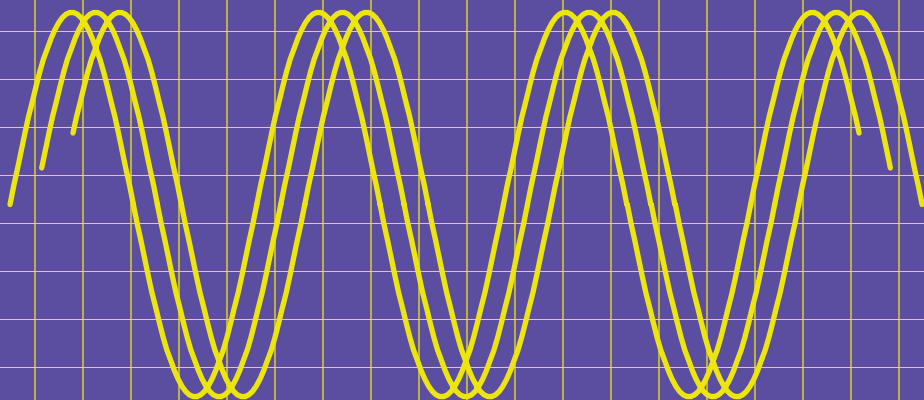


**IONS**<sup>®</sup>  
Québec  
2016



**International OSA<sup>®</sup> Network of Students**  
**May 20 to 22 2016**  
**Université Laval, Québec, Canada**

**OSA<sup>®</sup> | 100**

**ciena.**

**TeraXion**

## A word from the organization committee

Dear participants,

Organizing the IONS<sup>®</sup> Québec 2016 conference has truly been a privilege for us. We have had our share of fun and excitement in the process, and we really hope you will feel and experience it during the event.

Wherever you may be coming from (and we know the origins are quite diverse!), we would like to encourage you to talk with as many people as possible, including our generous plenary speakers and us. Ask your questions, tell your story, share your ideas and replenish on new perspectives! The IONS<sup>®</sup> conferences constitute, after all, the perfect opportunity to do so.

It is of course essential to pause and recognize the support of all our partners. Without them, it would have been impossible to offer a free event to everyone, an ambitious goal that we have set for ourselves more than half a year ago. These partners have chosen to support the IONS<sup>®</sup> Québec 2016 conference because they understand the importance of the studies you are doing not only for academia, but also for industry, for society, and for yourself. They know you will constitute the next generation of professors, scientists, engineers, entrepreneurs, and leaders, and they see the value in the dialogue promoted by this conference. If you find the opportunity to do so, please take the time to thank their representatives.

Should you have any questions, do not hesitate to ask us! We (think we) are pretty friendly people, and our main goal is for you to have a great time in Québec! If you have something urgent to communicate or ask (e.g. you are lost in the city or you woke up too late for your morning talk), please use one of the two following phone numbers. Otherwise, you can always use REPOL's e-mail address.

**Sébastien (Runner)** 1 819 699-3150

**Vincent (President)** 1 581 922-3672

**[repol@phy.ulaval.ca](mailto:repol@phy.ulaval.ca)**

Above all, exchange, connect, and have fun!

**The IONS<sup>®</sup> Québec 2016 Organization Committee**

## A word from our official sponsors

Dear delegates,

It is with great pride and honor that TeraXion and Ciena have partnered with the Regroupement des étudiants en photonique et optique de Laval (REPOL) to act as the official partners of the IONS® Québec conference to be held from May 20-22, 2016 in Québec City. In these fast-paced times, it is more crucial than ever for Canadian companies to join forces with academic institutions like Université Laval and the IONS® program to continue developing leading-edge technology, and to attract and retain expertise and talents. Without a strong research base, there is no innovation to feed our business and to meet our customers' ever-increasing technical demands.

This conference is also a great opportunity for you to connect and learn what drives companies like ours to move forward and to maintain our leadership in our fields of expertise: Telecom, industrial lasers and aerospace. Just as industry needs research, so does academia need industry. This constant feedback, facilitated through such platforms as the IONS® Québec conference, will shape our common future.

We are confident that IONS® Québec 2016 will be a forum for interesting exchanges, fruitful networking opportunities and will spark many ideas to enrich the field of optics and photonics. Come discuss with our representatives and visit our booths to learn more about our companies, our challenges and potential career opportunities. We wish you a very successful conference and enjoy your stay in beautiful Québec City.

**Martin Guy**

**Alain-Jacques Simard**

**ciena**

**TeraXion**

# Schedule

## Thursday May 19<sup>th</sup>

1:00 pm to 7:00 pm

### Registration

Dining Hall

Pavillon d'Optique-photonique (COPL)

7:00 pm to 7:30 pm

### Transit

Join us for a walk to the restaurant

7:30 pm to late

### Get Together Dinner

Bistro Bar L'Autre Cuisine

## Friday May 20<sup>th</sup>

Registration between 8 am & 12 pm in the hall of Pavillon La Laurentienne

8:30 am to 9 am

### Testing period

Rooms 1334 & 2415

2:30 pm to 3:00 pm

### Coffee Break



9:00 am to 10:15 am

### Session P1

Room 1334

### Session O

Room 2415

3:00 pm to 4:00 pm

### Plenary Session

#### *Peter Delfyett*

Room 1334

10:15 am to 10:45 am

### Coffee Break



4:00 pm to 4:30 pm

### Coffee Break



10:45 am to 11:15 am

### Chapter Talk

Room 1334

4:30 pm to 5:45 pm

### Industrial Panel

Room 1334

11:15 am to 12:15 pm

### OSA Ambassador Talk

#### *Chad Husko*

Room 1334

5:45 pm to 6:30 pm

### Poster Setup / Break

Grand Salon

Pavillon Alphonse-Desjardins

12:15 am to 1:15 pm

### Lunch

Pavillon Cafeteria

6:30 pm to 9:30 pm

### Cocktail & Poster Session

#### Presented by Ciena-Teraxion

Grand Salon

Pavillon Alphonse-Desjardins

1:15 pm to 2:30 pm

### Session L1

Room 1334

### Session T

Room 2415

9:30 pm to late

### Get Together Party

Pub Universitaire

Pavillon Alphonse-Desjardins

## Saturday May 21<sup>st</sup>

9:00 am to 10:15 am

**Session P2** | **Session S1**  
Room 1334 | Room 2415

10:15 am to 10:45 am

**Coffee Break** ☕

10:45 am to 12:00 pm

**Session S2** | **Session L2**  
Room 1334 | Room 2415

12:00 pm to 1:00 pm

**Lunch**  
Room 1320

1:00 pm to 3:00 pm

**Plenary Session**  
***Jean-luc Doumont***  
Room 1334

3:00 pm to 3:30 pm

**Coffee Break** ☕

3:30 pm to 5:00 pm

**Session P3** | **Session N**  
Room 1334 | Room 2415

5:00 pm to 5:30 pm

**Closing Ceremony**  
Room 1334

5:30 pm to 7:30 pm

**Transit**

7:30 pm to 9:30 pm

**OSA Centennial Banquet**  
Restaurant Grigio

9:30 pm to late

**Get Together Party**  
Les 3 Brasseurs

## Sunday May 22<sup>nd</sup>

9:00 am to 11:00 am

**Lab Tour & Khet Tournament**  
Dining Hall  
Pavillon d'Optique-photonique (COPL)

11:00 am to 2:30 pm

**Sugar Shack Activity**

**Rooms 1320, 1334, and 2415 are in Pavillon La Laurentienne**

**Please refer to the map for exact location details**

## Invited speakers

### Dr Chad Husko

*Ambassador, The Optical Society (OSA)  
Alexei Abrikosov Fellow, Argonne National Laboratory, Illinois*

#### PUTTING YOUR PHD TO WORK

Ph.D. research is a challenging and rewarding pursuit. Conducting research and sharing our results is the main focus of these years. As we approach the final period of our studies (or earlier for some!) we begin to consider our next career steps. It is often surprising to learn about the wide variety of careers available beyond academia and industry.

The good news is the skills learned in a PhD are in high demand across a variety of disciplines and physics graduates are very employable. The challenge for newly minted graduates is HOW to translate these skills into language understood by the general public.

In this talk, we will explore career paths beyond academia and see some example fields our colleagues have entered and excelled in. What are your colleagues doing? Have you considered what first steps you'd like to pursue after your Ph.D.? Take a pen and paper and jot down a few thoughts to help illuminate our discussion.

### Dr Peter J. Delfyett

*Pegasus Professor and Trustee Chair Professor of Optics, EE & Physics  
Director, Townes Laser Institute CREOL The College of Optics and Photonics, Florida*

#### SEMICONDUCTOR LASER BASED OPTICAL FREQUENCY COMBS – APPLICATIONS IN COMMUNICATIONS AND SIGNAL PROCESSING

The development of optical frequency combs are ushering in a new wave of possibilities in measurement precision and signal processing functionality. The salient features are the precise frequency locations of each comb tooth and the relative stability and spectral coherence of each comb component. By having access to each comb tooth, one can employ modulation and detection on individual components or groups of components, depending on the application. This allows for precision metrology and parallel signal processing and format independent optical communications functionality. In this presentation, we demonstrate several signal processing functionalities using optical frequency combs, specifically, real-time arbitrary waveform generation, high-speed optical sampling for arbitrary waveform measurement and matched filtering.

### Dr Jean-luc Doumont

*Principiaæ*

#### MAKING THE MOST OF YOUR PRESENTATION

Strong presentation skills are a key to success for engineers, scientists, and others, yet many speakers are at a loss to tackle the task. Systematic as they otherwise can be in their work, they go at it intuitively or haphazardly, with much good will but seldom good results. In this talk, Dr Doumont proposes a systematic way to prepare and deliver an oral presentation: he covers structure, slides, and delivery, as well as stage fright.

#### Technology transfer in optics: From academia to industry

##### Moderator:

**Yves Plourde**  
Chief Executive Officer  
Entrepreneuriat Laval

##### Invited panelists:

**Pierre Pedneau**  
Chief Executive Officer  
SOVAR

**Fernand Sylvain**  
Co-founder, V.P. Operations  
CorActive

**Alexandre Daoust**  
Partner, Registered Patent Agent  
Norton Rose Fulbright

**Yves Painchaud**  
Researcher  
Ciena

# Talks

A full list of all talks & posters including abstracts is available online at [ionsquebec.osahost.org](http://ionsquebec.osahost.org)

## Friday May 19<sup>th</sup>

### Photonic Sensors and Biomedical Optics - Session 1

9:00 am to 10:15 am - Room 1334

#### UV LASER MODIFIED MEDICINE SOLUTIONS IN INTERACTION WITH TARGET SURFACES UNDER HYPERGRAVITY CONDITIONS

Ágota Simon, National Institute for Laser, Plasma and Radiation Physics & University of Bucharest 9:00 am

#### REAL-TIME HYPERSPECTRAL IMAGING SYSTEM TO MEASURE HEMODYNAMIC RESPONSE DURING NEUROSURGERY

Audrey Laurence, Polytechnique Montréal 9:15 am

#### DUAL MODALITY OPTICAL BIOPSY PROBE FOR BRAIN NEEDLE BIOPSY GUIDANCE

Joannie Desroches, Polytechnique Montreal 9:30 am

#### HANDHELD RAMAN IMAGER FOR INTRAOPERATIVE CANCER DETECTION

Karl St-Arnaud, Polytechnique Montreal 9:45 am

#### TEMPORAL RESOLUTION OF A 3D DOSIMETRY SYSTEM

Madison Rilling, Université Laval & Radiation oncology department (CHU de Québec) 10:00 am

## Optical Engineering

9:00 am to 10:15 am - Room 2415

#### Ga-La-S GLASS FOR UV AND IR APPLICATIONS

A. Ravagli, Optoelectronics Research Centre, Southampton, UK 9:00 am

#### INCREASING THE COUNT RATE OF TIME-CORRELATED SINGLE PHOTON COUNTING TECHNIQUES WITH IMMERSION LENSES ON SINGLE PHOTON AVALANCHE DIODES

Charles Pichette, Université Laval 9:15 am

#### VIDEO-RATE DENOISING OF LOW-LIGHT-LEVEL IMAGES ACQUIRED WITH A SPAD CAMERA

Eliot Bolduc, Institute of Photonics and Quantum Science, Heriot-Watt University 9:30 am

## DISCRETE RADIAL-HARMONIC-FOURIER MOMENTS FOR IMAGE DESCRIPTION

**Kejia Wang**, COPL, Université Laval

9:45 am

## BOOSTING SOLAR WATER SPLITTING IN HYBRID PLASMONIC PHOTOCATALYSTS

**X. Jin**, INRS-EMT

10:00 am

### Laser Science and Ultrafast Optics - Session 1

1:15 pm to 2:30 pm - Room 1334

## TRACKING MOVING OBJECTS HIDDEN FROM VIEW

**Genevieve Gariepy**, Heriot-Watt University,

1:15 pm

## FLUOROPHOSPHATE GLASS AS A CANDIDATE FOR VOLUME BRAGG GRATINGS WRITING

**Olivier Boily**, COPL, Université Laval

1:30 pm

## TIME-RESOLVED PHOTOELECTRON IMAGING OF HETEROAROMATIC MOLECULES

**Magdalena M. Zawadzki**, Institute of Photonics & Quantum Sciences, Heriot-Watt University

1:45 pm

## PUSHING THE BOUNDARIES OF ELECTRON DIFFRACTION IMAGING

**Pascal Hogan-Lamarre**, University of Toronto

2:00 pm

## ATTOSECOND XUV PULSES FOR HIGH RESOLUTION IMAGERY

**Vicențiu Iancu**, University of Bucharest

2:15 pm

### Telecommunications

1:15 pm to 2:30 pm - Room 2415

## TRANSMISSION LINES IN AN OPTICAL SILICON PHOTONIC MODULATOR

**Bahareh Sherafati**, Université Laval

1:15 pm

## SPATIALLY-MULTIPLEXED DATA IN SI PHOTONICS

**Christine P. Chen**, Columbia University

1:30 pm

## MODE DIVISION MULTIPLEXING USING OAM MODES

**Reza Mirzaei Nejad**, COPL, Université Laval

1:45 pm

## ULTRA-FAST AMPLITUDE SHIFT KEYING USING ULTRA-LOW POWER SILICON MODULATOR

**Raphaël Dubé-Demers**, Université Laval

2:00 pm



**Saturday May 20<sup>th</sup>**

**Photonic Sensors and Biomedical Optics - Session 2**

9:00 am to 10:15 am - Room 1334

**ANALYZING NANOWIRE ALIGNMENT  
FOR NANOWIRE-BASED ENDOSCOPE DESIGN**

Shuhao Wu, Columbia University

9:00 am

**ANALYSIS OF TIME-CONTROLLED  
ELECTROLESS DEPOSITED GOLD FILMS ON TFBGS**

Violeta Márquez-Cruz, Carleton University

9:15 am

**BRILLOUIN SCATTERING OF VECTOR MODES IN A FEW-MODE FIBER**

Prabin Pradhan, École de technologie supérieure

9:30 am

**RAYLEIGH SCATTER BASED DISTRIBUTED  
SENSING ENHANCEMENT BY SIMPLE UV EXPOSURE OF FIBER**

Sébastien Loranger, Polytechnique Montreal

9:45 am

**COMBINED OPTICAL COHERENCE TOMOGRAPHY  
AND HYPER-SPECTRAL IMAGING USING A DOUBLE CLAD FIBER COUPLER**

Xavier Attenu, École Polytechnique de Montréal

10:00 am

**Semiconductors and Integrated photonics - Session 1**

9:00 am to 10:15 am - Room 2415

**FACILE OMNIDIRECTIONAL BLACK SILICON BASED ON POROUS  
AND NONPOROUS SILICON NANOWIRES FOR ENERGY APPLICATIONS**

Abdelaziz M. Gouda, American University in Cairo

9:00 am

**TOWARDS A SILICON ELECTRO-OPTIC KERR EFFECT SWITCH**

Deepak V. Simili, Dalhousie University

9:15 am

**GRAPHENE-INSULATOR-GRAPHENE ELECTRO-ABSORPTION MODULATOR**

Mohamed Y. Elsayed, American University in Cairo

9:30 am

**POLARIZATION INDEPENDENT FIBRE-TO-CHIP COUPLERS  
FOR RAPID PROTOTYPING OF SILICON PHOTONICS DEVICES**

Philippe Jean, COPL, Université Laval

9:45 am

**A RIGOROUS THEORETICAL ANALYSIS  
OF A SURFACE-PLASMON-ENHANCED MONOLAYER NANOLASER**

Xiang Meng, Columbia University

10:00 am

## Semiconductors and Integrated photonics - Session 2

10:45 am to 12:00 pm - Room 1334

### VO<sub>2</sub> FILMS FABRICATION BY RTAC

Cheikhou Ba, COPL, Université Laval

10:45 am

### EPITAXIALLY-GROWN GALLIUM NITRIDE ON GALLIUM OXIDE SUBSTRATE FOR PHOTON PAIR GENERATION IN VISIBLE AND TELECOMM WAVELENGTHS

Kashif M. Awan, University of Ottawa

11:00 am

### COLLOIDAL QUANTUM DOTS IN SCINTILLATION DOSIMETRY

Marie-Ève Delage, CHU de Québec & Université Laval

11:15 am

### BOSE-EINSTEIN CONDENSATION OF EXCITON-POLARITONS

Pranai Vasudev, University of Toronto

11:30 am

### MICRORESONATORS FOR QUANTUM OPTICS

Z. Vernon, University of Toronto

11:45 am

## Laser Science and Ultrafast Optics - Session 2

10:45 am to 12:00 pm - Room 2415

### DIRECT LASER WRITING OF WAVEGUIDES IN PHOTSENSITIVE ZINC PHOSPHATE GLASS

Alain Abou Khalil, CELIA, Université of Bordeaux & COPL, Université Laval

10:45 am

### SYNCHRONOUS RAMAN AMPLIFICATION OF HIGH-ENERGY ULTRASHORT PULSES IN AN YTTERBIUM-DOPED GAIN FIBER

Maxime Hardy, COPL, Université Laval

11:00 am

### WATT-LEVEL LASER EMISSION AT 3.4 μm FROM A DUAL-WAVELENGTH PUMPED ALL-FIBER CAVITY

Frédéric Maes, COPL, Université Laval

11:15 am

### LOW-LOSS FLUOROINDATE FIBER FOR MID-IR SUPERCONTINUUM GENERATION UP TO 5.4 MICRONS

Jean-Christophe Gauthier, COPL, Université Laval

11:30 am

### CASCADE LASING AT 2.8μm AND 1.6μm

Y.O. Aydin, COPL, Université Laval

11:45 am

## Photonic Sensors and Biomedical Optics - Session 3

3:30 pm to 5:00 pm - Room 1334

### SLOW LIGHT ENHANCEMENT IN FABRICATED PHOTONIC CRYSTAL RING RESONATORS

Kathleen McGarvey-Lechable, Concordia University

3:30 pm

### RAPID 3D CHEMICAL-SPECIFIC IMAGING OF MINERALS USING STIMULATED RAMAN SCATTERING MICROSCOPY

Marie-Andrée Houle, INRS-ÉMT & NRC

3:45 pm

### STUDY ON CELL OPTO-MECHANICS WITH OPTICAL TWEEZERS

Lingyao Yu, COPL, Université Laval

4:00 pm

### THZ SPATIAL MAPPING OF PHOTOTHERMAL EFFECTS

H. Breitenborn, INRS-EMT

4:15 pm

### ASSESSING CROWD DYNAMICS WITH THERMAL IMAGING

S. Mejia-Romero, Visual Psychophysics and Perception Laboratory, University of Montreal

4:30 pm

## Nonlinear Optics

3:30 pm to 5:00 pm - Room 2415

### SILICON-BASED NANOSTRUCTURES AS SURFACE ENHANCED RAMAN SCATTERING SUBSTRATES

Abdelaziz M. Gouda, American University in Cairo

3:30 pm

### SCANNING NONLINEAR ABSORPTION IN LITHIUM NIOBATE OVER THE TIME REGIME OF SMALL POLARON FORMATION

Felix Freytag, University Osnabrueck

3:45 pm

### TAILORING THE SPECTRUM OF BRIGHT SQUEEZED VACUUM

S. Lemieux, Max Planck Centre for Extreme and Quantum Photonics, University of Ottawa

4:00 pm

### ON-CHIP FREQUENCY COMB OF ENTANGLED PHOTON PAIRS

Piotr Roztocki, INRS-EMT

4:15 pm

### MULTI-PHOTON ENTANGLEMENT GENERATION ON A PHOTONIC CHIP

Christian Reimer, INRS-EMT

4:30 pm

### SCHMIDT DECOMPOSITION FOR SYSTEMS OF IDENTICAL PARTICLES

Stefania Sciara, INRS-EMT

4:45 pm

# Posters

## ADAPTIVE ENDOSCOPIC IMAGING OF THE BRAIN

**Arutyun Bagramyan**, Université Laval & Quebec Mental Health Institute

## FIBER-BASED TISSUE IDENTIFICATION FOR ELECTRODE PLACEMENT IN DEEP BRAIN STIMULATION NEUROSURGERY

**Damon DePaoli**, CRIUSMQ

## THE EFFECT OF ORIENTATED-DEPOSITION GOLD COATINGS ON THE SURFACE PLASMON EXCITATION OF TILTED FIBER BRAGG GRATING

**Dingyi Feng**, Carleton University

## FABRICATION OF FLUOROPHOSPHATE GLASS FIBER BY THE CRUCIBLE METHOD FOR TRANSMISSION IN THE UV

**G. Galleani**, Sao Paulo State University & COPL, Université Laval

## OPTICAL WAVEGUIDE FOR SMARTPHONE APPLICATION

**Jean-Sébastien Boisvert**, Polytechnique Montréal

## QUANTIFICATION OF PLASMONIC AND ENHANCED FLUORESCENCE PROPERTIES IN $Ag@SiO_2$ SYSTEMS

**Jérémie Asselin**, Université Laval

## ADVANCE DEVELOPMENT OF AN ELECTROCHEMICAL SENSOR FOR QUANTIFICATION OF POTASSIUM IONS

**Mathilde Loubier**, Canada Excellence Research Chair in Photonic Innovations

## OPTICAL AND ELECTRICAL CHARACTERIZATIONS OF MULTIFUNCTIONAL $AgI-AgPO_3-WO_3$ BASED GLASSES AND FIBERS

**Maxime Rioux**, Département of chemistry, Université Laval & COPL, Université Laval

## THEORETICAL AND EXPERIMENTAL STUDY OF ELECTROMAGNETIC FORCES IN PHOTONIC CRYSTALS WITH DEFECTS

**Noemí Sánchez-Castro**, BUAP & Amity School of Engineering and Technology

## CALCIUM IMAGING OF ISOLATED NEURONAL NETWORKS

**Pau Aleix Pagés**, CRIUSMQ

## THE SURFACE PLASMON RESONANCE OF SILVER NANOPARTICLES AS A SENSITIVE TOOL FOR PROTEIN ASSAY

**Vasyl Syrvatka**, Institute of Animal Biology NAAS

## PHOTO-INDUCED PHENOMENA IN AS-BASED THIN FILMS GLASSY DOPED WITH COPPER

**A. Qasmi**, COPL, Université Laval

## INTENSITY ENHANCEMENT OF SELF-ACCELERATING BEAMS

**D. Bongiovanni**, INRS-EMT

**SPATIOTEMPORAL BESSEL-GAUSS BEAMS:  
RECONSTRUCTION USING FOURIER TRANSFORM SPECTRAL INTERFEROMETRY**

**Laurent Dusablon**, COPL, Université Laval

**MAOT CALCULATIONS ENERGIES AND WIDTHS  
FOR THE  $3s3p6 (2S_{1/2}) np (n=4-30)$  RYDBERG SERIES OF THE ARGON ATOM**

**Malick SOW**, Université Cheikh Anta Diop

**CHALCOGENIDE GLASSES DOPED WITH IRON FOR MID-IR LASER SOURCES**

**Matthieu Chazot**, Université Laval

**STUDY OF OPTICAL AND SPECTROSCOPIC PROPERTIES  
OF ERBIUM DOPED TELLURIUM/GERMANIUM OXIDE GLASSES  
FOR APPLICATIONS IN NANOPLASMONICS**

**O.B. Silva**, Grupo de Óptica, Instituto de Física de São Carlos & COPL, Université Laval

**ON THE OPTIMIZATION OF TAPERED  
NANOANTENNAS RESONATING IN THE TERAHERTZ RANGE**

**D. Caraffini**, INRS-EMT

**EXPLORE THE ULTIMATE LIMIT OF QUALITY FACTOR  
FOR MIM OPTICAL FILTER DESIGN WITH TRANSMISSION LINE MODEL**

**Dingxin Wu**, University of Electronic Science and Technology of China

**SENSITIVITY ANALYSIS OF ELLIPSOMETRY  
APPLIED TO A THIN FILM ON A CURVED SUBSTRATE**

**Aizhong Zhang**, University of Rochester

**DEVELOPMENT OF AN EVALUATION BOARD FOR THE CONTROL OF LED LIGHT  
BROADENING USING A LIQUID CRYSTAL ELEMENT IN A CLOSED LOOP**

**Alexandre Baril**, COPL, Université Laval

**INVESTIGATION ON SUPPRESSION OF LASER SPECKLE NOISE IN MULTIMODE FIBER**

**Dipankar Sengupta**, École de technologie supérieure

**EXPLORING THE POTENTIAL OF USING MESOPOROUS SILICA NANOPARTICLES FOR  
OPTICAL ANTIREFLECTIVE COATINGS**

**E.Vahanian**, COPL, Université Laval

**PSEUDO-CIRCULATOR IMPLEMENTED AS A MULTIMODE FIBER COUPLER**

**F. Bulota**, Polytechnic Montreal

**INVESTIGATIONS OF SPREAD FUNCTION  
OF THE OPTICAL SPECTRAL DEVICE BASED ON ACOUSTO-OPTIC TUNABLE FILTER**

**Georgy Korol**, St. Petersburg State University of Aerospace Instrumentation

**RESOLUTION ENHANCEMENT IN CONFOCAL MICROSCOPY USING BESSEL-GAUSS BEAMS**

**Louis Thibon**, COPL, Université Laval & CRIUSMQ

**ORTHONORMAL GRADIENT POLYNOMIALS  
FOR HIGH-RESOLUTION DATA PROCESSING IN RECTANGULAR DOMAIN**

**Maham Aftab**, College of Optical Sciences, University of Arizona

**DETERMINATION OF THE GEOMETRIC  
RAY CONTENTS OF LIGHT PROPAGATING IN HIGHLY-MULTIMODE OPTICAL FIBER**

**Philippe Décoste**, École Polytechnique de Montréal

**3D PRINTED LONG PERIOD GRATINGS FOR OPTICAL FIBERS**

**Victor Iambin Iezzi**, The Fabulas laboratory, Polytechnique Montréal

**NONLINEARITY IN SILICON OPTICAL MODULATORS**

**Sasan Zhalehpour**, Université Laval

**EMISSIVE PERFORMANCE OF WEARABLE RF TEXTILES  
MADE FROM MULTI-MATERIAL FIBERS**

**S. Gorgutsa**, COPL, Université Laval

**SOLID-STATE BROADBAND DETECTION OF THZ PULSES**

**A. Tomasino**, INRS-EMT

**CONICAL NANOANTENNA ARRAYS FOR TERAHERTZ LIGHT**

**A. Rovere**, INRS-EMT

**MID-INFRARED DBR RAMAN LASER IN CHALCOGENIDE MICROWIRE**

**Nurmemet Abdukerim**, McGill University

**THERMAL NONLINEARITY EFFECT  
IN A SURFACE NANOSCALE AXIAL PHOTONICS RESONATOR**

**Tabassom Hamidfar**, Concordia University

**ALL FIBER NONLINEAR MICROSCOPY  
AT 1550nm USING A DOUBLE-CLAD FIBER COUPLER**

**Thomas Perrillat-Bottonet**, École Polytechnique de Montréal

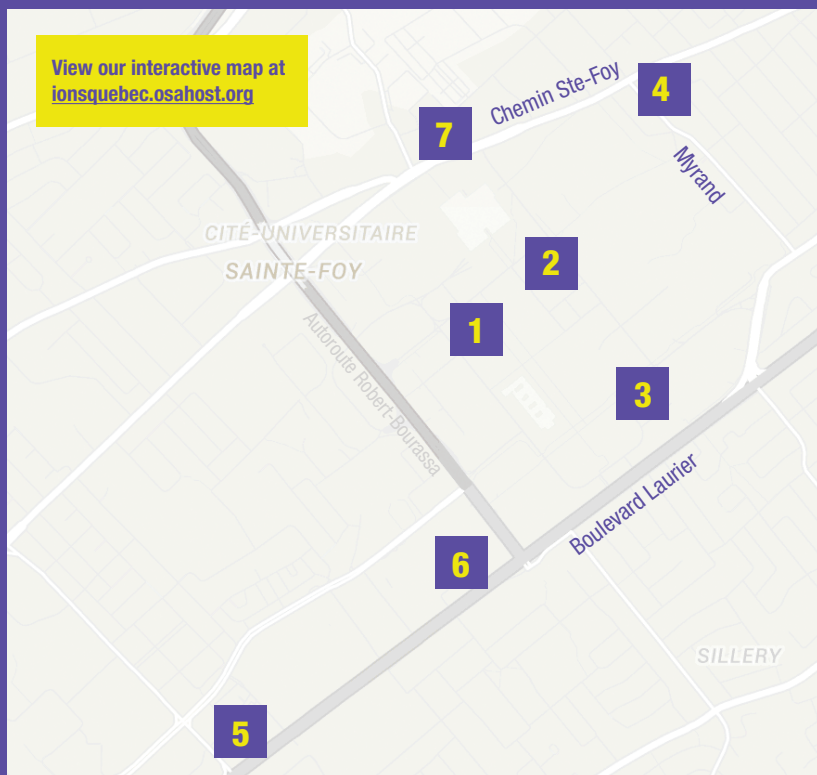
**LASER AMPLIFICATION OF 10 MICRONS SHORT PULSES**

**Y.Kassimi**, Université Laval



## Map

View our interactive map at  
[ionsquebec.osahost.org](https://ionsquebec.osahost.org)



### On Campus

- 1. Pavillon d'Optique-photonique (COPL)**  
*Lab tour and departure for the sugar shack on the 22<sup>nd</sup>*
- 2. Pavillon La Laurentienne**  
*Talks and plenary sessions will be held here*
- 3. Pavillon Desjardins**  
*Poster session will be held at "Le grand Salon" on the second floor on the 20<sup>th</sup>*  
*The University Pub is at the same location*

### Off Campus

- 4. Bistro Bar L'Autre Cuisine**  
*Social event during the evening on the 19<sup>th</sup>*
- 5. Restaurant Grigio**  
*Closing banquet on the 21<sup>st</sup>*
- 6. Les 3 Brasseurs**  
*Meet us here after our banquet on the 21<sup>st</sup>*
- 7. Hôtel Universel Québec**  
*Our suggested housing for the event*



Fonds de recherche  
Nature et  
technologies  
Québec 



UNIVERSITÉ  
LAVAL



IONS, OSA and THE OPTICAL SOCIETY are registered trademarks of The Optical Society