

## **Session Program**

**6-11 Jun 2021**



**Canadian Association  
of Physicists**

**Association canadienne  
des physiciens et physiciennes**

## **2021 CAP Virtual Congress / Congrès virtuel de l'ACP 2021**

### ***TS-7 Sensors and Metrology Symposium (NRC) / Symposium sur les capteurs et la métrologie (CNRC)***

Underline Conference System

# Monday 7 June

11:00

## TS-7 Sensors and Metrology Symposium (NRC) / Symposium sur les capteurs et la métrologie (CNRC)

**Session** | **Location:** Underline Conference System | **Convener:** Peter Mason

11:00-11:05 **Introductory Remarks - Dr. Julie Lefebvre, NRC**

11:05-11:35

### **(I) Quantum Technologies in Sensing, Imaging, and Metrology: From the Laboratory to Near-Term Commercial Applications**

**Speaker**

Dr Carl Williams

11:35-11:45 **Questions and Discussion**

11:45-12:10

### **(I) Quantum radiometry and metrology for single-photon detectors and emitters**

**Speaker**

Dr Angela Gamouras

12:10-12:15 **Questions and Discussion**

12:15-12:30 **Break**

12:30-12:50

### **(I) Toward tabletop, quantum-limited mechanical sensing and new optomechanical control**

**Speaker**

Jack Sankey

12:50-13:00 **Questions and Discussion**

13:00-13:20

### **(I) Applying Atom-Defined Building Tools to Make Quantum Sensing Devices**

**Speaker**

Robert Wolkow

13:20-13:30 **Questions and Discussion**

13:30-13:50

### **(I) Microwave entanglement generation and its application in quantum sensing**

**Speaker**

Prof. Shabir Barzanjeh

13:50-14:00 **Questions and Discussion**

14:00-14:15

**Lunch session 14h00-15h00 - Government Interest in Quantum Sensing (Introduction)**

14:15-14:40

**(I) (Lunch session talk) Department of National Defence Quantum S&T Strategy****Speaker**

Aimee Gunther

14:40-15:00

**(I) (Lunch session talk) NRC's Quantum Sensors Challenge Program****Speaker**

Peter Mason

15:00-15:20

**(I) Quantum Magnetometry with the Diamond NV-Centre****Speaker**

Michael Bradley

15:20-15:30

**Questions and Discussion**

15:30-15:37

**(G\*) Achromatic multi-mode time bin interferometer for quantum networks****Speaker**

Ramy Tannous

15:37-15:44

**(G\*) Towards the atomic scale readout of single acceptor states in p-doped Si****Speaker**

Max Yuan

15:44-15:51

**(G\*) Hybrid Integration of III-V Nanowires Embedded with Quantum Dots on Photonic Integrated Circuits****Speaker**

Edith Yeung

15:51-15:58

**(G\*) Optomechanical interface between telecom photons and spin quantum memory****Speaker**

Prasoon Kumar Shandilya

15:58-16:05

**(G\*) Suppression of Phonon-Mediated Decoherence using Frequency-Swept Laser Pulses in Optically-Driven Semiconductor Quantum Emitters****Speaker**

Mr Grant Wilbur

16:05-16:12

**(G\*) A portable diamond-based quantum demonstrator based on a quantum control and readout platform - Démonstrateur quantique portable à base de diamant, basé sur une plateforme de contrôle et de lecture quantique**

**Speaker**

Azfar Badaroudine

16:15-16:30 **Break**

16:30-16:50

**(I) Building Magnetic Intelligence: harnessing quantum magnetometry with the diamond NV-centre for end-user applications****Speaker**

Rachel Taylor

16:50-17:00 **Questions and Discussion**

17:00-17:07

**(U\*) Photons in the Brain: Imaging Biophotons with Quantum Detectors****Speaker**

Rana Zibakhsh

17:07-17:14 **(G\*) Gated quantum dots in van der Waals materials****Speaker**

Justin Boddison-Chouinard

17:14-17:21 **(G\*) Super-resolution Ghost-Imaging****Speaker**

Florence Grenapin

17:21-17:28

**(G\*) Multiplexed Single-Photon Source Based on Multiple Quantum Dots Embedded within a Single Nanowire****Speaker**

Mr Patrick Laferrière

17:30-17:45 **Wrap Up**

18:00