / USING MULTIMODE INPUT TO ENHANCE DISSIPATIVE SENSING IN A MICRORESONATOR**
Albert Rosenberger, OKLAHOMA STATE UNIVERSITY, United States of America
Albert Rosenberger

14:55 - 15:20 **NL-5.2 / PHOTONIC ENGINEERING OF ATOMIC AND SOLID-STATE QUANTUM EMITTERS FOR SENSING**
Jennifer Choy, University of Wisconsin-Madison, United States of America

15:20 - 15:35 **NL-5.3 / OPTICAL NEAR FIELD INVESTIGATION ON POLAR PEROVSKITE NANOSTRUCTURES**
Mohammad Bakhtbidar, Institut national de la recherche scientifique, Canada
Ifeanyichukwu Amaechi, Alexandre Merlen, Andreas Ruediger

15:35 - 15:50 **NL-5.4 / TWO-BEAM COUPLING IN A TIME-VARYING MEDIUM**
Theng Loo Lim, University of Ottawa, Canada
Yaswant Vaddi, Mohammad Karimi, Yiyu Zhou, M Zahirul Alam, Jeremy Upham, Robert W. Boyd

Wednesday

ROOM: 516

15:45 - 16:00 COFFEE BREAK AND EXHIBITION

GREEN PHOTONICS, ENERGY, AND RELATED TECHNOLOGIES - 1

ROOM: 514A

Chair: William Wong, University of Waterloo, Canada

Sharif Sadaf, INRS-EMT, Canada

16:00 - 16:25 **GP-1.1 / SALUTARY IMPLICATIONS OF BUILT-IN POLARIZATION FOR THE PERFORMANCE OF GAN-BASED EMITTERS**

Henryk Turski, Institute of High Pressure Physics PAS, Poland

16:25 - 17:00 **GP-1.2 / OVERCOMING LIMITATIONS OF MOLECULAR BEAM EPITAXY FOR HIGH QUANTUM EFFICIENCY NITRIDE-BASED EMITTERS**

Czeslaw Skierbiszewski, Polish Academy of Sciences, Poland

17:00 - 17:15 **GP-1.3 / TEMPERATURE AND CHIP SIZE-DEPENDENT DROOP EFFECT IN ALGAN UV-C LEDS**

Nirmal Anand, INRS-EMT, Canada

Zunaid Baten, Junjie Kang, Wei Luo, Sharif Sadaf

17:15 - 17:30 **GP-1.4 / PRINTED TEMPERATURE SENSOR BASED ON SELF-DOPED CONDUCTING POLYMERS**

Catherine Beaumont, Université Laval, Canada

Rosalie Lapointe, Patrick Beaupré, Charles Trudeau, Nolwenn Le Bouch, Mario Leclerc

17:30 - 17:55 **GP-1.5 / UNIQUE APPLICATIONS OF GAN NANOSTRUCTURES FOR ENERGY EFFICIENCY**

Kris Bertness, NIST, United States of America

Joel Weber, Kristen Genter, Matt Brubaker

Wednesday

PHOTONIC MATERIALS - 2

ROOM: 514B

Chair: Peter Mascher, McMaster University, Canada

16:00 - 16:25 **PM-2.1 / ADVANCED PHOTODETECTORS, SENSORS AND ENERGY HARVESTING DEVICES**

Jean-Michel Nunzi, Queen's University, Canada

16:25 - 16:50 **PM-2.2 / BIOPHOTONIC DIATOMS: GLASS GREENHOUSES FOR SOLAR ENERGY CONVERSION**

Mark Andrews, McGill University, Canada

Mark Andrews, Santiago Bernal, James Skoric, David Plant

16:50 - 17:15 **PM-2.3 / LARGE APERTURE ELECTRICALLY TUNABLE LENSES**

Armen Zohrabyan, Lensvector Inc. / TLCL Optical Research inc., Canada

Vladimir Presniakov, Tigran Galstian, Armen Zohrabyan

17:15 - 17:30 **PM-2.4 / CHARACTERIZATION OF ACTIVE LIQUID CRYSTAL WITH CONTINUOUS TERAHERTZ WAVES**

Audrey Le Boulout, École de technologie supérieure (ÉTS), Canada

Anastasiia Pusenkova, Mariia Zhuldybina, Xavier Ropagnol, Thomas Gisder, Marc-Michael Meinecke, Heiko Schroeder, Heiko Gustav Kurz, Tigran Galstian, François Blanchard

17:30 - 17:45 **PM-2.5 / METASURFACE SIMPLIFIED MODEL FOR LENS DESIGN APPLICATIONS**

Christopher Bouillon, University Laval, Canada

Christopher Bouillon, Alexandre Cléroux Cuillerier, Simon Thibault

17:45 - 18:00 **PM-2.6 / GENERATING SELF-TRAPPED BEAMS OF LIGHT WITH A DIGITAL PROJECTOR**

Dusan Srdic, McMaster University, Canada

Fariha Mahmood, Kyle Stegman, Kalaichelvi Saravananmuttu

Wednesday

PHOTONICS AND AI - 2

ROOM: 513

Chair: Antonio Calà Lesina, Leibniz Universität Hannover, Germany

16:00 - 16:35 **AI-2.1 / PHYSICS INFORMED DEEP LEARNING IN ELECTROMAGNETIC METAMATERIALS**

Willie Padilla, Duke University, United States of America

16:35 - 17:00 **AI-2.2 / INCOHERENT PHOTONIC HARDWARE ACCELERATORS**

Frank Brückhoff-Plückelmann, University of Münster, Germany
Ivonne Bente, Daniel Wendland, Akhil Varri, Wolfram Pernice

17:00 - 17:15 **AI-2.3 / NANOPLASMONIC SURFACE ENHANCED INFRARED SPECTROSCOPY AIDED WITH DEEP LEARNING FOR STRUCTURAL ANALYSIS OF NEURODEGENERATIVE DISEASE RELATED PROTEINS**

Deepthy Kavungal, EPFL, Switzerland
Pedro Magalhães, Senthil Kumar, Rajasekhar Kolla, Hilal Lashuel, Hatice Altug

17:15 - 17:30 **AI-2.4 / PREDICTION OF OPTICAL SCATTERING FROM PLASMONIC NANOSTRUCTURES USING DEEP CONVOLUTIONAL NEURAL NETWORKS**

Evan Norris, University of Ottawa, Canada
Joshua Baxter, Julien Desautels, Lora Ramunno

17:30 - 17:45 **AI-2.5 / RECONFIGURABLE SOLITON MICROCOMBS VIA GENETIC ALGORITHMS**

Celine Mazoukh, Institut national de la recherche scientifique (INRS-EMT), Canada
Luigi Di Lauro, Bennet Fischer, Aadhi Abdul Rahim, Intiaz Alamgir, Armaghan Eshaghi, Brent E. Little, Sai T. Chu, David Moss, Roberto Morandotti

17:45 - 18:00 **AI-2.6 / ADVANCED APPLICATIONS OF KERR MICRO-COMBS**

David Moss, Swinburne University of Technology, Australia
Yang Sun, Mengxi Tan, Xingyuan Xu, Jiayang Wu, Yang Li

PHOTONIC THEORY DESIGN AND SIMULATIONS - 11

ROOM: 514C

Chair: Ayse Turak, Concordia University (Physics, Centre for NanoScience Research), Canada

16:00 - 16:25 **PTD-11.1 / UV PHOTONIC INTEGRATED CIRCUITS**
Ward Hendriks, University of Twente, Netherlands

16:25 - 16:50 **PTD-11.2 / PHOTONIC RESERVOIR COMPUTING IN A STIMULATED BRILLOUIN SCATTERING SYSTEM**
Sendy Phang, University of Nottingham, United Kingdom

16:50 - 17:15 **PTD-11.3 / FLEXIBLE GLASS PHOTONICS: CONSOLIDATED SYSTEMS AND ENHANCED STRUCTURES**
Thi Ngoc Lam Tran, National Research Council - Institute of Photonics and Nanotechnologies Trento , Italy
Alice Carlotto, Giacomo Zanetti, Anna Szczurek, Bartosz Babiarczuk, Kamila Startek, Osman Sayginer, Stefano Varas, Daniele Zonta, Oreste S. Bursi, Francesco Scotognella, Silvia Pietralunga, Monica Bollani, Guglielmo Macrelli, Daniel Lewandowski, Giancarlo C. Righini, Maurizio Ferrari, Justyna Krzak, Anna Lukowiak, Alessandro Chiasera

17:15 - 17:30 **PTD-11.4 / MULTISTABILITY IN A NONLINEAR THZ SPLIT RING RESONATOR**
Gervais Dolvis Leutcho, École de technologie supérieure (ÉTS), Département de Génie Électrique, Canada
Lyne Woodward, François Blanchard

NONLINEAR OPTICS, NANOPHOTONICS, AND PLASMONICS - 6

ROOM: 515AB

Chair: Pablo Bianucci, Concordia University, Canada

16:00 - 16:35 **NL-6.1 / HOW TO PREVENT LASER-BEAM FILAMENTATION**

Robert Boyd, University of Ottawa, Canada

A. Nicholas Black, Saumya Choudhary, Edgar Samuel Arroyo-Rivera,
Hayden Woodworth

16:35 - 17:00 **NL-6.2 / INTEGRATED PHOTONICS IN THIN-FILM LITHIUM NIOBATE**

Christian Reimer, HyperLight, United States of America

17:00 - 17:15 **NL-6.3 / GRAPHENE OXIDE FOR ENHANCED NONLINEAR OPTICS IN CMOS INTEGRATED CHIPS**

David Moss, Swinburne University of Technology, Australia

Jiayang Wu, Yang Qu, Baohua Jia, Yunyi Yang

17:15 - 17:30 **NL-6.4 / ULTRA-FLAT SUPERCONTINUUM SOURCE COVERS MORE THAN 4 OCTAVES SPECTRAL REGION**

Reza Soltanian, INRS-EMT, Canada

Reza Soltanian, Francois Légaré

17:30 - 17:45 **NL-6.5 / RAMAN SPECTROSCOPY INVESTIGATION OF MGO NANOPARTICLES**

Maria Dekermenjian, Energie-Matériaux-Télécommunications,
Institut National de Recherche Scientifique, Canada

Andreas Ruediger, Alexandre Merlen

Thursday, June 15, 2023

ROOM: FOYER 517

8:00 - 19:00 **REGISTRATION**

TUTORIAL 3 - PIERRE BERINI

ROOM: 513

Chair: Lora Ramunno, University of Ottawa, Canada
Luca Razzari, INRS-EMT, Canada

8:30 - 09:30 **T-3 / NANOFABRICATION TECHNIQUES IN NANOPHOTONICS**
Pierre Berini, University of Ottawa, Canada

GREEN PHOTONICS, ENERGY, AND RELATED TECHNOLOGIES - 2

ROOM: 514A

Chair: Siddharth Rajan, The Ohio State University, United States of America
Sharif Sadaf, INRS-EMT, Canada

9:30 - 09:55 **GP-2.1 / OCCAM'S RAZOR AND THE ORIGIN OF HIGHER ORDER KINETICS IN PHOTOCATALYSIS**
Kirk Bevan, McGill University, Canada

9:55 - 10:20 **GP-2.2 / FULL-COLOR MICRO LIGHT-EMITTING DIODES USING GROUP III-NITRIDE NANOWIRES**
Hieu P. Nguyen, New Jersey Institute of Technology, United States of America
Mano Bala Sankar Muthu, Mustafa M. Yousef

10:20 - 10:35 **GP-2.3 / PLASMONIC PHOTOCATALYSIS USING POROUS BIMETALLIC AUPt NANOISLANDS**
Harshitha Rajashekhar, University of Alberta, Canada
Navneet Kumar, Damini Vrushabendrakumar, Karthik Shankar

10:35 - 10:50 **GP-2.4 / A STRETCHABLE AND BENDABLE FUNCTIONING ELECTROCHROMIC DEVICE ENABLED BY CONDUCTIVE NANOWIRES**
Will Skene, Université de Montréal, Canada
Fabio Cicoira, Mohan Raj Anthony Raj, Will Skene

PHOTONIC MATERIALS - 3

ROOM: 514B

Chair: Tigran Galstian, Université Laval, Canada

- 9:30 - 09:55

PM-3.1 / TOWARD LOW-LOSS MID-INFRARED GA2O3-BAO-GEO2 OPTICAL FIBERS: SOLVING 30 YEARS OF HIGH LOSSES

Théo Guérineau, COPL - Université Laval, Canada

Samar Aouji, Steeve Morency, Jean-Luc Delarosbil, Florian Calzavara, Patrick Larochelle, Philippe Labranche, Jerome Lapointe, Sylvain Danto, Thierry Cardinal, Evelyne Fargin, Martin Bernier, Réal Vallée, Younès Messaddeq
- 9:55 - 10:20

PM-3.2 / NEW OPTICAL DEVELOPMENTS FOR THE AUTOMOTIVE INDUSTRY

Donald Peyrot, Valeo
- 10:20 - 10:45

PM-3.3 / BACTERIALLY SYNTHESIZED TELLURIUM NANOSTRUCTURES FOR BROADBAND ULTRAFAST NONLINEAR OPTICAL APPLICATIONS

Jun Wang, Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Sciences, China

PHOTONICS AND AI - 3

ROOM: 513

Chair: Sean Molesky, École Polytechnique de Montréal, Canada

- 9:30 - 09:55

AI-3.1 / INTEGRATED AND PROGRAMMABLE PHOTONIC NEURAL NETWORKS USING PHASE-CHANGE MATERIALS

Mo Li, University of Washington, United States of America
- 9:55 - 10:20

AI-3.2 / PHYSICAL DESIGN MEETS CONVEX OPTIMIZATION: HIDDEN STRUCTURE IN MAXWELL'S EQUATIONS

Owen Miller, Yale University, United States of America
- 10:20 - 10:45

AI-3.3 / END-TO-END NANOPHOTONIC INVERSE DESIGN FOR COMPUTATIONAL IMAGING

Zin Lin, Virginia Tech, United States of America

OPTICAL COMMUNICATIONS - 10

ROOM: 514C

Chair: Mazyar Milanizadeh, NRC, Canada

-
- 9:30 - 09:45 **OPT-10.1 / CHARACTERIZATION OF OPTICAL ABERRATIONS WITH SCANNING PENTAPRISM FOR LARGE COLLIMATORS**
Kimia Mohammadi, University of Waterloo - Institute for Quantum Computing, Canada
Youn Seok Lee, Thomas Jennewein
-
- 9:45 - 10:00 **OPT-10.2 / EFFECT OF ABERRATION ON 3D OPTICAL TOPOLOGIES**
Nazanin Dehghan, University of Ottawa, Canada
Alessio D'Errico, Tareq Jaouni, Ebrahim Karimi
-
- 10:00 - 10:15 **OPT-10.3 / ENTANGLEMENT DISTRIBUTION OVER FREE-SPACE OPTICAL TURBULENT CHANNELS**
Vijay Nafria, University of Arizona, United States of America
Ivan B. Djordjevic
-
- 10:15 - 10:30 **OPT-10.4 / HIGH RESPONSIVITY SI/GE PHOTOTRANSISTOR ON SILICON PHOTONICS PLATFORM FOR SMALL SIGNAL APPLICATION**
Yuxuan Gao, McMaster University, Canada
Feng Guo, Peter Mascher, Andrew Knights
-
- 10:30 - 10:45 **OPT-10.5 / SPIRAL WBG BASED ULTRA-COMPACT PASSIVE NOT GATE FOR HIGH-SPEED SIGNALS**
Mauricio Tosi, Institut national de la recherche scientifique - Centre Énergie Matériaux Télécommunications (INRS-EMT), Canada
Saket Kaushal, Alejandro Fasciszewski, Pablo A. Costanzo-Caso, José Azaña
-

NONLINEAR OPTICS, NANOPHOTONICS, AND PLASMONICS - 7

ROOM: 515AB

Chair: Pablo Bianucci, Concordia University, Canada

- 9:30 - 09:55

NL-7.1 / MODE DIVISION MULTIPLEXING IN SILICON PHOTONICS FOR HIGH-SPEED COMMUNICATION, COMPUTATION, AND QUANTUM INFORMATION
Kaveh Rahbardar Mojaver, McGill University, Canada
Odile Liboiron-Ladouceur
- 9:55 - 10:10

NL-7.2 / NON-HERMITIAN TOPOLOGICAL PHOTONICS BEYOND THE TIGHT-BINDING REGIME
Norman Israel, University of Ottawa, Canada
Lora Ramunno
- 10:10 - 10:25

NL-7.3 / EMULATING TOPOLOGICAL DIMER CHAINS IN THE SYNTHETIC FREQUENCY DIMENSION
Philippe St-Jean, Université de Montréal, Canada
Félix Pellerin, William Coish, Iacopo Carusotto
- 10:25 - 10:40

NL-7.4 / PARITY-TIME SYMMETRIC BRAGG GRATINGS AND DIRECTIONAL COUPLERS
Tianyi Hao, University of Ottawa, Canada
Pavel Cheben, Jens Schmid, Pierre Berini

ROOM: 513 HALL

10:45 - 11:00 COFFEE BREAK

PLENARY SPEAKER 3 - ANDREA ALÙ

ROOM: 513

Chair: Luca Razzari, INRS-EMT, Canada

Lora Rammuno, University of Ottawa, Canada

- 11:00 - 12:00

PL-3 / EXTREME CONTROL OF LIGHT AT THE NANOSCALE WITH METASURFACES
Andrea Alù, Photonics Initiative, Advanced Science Research Center - Physics Program, Graduate Center - Department of Electrical and Computer Engineering, City Co, United States of America

LUNCH AND LEARN - PROTECT YOUR RESEARCH AND INNOVATION

ROOM: 512AB

Chair: Sparrow McGowan, Photons Canada, Canada

- 12:00 - 13:00

LUNCH AND LEARN - PROTECT YOUR RESEARCH AND INNOVATION

12:00 - 13:00 **LUNCH AND NETWORKING**

GREEN PHOTONICS, ENERGY, AND RELATED TECHNOLOGIES - 3

ROOM: 514A

Chair: Eva Monroy, CEA-Grenoble, France

Sharif Sadaf, INRS-EMT, Canada

- 13:00 - 13:25 **GP-3.1 / PLASMAS AS VACUUM ULTRAVIOLET (VUV) RADIATION SOURCES: FROM A BURDEN TO POTENTIALLY A HELPING HAND IN MATERIAL SYNTHESIS**
Emile Carbone, Institut national de la recherche scientifique, Canada
-
- 13:25 - 13:50 **GP-3.2 / COLLOIDAL QUANTUM DOTS AND CELLULOSE NANOCRYSTALS FOR SOLAR ENERGY HARVESTING AND LED LIGHTING**
Xihua Wang, University of Alberta, Canada
-
- 13:50 - 14:15 **GP-3.3 / RECENT ADVANCES IN TUNNEL JUNCTION-BASED VISIBLE AND UV LIGHT EMITTING DIODES**
Siddharth Rajan, The Ohio State University, United States of America
-
- 14:15 - 14:30 **GP-3.4 / OPTIMIZATION OF POLARIZATION-INDEPENDENT CHANDBALI NANO-ANTENNA FOR ENERGY HARVESTING**
Ahmed Elsharabasy, Toronto Metropolitan University - Cairo Campus, Egypt
Mohamed Bakr, M. Jamal Deen
-
- 14:30 - 14:45 **GP-3.5 / SEPARATING GEOMETRY FROM MATERIAL PROPERTIES IN NANOPARTICLE INTERLAYERS FOR IMPROVED OPV PERFORMANCE**
Jinglan Tan, Concordia University, Canada
Ramis Arbi, Muhammad Munir, Pedro Oliveira, Ayse Turak
-
- 14:45 - 15:00 **GP-3.6 / FORMATION OF VARIOUS TYPES OF MBE-GROWN GAN STRUCTURES BY SELECTIVE AREA EPITAXY**
Syed Mohammad Najib Hasan, The Ohio State University, United States of America
Weicheng You, Arnob Ghosh, Sharif Sadaf, Shamsul Arafin
-

PHOTONIC MATERIALS - 4

ROOM: 514B

Chair: Jean-Michel Nunzi, Queen's University, Canada

13:00 - 13:25 **PM-4.1 / PEROVSKITE NANOPARTICLES ON DEMAND: HIGHLY STABLE NANOPARTICLES USING REVERSE MICELLE TEMPLATING**

Ayse Turak, Concordia University, Canada

13:25 - 13:50 **PM-4.2 / LARGE SCALE GROWTH OPTIMIZATION OF TUNGSTEN DISULFIDE USING PULSED LASER DEPOSITION (PLD)**

Jyoti Yadav, University of Alberta, Canada

Andres Forero Pico, Manisha Gupta

13:50 - 14:15 **PM-4.3 / ALLOY PLASMONIC NANOMATERIALS AND THEIR APPLICATIONS IN NANOMEDICINE**

Michel Meunier, Polytechnique Montréal, Canada

14:15 - 14:30 **PM-4.4 / INGAAAP-ON-INSULATOR WAVEGUIDE PLATFORM FOR NONLINEAR PHOTONIC APPLICATIONS**

Rania Mahjoub, University of Ottawa, Canada

Shubhendra Jain, Kaustubh Vyas, Ksenia Dolgaleva

14:30 - 14:45 **PM-4.5 / LARGE OPTICAL SPATIAL COMPRESSION BASED ON MULTILAYER STACKS**

Ryan Hogan, University of Ottawa, Canada

Yaryna Mamchur, Daniel Hutama, Jordan Pagé, Graham Carlow,

Brian Sullivan, Rocio Margoth Córdova-Castro, Orad Reshef, Jeff

Lundeen, Robert Boyd

14:45 - 15:00 **PM-4.6 / DYNAMIC, REMOTE-CONTROLLABLE ELECTROACTIVE HYDROGEL WAVEGUIDE ARCHITECTURES**

Kevin Vaughan, McMaster University, Canada

Kalaichelvi Saravanamuttu, Oscar Herrera Cortes, Abeera Sivarajah

PHOTONICS AND AI - 4

ROOM: 513

Chair: Antonio Calà Lesina, Leibniz Universität Hannover, Germany

13:00 - 13:25 **AI-4.1 / CHALLENGES IN DEEP LEARNING ENABLED NANO-PHOTONICS INVERSE DESIGN**
Peter Wiecha, LAAS-CNRS, France

13:25 - 13:50 **AI-4.2 / MODE DIVISION MULTIPLEXING IN SILICON PHOTONICS UNLOCKED THROUGH INVERSE DESIGN**
Odile Liboiron-Ladouceur, McGill University, Canada

13:50 - 14:05 **AI-4.3 / INVERSE DESIGN OF SOI BASED ANGLED MULTIMODE INTERFEROMETER WAVELENGTH DIVISION (DE)MULTIPLEXERS**
Keru Chen, McMaster University, Canada
Andrew Knights, Yuri Grinberg

14:05 - 14:20 **AI-4.4 / MACHINE LEARNING-ENABLED INVERSE DESIGN OF SUBWAVELENGTH WAVEGUIDE GRATINGS USING ENVIRONMENT-AWARE EFFECTIVE MEDIUM APPROXIMATIONS**
Norman Israel, University of Ottawa, Canada
Devin Blankespoor, Dan-Xia Xu, Yuri Grinberg, Lora Ramunno

**QUANTUM LIGHT-MATTER INTERACTIONS: SENSING, COMMUNICATIONS,
AND INFORMATION PROCESSING - 10**

ROOM: 514C

Chair: Alicia Sit, University of Ottawa, Canada

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- 13:00 - 13:25 **QLM-10.1 / TIME-BIN ENCODED PHOTONS OVER MULTI-MODE CHANNELS: ADVANCES ON QUANTUM COMMUNICATIONS AND SENSING OVER FREE-SPACE CHANNELS**
Thomas Jennewein, University of Waterloo, Canada
-
- 13:25 - 13:40 **QLM-10.2 / GENERATION OF SINGLE-MODE FEW-CYCLE TWIN BEAMS FOR TIME-DOMAIN QUANTUM OPTICS**
Patrick Cusson, Polytechnique Montréal, Canada
Stéphane Virally, Denis Seletskiy
-
- 13:40 - 13:55 **QLM-10.3 / TOPOLOGICAL TRANSITIONS OF THE GENERALIZED PANCHARATNAM-BERRY PHASE**
Manuel Ferrer-Garcia, University of Ottawa, Canada
Kyrlo Snizhko, Alessio D’Errico, Alessandro Romito, Yuval Gefen, Ebrahim Karimi
-
- 13:55 - 14:10 **QLM-10.4 / TRAJECTORY OF A MASSIVE, LOCALIZED WAVE FUNCTION IN A CURVED SPACETIME GEOMETRY**
Qasem Exirifard, University of Ottawa, Canada
Ebrahim Karimi
-
- 14:10 - 14:25 **QLM-10.5 / REAL-TIME TRACKING OF QUANTUM DOT SPECTRAL WANDERING**
Adam Grace, Engineering Physics & Astronomy, Queen’s University, Department of Physics, Canada
Bhavin Shastri, Nir Rotenberg
-
- 14:25 - 14:40 **QLM-10.6 / PHASE CONTROL IN POLARIZATION MAINTAINING FIBER FOR QUANTUM KEY DISTRIBUTION**
Wilson Wu, Institute for Quantum Computing, Canada
Ramy Tannous, Kimia Mohammadi, Paul Godin, Brendon Higgins, Thomas Jennewein
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- 14:40 - 14:55 **QLM-10.7 / OPTICAL QUANTUM MEMORY IN ATOMIC BARIUM WITH 880 GHZ BANDWIDTH AND 95% STORAGE EFFICIENCY**
Tegan Loveridge, University of Illinois Urbana-Champaign, United States of America
Benjamin D. Hunt, Sehyun Park, Kathleen Oolman, Tegan Loveridge, J. Gary Eden, Virginia O. Lorenz
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NONLINEAR OPTICS, NANOPHOTONICS, AND PLASMONICS - 8

ROOM: 515AB

Chair: TBA

13:00 - 13:25 **NL-8.1 / NANOAPERTURE TWEEZERS: FROM SINGLE PROTEINS TO SINGLE QUANTUM EMITTERS**

Reuven Gordon, University of Victoria, Canada

13:25 - 13:50 **NL-8.2 / NONLINEAR NANOPLASMONICS IN GOLD NANOSTRUCTURES AND PLASMONICALLY ENHANCED RANDOM LASERS**

Anderson Gomes, UFPE, Brazil

13:50 - 14:15 **NL-8.3 / COLORIMETRIC METASURFACES FOR NEXT-GENERATION, ON-CHIP IMAGING OF TISSUE MICROSTRUCTURE**

Lisa Poulikakos, UC San Diego, United States of America
Justin Hochberg, Jiuk Byun, Zaid Haddadin, Shahrose Khan, Dae Young Kim, Samantha Bordy, Jonathan Pokorski, Lisa Poulikakos

14:15 - 14:30 **NL-8.4 / TRANSIENT NANOSCALE HEAT ANISOTROPY IN GOLD NANOCROSSES**

Jean-François Bryche, Laboratoire Nanotechnologies Nanosystèmes, CNRS, Université de Sherbrooke, Canada
Marlo Vega, Julien Moreau, Paul-Ludovic Karsenti, Paul Bresson, Mondher Besbes, Philippe Gogol, Denis Morris, Paul Charette, Michael Canva

14:30 - 14:45 **NL-8.5 / EMISSION CONTROL BY WAFER-SCALE HOLLOW NANOPLASMONIC CONE-BASED METAMATERIAL WITH DISPERSIVE 3D MODES AND HIGH FIELD ENHANCEMENT IN VIS AND NEAR-IR**

Rocio Margoth Córdova-Castro, University of Ottawa, Canada
Yaryna Mamchur, Dirk Jonker, Jeremy Upham, Arturo Susarrey-Arce, Robert Boyd

14:45 - 15:00 **NL-8.6 / QUANTUM CARRIER MODELING FOR GATE-TUNABLE PLASMONIC**

Masoud Shabaninezhad, The University of Ottawa, Canada
Lora Ramunno, Pierre Berini

ROOM: 513 HALL

15:00 - 15:15 **COFFEE BREAK**

Thursday

GREEN PHOTONICS, ENERGY, AND RELATED TECHNOLOGIES - 4

ROOM: 514A

Chair: Kirk Bevan, McGill University, Canada

Sharif Sadaf, INRS-EMT, Canada

15:15 - 15:40 **GP-4.1 / PHOTOINDUCED PHASE CHANGE IN THE THERMOELECTRIC MATERIAL SNSD OBSERVED VIA TIME-RESOLVED THZ SPECTROSCOPY**
David Cooke, McGill University, Canada

15:40 - 16:15 **GP-4.2 / POLARIZATION-INDUCED DOPING FOR DEEP-UV PHOTONIC DEVICES**
Debdeep Jena, Cornell University, United States of America

16:15 - 16:40 **GP-4.3 / HETEROGENEOUS INTEGRATION FOR ENERGY-EFFICIENT SOLID-STATE LIGHTING**
William Wong, University of Waterloo, Canada

16:40 - 16:55 **GP-4.4 / TERAHERTZ EMISSION PROPERTIES OF RF-MAGNETRON SPUTTERED GERMANIUM THIN FILMS**
Sanjit Varma, Institut national de la recherche scientifique (INRS)-EMT, Canada
L. Pichon, A. Mohamed, X. Ropagnol, T. Ozaki, M. A. El Khakani

16:55 - 17:20 **GP-4.5 / ALGAN/ALN NANOSTRUCTURES FOR ELECTRON-PUMPED FAR-UVC EMITTERS**
Monroy Eva, CEA-IRIG, France
Elçin Akar, Anjali Harikumar, Ioana Dimkou, Nevine Rochar, Adeline Grenier, Edith Bellet-Amalric, Fabrice Donatini, Stephen Purcell, Monroy Eva

17:20 - 17:35 **GP-4.6 / UNDERSTANDING THE INTERPLAY BETWEEN PHOTOACTIVE AND ELECTROCHEMICAL ACTIVE COMPONENTS FOR DEVELOPING A BATTERY THAT CAN POTENTIALLY BE CHARGED WITH LIGHT**
Will Skene, Université de Montréal, Canada
Michaël Dollé, Will Skene

PHOTONIC MATERIALS - 5

ROOM: 514B

Chair: Mark Andrews, McGill University, Canada

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- 15:15 - 15:40 **PM-5.1 / HYBRID INTEGRATION OF GLASS MATERIALS WITH SILICON PHOTONICS FOR ADVANCED LASER APPLICATIONS**
Wei Shi, Université Laval, Canada
Jean-Michel Vallée
-
- 15:40 - 15:55 **PM-5.2 / EVAPORATED SMALL ORGANIC MOLECULES THIN FILMS FOR SECOND-ORDER NONLINEAR PHOTONICS**
Pierre-Luc Thériault, Polytechnique Montréal, Canada
Stéphane Kéna-Cohen
-
- 15:55 - 16:10 **PM-5.3 / THIOL-INDUCED DIPOLE EFFECT ON GOLD NANOPARTICLES: A STUDY ON THE OPTICAL PROPERTIES AND SENSING APPLICATIONS**
Rana Poushimin, Queens university, Canada
Jean-Michel Nunzi
-
- 16:10 - 16:25 **PM-5.4 / PERFORMANCE IMPROVEMENT OF QUANTUM-DASH MODE-LOCKED LASERS FOR OPTICAL NETWORK SYSTEMS**
Guocheng Liu, National Research Council Canada, Canada
Zhenguo Lu, Jiaren Liu, Philip Poole, Youxin Mao, Martin Vachon, Chun-Ying Song, Pedro Barrios, Nicaulas Sabourin, Xianling Chen
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- 16:25 - 16:40 **PM-5.5 / PERFORMANCE COMPARISON OF INAS/INP QUANTUM DASH/DOT MODE-LOCKED LASERS**
Guocheng Liu, National Research Council Canada, Canada
Philip Poole, Zhenguo Lu, Jiaren Liu, Chun-Ying Song, Youxin Mao, Martin Vachon, Pedro Barrios
-
- 16:40 - 16:55 **PM-5.6 / FABRICATION AND CHARACTERIZATION OF ALN-BASED PHOTONIC DEVICES FOR 1.55 MM APPLICATIONS**
Redouane Amrar, Université de Sherbrooke, Canada
Guillaume Beaudin, Thierry Courcier, Gabriel Droulers, Simon Loquai, Matthieu Nannini, Paul Charette
-
- 16:55 - 17:10 **PM-5.7 / EFFECT ON PHOTOLUMINESCENCE EMISSION OF AMORPHOUS BORON NITRIDE ENCAPSULATION OF LARGE-AREA, PULSED LASER DEPOSITION GROWN TRANSITION METAL DICHALCOGENIDES**
Andres Forero Pico, University of Alberta, Canada
Jyoti Yadav, Junsen Gao, Manisha Gupta
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- 17:10 - 17:25 **PM-5.8 / LIFETIME AND PHOTSENSITIVITY IN LASER EXPOSED TFSI-TREATED MOS₂**
James Godfrey, Queen's University, Canada
Kurt Tyson, Rob Knobel, James Fraser
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- 17:25 - 17:40 **PM-5.9 / GLASS COMPOSITION OPTIMIZATION OF GA₂O₃-BAO-GEO₂ FOR ULTRAFast LASER WRITING**
Albert Dupont, COPL - Université Laval, Canada
Théo Guérineau, Jerome Lapointe, Younès Messaddeq, Réal Vallée
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PHOTONICS AND AI - 5

ROOM: 513

Chair: Sean Molesky, École Polytechnique de Montréal, Canada

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- 15:15 - 15:50 **AI-5.1 / BEYOND META-LENSES: END-TO-END META-OPTICS**
Steven Johnson, Massachusetts Institute of Technology,
United States of America
Zin Lin
-
- 15:50 - 16:15 **AI-5.2 / NOVEL MACHINE LEARNING TECHNIQUES FOR KNOWLEDGE
DISCOVERY AND DESIGN OF NANOPHOTONIC STRUCTURES**
Ali Adibi, Georgia Institute of Technology, United States of America
Muliang Zhu, Mohammad Hadigheh Javani, Ali Adibi
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- 16:15 - 16:40 **AI-5.3 / INTEGRATED PHOTONIC DEEP NETWORKS FOR IMAGE
CLASSIFICATION**
Firooz Aflatouni, University of Pennsylvania, United States of America
Farshid Ashtiani, Alexander Geers
-
- 16:40 - 17:05 **AI-5.4 / INVERSE DESIGN FOR QUANTUM NANOPHOTONICS:
MOLECULAR ENTANGLEMENT AND BELL STATE PREPARATION**
Antonio I. Fernández-Domínguez, Universidad Autónoma de
Madrid, Spain
-
- 17:05 - 17:20 **AI-5.5 / ACCESS TO NEURONAL CONNECTIVITY ANALYSIS WITH
QUANTITATIVE PHASE DIGITAL HOLOGRAPHIC
MICROSCOPY ENHANCED BY SUPERVISED DEEP LEARNING**
Johan Chaniot, Centre de recherche CERVO, Université Laval,
Canada
Maxime Moreaud, Céline Larivière-Loiselle, Mohamed Haouat, Marie-
Eve Crochetière, Erik Bélanger, Pierre Marquet
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- 17:20 - 17:35 **AI-5.6 / DEEP LEARNING PHOTON CORRELATIONS FOR ACCELERATED
SINGLE QUANTUM EMITTER SPECTROSCOPY**
Andrew Proppe, Massachusetts Institute of Technology,
United States of America
Kin Long Kelvin Lee, Cristian L. Cortes, Stephen K. Gray, Brett A.
McGuire, Mouni G. Bawendi
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Thursday

HIGH POWER LASER TECHNOLOGY, ULTRAFAST OPTICS, AND APPLICATIONS - 6

ROOM: 514C

Chair: Bernd Witzel, COPL, Canada

15:15 - 15:30 **HPL-6.1 / FABRICATION AND CHARACTERIZATION OF TERAHERTZ ZONE PLATES BASED ON FOIL STAMPING TECHNIQUE**
Redwan Ahmad, École de technologie supérieure (ÉTS), Canada
Léo Guiramand, Mariia Zhuldybina, Xavier Ropagnol, François Blanchard

15:30 - 15:45 **HPL-6.2 / AIR LASING VECTOR BEAMS**
Yonghao Mi, University of Ottawa, Canada
Kamalesh Jana, Donghyuk Ko, Paul B. Corkum

15:45 - 16:00 **HPL-6.3 / TUNABLE HIGH POWER OPO / OPA FOR AN OPTICAL PUMPED 10MU AMPLIFIER**
Bernd Witzel, Centre d'Optique, Photonique et Laser (COPL) and
Département de Physique, de Génie Physique et d'Optique, Canada
Yacine Kassimi, Bernard Sévigny, Michel Piché, Bernd Witzel

16:00 - 16:15 **HPL-6.4 / EXPERIMENTAL REALIZATION OF THE FRACTIONAL SCHRÖDINGER EQUATION IN OPTICS**
Shilong Liu, Polytechnique Montréal Engineering Physics, Canada

NONLINEAR OPTICS, NANOPHOTONICS, AND PLASMONICS - 9

ROOM: 515AB

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

15:15 - 15:40 **NL-9.1 / NONLINEAR OPTICS IN A DIAMOND MICRO- AND NANO-CAVITIES**
Sigurd Flågan, University of Calgary, Canada
Joe Itoi, Prasoon K. Shandilya, Waleed El-Sayed, Elham Zohari, Parisa Behjat, Natalia C. Carvalho, Vinaya K. Kavatamane, Joseph E. Losby, Paul E. Barclay

15:40 - 15:55 **NL-9.2 / NANOWIRE METAMATERIAL BROADBAND PERFECT ABSORBER FOR SENSITIVE AVALANCHE PHOTODIODE**
Sasan V. Grayli, University of Waterloo, Canada
Burak Tekcan, Brad van Kasteren, Zbigniew Wasilewski, Michael Reimer

15:55 - 16:10 **NL-9.3 / VAPOUR-GROWN PLASMONIC NANOSTRUCTURES ENABLING PURCELL ENHANCEMENT AND STRONG LIGHT-MATTER COUPLING**
Christian Imperiale, Polytechnique Montréal, Canada
Stéphane Kéna-Cohen

16:10 - 16:25 **NL-9.4 / BROADBAND THZ PULSE PROPAGATION IN NONLINEAR MEDIUM: DISPERSION OF THE NONLINEAR REFRACTIVE INDEX**
Soheil Zibod, University of Ottawa, Canada
Ksenia Dolgaleva

16:25 - 16:40 **NL-9.5 / SINGLE-PULSE OPTICAL PUMP-TERAHERTZ PROBE SPECTROSCOPY AT A RATE OF 50 KHZ**
Nicolas Couture, University of Ottawa, Canada
Wei Cui, Markus Lippl, Rachel Ostic, Défi Fandio, Eeswar Yalavarthi, Aswin Vishnuradhan, Angela Gamouras, Nicolas Joly, Jean-Michel Ménard

16:40 - 16:55 **NL-9.6 / IMPACT IONIZATION AND INTERVALLEY SCATTERING INDUCED BY INTENSE FEW-CYCLE THZ PULSES IN UNDOPED INSB THIN FILMS**
Carlos Miguel Garcia Rosas, Institut national de la recherche scientifique, Canada
Xavier Ropagnol, Léo Guiramand, Francois Blanchard, Tsuneyuki Ozaki

16:55 - 17:10 **NL-9.7 / INTENSE BROADBAND TERAHERTZ GENERATION IN BNA PUMPED BY COMPRESSED YTTERBIUM LASER PULSES**
Young-Gyun Jeong, INRS-EMT, Canada
Luca Zannotto, Dong-Jae Seo, Jisoo Kyoung, Bruno E. Schmidt, Mostafa Shalaby, Luca Razzari

Thursday

- 17:10 - 17:25 **NL-9.8 / STRUCTURED LIGHT FROM PHOTONIC & THZ COHERENT SOURCES BASED ON III-V SEMICONDUCTOR LASER TECHNOLOGY**
Arnaud Garnache, IES CNRS, Univ. Montpellier, France
Nathan Vigne, Adrian Bartolo, Baptiste Chomet, Gregoire Beaudoin, Alaeddine Abbes, Mathias Marconi, Konstantin Pantzas, annick Penarier, Philippe Nouvel, Guillaume Ducournau, Mona Jarrahi, Philippe Lalanne, Massimo Giudici, Isabelle Sagnes, Stephane Blin, Luc Le Gratiet
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- 17:25 - 17:40 **NL-9.9 / INSB-BASED THZ PLASMONIC ANTENNA FOR DYNAMIC CONTROL OF RADIATIVE DECAY RATE OF QUANTUM EMITTERS**
Sina Aghili, University of Ottawa, Canada
Rasoul Alaei, Ksenia Dolgaleva
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- 17:40 - 17:55 **NL-9.10 / VECTORIAL SPIN HALL EFFECT OF LIGHT UPON TIGHT FOCUSING**
Ilya Golub, Algonquin College, Canada
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Poster Presentations

Tuesday, June 13, 2023

FROM 18:00 TO 20:00

POSTER SESSION 1 AND EXHIBITION

PS-01	AMBIPOLAR PHOTOELECTRIC DEVICES WITH GAN/INGAN NANOWIRE HETEROJUNCTIONS Milad Fathabadi , McGill University, Department of Electrical and Computer Engineering, Canada Songrui Zhao
PS-03	COMPRESSIVE SPECTRAL VIDEO VIA WAVELENGTH-DYNAMIC CODED APERTURE Pablo Francisco Meza Narvaez , University of La Frontera, Chile David Norato, Andres Jerez, Miguel Marquez, Henry Arguello
PS-05	DEVELOPMENT OF MULTIFOCAL OPTICAL COHERENCE TOMOGRAPHY AND EYE-MIMICKING PHANTOM FOR MOUSE PUP EYE IMAGING Simon Brais-Brunet , Université de Montréal, Canada Raphaël Maltais-Tariant, Caroline Boudoux, Mathieu Dehaes
PS-07	DUAL-DISPERSIVE COMPRESSIVE SPECTRAL STRUCTURED LIGHT IMAGING Miguel Marquez , Universidad Industrial de Santander, Colombia Hoover Rueda, Henry Arguello
PS-09	FAST AND FULLY AUTOMATED HOLOGRAM RECONSTRUCTION, INCLUDING OPTICAL PHASE ABERRATION AND DEFOCUS CORRECTION, FOR TIME-RESOLVED POLYCHROMATIC DIGITAL HOLOGRAPHIC MICROSCOPY Mohamed Haouat , Centre de recherche CERVO, Université Laval, Canada Céline Larivière-Loiselle, Maxime Moreaud, Marie-Eve Crochetière, Erik Belanger, Pierre Marquet
PS-11	INTRAVITAL TWO-PHOTON IMAGING OF MESENCHYMAL STROMAL CELL ACTIVITY IN MOUSE BONE MARROW Abiramy Karunendiran , Wellman Center for Photomedicine and Center for Systems Biology, Massachusetts General Hospital, United States of America Shu-Chi, Allison Yeh, Charles Lin
PS-13	OPTICAL IMAGE ANALYSIS OF MICROSCOPIC PLANT RHIZOIDS FOR ACCURATE DETECTION OF PLANT DORMANCY EXIT Natalia Demidova , University of Toronto, Canada Valentin Laplaud, Stephanie Drevensek, Arezki Boudaoud

PS-15	PEAKFORCE QUANTITATIVE NANOMECHANICAL INFORMATION FOR REVERSE MICELLE SYNTHESIS Linan Cui , McMaster University, Canada Pedro Oliveira, Kyla Sask, Ayse Turak
PS-17	SKIN TONE VIA DEVICE-INDEPENDENT COLOUR SPACE Leah DeVos , Toronto Metropolitan University , Canada Gennadi Saiko, Alexandre Douplik
PS-19	SYMMETRICAL TEMPERATURE DISTRIBUTION IN A SUSPENDED ACTIVE LRSP STRUCTURE Rafael Guzman Cabrera , Universidad de Guanajuato, Mexico Eduardo Perez-Careta, Monserrat Peña Gomar, Miguel Torres-Cisneros, Rafael Guzman Cabrera
PS-21	EFFICIENT BLACK PHOSPHORUS AND BLACK ARSENIC PHOSPHORUS INFRARED LIGHT-EMITTING DIODES USING MECHANICALLY TRANSFERRED METAL CONTACTS Julien Brodeur , Polytechnique Montréal, Canada Stéphane Kéna-Cohen
PS-23	PERFORMANCE AND LONG-TERM STABILITY ANALYSIS OF NI-BASED PASSIVE HEATING COATING Muhammad Asad , Queen's University, Canada Muhammad Alam
PS-25	REVERSE MICELLE TEMPLATED SNOX NANOPARTICLES WITH TUNABLE OXYGEN VACANCY CONCENTRATION FOR HIGH PERFORMANCE METAL/ORGANIC INTERFACES Seungil Lee , McMaster University, Canada Ramis Arbi, Ayse Turak
PS-27	DUAL-LINE C-CUT ND:YVO LASER Arkady Major , University of Manitoba, Canada Arkady Major
PS-29	FEMTOSECOND YB:CALGO LASER OPERATING AT 8 MHZ Arkady Major , University of Manitoba, Canada Arkady Major
PS-31	OPTICALLY PUMPED 10 MM CO2 AMPLIFIER Bernard Sévigny , COPL, Canada Paul-Émile Chantrel, Michel Piché, Bernd Witzel
PS-33	PROGRESS TOWARDS AN IN-VACUUM, REFRESHABLE NANOPARTICLE SOURCE EXPLOITING OPTICAL TWEEZERS FOR USE IN HIGH-INTENSITY EXPERIMENTS Guillaume St-Germain , Institut national de la recherche scientifique (INRS), Canada Jeffrey Powell, Stéphane Payeur, Steve Maclean, François Légaré

PS-35	BOTTOM-UP FABRICATION AND INDIVIDUAL CHARACTERIZATION OF HIGHLY ORGANIZED GOLD NANOPARTICLES ASSEMBLED ON TOBACCO MOSAIC VIRUS COAT PROTEIN WITH RESONANCES IN THE VISIBLE REGIME Alexander Al-Feghali , McGill University, Department of Chemistry, Canada Ismael Abu-Baker, Gonzalo Cosa, Amy Blum
PS-37	INTRACAVITY SUM FREQUENCY GENERATION FOR A FREE SPACE OPTICAL RECEIVER Liam Flannigan , McMaster University, Canada Ali Atwi, Tyler Kashak, Daniel Poitras, Chang-Qing Xu
PS-39	PURCELL ENHANCED NANOWIRE QUANTUM DOT SOURCES OF SINGLE AND ENTANGLED PHOTONS Sayan Gangopadhyay , University of Waterloo, Canada Bruno Rodriguez, Mohd Zeeshan, Sasan Grayli, Matteo Pennacchiotti, Iman Zadeh, Dan Dalacu, Philip Poole, Michael Reimer
PS-41	REACHING STRONG LIGHT-MATTER COUPLING REGIME WITH PLASMONIC NANO-CUBE OVER MIRROR ARRAY AND EXCITON IN TMD MONOLAYER Raphael Gherman , Université de Sherbrooke, Canada Guillaume Beaudin, Pierre Levesque, Steve MacLean, Serge Ecoffey, Paul Charette
PS-43	SELF-FOCUSING OF ELLIPTICAL GAUSSIAN LASER BEAM IN WEAKLY RELATIVISTIC PLASMA Rohit Sharma , Satyam Institute of Engineering and Technology , India Richa Richa
PS-45	TUNING THE OPTICAL RESONANCES IN PLASMONIC NANOSTRUCTURED ARRAYS Li-Lin Tay , National Research Council Canada, Canada John Hulse
PS-47	COHERENT CONTROL OF HOT ELECTRON EMISSION WITH INFRARED PULSED LASER LIGHT Braulio Antonio , Queen's University, Canada Jean-Michel Nunzi
PS-49	EFFICIENT POLARIZATION BEAM SPLITTER IN THE SILICON NITRIDE PLATFORM FOR THE OPTICAL O-BAND Zindine Mokeddem , Centre de nanosciences et de nanotechnologies, CNRS, Université Paris-Saclay, France Daniele Melati, Carlos Alonso-Ramos, Laurent Vivien, Delphine Marris-Morini, Eric Cassan, Jens Schmid, Pavel Cheben, Dan-Xia Xu, Maziyar Milanizadeh, Yuri Gringerg

PS-51	2X2 ULTRA-BROADBAND MULTIMODE INTERFERENCE COUPLER WITH SUBWAVELENGTH GRATINGS FABRICATED BY IMMERSION LITHOGRAPHY Warren Kut King Kan , CEA-LETI, France Sara Toxqui-Rodriguez, David Medina-Quiroz, Paula Nuño Ruano, Daniele Melati, Eric Cassan, Delphine Marris-Morini, Laurent Vivien, Pavel Cheben, Laetitia Adelmini, Daivid Fowler, Carlos Alonso-Ramos
PS-53	DIVIDE AND FOCUS BY BREAKING SYMMETRY AND CREATING A NEW ONE: GENERATION OF AND SIMPLE SWITCHING BETWEEN NOVEL FOCAL MODALITIES BY PHASE SPLITTING THE INCOMING BEAM Ilya Golub , Algonquin College, Canada Ilya Golub
PS-55	EFFICIENTLY HARVESTING INFRARED ENERGY: AN OPTIMIZATION STRATEGY FOR RECTENNA DESIGN Ahmed Elsharabasy , Toronto Metropolitan University - Cairo Campus, Egypt Mohamed Bakr, M. Jamal Deen
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Wednesday, June 14, 2023

FROM 18:00 TO 20:00

POSTER SESSION 2 AND EXHIBITION

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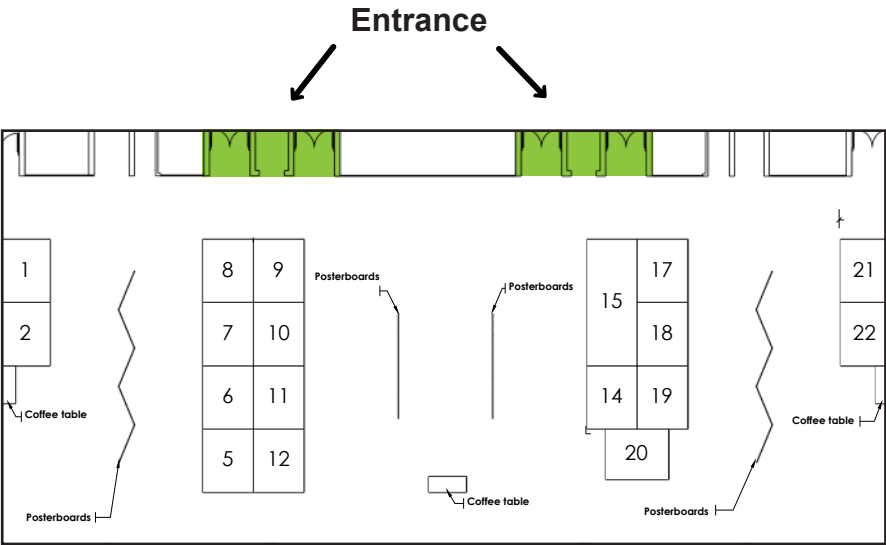
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Arakawa, Yasuhiko	OPT-3.1	22
Arbi, Ramis	NL-2.4, PM-1.5, GP-3.5, PS-25, PS-22	38, 50, 61, 73, 78
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Arlt, Soeren	OPT-9.6	45
Arnold, Michael S.	NL-4.6, PS-79	47, 76
Arroyo-Rivera, Edgar Samuel	NL-6.1	56
Artyschchuk, Volodymyr	PTD-1.1	16
Asad, Muhammad	PS-23	73
Ashtiani, Farshid	AI-5.3	68
Asim, Arslan	BP-10.2	49
Atchison, David A.	BP-4.2	24
Atieh, Ahmad	PTD-5.4, NL-1.2, PTD-10.3	31, 35, 51
Atwi, Ali	PS-37	74
Aubin, Guy	PTD-1.3	16
Avanaki, Kamran	BP-9.3	43
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Babazadeh, Amin	QLM-8.5	40
Babiarczuk, Bartosz	PTD-11.3	55
Badiulescu, Simona	PS-66	80
Bailleul, Damien	HPL-4.2	26
Bajcsy, Michal	PS-77	76
Bajoni, Daniele	OPT-1.4	15
Bakhtbidar, Mohammad	NL-5.3	51
Bakr, Mohamed	GP-3.4, PS-55	61, 75
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Balistreri, Giacomo	HPL-5.5	32
Ballios, Brian	BP-9.2	43
Baloukas, Bill	BP-8.2	39
Bao, Zhuoran	QLM-5.2	29
Barclay, Paul E.	NL-9.1	70
Barnes, Edwin	QLM-9.4	44
Barolo, Claudia	PTD-3.5	23
Baron, Amélie	PS-16	77
Barona Ruiz, Miguel	PTD-9.3	46
Barrios, Pedro	NL-1.2, OPT-9.4, PM-5.4, PM-5.5	35, 45, 67, 67
Bartolo, Adrian	NL-9.8	71
Barzanjeh, Shabir	NL-4.2	47

Baten, Zunaïd	GP-1.3	52
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Bawendi, Mouni G.	AI-5.6	68
Baxter, Joshua	PTD-1.4, AI-2.4	16, 54
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Beaudin, Guillaume	PM-5.6, PS-41, PS-59	67, 74, 75
Beaudoin, Gregoire	NL-9.8	71
Beaumont, Catherine	GP-1.4	52
Beaupré, Patrick	GP-1.4	52
Behjat, Parisa	NL-9.1	70
Belanger, Erik	PS-09, BP-1.4, BP-7.4, AI-5.5	72, 14, 36, 68
Bellet-Amalric, Edith	GP-4.5	66
Belli, Federico	HPL-3.3	23
Bellinger, Colin	PS-72	80
Bencheikh, Fatima	PS-78	81
Benco, Miroslav	PS-02	77
Benedikovic, Daniel	PTD-5.3, PTD-5.4, OPT-6.3	31, 31, 34
Bennett, Elisha	PS-18	78
Bente, Ivonne	AI-2.2	54
Berikaa, Essam	OPT-5.3	30
Berini, Pierre	OPT-2.2, PTD-5.5, T-3, NL-7.4, NL-8.6	18, 31, 57, 60, 65
Bernal, Santiago	PM-2.2	53
Bernier, Martin	PM-3.1	58
Bertness, Kris	GP-1.5	52
Besbes, Mondher	NL-8.4	65
Bevan, Kirk	GP-2.1	57
Bhandari, Harish	OPT-7.3	37
Bianuci, Pablo	OPT-2.1	18
Bidnyk, Serge	PTD-7.1	38
Bixler, Joel	BP-2.4	17
Bizheva, Kostadinka	BP-9.5	43
Bizhva, Kostadinka	BP-9.2	43
Black, A. Nicholas	NL-6.1	56
Blanchard, François	HPL-5.7, PM-2.4, PTD-11.4, HPL-6.1, NL-9.6, PS-71, PS-32	32, 53, 55, 69, 70, 76, 78
Blankespoor, Devin	AI-4.4	63
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Boeuf, Frederic	PS-59	75
Boisvert, Jonathan	BP-3.6, PS-14	20, 77
Boktor, Marian	BP-6.3	33
Bollani, Monica	PTD-11.3	55
Boller, Klaus	NL-4.3	47
Bonazzi, Thomas	OPT-4.2	25
Bonilla Villatoro, William Ricardo	PS-69	76
Bonomo, Matteo	PTD-3.5	23
Bonsma-Fisher, Kent	QLM-3.2, QLM-3.4, QLM-3.5	21, 21, 21
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Boon, Ari	PS-48	79
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Borne, Jeck	PM-2.5	53
Bouchard, Frédéric	QLM-4.2, QLM-4.3, QLM-7.1, QLM-8.2	24, 25, 37, 40
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Bouillon, Christopher	PM-2.5	53
Boulanger, Vincent	HPL-1.4	17
Bouma, Brett E.	BP-9.6	43
Boyd, Bob	OPT-9.1	45
Boyd, Robert	NL-4.1, NL-6.1, PM-4.5, NL-8.5, PS-56	47, 56, 62, 65, 79
Bradley, Jonathan D. B.	OPT-4.4, OPT-4.5, PS-61, PS-63	25, 25, 75, 75
Brahms, Christian	HPL-3.3	23
Brais-Brunet, Simon	PS-05	72
Brassard, Gilles	PL-2	38
Braveman, Boris	PS-40	79
Bresson, Paul	NL-8.4	65
Briqueleur, Elsa	GP-4.6	66
Brittain, Kennedy	BP-7.5	36
Brodeur, Julien	PS-21	73
Brodie, C. Harrison	HPL-5.3, PS-28, PS-60	32, 78, 80
Brodutch, Aharon	QLM-9.6	44
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Brücknerhoff-Plückelmann, Frank	AI-2.2	54
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Bryche, Jean-François	BP-10.1, NL-8.4	49, 65
Buhari, Abudhahir	PTD-10.3	51
Buhl, Janek	PTD-5.1	31
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Bursi, Oreste S.	PTD-11.3	55
Bustard, Philip	QLM-3.2, QLM-3.4, QLM-3.5, QLM-4.2, QLM-4.3	21, 21, 21, 24, 25
Byun, Jiuk	NL-8.3	65
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Cada, Michael	BP-10.2	49
Cai, Yangjian	OPT-5.6	30
Calà Lesina, Antonio	PTD-1.4, PTD-7.4	16, 38
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Calzavara, Florian	PM-3.1	58
Campbell, Melanie C. W.	BP-4.2, BP-7.6	24, 36
Cañas, Jesus	GP-4.5	66
Cannon, Taylor M.	BP-9.6	43
Canva, Michael	BP-10.1, NL-8.4, PS-59	49, 65, 75

Carbone, Emile	GP-3.1	61
Cardano, Filippo	QLM-8.5	40
Cardinal, Thierry	PM-3.1	58
Carlier, Thomas	BP-10.1	49
Carlotto, Alice	PTD-3.5, PTD-11.3	23, 55
Carlow, Graham	PM-4.5, PS-56	62, 79
Carolan, Jacques	QLM-5.5	29
Carusotto, Iacopo	NL-7.3	60
Carvalho, Natalia C.	NL-9.1	70
Caspani, Lucia	QLM-4.1, QLM-4.4	24, 25
Cassan, Eric	PTD-1.3, PTD-5.3, OPT-8.1, PTD-8.2, PS-49, PS-51	16, 31, 41, 41, 74, 75
Chaigneau, Marc	BP-10.1	49
Chander Bhan, Chander Bhan	PS-59	75
Chaniot, Johan	BP-7.4, AI-5.5	36, 68
Chantrel, Paul-Émile	HPL-6.3, PS-31	69, 73
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Charette, Paul	BP-10.1, NL-8.4, PM-5.6, PS-41, PS-59	49, 65, 67, 74, 75
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Chauhan, Akash	PTD-2.1	18
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Chen, Keru	AI-4.3	63
Chen, Keyu	BP-9.5	43
Chen, Lawrence	HPL-1.1, OPT-5.3	16, 30
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Chen, Qiying	OPT-7.2	37
Chen, Xianling	PM-5.4	67
Chen, Zhigang	NL-1.1	35
Cheng, Tonglei	HPL-4.2	26
Cheriton, Ross	PTD-1.1, BP-10.4, PS-72	16, 49, 80
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Childress, Lilian	NL-4.5	47
Chomet, Baptiste	NL-9.8	71
Choudhary, Saumya	NL-6.1	56
Choy, Jennifer	NL-5.2	51
Christie, Sean	BP-7.5	36

Chu, Sai T.	QLM-4.1, QLM-5.6, OPT-6.1, AI-2.5	24, 29, 34, 54
Cibie, Anthony	OPT-4.3	25
Cicoira, Fabio	GP-2.4	57
Cino, Alfonso	QLM-4.1	24
Cisek, Richard	BP-7.3, BP-7.5, PS-18	36, 36, 78
Cléroux Cuillerier, Alexandre	PM-2.5	53
Coish, William	NL-7.3	60
Collier, Christopher M.	HPL-5.3, PS-28, PS-60	32, 78, 80
Colombel, Simon	PS-80	81
Cooke, David	GP-4.1	66
Córdova-Castro, Rocio Margoth	PM-4.5, NL-8.5, PS-56	62, 65, 79
Corkum, Paul B.	HPL-5.2, HPL-6.2	32, 69
Corriveau, Michel	OPT-1.2	15
Cortes, Cristian L.	AI-5.6	68
Cosa, Gonzalo	PS-35	74
Costanzo-Caso, Pablo A.	OPT-10.5	59
Courcier, Thierry	PM-5.6	67
Couture, Nicolas	NL-9.5	70
Cowan, Glenn	OPT-9.5	45
Crochetière, Marie-Eve	BP-7.4, AI-5.5, PS-09	36, 68, 72
Crockett, Benjamin	OPT-3.4, QLM-5.6, HPL-5.1	22, 29, 32
Crowder, Gavin	QLM-9.1	44
Crowe, Iain	PTD-1.2	16
Cruz, Artorix de la	BP-10.2	49
Cui, Linan	PS-15	73
Cui, Wei	NL-9.5	70
Cullis, Pieter	PS-16	77
Cusson, Patrick	QLM-10.2	64
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D. Smith, Benjamin	PS-82	81
D'Errico, Alessio	QLM-1.1, QLM-1.2, QLM-1.3, QLM-9.3, OPT-10.2, QLM-10.3	14, 15, 15, 44, 59, 64
D'Mello, Yannick	PM-2.2	53
Dainese, Paulo	PTD-8.3	41
Dalacu, Dan	PS-39	74
Danto, Sylvain	PM-3.1	58
Darcie, Todd	PTD-6.3	34
Das, Ranjan	OPT-4.1	25
Dauphin, Alexandre	QLM-8.5	40
Davis, John	PS-74	80
de Araujo, Renato	BP-4.4	24
de Haan, Hendrick W.	PS-14	77
de Mooij, Ernst	PTD-1.1	16
de Oliva Rubio, JOse	OPT-5.2	30
De Paoli, Greta	OPT-9.2	45
Decorby, Ray	PTD-4.2	26

Dedyulin, Sergey	BP-10.4	49
Deen, M. Jamal	OPT-5.4, GP-3.4, PS-55	30, 61, 75
Dehaes, Mathieu	PS-05	72
Dehghan, Nazanin	QLM-1.3, OPT-10.2	15, 59
Dekermenjian, Maria	NL-6.5	56
Del Balzo, Livia	OPT-4.2	25
Del'Haye, Pascal	NL-3.1	42
Delarosbil, Jean-Luc	PM-3.1	58
Delgado-Pinar, Martina	PTD-4.1	26
Dely, Hamza	OPT-4.2	25
Demarquette, Nicole	PS-54	79
Demidova, Natalia	BP-9.6, PS-13	43, 72
Densmore, Adam	PTD-1.1	16
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Desautels, Julien	AI-2.4	54
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DeVos, Leah	PS-17	73
Dhaliwal, Khushmeet	BP-9.2	43
Dhalla, Rahim	BP-4.2	24
Dhavamani, Abitha	NL-4.6, PS-79	47, 76
Dhillon, Ajaypal Singh	OPT-3.5	22
Di Colandrea, Francesco	QLM-8.5	40
Di Lauro, Luigi	OPT-6.1, AI-2.5	34, 54
Dias, Antonio	PTD-1.3	16
Didier, Pierre	OPT-4.2	25
Dignam, Marc	PS-48	79
Dimkou, Ioana	GP-4.5	66
Dinakaran, Deepak	BP-6.3	33
Dinh, Thi-Thuy-Duong	PTD-1.3, PTD-5.3	16, 31
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Dolgaleva, Ksenia	OPT-3.6, PM-4.4, NL-9.4, NL-9.9	22, 62, 70, 71
Dollé, Michaël	GP-4.6	66
Dominguez Bucio, Thalia	OPT-9.2	45
Donatini, Fabrice	GP-4.5	66
Dong, Junliang	HPL-5.6	32
Douplik, Alexandre	PS-17, PS-06	73, 77
Drevensek, Stephanie	PS-13	72
Drouillard, Nathan	HPL-2.3, HPL-3.5	19, 23
Droulers, Gabriel	PM-5.6	67
Dubreuil, Nicolas	OPT-8.1	41
Ducournau, Guillaume	NL-9.8	71
Dufour, Suzie	PS-69	76
Dupont, Albert	PM-5.9	67
Durr, Nicholas	BP-5.3	28
Dyatlov, Mikhail	OPT-8.1	41
E		
Ebrahimzadeh Niari, Saeid	HPL-1.2	16
Ecclestone, Benjamin	BP-6.3	33
Ecoffey, Serge	PS-41	74

Economou, Sophia	QLM-9.4	44
Eden, J. Gary	QLM-10.7	64
El Badaoui, Sultan	OPT-4.3	25
El Boutaybi, Ali	OPT-8.1	41
El Khakani, M. A.	GP-4.4	66
El-Mottaleb, Somia A. Abd	OPT-2.3, OPT-3.3	18, 22
El-Sayed, Waleed	NL-9.1	70
Elsharabasy, Ahmed	PTD-2.1, GP-3.4, PS-55	18, 61, 75
Ember, Katherine	BP-8.2	39
Emslie, David	PS-63	75
England, Duncan	QLM-1.4, QLM-2.3, QLM-3.2, QLM-3.4, QLM-3.5, QLM-4.2, QLM-4.3, QLM-8.2, QLM-8.3, PS-10	15, 18, 21, 21, 21, 24, 25, 40, 40, 77
Epping, Jörn P.	NL-4.3	47
Eshaghi, Armaghan	AI-2.5	54
Espinosa, Daniel	OPT-3.6	22
Essington, Mackenzie	PTD-2.1, PTD-8.4	18, 41
Eva, Monroy	GP-4.5	66
Ewaniuk, Jacob	QLM-5.5	29
Exirifard, Qasem	QLM-10.4	64
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Fabian Pecile, Vito	HPL-1.2	16
Fandio, Défi	NL-9.5	70
Fargin, Evelynne	PM-3.1	58
Farina, Andrea	PTD-3.5	23
Farnesi, Daniele	PTD-4.1	26
Fasciszewski, Alejandro	OPT-10.5	59
FasihaniFard, Mohammadreza	PS-58	80
Fathabadi, Milad	PS-01	72
Fatin, M. A. Ruhul	PTD-9.2	46
Fei, Chuhong	PS-70	80
Felefele, Kaleb B.	BP-4.2	24
Fellinger, Jakob	HPL-1.2	16
Fenwick, Kate	QLM-4.2, QLM-4.3	24, 25
Ferland, Samuel	PS-69	76
Fernández de Cabo, Raquel	PTD-1.3	16
Fernández Hinstrosa, Alejandro	PTD-9.3	46
Fernández-Domínguez, Antonio I.	AI-5.4	68
Fernie, David	OPT-1.2	15
Ferrari, Maurizio	PTD-3.5, PTD-11.3	23, 55
Ferrer-Garcia, Manuel	QLM-10.3	64
Fine, Alan	BP-10.2	49

Fischer, Bennet	QLM-4.1, HPL-4.4, QLM-5.6, OPT-6.1, AI-2.5	24, 26, 29, 34, 54
Flågan, Sigurd	NL-9.1	70
Flannigan, Liam	PS-37, PS-68	74, 80
Flint, Alexander	OPT-9.2	45
Fonseca Romero, Karen Milena	PS-75	76
Forero Pico, Andres	PM-4.2, PM-5.7	62, 67
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Frankis, Henry C.	OPT-4.4, OPT-4.5, PS-61	25, 25, 75
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Fraser, James	PM-5.8	67
Fraser, William	PTD-5.4, OPT-6.3	31, 34
Freitas, Brayden	PS-10	77
Frigenti, Gabriele	PTD-4.1	26
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Gacemi, Djamal	OPT-4.2	25
Galliano, Simone	PTD-3.5	23
Galstian, Tigran	PM-2.3, PM-2.4	53, 53
Gamouras, Angela	NL-9.5	70
Gandubert, Gabriel	PS-32	78
Gangopadhyay, Sayan	PS-39	74
Gao, Junsen	PM-5.7	67
Gao, Liang	BP-2.3	17
Gao, Xiaojin	QLM-1.2, QLM-7.1, OPT-9.6	15, 37, 45
Gao, Yuxuan	PTD-9.5, OPT-10.4, PS-61	46, 59, 75
Garcia Rosas, Carlos Miguel	NL-9.6	70
Garcia-Echeverria, Jose	OPT-9.5	45
Gardes, Frederic	OPT-9.2	45
Garnache, Arnaud	NL-9.8	71
Gates, James	OPT-9.2	45
Gedeon, Johannes	PTD-7.4	38
Geers, Alexander	AI-5.3	68
Gefen, Yuval	QLM-10.3	64
Geiselman, Michael	OPT-8.2	41
Genter, Kristen	GP-1.5	52
Gentleman, Wendy	BP-10.2	49
Georgakoudi, Irene	BP-4.1	24
Gerken, Martina	PTD-5.1	31
Gerrits, Thomas	QLM-7.2	37
Gherman, Raphael	PS-41	74
Ghosh, Arnob	GP-3.6	61
Ghosh, Hrilina	PM-1.4	50
Ghosh, Sagnik	HPL-2.3	19
Ginel-MOreno, Pablo	OPT-5.2	30
Giroux, Jean-Xavier	BP-7.4	36
Gisder, Thomas	PM-2.4	53
Giudici, Massimo	NL-9.8	71
Gluszek, Aleksander	HPL-3.4	23
Godbout, Nicolas	BP-10.5	49

Godfrey, James	PM-5.8	67
Godin, Paul	QLM-10.6	64
Gogol, Philippe	NL-8.4	65
Goh, Joslin	BP-4.2	24
Goldberg, Aaron	QLM-5.3	29
Golub, Ilya	NL-9.10, PS-53, PS-62	71, 75, 80
Gomes, Anderson	NL-8.2	65
Gomez, Federico	OPT-1.1	15
González-Andrade, David	PTD-1.3, PTD-5.3	16, 31
Gopinath, Juliet	NL-2.1	38
Gordon, Reuven	NL-8.1	65
Gostimirovic, Dusan	PTD-9.2	46
Grace, Adam	QLM-10.5	64
Gray, Stephen K.	AI-5.6	68
Grayli, Sasan	PS-39	74
Grenapin, Florence	QLM-1.1	14
Grenier, Adeline	GP-4.5	66
Griessmann, Martin	PS-65	75
Grigороva, Teodora F.	HPL-3.3	23
Grillot, Frederic	OPT-4.2	25
Grinberg, Yuri	OPT-5.1, AI-4.3, AI-4.4	30, 63, 63
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Grobnc, Dan	QLM-3.5	21
Grover, Amit	OPT-2.3, OPT-3.3	18, 22
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Gupta, Manisha	BP-10.3, PM-4.2, PM-5.7	49, 62, 67
Gustav Kurz, Heiko	PM-2.4	53
Guzman Cabrera, Rafael	PS-19	73
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Haddadin, Zaid	NL-8.3	65
Hadigheh Javani, Mohammad	AI-5.2	68
Hadij ElHouati, Abdelfetah	OPT-5.2	30
Haebertlé, Louis	NL-4.6, PS-79	47, 76
Hajati, Morteza	OPT-5.5, OPT-5.6	30, 30
Haji Reza, Parsin	BP-6.3	33
Haldar, Raktim	NL-4.3	47
Halir, Robert	PTD-1.3, OPT-5.2, PTD-9.3	16, 30, 46
Halsall, Matthew	PTD-1.2	16
Hammond, T. J.	HPL-2.3, HPL-3.5	19, 23
Hansen, Katherine	OPT-7.3	37
Hao, Tianyi	NL-7.4	60
Haouat, Mohamed	BP-1.4, BP-7.4, AI-5.5, PS-09	14, 36, 68, 72
Harikumar, Anjali	GP-4.5	66
Hartl, Ingmar	HPL-1.2	16

Harvey, MacAulay	BP-7.3, BP-7.5, PS-18	36, 36, 78
Hashemi, Batoul	OPT-4.4, OPT-4.5, PS-61, PS-63	25, 25, 75, 75
Hassan, Emadeldeen	PTD-7.4	38
Hatef, Ali	PS-64	80
Hawes, Kassandra	PS-77	76
Haxsen, Frithjof	HPL-1.3	17
Haydar Sarper, Salman	HPL-1.2	16
Heckl, Oliver	HPL-1.2	16
Helmy, Amr S.	PTD-2.1	18
Hemmati, Hafez	PTD-6.1	34
Hendriks, Ward	PTD-11.1	55
Herrera, Felipe	PS-78	81
Herrera Cortes, Oscar	PM-4.6	62
Heshami, Khabat	QLM-1.2, QLM-4.2, QLM-7.1	15, 24, 37
Heyl, Christoph	HPL-1.2	16
Higginbottom, Daniel	QLM-9.5	44
Higgins, Brendon	QLM-10.6	64
Hinzer, Karin	PTD-1.1	16
Hnatovsky, Cyril	QLM-3.5	21
Hochberg, Justin	NL-8.3	65
Hodgson, Hazel	QLM-2.3	18
Hoffman, Nicholas	PS-63	75
Hogan, Ryan	PM-4.5, PS-56	62, 79
Honari, Shahin	NL-3.3	42
Horvath, Cameron	PTD-6.2	34
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Krenn, Mario	OPT-9.6	45
Kreplak, Laurent	BP-7.3	36
Kruzelecky, Roman	OPT-1.2	15
Krzak, Justyna	PTD-11.3	55
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Mastronardi, Lorenzo	OPT-9.2	45
Mathevet, Fabrice	PS-78	81
Mattar, Sara	BP-7.4	36
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Mitchell, Colin	PTD-9.4	46
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Moss, David	QLM-5.6, OPT-6.1, AI-2.5, AI-2.6, NL-6.3	29, 34, 54, 54, 56
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Norato, David	PS-03	72
Norris, Evan	AI-2.4	54
Notaros, Jelena	PTD-2.2	18
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Paquet, Chantal	BP-3.6, PS-14	20, 77
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Pellerin, Félix	NL-7.3	60
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Perron, Nicolas	HPL-4.4	26
Pervak, Vladimir	HPL-3.4	23
Peter, Yves-Alain	PS-76	80
Peters, Rob	BP-7.2	36
Peyrot, Donald	PM-3.2	58
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Poulikakos, Lisa	NL-8.3	65
Poulsen, Brett	PTD-2.1, PTD-8.4	18, 41
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