

3Ddose

Québec - 2022

JUNE 19-22 2022

Québec City, Canada

19 au 22

JUIN 2022

Ville de Québec, Canada

QUÉBEC  
VOTRE  
VILLE

DESTINATION  
AFFAIRES



Photo : Québec, François Gamache

Detailed Program of the  
**12th INTERNATIONAL CONFERENCE ON 3D  
and ADVANCED DOSIMETRY (IC3Ddose)**  
June 2022, Château Frontenac, Quebec City.

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Welcome to the 12th edition of the DosGel/IC3Ddose biennial gathering of scientists on the topic of advanced dose measurements, including 3D and 4D dose imaging. This meeting is a unique opportunity for everyone interested in these topics, including graduate students and medical physics residents, to have one-on-one exchanges with the world-leading experts in the field. In addition to regular contributed talks, vendor exhibit, and a poster session, the 2022 edition will feature over a dozen refresher courses, a Rising Star oral talk competition as well as panel discussions and debates.

Topics (but not limited to)

- 3D and 4D dosimetry;
- GEL dosimetry;
- Film dosimetry;
- EPID dosimetry;
- Scintillation and Cherenkov;
- End-to-end QA;
- Dosimetry in extreme conditions:
  - Small field;
  - MR-Linac;
  - FLASH.

You will find last year's presentations here: <https://youtube.com/playlist?list=PL0wwIxJBoN1AiczRciTFBO-wFA28zv1Ku>

## Organizing committee

Louis Archambault (ULaval, Canada)	Luc Beaulieu (ULaval, Canada)
Kevin Jordan (Western Ontario, Canada)	Andrew Jirasek (UBC-O, Canada)
Boyd McCurdy (UManitoba, Canada)	John Schreiner (Queen's, Canada)

## International Committee

Sven Bäck (Skane, Sweden)	Clive Baldock (Western Sydney, Australia)
Peter Balling (Aarhus, Denmark)	Sam Beddar (MD Anderson, USA)
Sofie Ceberg (Lund, Sweden)	Yves De Deene (Macquarie, Australia)
Simon Doran (ICR, UK)	Geoffrey Ibbott (Vermont, USA)
Mark Oldham (Duke, USA)	

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Département de physique, de génie physique et d'optique



# AT A GLANCE

	See detailed program for accurate session times				
Time	Sunday June 19th	Monday June 20th	Tuesday June 21st	Wednesday June 22nd	Thursday June 23rd
08:30 - 09:10		On-site registration / Badge pickup <b>09:00 Opening</b>	On-site registration / Badge pickup	On-site registration / Badge pickup / COMP pre-meeting day	<b>COMP Panel (in COMP meeting room): FLASH in Radiotherapy - Mechanisms, Technology, Dosimetry and Delivery</b>
09:10 - 09:30		Invited talks	Invited talks	Invited talks	
09:30 - 10:30		Invited talks			
10:30 - 10:50		<b>Pause santé / Health Break / Exhibit</b>			
10h50-11h30					Invited talk
11:30 - 12:00		Proffered session	Proffered session	Proffered session	vendor talks, Awards, future meetings
12:00 - 13:00		Lunch and exhibit		Lunch and exhibit	Lunch
13:00 - 14:20		<b>Rising Stars Competition</b>	Free to roam the old City and enjoy a terrasse!	<b>Dosimetry in Extreme Conditions</b>	<b>COMP Young Investigators Symposium: IC3Ddose participants invited!</b>
14:25 - 15:15					
15:15 - 15:35		<b>Pause santé / Health Break</b>		<b>Pause santé / Health Break</b>	
15:35 - 16:15		Invited talk	Invited talk and Proffered (start at 15h20)	<b>Dosimetry in Extreme Conditions (cont...)</b>	
16:15-17:00		<b>Meet the Speakers / Posters of the day</b>		<b>Meet the Speakers / Poster Session</b>	
17:00 - 17:30	Welcome Registration	<b>Virtual session</b>	<b>Meet the Speakers / Posters of the day</b>		
17:30 - 18:00				<b>Joint IC3Ddose-COMP Keynote - by Dr John Schreiner</b>	
18h30-					
<b>Evening</b>	Free to explore the city	Free to explore the city	TBD	Joint Social / Exhibit	

## DAY 1 – JUNE 20th

CT: Contributed Talk, IS: Invited Speaker, KL: Keynote Lecture, IT: Invited Talk.

8h15	<b>On site Registration / Badge pickup</b>		
9h00	<b>Opening of the 12th IC3Ddose conference</b>		
9h10-10h30	<b>Refresher #1</b> Chair : Michelle Hilts, UBC-O, Canada		
9h10-9h50	IS	<b>L. John Schreiner</b> Queen's University, Canada	End-to-End QA
9h50-10h30	IS	<b>Simon Doran</b> Division of Radiotherapy and Imaging, ICR, UK	Gel dosimetry: Optical reading
10h30-10h50	<b>Health Break</b>		
10h50-12h00	<b>Proffered session #1</b> Chairs : Sven Bäck and Andrew Jirasek		
10h50-11h05	CT	<b>Nathaniel Woolvett and Kevin Jordan</b> London, Ontario, Canada	Modified optical computed tomography scanner for low temperature scanningr
11h05-11h20	CT	<b>Andy Ogilvy, S Collins, M Guenter, D Huang, W Hare, M Hilts, and A Jirasek</b> UBC-O, Canada	Preliminary commissioning of a prototype solid tank optical CT scanner for 3D radiation dosimetry
11h20-11h35	CT	<b>Mélissa Cinq-Mars, J-D Jutras and L Beaulieu</b> Université Laval, Canada	On the comparison of two NIPAM gel dosimeters with high resolution 3D MRI sequences
11h35-11h50	CT	<b>Lia Barbosa Valdetaro, Ludvig Paul Muren, Peter Sandegaard Skyt, Jørgen Breede Baltzer Petersen and Peter Ballingu</b> Aarhus University, Denmark	Investigating the linear-energy-transfer and dose rate signal quenching of radiochromic silicone-based dosimeters for different compositions and curing times
12h00-13h00	<b>Lunch</b>		
13h00-15h15	<b>RISING STAR COMPETITION</b> Chairs : Geoff Ibbott and Sam Beddar		
13h00 -13h15	CT	<b>Marco Caprioli, L. Delombaerde M. De Saint-Huber, L. de Freitas Nascimento, S. S. Galvez Febles, K. Himschoot, B. van der Heyden, D. Vandenbroucke, R. De Roover, Leblans, W. Crijns</b> KU Leuven, Belgium	Fading correction for calibration of a novel 2D OSL-film dosimeters



13h15-13h30	CT	<b>Mads L. Jensen, Rosana M. Turtos, Ludvig P. Muren, Brian Julsgaard, and Peter Balling</b> Aarhus University, Denmark	3D optically-stimulated-luminescence-based dosimetry using LYSO:Ce scintillators
13h30-13h45	CT	<b>Mélotie Cyr, Victor D. Martinez, Devic Slobodan, Nada Tomic, David F. Lewis, Shirin A. Enger</b> McGill University, Canada	Investigation of the Dosimetry Characteristics of the GAFCHROMIC® EBT3 Film Response to Alpha Particle Irradiation
13h45-14h00	CT	<b>Elise Konradsson, M Blomstedt, C Jamtheim Gustafsson, S Å J Bäck, C Ceberg and S Ceberg</b> Skane University Hospital, Sweden	Dosimetric verification of conformal small field irradiation at a preclinical research platform – a polymer gel dosimeter feasibility study
14h00-14h15	CT	<b>Aline Rousseau, C Stien, S Dufreneix, G Boissonnat, JM Bordy, V Blideanu</b> CEA, France	End-to-end quality assurance for Volumetric Modulated Arc Therapy with Fricke-Xylenol orange-Gelatin gel dosimeters and dual-wavelength cone-beam optical CT scanner
14h15-14h30	CT	<b>Steve Collins, A Ogilvy, D Huang, W Hare, M Hilts and A Jirasek</b> UBC-O, Canada	Iterative Image Reconstruction Methodology in Optical CT Radiochromic Gel Dosimetry
14h30-14h45	CT	<b>Simon V Jensen, T B Erichsen, M B Jensen, E Worm, P R Poulsen, J B B Petersen, P Balling, D Q S Le and L P Muren</b> Aarhus University, Denmark	Developing a 3D-printing-based method to create anthropomorphic dosimeters for radiotherapy-delivery verification
15h00-15h20	<b>Health Break</b>		
15h20-16h00	<b>Refresher #2</b> Chair : Boyd McCurdy		
14:30-15:05	IS	<b>Yves De Deene</b> Liverpool hospital/Ingham institute, Australia	Gel dosimetry: MRI
16:30-18:00	<b>Meet the speakers / posters of the day (Beer included!)</b> The four proffered papers and the seven rising star competition presenters will be available at the poster boards to discuss their works. Slides presented will be displayed on the poster boards.		

17h00-18h00: IC3Ddose Virtual Session

+12h for China;

+13h for Japan;

+14h for Australia.

17h00-18h00		Chairs : Simon Doran and Kevin Jordan	
Each presentation will be of 10 min with an additional 2 min for live questions			
17h00 -17h12	CT	<b><u>Yves De Deene and Daniel Mason</u></b> Liverpool hospital/Ingham institute, Australia	Optimization of MRI pulse sequences and Gadobutrol doped polymer gel for real time 4D radiation dosimetry on the MRI-Linac
17h12-17h24	CT	<b><u>Tanya Kairn, L. Jessen, J. Bodnar, P. H. Charles, S.B. Crowe</u></b> Royal Brisbane and Women's Hospital, Australia	Lung radiotherapy verification with a 3D printed thorax phantom and an ionisation chamber array
17h24-17h36 <b>Retracted</b>	CT	<b><u>Morgan J Wheatley, and Y De Deene</u></b> Liverpool hospital/Ingham institute, Australia	Loss and reintroduction of the radical initiator into the FlexyDos3D silicone dosimeter for 3D printing
17h36-17h48	CT	<b><u>Rachael Wilks, S.B. Crowe, P. Chan, R. Cheuk, T. Kairn</u></b> Royal Brisbane and Women's Hospital, Australia	A 3D printed patient-specific vaginal mould for brachytherapy
17h48-18h00	CT	<b><u>Ryosuke Narita and Yoshinori Sakurai</u></b> Kyoto University, Japan	A characterization of dye gel dosimeters for boron neutron capture therapy - dose response to gamma rays
18h00-18h12	CT	<b><u>Libing Zhu, Xincheng Xiang, Xiangang Wang</u></b> Tsinghua University, Beijing, China	Preliminary research on the dose response of polymer gel dosimeter with carbon beam irradiation

18h15: DAY 1 CLOSED – FREE TO EXPLORE THE CITY



## DAY 2 – JUNE 21st

8h40	<b>On Site Registration / Badge pickup</b>		
9h10-10h30	<b>Refresher #3</b> Chair: Luc Beaulieu		
9h10-9h50	IS	<b>Rongxiao Zhang</b> Dartmouth University	Cherenkov dosimetry
9h50-10h30	IS	<b>Sam Beddar</b> University of Texas, MD Anderson Cancer Center, USA	Scintillation dosimetry
10h30-10h50	<b>Health Break</b>		
10h50-12h00	<b>Proffered session #2 and Vendor's talk #1</b> Chairs : Shirin A. Enger and Rongxiao Zhang		
10h50-11h05	CT	<b>Camilla L Nielsen, Rosana M Turtos, Brian Julsgaard, Ludvig P Muren and Peter Balling</b> Aarhus University, Denmark	Optimizing the transparency of nano-LiF:Cu/silicone nanocomposites for 3D optically stimulated luminescence dosimetry
11h05-11h20	CT	<b>Daphnée Bernier-Marceau, É. Cloutier, M. Yeh, G. D Orebi Gann and L. Beaulieu</b> Université Laval, Canada	Characterization of a water-based liquid scintillator for use in megavoltage radiotherapy beams
11h20-11h35	CT	<b>Jacob S. Nyemann, Mads L. Jensen, Lia B. Valdetaro, Morten B. Jensen, Rosana M. Turtos, Brian Julsgaard, Jørgen B. B. Petersen, Ludvig P. Muren and Peter Balling</b> Aarhus University, Denmark	Proof-of-concept photon and proton measurements for large-area 2D dosimeters based on optically stimulated luminescence
11h40-11h50	CT	<b>François Therriault-Proulx, PhD</b> CEO and co-founder MedScint Inc.	Vendor's talk
12h00-15h00	<b>LUNCH ON YOUR OWN – ENJOY A TERASSE!</b>		
15h20-17h00	<b>Refresher #4 and Proffered #3</b> Chair: Peter Balling		
15h20-16h00	IS	<b>Michelle Hilts</b> UBC-Okanagan, Canada	CT and CBCT imaging of gel dosimeters: a review of the state of the art
16h00-16h40	IS	<b>Boyd McCurdy</b> CancerCare Manitoba, Canada	EPID exit dosimetry and 3D dose reconstruction - New developments and applications

16h40-16h55	IS	<b>Olivia Moluchi, Matt Mulligan and Kevin Jordan</b> London Regional Cancer Center, Canada	Bare spherical gel dosimeter with optical computed tomography scanning
17h00-18h00	<b>Meet the speakers / posters of the day (Beer included!)</b> The five proffered papers will be available at the poster boards to discuss their works. Slides presented will be displayed on the poster boards.		

18h00: **DAY 2 CLOSED - Informal get together possible**

## DAY 3 – JUNE 22nd

8h40	<b>On Site Registration / Badge pickup</b>		
9h10-10h30	<b>Refresher #5</b> Chair: Sofie Ceberg		
9h10-9h50	IS	<b>Magdalena Bazalova-Carter</b> University of Victoria, Canada	A review of small animal dosimetry techniques: image-guided and spatially-fractionated therapy
9h50-10h30	IS	<b>Shirin A. Enger</b> McGill UNiversity, Canada	Applied non-std dosimetry : hydrated electron, clinical calorimetry and others
10h30-10h50	<b>Health Break</b>		
10h50-12h00	<b>Proffered session #4</b> Chairs: Louis Archambault and Anna Karlsson		
10h50-11h05	CT	<b>Emmanouil. Terzidis, F. Nordström, J. Götstedt, A. Bäck</b> University of Gothenburg, Sweden	Different aspects of plan complexity in prostate VMAT plans
11h05-11h20	CT	<b>Tenzin Kunkyab, Michelle Hiltz, Andrew Jirasek, Derek Hyde</b> UBC-O, Canada	Spatial and Dosimetric accuracy of 3D polymer gel with CBCT readout – Varian HyperArc® SRS implementation
11h20-11h40	CT	<b>Morten Bjoern Jensen, P Balling, H L Riis, A S Bertelsen, S V Jensen, S J Doran, J B B Petersen, L P Muren</b> Aarhus University, Denmark	Characterisation and application of three-dimensional silicone-based radiochromic dosimetry in 1.5 T magnetic resonance imaging-guided radiotherapy
11h40-11h55	CT	<b>Kalin I. Penev, Kibret Mequanint</b> Western Ontario, Canada	Rheology modifiers in Fricke - gelatin dosimeters
12h00-13h00	<b>Lunch</b>		
13h00-16h00	<b>DOSIMETRY UNDER EXTREME CONDITIONS</b> Chairs : John Schreiner and Magdalena Bazalova-Carter		
<b>***COMP registered delegates are welcome to attend this session</b>			
13h00-13h40	IS	<b>Arman Sarfehnia</b> University of Toronto- Odette Cancer Centre, Canada	MR-Linac dosimetry: current approaches and challenges
13h40-14h20	IS	<b>Sofie Ceberg</b> Lund University, Sweden	FLASH radiotherapy and the associated dosimetric challenges
14h20-15h00	IS	<b>James Renaud</b> NRCC Ottawa, Canada	The role of standards laboratories in reducing uncertainty in clinical dosimetry
15h00-15h20	<b>Health Break</b>		
15h20-15h50	<b>Panel discussions with all five invited speakers of the day</b> Chair: Geoff Ibbott		

15h50-16h50	<b>Meet the speakers / posters of the day</b> The four proffered papers will be available at the poster boards to discuss their works. Slides presented will be displayed on the poster boards.	
17h30	<b>Joint IC3Ddose - COMP session Welcome Remarks</b>	
18:00	<b>Joint IC3Ddose - COMP Keynote speaker</b> Chairs: Luc Beaulieu and Wayne Beckham	
	KL	<b>L. John Schreiner</b> President, Medical Physics for World Benefit, Emeritus professor, Queen's University
		3D <sup>2</sup> : Three Decades of 3D Dosimetry

\*\*\* Will be followed by a joint IC3Ddose - COMP welcome social event

**DAY 3 CLOSED**

## DAY 4 - JUNE 23rd

9h00-10h00	IT	<b>COMP Panel (Ballroom - Salle de Bal)</b>	FLASH in Radiotherapy - Mechanisms, Technology, Dosimetry and Delivery
10h00-11h40	<b>Refresher #6</b> Chair: Louis Archambault		
10h00-10h10	<b>Health Break</b>		
10h10-10h50	IS	<b>Jerry Battista</b> Western University, Canada	Evolution of 3D X-Ray Dose Computation Algorithms
10h50-11h40	IS	<b>Geoffrey Ibbott</b> MD Anderson Cancer Center, USA	Proton Dosimetry
11h40-12h00	Awards, futures meetings and finale Rising Start Competition Awards Winners Discussion on proposals for the 13th edition of the IC3Ddose (2024) Final words and closing of the 12th IC3Ddose		
12h00-13h00	<b>Lunch</b>		

12h50-:	<p><b>Jack Cunningham Young Investigator Symposium</b></p> <ul style="list-style-type: none"> <li>● IC3Ddose participants are invited to attend Jack Cunningham Young Investigator Symposium (COMP YIS).</li> <li>● Access to COMP meeting rooms with IC3Ddose badge if not fully registered for COMP meeting.</li> </ul>		
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**END OF DAY 4 AND IC3DDOSE MEETING CLOSED**

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