

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