Session Program

Jun 6 – 11, 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

Tue, June 8

11:00 AM

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 AM **Introductory Remarks - Dr. Julie Lefebvre, NRC**

11:05 – 11:35 AM

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

Speaker
Dr Carl Williams

11:35 – 11:45 AM **Questions and Discussion**

11:45 AM – 12:10 PM

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

Speaker
Dr Angela Gamouras

12:10 – 12:15 PM **Questions and Discussion**

12:15 – 12:30 PM **Break**

12:30 – 12:50 PM

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

Speaker
Jack Sankey

12:50 – 1:00 PM **Questions and Discussion**

1:00 – 1:20 PM

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

Speaker
Robert Wolkow

1:20 – 1:30 PM **Questions and Discussion**

1:30 – 1:50 PM

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

Speaker
Prof. Shabir Barzanjeh

1:50 – 2:00 PM **Questions and Discussion**

2:00 – 2:15 PM

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

2:15 – 2:40 PM

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

Speaker
Aimee Gunther

2:40 – 3:00 PM **(I) (Lunch session talk) NRC’s Quantum Sensors Challenge Program**

Speaker
Peter Mason

3:00 – 3:20 PM **(I) Quantum Magnetometry with the Diamond NV-Centre**

Speaker
Michael Bradley

3:20 – 3:30 PM **Questions and Discussion**

3:30 – 3:37 PM

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

Speaker
Ramy Tannous

3:37 – 3:44 PM

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

Speaker
Max Yuan

3:44 – 3:51 PM

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

Speaker
Edith Yeung

3:51 – 3:58 PM

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

Speaker
Prasoon Kumar Shandilya

3:58 – 4:05 PM

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

Speaker
Mr Grant Wilbur

4:05 – 4:12 PM

(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

4:15 – 4:30 PM **Break**

4:30 – 4:50 PM
(I) Building Magnetic Intelligence: harnessing quantum magnetometry with the diamond NV-centre for end-user applications

Speaker
Rachel Taylor

4:50 – 5:00 PM **Questions and Discussion**

5:00 – 5:07 PM
(U*) Photons in the Brain: Imaging Biophotons with Quantum Detectors

Speaker
Rana Zibakhsh

5:07 – 5:14 PM **(G*) Gated quantum dots in van der Waals materials**

Speaker
Justin Boddison-Chouinard

5:14 – 5:21 PM **(G*) Super-resolution Ghost-Imaging**

Speaker
Florence Grenapin

5:21 – 5:28 PM
(G*) Multiplexed Single-Photon Source Based on Multiple Quantum Dots Embedded within a Single Nanowire

Speaker
Mr Patrick Laferrière

5:30 – 5:45 PM **Wrap Up**

6:00 PM