COMP
Canadian Organization of Medical Physicists

OCPM
Organisation canadienne des physiciens médicaux

THE CANADIAN COLLEGE OF PHYSICISTS IN MEDICINE

LE COLLÈGE CANADIEN DES PHYSICIENS EN MÉDECINE

CANADIAN MEDICAL PHYSICS NEWSLETTER | LE BULLETIN CANADIEN de PHYSIQUE MÉDICALE

InterACTIONS

63(4) October/octobre 2017

2017 COMP GOLD MEDAL AWARDED TO JERRY BATTISTA

From Left to Right:
John Aldrich (2013 gold medalist),
Michelle Hiltz (COMP president),
Jake Van Dyk (2011 gold medalist),
Jerry Battista (2017 gold medalist),
Dave Rogers (2012 gold medalist),
and Aaron Fenster (2010 gold medalist).

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MESSAGE FROM THE COMP PRESIDENT

As I write this, fall is on its way. The leaves are starting to turn, kids are tromping off to school, and summer begins to be seen through the rearview mirror. For COMP, the summer was an exciting time. We held our annual scientific meeting (ASM) in Ottawa, July 12th – 15th. It was a terrific meeting in many ways: inspiring and informative talks, engaging learning sessions, active exhibitors, and opportunities to meet new colleagues and connect with old friends. Thank you to all our sponsors; without your generous support our ASM would not be possible. And thank you to the COMP ASM committee chaired by Young Lee, the local organizing committee, and Nancy, Gisele, and Christina at the COMP office for doing such a great job. Our ASM had a very palpable energy and the dynamic, positive spirit of our community truly shone. I'm not the only one who felt this - several mentioned it to me, including colleagues at the AAPM, and I'd like to thank everyone for their positive and active participation. This is what makes COMP great.

Throughout this issue of InterACTIONS you will find several articles summarizing meeting highlights, and I will only mention a few briefly here. Jerry Battista was honoured with the 2017 COMP Gold Medal. The tremendous impact that Jerry's instruction and mentorship has had on medical physics in Canada was succinctly illuminated by a "Western Family" photo taken of the newly minted Gold Medal winner and all those associated with the Western program. I'd also like to congratulate our talented "future medical physicists" who presented in the Young Investigators Symposium. This was once again a highlight and I'd like to highlight the winners: 1st place was Victor Malkov (Carleton); 2nd place was Sahar Darvish-Molla (McMaster), and 3rd place was Chris Johnstone (U. Victoria). Our first COMP keynote lecture, delivered by David Jaffray, was superb. Discussing the Fourth Industrial Revolution, the lecture gave us much to think about as we look to how new technologies and systems, such as AI and the Internet of Things, may shape healthcare and medical physics. The ASM CE sessions were excellent and varied (radiation safety, grant writing, and lung cancer imaging), and so offered something of interest to everyone. All CE sessions, as well as the keynote lecture, were recorded and are available on the member section of the COMP website. If you were not able to attend, or wish to refresh some details, I encourage you to take a look.

The COMP Women's Committee held a lunch event at the ASM on the topic of work-life balance. The event was standing room only. The event had a panel of individuals offer their thoughts on the topic and was followed by questions and further discussion by the participants. In my experience, this was the first time in recent history a discussion around work-life issues occurred at COMP, and the engagement of members clearly showed that these discussions are desired. Many insightful thoughts and useful tips were presented. I was personally struck by Dave Wilkin's idea that work-life balance can be thought of as a basic conflict of interest since work and other "life" activities, whether to care for others or for one's own mental and physical health, are both critical, but often in conflict. In this light, the work-life challenge becomes familiar, and rather than feeling like something that needs hiding or "pushing through," is re-birthed as something that we know how

Michelle Hilts

to deal with and can approach comfortably with transparency and open communication. In the transition from more unstructured summer times to routines that typically come with the onset of fall, it is a good time reflect on work-life balance and perhaps our community can gain from this good advice.

Over the next months, the COMP board, committees, and other volunteers will be picking up the pace to push forward implementing our recent strategic plan. Some example areas to look for progress include: furthering COMPs leadership in national collaborative initiatives, enhanced engagement of our scientific community via our new Science Committee, enabling members to better connect with one another and to access relevant content, showcasing past and present accomplishments of members, efforts to represent the diversity of medical physicists in Canada, and support for allied international initiatives.

As always, please feel free to contact me anytime. COMP works hard to effectively serve you, our members, and we always welcome your input.

MESSAGE FROM THE CCPM PRESIDENT

As in every year, the CCPM board met during the COMP Annual Scientific Meeting that was held in Ottawa from July 12th to 15th. It was a great opportunity to visit our nation's capital on this, our 150th anniversary of confederation! I would like to thank COMP and the local organizing committee for hosting a very stimulating and successful meeting.

During the Annual General Meeting of the CCPM members, the board made a few announcements. First and foremost, the CCPM introduced 16 new members who passed both the written and oral exams of the CCPM. Congratulations to all new members! We realize the amount of time and effort it requires to become certified. We also announced that seven members received the fellowship distinction of the college. Congratulations to our new fellows! And, special thanks to all the invigilators, markers, and examiners for all your work! Our certification process cannot happen without your participation!

Our secretary-treasurer, Wendy Smith, presented the financial picture of the college during the AGM. It is quite difficult for the college to maintain a balanced budget year after year because of some fluctuating costs, mostly associated with travel of examiners. Because of recent changes to improve the examination process, and higher travel costs, we had a deficit last year (2016) and are expecting a deficit again this year. For this reason, Wendy and Gord Mawdsley, who will be replacing Wendy at year's end, will be reviewing the fee structure for the membership and fellowship exams. A decision should be made on new fees during the CCPM board meeting in November. These will likely only come into effect for the 2019 examination year.

During the AGM, the board also announced a few changes to its regulations. The CCPM board is changing regulation D.2.7 on eligibility for the radiation oncology MCCPM exam in order to limit access to individuals who have successfully completed a CAMPEP-accredited residency program or a bridging program, as described in section G of our regulations. This change will come into effect for exams that will be written in 2021. The motivation for this change is to recognize the value of a structured clinical training for certified medical physicists and to align with the current position of the medical physics certification offered by the ABR. It is important to emphasize that this change is only for the radiation oncology sub-specialty, since residency programs are not currently as widely available in the imaging sub-specialties.

The second change to our regulations was more a "house-keeping" change. While preparing for the latest application cycle of the Harold E. Johns Travel Award, the board noticed that the procedures for the award were not properly documented and did not appear in our regulations. To remediate this, a new section, which details the procedures to follow for providing the award, was added to the regulations. The latest version of our regulations is available on our website (www.ccpm.ca) under the "About CCPM" tab.

A few words on projects that the board is currently working on. The CCPM board and the COMP board are currently working on a memorandum of understanding (MOU) which would describe the working relationship between the two organizations on issues of common interest. Currently, a contract does exist between the CCPM and COMP relating to financial support and responsibilities. However, both boards recognize that certain issues require collaboration between the two organizations. For example, establishing certification in new areas of medical physics could benefit from this collaboration. Although the CCPM would logically

Clément Arsenault

setup and manage these new certifications, COMP could, and should, play a role in establishing the needs of the profession relating to certification. Discussions are continuing on the MOU with the hope that we can come to an agreement in the near future. Hopefully before the end of my mandate!

Another project that the board is working on is a revision of the recertification credit system that has been in place since its inception in 1996, i.e. 21 years ago! An ad-hoc committee was formed in 2015 to review the recertification process and provide recommendations to the board. The board has reviewed these recommendations and will prepare a survey on key changes to the credit system in order to get feedback from CCPM members on the proposed changes. Look for this survey in the fall! It is important to note that any changes to the recertification credit system would be phased in gradually in order to provide all members sufficient time to fulfill the new requirements.

Finally, I would like to remind all individuals considering applying for the 2018 MCCPM exam to visit the CCPM website (www.ccpm.ca), starting in October, for all of the details relating to the application and the examination process. Deadlines for applications will soon be posted on the website.

EXECUTIVE DIRECTOR REPORT

As the summer comes to a close, reflecting on what we have accomplished over the last few months provides energy and optimism for all that is on the horizon. There is much to celebrate!

There is no doubt that the COMP is an engaged and vibrant community. This year's Annual Scientific Meeting (ASM) demonstrated this in terms of the number of abstracts submitted, the number of attendees, and the support of exhibitors and sponsors. There are two other important metrics that should be highlighted: 1) The number of volunteers who were engaged in the meeting (planning committee members, abstract reviewers, moderators, local arrangements, onsite volunteers, and hosts …), and 2) The percentage of the total COMP membership that attended the meeting. Many national professional organizations are opting to discontinue hosting an annual meeting because declining attendance (as a percentage of total membership) makes it difficult to justify the required investment of resources (both staff and volunteer). The fact that the COMP ASM is growing and that programming has been expanded (for example a concurrent track for imaging) is something to celebrate. I would like to take this opportunity to thank and congratulate our ASM chair Young Lee for her leadership and Claudiu Cojocaru and his local arrangements team for their hospitality. Who knew that the staff of the National Research Council were such good dancers! The role of our partners (Varian, Elekta, CNSC, and Accuray) was such an important part of the meeting, and we are grateful for their support.

There will be another opportunity for the community to engage and connect in February 2018 when COMP hosts the Radiation Oncology Winter School. The program chair is Derek Brown, and we look forward to working with our partners CARO and CAMRT to create a program with a fresh approach that builds on the success of previous programs. Stay tuned for more details.

There is no doubt that medical physicists play an important role in Canadian healthcare through both research and clinical practice. This contribution is evident through the member publications highlighted in the weekly Sosido digest and by the number of requests we get from other organizations to provide input and expertise. One of our strategic priorities is to advocate for medical physicists as leaders in innovation and technology implementation in healthcare. Our formal awards (Gold Medal, Sylvia Fedoruk, and the Michael Patterson Prize) recognize significant achievements, but we are very much aware that our members demonstrate leadership everyday in a variety of ways, and we want to highlight these achievements too. For this reason, we invite you to share your stories of colleagues who are making a difference. To help inspire you, as part of the 2017 International Day of Medical Physics (IDMP), COMP will be profiling 10 Fierce Female Medical Physicists from across the country over a 10-week period.

There is no doubt the COMP is lead by a team of smart, open, and committed volunteers. One of the best parts of my role is that I get to work so closely with the board and the committees. I would like to thank outgoing board members Daniel Rickey and Kyle Malkoske. In addition

Ms Nancy Barrett

to serving on the board, Daniel chaired the Imaging Committee and handled a multitude of requests from other organizations to review and provide input on a variety of documents and issues. Daniel was always available to help and his humour will be missed at the board table. During his term on the board, Kyle also chaired QARSAC and played a key role in CPQR and helped foster our relationship with the CNSC. Kyle was always available to provide support and will also be missed. The shoes of Daniel and Kyle are big ones to fill, and COMP is fortunate that Thor Bjarnason and Michelle Nielsen have joined the board and have agreed to chair the committees. Both Thor and Michelle have served in leadership roles for COMP and will be excellent additions to the board. I would also like to take this opportunity to thank my team at the COMP office. I am grateful for Gisele's commitment to hospitality and serving the COMP membership and for the energy and creativity that Christina brings to COMP communications.

As always, please feel free to contact us at anytime!

CNSC FORUM:

WHY RSO CANDIDATES FAIL CERTIFICATION

Laila Omar-Nazir
Technical Co-op Student, Canadian Nuclear Safety Commission / Commission canadienne de sûreté nucléaire

As you are all aware, all licensees who operate class II nuclear facilities or who service class II prescribed equipment are required to appoint a certified RSO, in accordance with the Nuclear Safety and Control Act (NSCA) and its regulations. RSO applicants ("candidates") are tested on the following five areas of knowledge:

- Radiation physics.
- Principles of radiation safety.
- General class II facility operations.
- CNSC act and regulations.
- Site specific operations.

Historically, the RSO exam was conducted through a telephone interview; however, an online version of the exam was phased in during the first half of 2016 and consists of a combination of short answer and multiple choice questions. Note that the RSO exam remains open book. A review of a representative sample (n = 22) of RSO exam failures during the period of 2011 - 2017 was performed and common areas of weakness were identified. Of the 22 RSO exam failures analyzed, 9 (41%) were from the medical sector.

RSO Failure – Sector Breakdown (2011-2017)

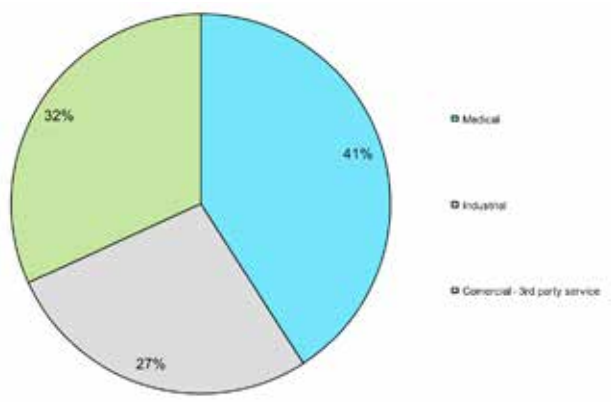


Figure 1: Proportion of RSO's from each sector who failed the RSO exam.

Figure 2 illustrates the percentage of the RSO applicants with weakness(es) identified in the five areas of knowledge, as indicated by the project officer conducting the exam.

Overall, the most common area of weakness shared among all candidates was knowledge of the CNSC act and regulations. In the medical sector, the prevalent area of weakness was in the principles of radiation safety. A further breakdown of the five areas of weakness identified main topics/themes that candidates commonly struggled with:

Radiation Physics

- Description of radiation interaction with matter and characteristics of desired shielding material (especially with respect to neutron radiation).
- Selection of application-appropriate radiation instrumentation.

Principles Of Radiation Safety

- Ability to explain how time, distance, and shielding affect dose and dose rate.
- Identification of features of an ALARA program, or how your facility implements your ALARA program.
- Description of correct techniques for conducting radiation survey.

General Class II Facility Operations

- Description of radiation produced during and following cyclotron operation.
- Description of actions to be taken if the area radiation alarm (e.g. PrimeAlert) sounds, and the purpose of this alarm.
- Identification of factors to be considered during linear accelerator shielding calculations.

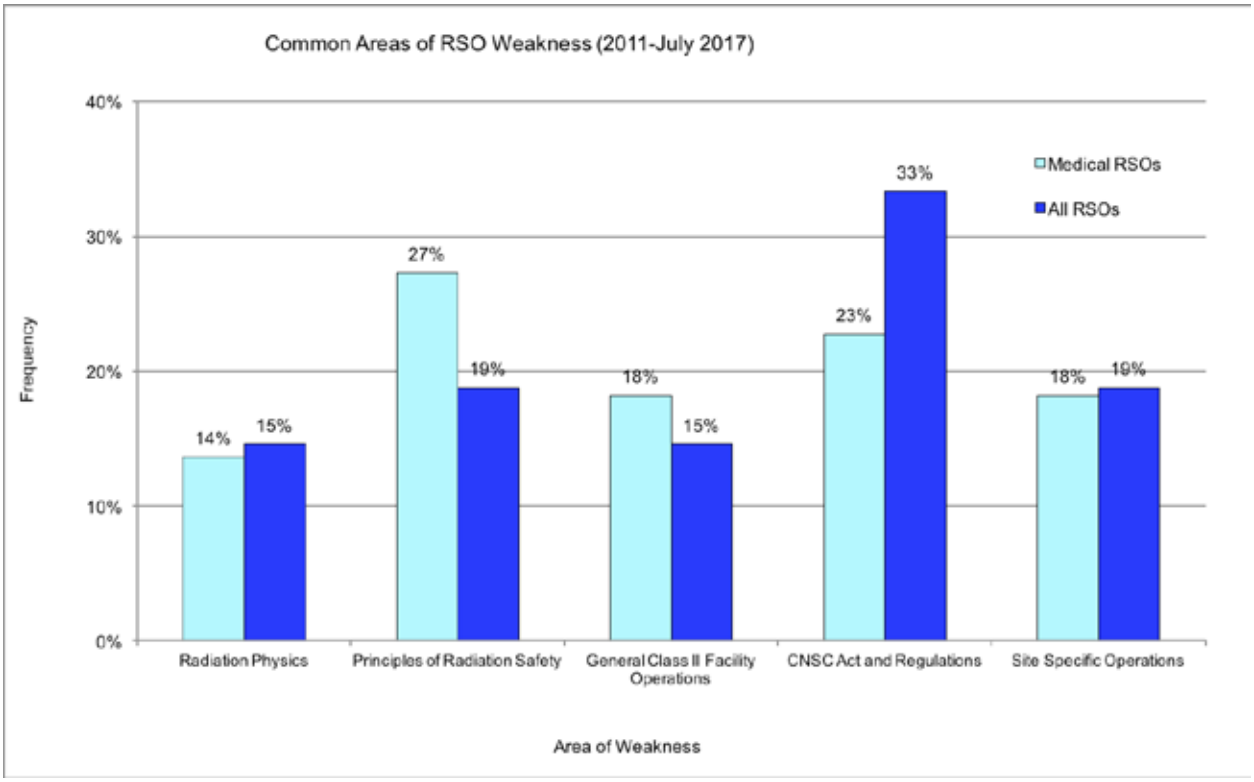


Figure 2: Common areas of candidate weakness, as indicated by CNSC Project Officer during exam.

CNSC Act And Regulations

- Identification of immediately reportable events and what information is to be included in the preliminary report.
- Explanation of the difference between an action level and an administrative control level, and the appropriate steps if either one is exceeded.
- Description of the appropriate actions to be taken following the discovery of an overexposed TLD badge.

Site Specific Operations

- Description of the RSO's responsibilities with respect to service staff and their training requirements.
- Description of safety system test frequency and procedure.
- Identification of records to be retained and their retention periods.

In most instances, the identified weakness was related to the ability of the candidate to communicate their understanding of concepts, such as explaining the purpose of their radiation safety program and providing examples, as opposed to stating definitions or reading aloud the relevant regulations. To better prepare for the RSO certification exam, candidates are encouraged to review their site specific radiation safety program and be able to explain how their program aligns with the principles of radiation safety.

In addition, a review of the NSCA and the relevant regulations, available on the CNSC webpage, is suggested. The candidate should be familiar with the NSCA and relevant regulations and be able to locate and identify key requirements. For example, information about immediately reportable events can be found in the General Nuclear Safety and Control Regulations.

GRADUATING MEDICAL PHYSICS GRADUATE STUDENTS: 2016 - 2017

Student	Thesis Title	University
	MSc	
Stephen Deering	Monte Carlo dose calculations for permanent breast seed implant brachytherapy	Carleton University
Mehan Haidari	Retrospective analysis of permanent prostate implants based on patient-specific Monte Carlo dose calculations	Carleton University
Hamid Moradi	Development of Raman micro-spectroscopy to characterize human ovarian cancer cells	Carleton University
Hong Shen	Commissioning of the NRC wide angle free air chamber	Carleton University
Allan Hupman	Preliminary characterization of the response of an organic thin film transistor to ionizing radiation	Dalhousie University
Nathan Murtha	Characterizing dynamic MRI using objective image quality metrics	Dalhousie University
Will Musgrave	Dosimetric effects of prostate calcifications in high-dose rate brachytherapy calculations	Dalhousie University
Christopher O'Grady	An application of regularized spectral entropy for detection of task-related information content in fMRI	Dalhousie University
Ethan Ruiz	A capacitive monitoring system for stereotactic radiosurgery: detector design	Dalhousie University
Erica Dao	X-Ray fluorescence measurement of iron accumulation in skin as a surrogate marker for iron levels in critical organs and total body iron burden	McMaster University
Peter Hoang	Optimization of an image-guided radiotherapy protocol for advanced stage lung cancer	McMaster University
Nourhan Shalaby	Fluorescence and diffuse reflectance spectroscopy for margin analysis in breast cancer	McMaster University
Tomas Urlich	Design and construction of a silicon Schottky diode detector for single proton counting at the McMaster Microbeam Laboratory	McMaster University
Brie Cawston-Grant	ACE evaluation for GYN and scalp brachytherapy	University of Alberta
Daniel Tamagi	Lung patient treatment plan optimization in the presence of magnetic fields	University of Alberta
Shima Yaghoobpour Tari	Optimization of a non-axial magnet design	University of Alberta
Patricia Duguay Drouin	Caractérisation et optimisation d'un détecteur à scintillation à 2 points	Université Laval
Olivier Filion	L'utilisation du recalage déformable d'images CT sur CBCT dans le but de générer des contours du jour et d'améliorer le cumul de dose avec image du jour	Université Laval
Julia Mascolo-Fortin	Implantation d'un algorithme de reconstruction itératif 4D en tomodensitométrie à faisceau conique	Université Laval
Patricia St-Amant	Étude du potentiel clinique d'une sonde échographique transadominale 3D pour son utilisation au moment des traitements de curiethérapie du cancer du col utérin	Université Laval
Princess Anusionwu	Detector selection for the commissioning of electron Monte Carlo dose calculation algorithm	University of Manitoba
Suliman Barhoum	Dosimetric comparison between single IMRT field and multiple IMRT fields for use in craniospinal irradiation (CSI)	University of Manitoba
Diego Rodriguez Herrera	Antenna characterisation and optimal sampling constraints for breast microwave imaging systems with a novel wave speed propagation algorithm	University of Manitoba
Hongwei Sun	An improved positron emission tomography (PET) reconstruction of 2D activity distribution using higher order scattered data	University of Manitoba
Shadi Chitsazzadeh	Developing a QA procedure for gated VMAT SABR treatments using 10 MV beam in flattening-filter free mode	University of Victoria
Nikita Kuklev	Robust multivariate analysis methods for single cell Raman spectroscopy	University of Victoria

	PhD	
Chad Hunter	A study of the prevalence of patient body motion and its subsequent correction by projection consistency conditions	Carleton University
Nelson Miksys	Advancements in Monte Carlo dose calculations for prostate and breast permanent implant brachytherapy	Carleton University
Amir Pourmoghaddas	Quantitative imaging with a pinhole cardiac SPECT CZT camera	Carleton University
David Parsons	Volume of interest imaging for image guided radiotherapy	Dalhousie University
Hedieh Katalmohseni	In vivo measurement of bone aluminum in Alzheimer's Disease and related studies	McMaster University
Zahra Anjomani	Development of thick gas electron multiplier-based multi-element microdosimetric detector	McMaster University
Derek John Cappon	A diffuse reflectance spectroscopy instrument for use in the optical biopsy of brain tumour margins	McMaster University
Muhammad Irfan Karamat	Quantitative SPECT image reconstruction using a monte carlo based maximum a posteriori (MAP) algorithm	McMaster University
Vinh Nguyen Du Le	Evaluation of diffuse reflectance spectroscopy and fluorescence spectroscopy for detection of glioma brain tumors	McMaster University
Sahar Darvish Molla	Development of an advanced two-dimensional microdosimetric detector based on thick gas electron multipliers	McMaster University
Ashley Thanh-binh Tao	Advanced methods in molecular breast imaging	McMaster University
Devin Baille	Simulation and design of a short, high energy, variable energy, S-band linear accelerator	University of Alberta
Jean-David Jutras	Volumetric quantitative brain magnetic resonance imaging - application to cancer	University of Alberta
Hali Morrison	Accurate dosimetry for ocular brachytherapy: measurement, delivery and dose calculation studies	University of Alberta
Eugene Yip	Highly accelerated MRI: prior data assisted compressed sensing for lung tumour tracking	University of Alberta
Jonathan Boivin	Conception et caractérisation d'un dosimètre à fibre scintillante pour des applications en imagerie diagnostique et interventionnelle	Université Laval
Peng-Thian (Troy) Teo	Autonomous lung tumor and critical structure tracking using optical flow computation and neural network prediction	University of Manitoba
Pei-Shan Wei	New methods for optimizing parallel transmit/receive array coils to small field-of-view excitation in breast and cardiac MRI	University of Manitoba
Jason Crawford	New technologies for At-211 targeted α-therapy research using Rn-211 and At-209	University of Victoria
Samantha Lloyd	Measurement and Monte Carlo simulation of electron fields for modulated electron radiation therapy	University of Victoria
	Certificate	
Lin Ling	N/A	Dalhousie University

63RD ANNUAL SCIENTIFIC MEETING PHOTOS

Editor's note: Below are some photo highlights from the ASM. Please see the COMP Facebook page for more photos from this year's ASM! Many thanks to Simin Razavi, Olga Dona Lemus, and Kevin Jordan for their photographic contributions.

Parliament Hill

The COMP and AAPM executive meeting.

David Jaffray giving the keynote lecture.

The Fun Run 5K participants.

Young Professionals session

Networking

Jerry Battista and Michell Hiltz.

At the gala with Horacio Patrocinio singing, backed up by the awesome guitar slinging of Jerry Battista and John Alderidge.

COMP ASM MEETING REPORT

Amanda Cherpak, Nova Scotia Health Authority, Halifax, NS
and
Elizabeth Orton, Carleton University, Ottawa, ON

This year's annual scientific meeting was held in Ottawa, ON at the Westin hotel. Still reeling from celebrations of Canada's 150th birthday just a couple of weeks before, the city's population swelled to include 320 medical physicists from across the country between July 12th – 15th,2017. The theme of the meeting was "Celebrating our History, Shaping our Future" and had record attendance. As usual, the first couple of days involved CCPM fellowship exams and meetings of the CCPM and OAMP boards as well as the Education, Professional Affairs, Science and Women's Committees. The main conference got underway on Wednesday with a full afternoon of Young Professionals Workshop sessions. The program included discussions of residency expectations, a panel discussion, and some talks from those who have recently & successfully made the transition from residency to medical physicist. The session was a great opportunity for graduate students, residents, and new medical physicists to talk about what types of skills are needed to aide in the transition from trainee to professional and how best to go about developing those skills. The day ended off with an icebreaker reception and an engaging keynote address by Dr. David Jaffray, who provided an insightful look into the future of computing and medical physics. Throughout the conference, the audience made great use of the Slido app to share thoughts and questions.

The second day of the conference included a continuing education session on medical physicists as radiation safety officers. Several experienced radiation safety professionals presented various points of view on fulfilling the position and debated the benefits and challenges of taking on the role in addition to regular clinical duties. The Young Investigators Symposium is always a highlight of the meeting, and this year the group did not disappoint. The caliber of research presented bodes well for the future of our field. The rest of the day was filled with scientific presentations followed by the poster reception.

The last full day of the meeting, Friday, began particularly bright and early for those brave souls that took part in the 5 km fun run. A group of 33 participants met at Nepean Point Park, behind the iconic National Art Gallery, at 6:30am to take part in the run. The scenic route took them along the Ottawa River, over Rideau Falls, in front of the governor general's residence and past 24 Sussex. The winners this year were both from Hopital Maisonneuve-Rosemont in Montreal, clocking in at a time of 18:53 min by Matthieu Lemire for the men, and of 23:36 min by Caroline Duchesne for the women.

The banquet that evening took the group on a walk across the bridge over to Quebec to the Museum of History. If the company, great food and view of parliament weren't enough to make the evening memorable, the group was also lucky enough to be entertained by our very own Jerry Battista, John Aldrich, and Horacio Patrocinio. The last of the award presentations and scientific talks took place Saturday morning before the meeting concluded for this year. Saturday afternoon, some attendees took part in a hike to Gatineau Park organized by Carleton grad students and were lucky enough to have some great weather. Many thanks to this year's sponsors, the organizing committee chaired by Young Lee from Odette Cancer Centre, the Local Arrangements Committee chaired by Claudiu Cojocaru, and last, but not least, the COMP office staff. Congratulations to all that worked on putting together such a successful meeting!

MESSAGE FROM THE COMP STUDENT COUNCIL CHAIRS

Dear COMP Students,

As chairs of the Student Council (SC) for the Canadian Organization of Medical Physicists (COMP), we would like to welcome you to our student community. First and foremost, our mission is to be your voice within the COMP organization. We communicate with the COMP board via the Education Committee (formerly the Science and Education Committee). Our key aims include distributing resources to students, establishing funded educational opportunities, collecting and presenting the information of most interest to the student body, and contributing to student-related COMP activities.

This year at the 2017 Annual Scientific Meeting (ASM), the second annual Young Professionals Workshop (YPW) was held. The purpose of this workshop is to provide residents, graduate students, and early-career medical physicists with education on professional and job-readiness skills. This workshop has replaced the student luncheon that was held in past years. In addition to helping with the YPW (with the panel discussion in particular), the Student Council also hosted a student night out at the Loft Board Game Lounge, where we played games, ate, drank, and socialized.

This past year, the Student Council has worked hard to provide funding, networking and educational opportunities for students. We are very excited to serve as chairs of the COMP Student Council, and will be continuing with the great work of our predecessors. We strongly encourage you to contact us with any suggested improvements or questions you may have regarding your role as a COMP student member. We also encourage you to contact us if you are interested in joining the COMP student council. Please do not hesitate to contact us should you have any feedback, questions, or concerns. We can be reached by email, either to Patricia Oliver (PatriciaOliver3@cmail.carleton.ca) or Humza Nusrat (hnusrat@ryerson.ca).

Sincerely,
Patricia Oliver and Humza Nusrat

GOLD MEDAL INTRODUCTION

Jacob (Jake) Van Dyk and Rob Barnett,
London Regional Cancer Centre, London, ON

JAKE: It is indeed my great pleasure and honour to introduce the 2017 COMP Gold Medal recipient, Dr. Jerry Joseph Battista, BSc, MSc, PhD, FCCPM. A brief overview of Jerry's studies and academic career is summarized below:

University Degrees

- 1971 B.Sc.(Hon) Physics, Concordia University.
- 1973 M.Sc. Radiation Physics, UWO.
- 1977 Ph.D. Medical Biophysics, University of Toronto.

Post-Graduate Training

- 1977-79 Clinical Physics Residency, OCI/PMH.

Professional Appointments and Experience

- 1979 88: Assistant - Associate Professor, Department of Radiology, University of Alberta.
- 1989-2017: Associate - Professor, Western University, London, Ontario.
- 1994 2004: Head, Division of Radiation Oncology, Department of Oncology, Western University.
- 2004-2015: Chair, Department of Medical Biophysics, Western University.
- 2010-2015: Co-Director, CAMPEP Graduate Program, Department of Medical Biophysics, Western University.
- 1989- : Fellow, Canadian College of Physicists in Medicine (FCCPM).

Jerry successfully filled his career with multiple scholarly activities and awards, only a few of which will be summarized here. Jerry is an active member of various organizations and learned societies. He has been a reviewer for multiple granting agencies and journals and has been the recipient of various patents, copyrights, and license agreements. He has been associated with multiple research grants. Over the years, he, with his students and colleagues, has received over 20 awards. This includes the Sylvia Fedoruk Award for the best Canadian Medical Physics paper of the year, which he received three times and was runner up twice. My guess is that no one else has passed this record. He is also the recipient of AAPM's Farrington Daniels Award for best paper on Radiation Dosimetry in a given year by an AAPM member published in Medical Physics.

Regarding students, Jerry has supervised over 30 graduate students, several whom have gone on to develop into internationally renowned medical physicists. Examples include Dr. Rock Mackie, one of Jerry's first students who was the prime developer of the ADAC treatment planning system (later to be the Philips Pinnacle system), and image-guided radiation therapy with helical TomoTherapy (later to become Accuray). Also, David Jaffray, a prime developer of on-board imaging with cone-beam CT, which is now marketed by the main accelerator companies and available on virtually every machine that is sold.

Jerry has over 150 publications, along with more than 16 book chapters and multiple abstracts and other published reports. He is a highly sought after as an invited speaker for his very lucid and clear lectures.

On a personal note ... how did Jerry and I connect? In 1971, I finished my MSc under John MacDonald in London, Ontario and moved on to the Princess Margaret Hospital (PMH) as a clinical physicist. Jerry started his MSc under John MacDonald shortly after I left in 1971. In 1973, Jerry started his PhD at the Princess Margaret Hospital/University of Toronto. His research had to do with a Compton scanner, which he used to generate CT number to electron density conversions in vivo. This Compton scanner was developed by R.L. (Bob) Clarke and Gerry Van Dyk

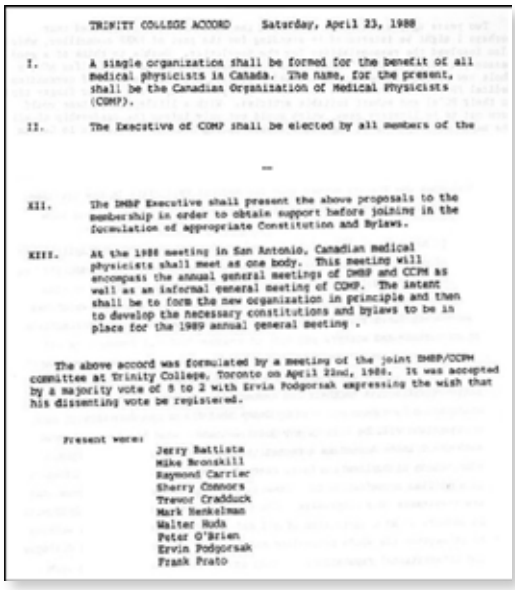
(my brother), prior to the existence of CT scanners, and could generate cross-sectional images consisting of electron densities [1, 2]. Thus, a family connection was already made at the time that I just barely got to know Jerry! One of the resultant publications from Jerry's PhD work has become a key reference for CT number to electron density conversions in the very early days of the implementation of CT scanning for radiation therapy planning [3].

I could go on about Jerry's many contributions; however, I would like to limit this to a few of Jerry's characteristics, for which he is well known. The first is Jerry the "Socialite." Jerry loves good company and a good story.

Figure 1 shows Jerry Battista (Gold Medal 2017) with Jack Cunningham (Gold Medal 2006), John MacDonald (Gold Medal 2007), and Jake Van Dyk (Gold Medal 2011), along with Christine Van Dyk (on right side) and Sheila MacDonald (on left side).

Figure 2 shows Jerry the "Actor" receiving the PMH annual Christmas Concert Award for the best skit of the year in the late 1970s. The skit was an Abbott and Costello routine about "who's on seventh?" (this referred to the seventh floor which housed the physics division versus the sixth floor that housed the biology division). Jerry is on the left beside Harold Johns, Dick Hill, and Peter Ottensmeyer.

Figure 3: Jerry the chair of the Division of Medical and Biological Physics (DMBP) of the Canadian Association of Physicists (CAP).



TRINITY COLLEGE ACCORD Saturday, April 23, 1988

I. A single organization shall be formed for the benefit of all medical physicists in Canada. The name, for the present, shall be the Canadian Organization of Medical Physicists (COMP).

II. The Executive of COMP shall be elected by all members of the

XII. The DMBP Executive shall present the above proposals to the membership in order to obtain support before joining in the formulation of appropriate Constitution and Bylaws.

XIII. At the 1988 meeting in San Antonio, Canadian medical physicists shall meet as one body. This meeting will encompass the annual general meetings of DMBP and CCPM as well as an informal general meeting of COMP. The intent shall be to form the new organization in principle and then to develop the necessary constitutions and bylaws to be in place for the 1989 annual general meeting .

The above accord was formulated by a meeting of the joint DMBP/CCPM committee at Trinity College, Toronto on April 22nd, 1988. It was accepted by a majority vote of 5 to 2 with Ervin Podgorsak expressing the wish that his dissenting vote be registered.

Present were:

Jerry Battista
Mike Bronskill
Raymond Carrier
Sherry Connors
Trevor Cradduck
Mark Henkelman
Walter Huda
Peter O'Brien
Ervin Podgorsak
Frank Prato

Figure 4: Excerpts from the Trinity College Accord (1988) defining the formation of COMP and showing Jerry Battista as one of the co-founders.

Figure 5: Another strong characteristic is Jerry the "Musician." Jerry is a great guitar player! He used his talents well in the annual Christmas parties that were hosted at the Van Dyk residence. Not only did Jerry play admirably, but he also organized and coordinated a music program that lasted at least an hour, encouraging many of the staff and students to be involved. Somehow, he found the best talent in each of the participants and made our Christmas party a highlight of the year for many of the staff and students. Jerry is also a key member of the London Jazz Orchestra, which gives various public performances in London, Ontario. Figure 5 is excerpted from an article written about Jerry in Western's Rapport Alumni Magazine [4].

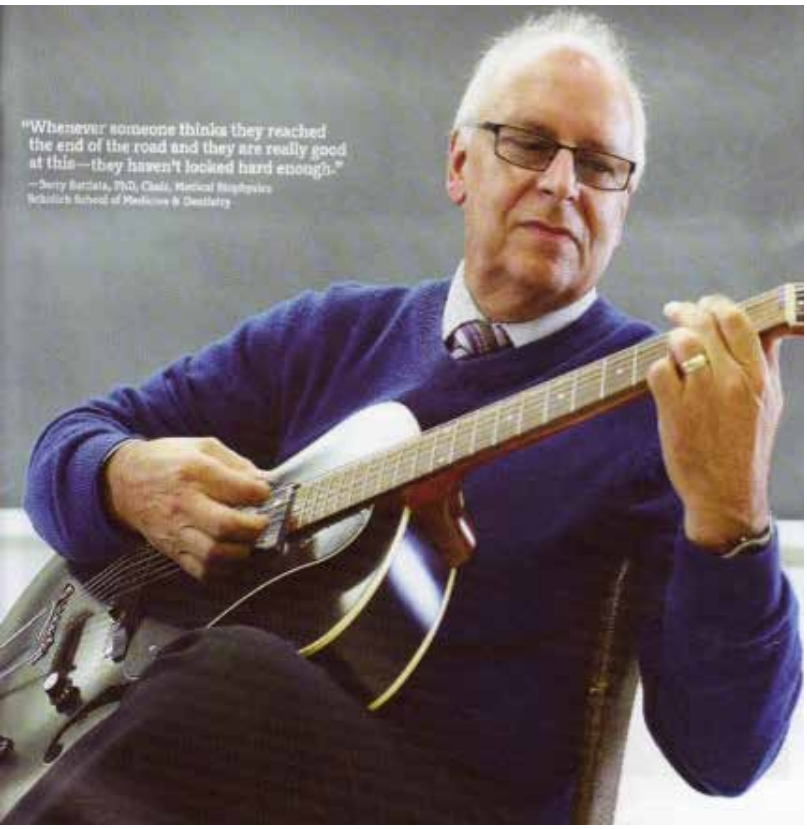


Figure 5: This figure is extracted from an article written in Western's Rapport, Schulich School of Medicine & Dentistry, Alumni Magazine, 2012. The article describes how Jerry developed a number teaching tools including an on-line radiobiology course, an optical CT scanner for teaching imaging, and a lecture entitled "MRI and Guitars: Stay Tuned" [4].

Finally, Jerry the "Master of Analogies." Jerry is very well-known for his teaching skills and has won several significant teaching awards. The article in Rapport [4] was an attestation of Jerry's creativity in the teaching context. A further attestation of this is manifested in two recent chapters that he wrote for Advances in Medical Physics, Volume 6 – one entitled "The Physics of MRI and Linacs: Music to my Ears" [5], and the other entitled "Radiation Exposure on a Voyage to Mars: All Aboard?" [6]

In summary, the COMP Gold Medal acknowledges an individual's outstanding contribution to the field of medical physics in Canada through:

1. A body of work which has added to the knowledge base of medical physics in such a way as to fundamentally alter the practice of medical physics.
2. Leadership positions in medical physics organizations which have led to improvements in the status and public image of medical physicists in Canada.
3. Significant influence on the professional development of the careers of medical physicists in Canada through educational activities or mentorship.

Jerry has ably contributed to a body of work with award winning publications and research. His leadership has been noted as being one of the founders of COMP, as major contributions to graduate and residency programs, and as chair of medical biophysics at Western. Finally, his contributions to professional development are clear by the students he has supervised, many of whom hold significant leadership roles in the field.

Jerry was independently nominated by my colleague Rob Barnett, also from London, Ontario. He will have the last words in this introduction.

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[5] Battista JJ. The Physics of MRI and Linacs: Music to My Ears. In: Godfrey DJ, Van Dyk J, Das SK, Curran BH, Wolbarst AB (eds.), Advances in Medical Physics. Volume 6. Madison, WI: Medical Physics Publishing; 2016: 143-161.
[6] Battista JJ. Radiation Exposure on a Voyage to Mars: All Aboard? In: Godfrey DJ, Van Dyk J, Das SK, Curran BH, Wolbarst AB (eds.), Advances in Medical Physics. Volume 6. Madison, WI: Medical Physics Publishing; 2016: 271-302.

ROB: Thank you for the opportunity to share the introduction of Jerry Battista as the recipient of the 2017 COMP Gold Medal.

Jerry is a great teacher and presenter, as many in the audience have experienced first-hand. And a complementary characteristic is that Jerry is bilingual. Having grown up in Montreal, Jerry learned to speak English and French early in life, and he has used this to advantage throughout his career with a history of strong medical physics collaboration across Canada.

Jake has already eluded to Jerry the "Musician." In Figure 6, Jerry is leading a grand rounds presentation at LRCP entitled *MR Guitar*, where he used the analogy of an electric guitar to explain complex principles of MR imaging. The presentation was followed by a short audio production – the MR Blues. Grand Rounds has never been the same since!

Figure 6

Figure 7

On July 7, we celebrated Jerry's retirement at the Lamplighter Hotel in London. In Figure 7, Jerry is seen standing beside colleagues Linada Kaci and Jeff Chen. The event was a lot of fun and commemorated nearly 30 years of service by Dr. Battista as director of physics research and education at LRCP and tenured professor in medical biophysics at Western. The "Physics All-Star" hockey jersey that he is wearing is symbolic of all graduate, post-doctoral, and other students who successfully completed academic programs at Western under his direct supervision or co-supervision. Many of his former students (All-Stars) are in the audience today. The crest on the jersey was designed by Michael Sharpe during his PhD program at Western.

In Figure 8, Jerry is shown at the convocation ceremony for the Schulich School of Medicine and Dentistry (Doctor of Medicine, Class of 2017) at Western, where he was conferred as Professor Emeritus earlier this summer.

On behalf of all of us, I would like to say, "Félicitations, Congratulations, Jerry" on being awarded the 2017 COMP Gold Medal!

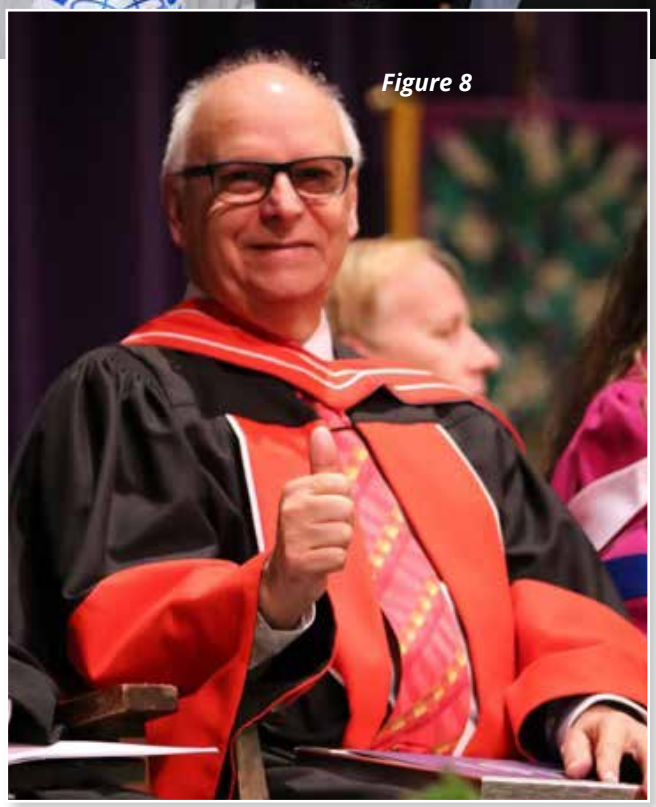

Figure 8

GOLD MEDAL ACCEPTANCE

by Jerry Battista

What a great honour for me to receive this award in the nation's capital! My family shares in this recognition as they have provided continuous support throughout a busy career. I thank my nominators for preparing the dossier and for their robust friendship. During my term as chair of the Division of Medical and Biological Physics (DMBP) of the CAP (1986-87), a diplomatic strategy led to the formation of COMP. This organization has since flourished well beyond expectations of that time. I am grateful to COMP's administration and all of its members – past and present.

I share this medal (Figure 1) with my mentors, colleagues, and students who have shaped my career. Without them, I would certainly not have accomplished enough to earn this national recognition

Figure 1

"Life is very Stochastic"

The path through life is like a Monte Carlo track for electrons passing through a heterogeneous absorber, as Dave Rogers (COMP Gold Medalist) might have taught us. Generally, we plan our future and make systematic decisions at branching points, but unpredictable events alter the intended course in major ways. After obtaining a BSc degree in physics, I travelled down Highway 401 to Ontario from Montreal, stopping at every university marked along the way. In London, the university campus was the most picturesque, and I was directed to the medical physics group at the old Victoria Hospital's cancer

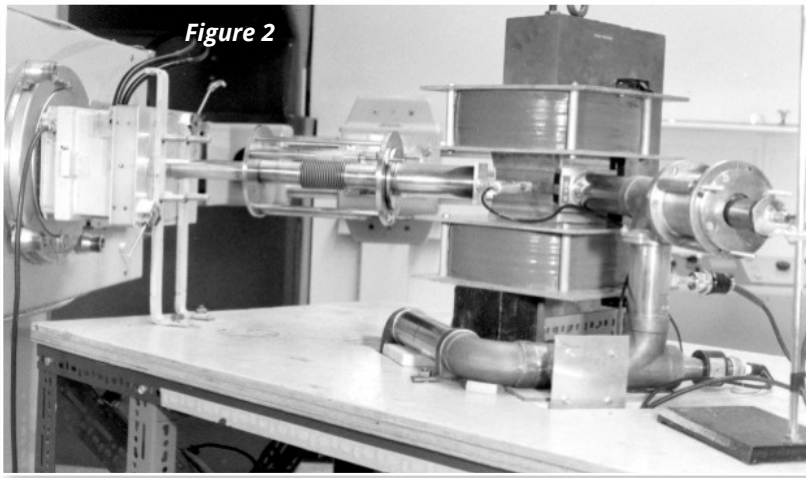

Figure 2

"clinic." I met an impressive tall gentleman (Dr. JCF MacDonald, COMP Gold Medalist) with a strong voice wearing a pristine white lab coat. We chatted in his office, until a confused cancer patient happened to walk by. Dr. MacDonald immediately excused himself and assisted this weak patient. This stochastic moment is frozen in my mind; I was hooked into medical physics as a career choice. Jake Van Dyk (COMP Gold Medalist) was the exiting graduate student, and presumably I was to fill his big shoes. I learned how to operate a 35 MeV betatron and constructed a magnetic spectrometer to measure the electron spectrum of the emerging clinical beam. The experimental setup is shown in Figure 2, in stark contrast to today's software simulation projects!

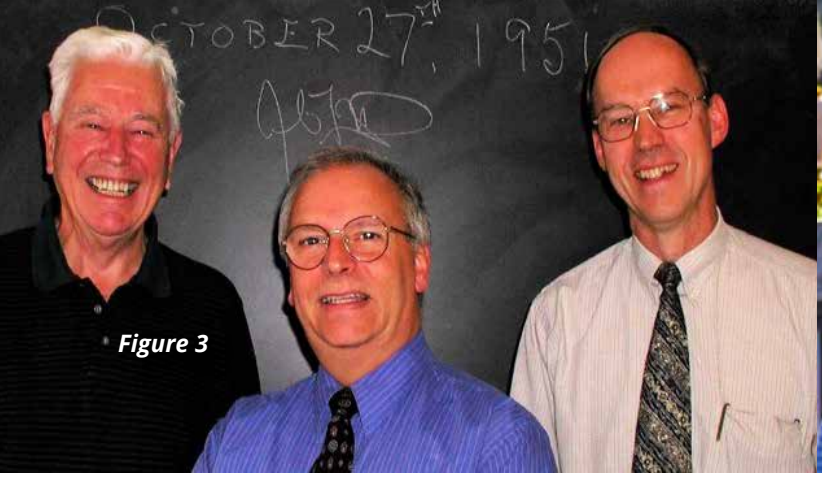

Figure 3

Figure 4

In the photo above (Figure 3), I (or is it George Costanza?) am flanked by Dr. MacDonald and Jake at the 50th anniversary of the world's first Cobalt-60 treatment. Dr. Don Dawson (Figure 4) was also a great mentor and he taught me how make the Asklepitron betatron "hum" with steady dose rate.

My next educational pit stop was at the University of Toronto and Princess Margaret Hospital (PMH). My PhD project focused on medical imaging with a Compton scanner developed originally by Dr. "Bob" Clarke and Gerry Van Dyk (yep - Jake's brother!). The slide below shows the Gammatome Cobalt-60 scanner (Figure 5), Dr. Michael Bronskill (my PhD thesis advisor), a transverse image of his chest (please don't ask!), and a plot of CT numbers versus electron density that earned us some early fame. It's the closest we ever came to a Nobel Prize in medicine!

After completing my PhD studies, Harold Johns (HEJ) hired me as assistant to the clinical physics group at PMH led by Dr. Jack Cunningham (JRC, COMP Gold Medalist). Marc Sontag had formulated a CT pixel-based dose algorithm (EqTAR) for radiotherapy planning. Experimental work was led by Jake and John Andrews, later joined by John Wong as graduate student. They measured the minute perturbation of an air-like cavity on the dose at "point P" in water – in classical *Johns & Cunningham lingo* (Figure 6). The experimental runs took forever, but that was still quicker than doing Monte Carlo simulations at that time!

A stochastic event in 1979 made us head west to a job opportunity at the Cross Cancer Institute in Edmonton. I joined Sid Usiskin, John Scrimger, and Sherry Connors, and formed a software development team. We coded the Alberta Treatment Planning (ATP) system for ergonomic 3D treatment planning based on the new wave of digital images. The system operated clinically in Edmonton and Calgary (and later London) for many years, before being overtaken by commercial products. A highlight of the Edmonton days was a unique collaboration with Donald Chapman (radiobiologist) and Raul Urtasun (avant-garde radiation oncologist). They had proposed the Medical Accelerator Research Institute in Alberta (MARIA) aimed at image-guided high-LET radiotherapy. Why waste time with boring protons (borons?) when Alberta might be able to afford an exciting carbon ion beam? Unfortunately, world oil prices plunged at the wrong stochastic moment and the $200M project was cancelled by Premier Peter Lougheed. The accelerator was, however, later reincarnated at the HIMAC heavy ion facility in Chiba, Japan.

Ellen El-Khatib (now Wilcox) and Rock Mackie became my first graduate students in Edmonton. John Scrimger was Rock's official supervisor, but stochastically – he took a sabbatical leave in the UK. Ellen and Rock experimentally tested and improved dose algorithms, culminating eventually in the convolution-superposition model. The photo in Figure 7 shows the group (left to right - Colin Field, Lee Santon, Rick Crilly, Rob Barnett, Rock,

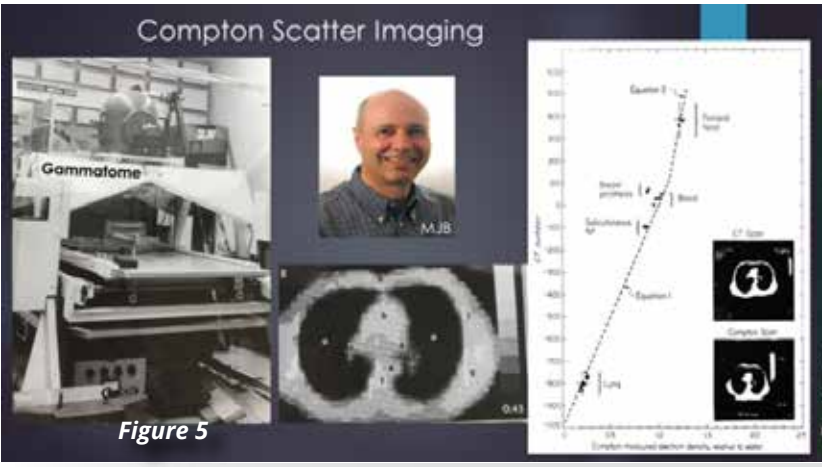

Figure 5

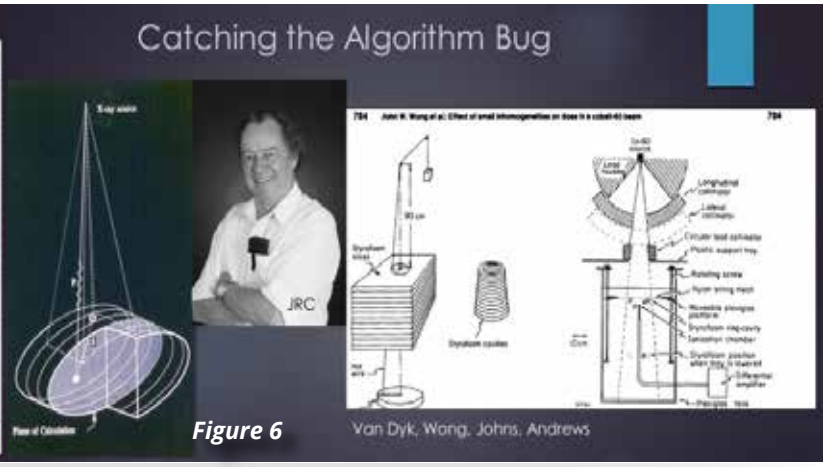

Figure 6

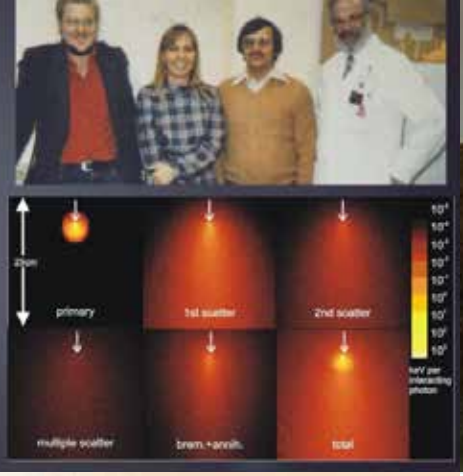

Figure 7

Figure 8

Figure 9

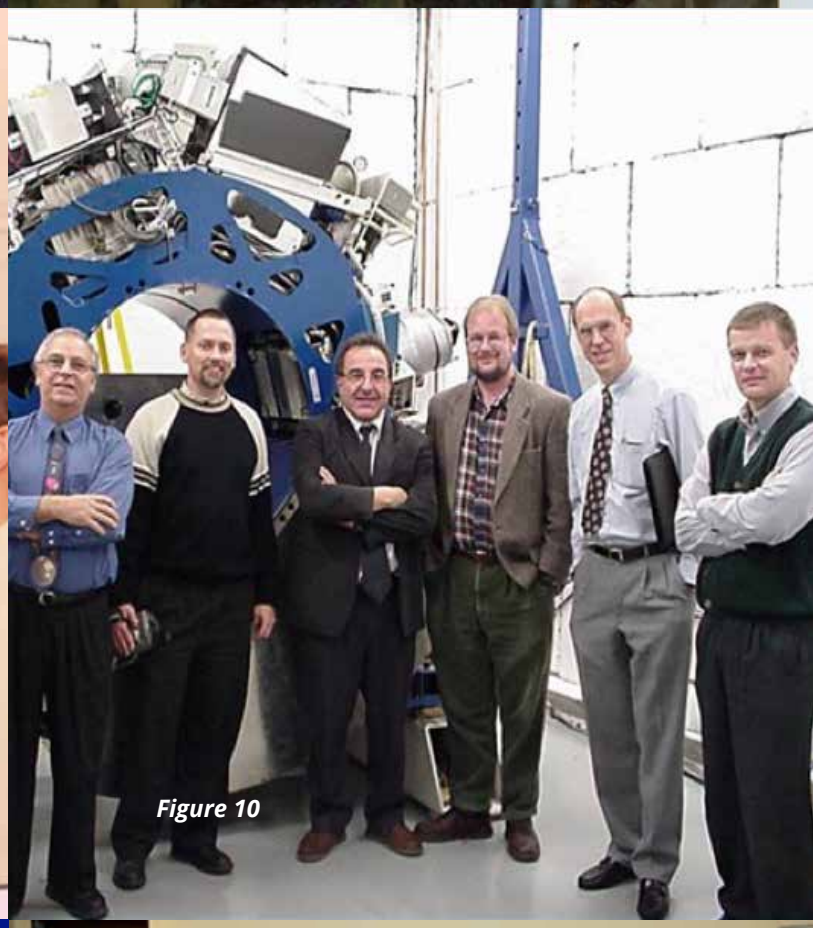

Figure 10

Figure 11

Figure 12

Rock (again), Ellen, I, and Sid). "Dose spread arrays" are shown on the bottom right (Figure 7); the full suite of kernels for different photon energies was generated with a set of VAX computers in Ottawa, Regina, and Edmonton. This required 0.5 CPU-years of computation (x 2 after a smart guy uncovered a subtle bug)!

Opportunity knocked again in 1988 when a new cancer centre opened its doors in London. With a new physics research lab under construction, David Jaffray followed from Alberta with his prior experience in "AI." I was misled - he actually meant artificial insemination on the family farm! A new research team was born with Peter Munro (now with Varian) and Aaron Fenster (COMP Gold Medalist) who focused on portal imaging research. Dr. Arthur Porter also arrived from Edmonton and he certainly added some early spark to the nascent group. Unfortunately, his future career at McGill's University Health Centre would unfold negatively. In the upper photo, you will recognize some of our trainees who are now leaders in their field (Figure 8). Michael Sharpe (third from the right) recently passed away of cancer and we dearly miss him, his talent, and his big smile. Led by Kevin Jordan, our lab spurred the development of optical CT scanners for 3D gel dosimetry and later for educational purposes. Dr. Pedro Goldman later joined our group, and we witnessed his successful metamorphosis from atomic to medical physicist, culminating in the patented FIDO dose optimization algorithm. On the clinical side, Rob Barnett and Jake Van Dyk re-appear in the photo in Figure 9 at a Theraplan workstation, with Jack Cunningham and Denise Ashby (of MDS-Nordion)

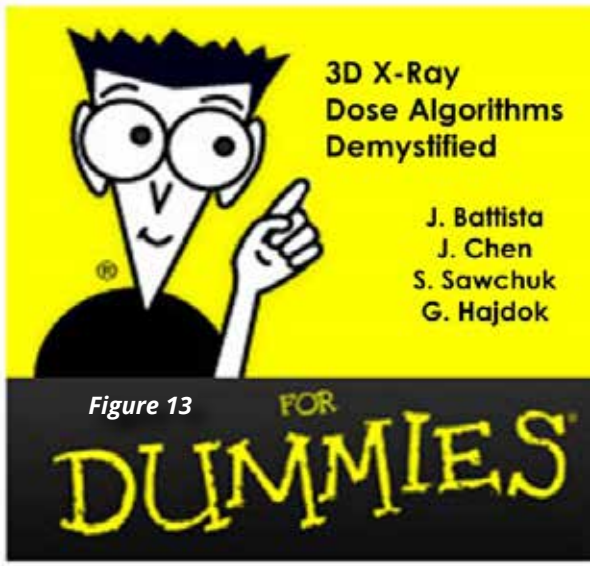

Figure 13


Figure 14

looking on. With the acquisition of a prototype tomotherapy machine, we re-connected with Rock Mackie and the Edmonton group (Figure 10). Tomas Kron (right, Figure 11) was recruited from Australia and we enjoyed many years of productive research, lasting friendship, and fun with guitar blues.

In 2004, I became chair of medical biophysics (Canada's first) at the University of Western Ontario (oops … Western University). With over 100 graduate students and a city-wide cadre of exceptional scientists, this kept me at the top of my game in broader science and administration for 11 years. We secured CAMPEP accreditation for the PhD graduate program, dovetailing it with the residency program at the cancer centre. The photograph in Figure 12 shows many of the faculty, graduate students, and residents who have passed through London institutions. Above all, I am most proud of all their accomplishments as I sport the COMP Gold Medal.

Looking ahead, I am constantly asked – what will you be doing in retirement? My answer is that I hope to dedicate much owed time to my family, write a book on dose algorithms (Figure 13) with London colleagues, and play lots more jazz guitar (Figure 14).

Thank you all!

STUDENT EVENTS AT THE 2017 COMP ANNUAL SCIENTIFIC MEETING

COMP Student Council

STUDENT NIGHT OUT

This year, the student night out took place at the Loft Board Games Lounge in downtown Ottawa. Half of the second floor of the lounge was reserved for the gathering, and was filled with approximately 60 students, residents, and a few other members of the medical physics community. Attendees enjoyed fun board games, great conversation, and refreshing drinks. It was a successful night of networking and socializing with grad students from around the country.

YOUNG PROFESSIONAL'S WORKSHOP

This year, the second annual Young Professional's Workshop took place the day before the start of the scientific meeting. The workshop included interesting and informative talks from various individuals. Topics included: residency expectations, transitioning from residency to the workplace, interview skills, and practical skills for new physicists. The workshop also included a stimulating panel discussion which explored different career paths in medical physics. A big thank you to Harry Ingleby, the panel members, and other presenters for their time and effort creating this event for the young professionals. Slides and audio from the workshop can be accessed via the virtual library on the COMP website.

STUDENT COUNCIL ELECTION

Student council elections took place at the beginning of the workshop, with Humza Nusrat being elected as vice-chair (unopposed). Hali Morrison stepped down as chair, and Patricia Oliver was promoted from vice-chair to chair. Since last year, the student council has acquired two new recruits (Dylan Breitkreutz and Andre Diamant). If you are interested in getting involved with the student council, or have any questions about council activities, please send an email to either of the chairs (PatriciaOliver3@cmail.carleton.ca or hnusrat@ryerson.ca).

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2107 COMP AWARD RECIPIENTS

The **COMP Gold Medal** (Figure 1) is the highest award given by the Canadian Organization of Medical Physicists, introduced in 2006. It is awarded to a member of COMP (or retired former member) who has made an outstanding contribution to the field of medical physics in Canada.

Congratulations to **Jerry Battista**, PhD, FCCPM, FAAPM, FCOMP, London Regional Cancer Program, Physics & Engineering, 2017 recipient!

Figure 1

The **Fellow of COMP award (FCOMP)** (Figure 2) recognizes an active member who has made a significant contribution to the field of medical physics and to COMP. It is awarded for outstanding contributions in research and development in the medical physics and professional practice, education/ mentorship of medical physicists & and allied health personnel, and service to COMP.

Congratulations to **Luc Beaulieu**, PhD, CHUQ - Hôtel-Dieu de Québec, Département de Radio-Oncologie!

Figure 2

The **Sylvia Fedoruk Prize** (Figure 3) was introduced in 1986 by the Saskatchewan Cancer Agency to honour Dr. Sylvia Fedoruk for her 35 years of dedicated and distinguished service to Saskatchewan's cancer program. It is presented for the best paper within the field of medical physics, relating to work carried out within a Canadian institution, and published during the past calendar year. The award consists of a plaque and a cash prize.

Congratulations to **Christiane Burton**, Western University, Medical Biophysics Department (formerly), University of Wisconsin Madison, Department of Radiology (currently) for *"Energy subtraction angiography is comparable to digital subtraction angiography in terms of iodine Rose SNR"* (co-author: John R. Mayo, Ian A. Cunningham).

Figure 3

The **Michael S. Patterson Publication Prize** (Figure 4) was introduced in 2016. It is awarded for a scientific paper written by a COMP member that has had a tremendous impact on the field of medical physics. It considers peer-reviewed papers published in any scientific journal in the last ten years, with work being performed mainly at a Canadian institution.

Congratulations to **Alex Vitkin**, PhD M-CCPM, F-OSA, F-SPIE, clinical physicist, Princess Margaret Cancer Centre for *"Speckle variance detection of microvasculature using swept-source optical coherence tomography"* (co-authors: Adrian Mariampillai, Beau A. Standish, Eduardo H. Moriyama, Mamta Khurana, Nigel R. Munce, Michael K.K. Leung, James Jiang, Alex Cable, Brian C. Wilson, and Victor X.D. Yang).

Figure 4

J.R. CUNNINGHAM YOUNG INVESTIGATORS AWARDS

(Figure 5) are presented to the top three speakers in the J.R. Cunningham Young Investigators' Symposium held during the annual meeting of the COMP. The presentations are judged for scientific excellence and for clarity of presentation. The Symposium is widely recognised as one of the highlights of the annual meeting, with presentations that are of international caliber.

Congratulations to:

1st place: Victor Malkov (Carleton University) (3rd from left) for *"Ion chamber quality and magnetic field conversion factors and angular dependence in magnetic fields"* (co-author: David W.O. Rogers (Carleton University)).

2nd place: Sahar Darvish-Molla (McMaster University) (2nd from right) for *"Development of an Advanced 2-D THGEM Detector and Multi-Input Digital Signal Processor System for the Measurement of Dose Distribution in Low and High LET Mixed Radiation Fields"* (co-authors: Soo Hyun Byun (McMaster University), Kenrick Chin (McMaster University), William V. Prestwich (McMaster University)).

3rd place: Chris Johnstone (University of Victoria) (2nd from left) for *"Development and Characterization of a Plastic Scintillating Detector for Small Animal Irradiators"* (co-authors: Luc Beaulieu (Université Laval), Francois Therriault-Proulx (CHU de Quebec et CHUM), Magdalena Bazalova-Carter (University of Victoria)).

Figure 5

ORAL PRESENTATION AWARDS

(Figure 6) are presented each year at the ASM and are given for the best oral presentations. Presentations are judged on both scientific merit and communication. These competitions are open to all members and student members of COMP. A four to six member panel, with at least two members from each sub-specialty, judges the presentations.

Congratulations to:

1st place: Reid Townson (Measurement Science and Standards, National Research Council Canada) (2nd from left) for *"The new radionuclide source model in EGSnrc"* (co-authors: Frédéric Tessier (Measurement Science and Standards, National Research Council Canada), Raphael Galea (Measurement Science and Standards, National Research Council Canada).

2nd place: Dal Granville (The Ottawa Hospital) (2nd from right) for *"Augmenting physicist review of pre-treatment verification measurements with machine learning"* (co-authors: Justin Sutherland (The Ottawa Hospital), Daniel La Russa (The Ottawa Hospital)).


Figure 6

POSTER AWARDS

(Figure 7) are given each year at the ASM and are for the best oral presentations. The posters are judged on both scientific merit and communication. These competitions are open to all members and student members of COMP. A four to six member panel, with at least two members from each sub-specialty, judges the poster presentations.

Congratulations to:

1st place: Cheryl Duzenli (BC Cancer Agency-Vancouver) (2nd from right) for *"Recommendations for Dosimetric Commissioning of Proton Therapy for Iris Melanoma"* (co-authors: Joel Beaudry (BC Cancer Agency-Vancouver), Clay Lindsay (University of Victoria), Richard Lee (BC Cancer Agency-Vancouver), Crystal Penner (University of British Columbia), Vince Strgar (BC Cancer Agency-Vancouver), Cornelia Hoehr (TRIUMF)).

2nd place: Islam El Gamal (National Research Council Canada) (2nd from left) for *"Experimental determination of the dose rate constant for an Ir-192 HDR source"* (co-authors: Claudiu Cojocaru, Ernesto Mainegra-Hing, Malcolm McEwen, Brad Downton).

Figure 7

CAP CONGRESS 2017: A COMP STUDENT'S EXPERIENCE

Tom Hrinivich
Johns Hopkins School of Medicine, Baltimore, MD

The Canadian Association of Physicists (CAP) held its 73rd annual Congress at Queen's University in Kingston, Ontario from May 28th to June 2nd, 2017. As a student member of COMP, I was given the opportunity to attend the CAP Congress and present research results from my graduate studies in a session focused on medical physics. The hope was that this session would encourage the transfer of ideas between the medical physics and broader Canadian physics communities.

Although excited to attend the conference, a meeting focused on fundamental physics research conjured visions of the undergraduate quantum and statistical mechanics courses I attended years ago. With these fond memories in mind, I had some concern that I would spend the scientific sessions trying to decipher the talk titles, never mind understanding the content of the talks themselves. However, I had no reason to fear. As several of my mentors explained, CAP and COMP have historical ties, and still share significant common ground in terms of research interests, educational initiatives, and membership.

The conference began with a special meeting focused on soft matter on Sunday, with the CAP Congress taking place from Monday to Thursday. As one would expect, the spectrum of research interests represented at the CAP Congress is broad. The opening plenary talk by Marcel Franz from the University of British Columbia discussed experiments related to Majorana fermions, which are their own antiparticle. The next session was focused on soft matter, including talks from graduate students from McMaster University demonstrating phenomena that occur when very thin fibers are put in contact with water droplets. These diverse sessions continued over the subsequent days, including a presentation by Nobel laureate Arthur B. McDonald discussing his work measuring properties of neutrinos, and a presentation from the president of the American Physical Society, Laura Greene, discussing North American and global initiatives in physics.

The medical physics session was well-received, including talks from John Schreiner and Louis Archambault on the role of medical physicists in the clinic, and research on small-field dosimetry. Marc-Andre Fortin and I presented work related to prostate brachytherapy, discussing gold-nanoparticles and image-guidance techniques, respectively. The session stimulated discussion, with several CAP trainees expressing interest in careers in medical mhysics. Following the sessions, I had the pleasure of touring the Cancer Centre at Kingston General Hospital with Dr. Schreiner and observed a demonstration of the scintillating fiber dosimeter developed by Dr. Archambault.

In summary, as a student member of COMP, I found significant value attending the CAP Congress. COMP trainees should consider submitting abstracts to this meeting, emphasizing the application of fundamental physics to clinical challenges in radiotherapy. Special thanks to Michelle Hilts, Christopher Bergevin, Luc Beaulieu, and COMP for this great opportunity.

Dr. Archambault and Dr. Schreiner setting up solid water for some measurements using a scintillating fiber dosimeter during the 2017 CAP Congress in Kingston, ON.

NEWS FROM YOUR CWC: REPORT FROM THE ASM 2017

Malcolm McEwen, Discipline Leader, Measurement Science and Standards
National Research Council Canada / Government of Canada, Ottawa, ON
and
Member of the COMP Women's Committee

In the 1980s, a company called British Telecom (the equivalent of Bell here in Canada) ran a series of ads with the tagline "It's good to talk." Interestingly, that same phrase came up in the COMP Women's Committee session on work-life equilibrium. The panel of medical physicists assembled for the session spoke with one voice indicating that being open and talking about issues was crucial to finding an optimal path through the challenges that work and life regularly bring up.

The COMP ASM expands each year and it's getting tough to find space in the schedule for every event and meeting. However, we found a slot on Thursday lunchtime and managed to coax a good audience away from the excellent food provided by the Westin. Anything with "Women's Committee" in the title is likely to skew the gender balance somewhat, but this was by no means a "women only" event. The subject is an important one for all of us, so it was good to see a healthy scattering of men in the crowd. The CWC's session was not intended to provide answers to the big questions of balancing all the competing priorities we each face, but the panelists provided honest takes on their own life-paths and what they had learned. It would have been impossible to assemble a panel that encompassed all possibilities (although at one point we did try for that perfect optimization during a t-con!), but the participants represented some familiar archetypes – the graduate student, the junior medical physicist, the academic physicist, the team leader, and the recent retiree. By accident, we also managed to capture something of the very diverse community that is Canada.

Ultimately, this session was intended to provide food for thought, show different perspectives on the same issues and start discussions. Given the level of interaction from the audience, I'd say it achieved its objective. Thanks must go (in reverse alphabetical order) to David Wilkins, Wendy Smith, Quinn Matthews, Shirin Enger, and Ghada Aldhosary for really making the panel discussion a success. You'll find here a sample of pictures highlighting the event.

At the session, we also sampled the audience's interest in a mentorship program, and by the numerous answers received, we believe that this is a potential service that the CWC can work on in the near future. If you could not attend and would like to be part of this, do not hesitate to contact us by sending an email to the CWC chair, Nadia Octave, at nadia.octave@mail.chudequebec.ca .

Last but not the least, as you may already know, in remembrance of the 150th birthday of Marie Curie, the IOMP has decided to dedicate 2017 to women in medical physics. In preparation for the International Day of Medical Physics held every year on November 7th, COMP will take part in the celebration by proposing a special event showcasing female medical physicists from the east to the west coast. It will be another occasion to celebrate the fantastic leaders, mentors, and partners of our diverse medical physics community. Please visit the COMP website and social media pages for contest details!

NOTEWORTHY ITEMS

Congratulations to the COMP members/AAPM honourees: L. John Schreiner, AAPM Fellow,

and Wendy L. Smith, Leigh Conroy, Elizabeth Watt, Sarah Quirk, Karen Long and Alana Hudson for Excellence for an Outstanding RO Physics Article.

The medical physics team at Dalhousie University/ Nova Scotia Health Authority has been funded through the federal government's Atlantic Canada Opportunities Agency (ACOA) Atlantic Innovation Fund to work on research and technology for improving precision in radiotherapy. The industrial partner is Brainlab AG, which will work on the commercialization of any new technology to arise from the project. The four PIs, James Robar, Mike Sattarivand, Alasdair Syme, and Chris Thomas, are heading up five intertwined projects under the title "Development of novel technologies for treatment of cancer with precision radiotherapy." For more information: https://www.dal.ca/news/2017/06/27/bringing-dal-developed-cancer-treatment-technology-to-the-world.html?utm_source=Today@Dal&utm_medium=email&utm_campaign=dalnews

Nancy Barrett CAE, COMP's executive director, had the opportunity to tell the story of COMP's strategic plan and corresponding tactical actions at the recent conference for the American Society of Association Executives. COMP's tactical planning is a spreadsheet template that documents the tactics (also known as the actions taken to realize the strategies) that allow for at-a-glance decision making. This new tool also provides robust progress tracking on the strategic outcomes, ensuring the board is well informed on how the plan is advancing. COMP's story was also featured in the ASAE magazine (for those of you viewing online, http://associationsnow.com/2016/11/put-strategic-plan-action/).

NEW COMP MEMBERS

Please welcome the following new members who have joined COMP since our last issue:

Last Name	First Name	Institute/Employer	Membership Type
Arib	Mehenna	King Faisal Specialist Hospital and Research Centre	Associate
Besnier	Magali	CHU de Québec	Full
Connell	Tanner	McGill University Health Centre	Full
Hughes	Ceri	University of Alberta	Student
Khorsandgolchin	Ghazal	Université de Sherbrooke	Student
McPhee	Kelly	University of Alberta	Student
Turgeon	Vincent	McGill University	Student

Congratulations to our past student members who are now Full/Resident members:

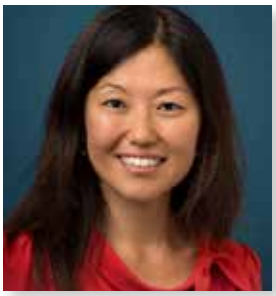
Guillet	Dominique	Jewish General Hospital	Full
Hubley	Emily	Thomas Jefferson University Hospital	Resident

We wish the following COMP members a happy retirement:

Battista	Jerry	London, ON
Lewis	John	Winnipeg, MB
Rowlands	John	Toronto, ON
Soubra	Mazen	Ottawa, ON

CHANGES TO YOUR BOARD OF DIRECTORS

NEW DIRECTORS



Young Lee, Treasurer

About Young:

- CNS site-lead medical physicist at Sunnybrook .
- Assistant professor, University of Toronto.
- Adjunct professor, Ryerson University.
- Registrar for the UTDRO physics residency program.
- Involved with COMP since 2013.
- 2015 World Congress Publicity Committee Communications Committee.
- 2017 ASM Chair.

Thor Bjarnason, Director and Imaging Chair

About Thor:

- Imaging physicist, Interior Health based in Kelowna BC.
- MCCPM membership in diagnostic imaging (x-ray).
- Professional engineer in the province of BC.
- Chair of the 2017 COMP Imaging Winter School organizing committee.
- PhD in biomedical engineering, University of Calgary.
- Clinical instructor, UBC Radiology.
- Adjunct professor, medical physics program at UBCO.
- Un-Official COMP poet laureate.

Michelle Nielsen, Director, QARSAC Chair

About Michelle:

- Senior medical physicist, Carlo Fidani Regional Cancer Centre, Trillium Health Partners - Credit Valley Hospital, Mississauga Ontario.
- Fellow, Canadian College of Physicists in Medicine.
- Involved with COMP since 2003.
- Served as QARSAC chair from 2012 - 2013.

OUTGOING DIRECTORS

Daniel Rickey, Director-at-Large and Chair of the Imaging Committee

During his time on the board, Daniel:

- Dealt with numerous consultation requests from other organizations.
- Represented COMP on Canada Safe Imaging, Radiant Fund, CAR, CADTH etc.
- Played a key role in launching the first Imaging Winter School.

Kyle Malkoske, Director-at-Large and Chair of the QARSAC.

Kyle played a key role in:

- The Canadian Partnership for Quality Radiotherapy (CPQR).
- Development and publication of numerous QC guidelines.
- Fostered COMP's relationship with Canadian Nuclear Safety Commission (CNSC) with the Liaison Sub-Committee and Innovation Fund.

RETOUR SUR L'ATELIER DE CURIETHERAPIE POUR LE CANCER DE LA PROSTATE

FEEDBACK ON THE PROSTATE CANCER BRACHYTHERAPY WORKSHOP

Maryse Mondat
Hôpital Charles LeMoyne, Greenfield Park, QC

Le 19 ET 20 mai 2017, l'Atelier de curiethérapie pour le cancer de la prostate a eu lieu au Club St-James, Montréal, Québec. Cet atelier était organisé par Curietherapies. Curietherapies est une initiative qui permet de faciliter l'échange d'information en curiethérapie, commenter la littérature et partager l'expertise de chacun dans le but maintenir des standards de qualité pour les patients traités par curiethérapie. Les participants comprenaient des radio-oncologues, des urologistes, des radiologistes, des oncologues, des chirurgiens, des physiciens médicaux, un ingénieur et des technologues. Dix physiciens médicaux et un ingénieur étaient présents parmi 43 professionnels. Des représentants de l'industrie étaient aussi présents.

Les objectifs de l'atelier sont de couvrir l'anatomie touchée par les différents stades du cancer, les différentes options de traitement. Spécifiquement pour les traitements de curiethérapie, les sujets comprennent les modalités d'imagerie, les techniques d'implantation, la planification du traitement, les résultats des traitements et la qualité de vie des patients. La mise en service clinique des applicateurs, les contrôles de qualité de la dosimétrie et du traitement sont aussi couverts. Les techniques de traitement, implant permanent et haut débit de dose, furent présentées ainsi que l'utilisation des différentes modalités d'imagerie, US, IRM, CT, ont été décrites. Entre autres, une présentation sur la fusion entre images IRM et US était très intéressante.

Cette année, l'atelier comportait des sessions de discussions sur trois différents sujets: déliénation de contours, planification et techniques d'implant. Ces sessions ont permis des échanges très intéressants entre les différents participants. Le déroulement de cet atelier fût couronné de succès. Curietherapi.es remercie l'OCPM pour son support. Le site web de Curietherapies, soit http://curietherapi.es/, contient des informations supplémentaires.

On May 19th and 20th 2017, the Prostate Cancer Brachytherapy Workshop took place in Club St-James, Montreal, Quebec. This workshop was organized by Curietherapies. Curietherapies is an initiative designed to promote standards of practice in brachytherapy, to stimulate exchange of scientific knowledge, and to discuss the literature and to compare individual expertise. The participants were composed of radiation oncologists, urologists, oncologists, radiologists, surgeons, medical physicists, an engineer, and therapists. Ten medical physicists and one engineer were present among the 43 professionals, as well as industry representatives.

The workshop objectives were to cover the anatomy involved with the different cancer stages and the different treatment options. Specifically for the brachytherapy treatment the topics involved imaging modalities, implant techniques, planning, treatment outcomes, and patient quality of life. It also include the applicators commissioning, dosimetry QA and treatment QA. LDR and HDR techniques were presented, and also dosimetry with the different imaging modalities of US, MRI, and CT were described. Among others, a presentation on US-IRM registration was very interesting.

This year workshop included hands-on sessions. There were three different topics covering contouring, planning, and implant techniques. The hands-on format allowed very interesting exchanges among the different participants. It went smoothly and was a success. Curietherapies would like to thank COMP for their support. More information can be found on the Curietherapies web site: http://curietherapi.es/.

Faculty members of the workshop.
Top row: Joanna Cygler, Alan Pollack, André-Guy Martin, Talar Derashodian, Marjory Jolicoeur, and Alvaro Martinez. Bottom row: James Morris, Peter Hoskin, and Carl Salembier.
Conférenciers. Rangée du haut: Joanna Cygler, Alan Pollack, André-Guy Martin, Talar Derashodian, et Marjory Jolicoeur, Alvaro Martinez. Rangée du bas: James Morris, Peter Hoskin, et Carl Salembier.

NRC-CNRC IONIZING RADIATION STANDARDS WORKSHOP

Reid Townson
Research Associate, Ionizing Radiation Standards, National Research Council Canada, Ottawa, ON

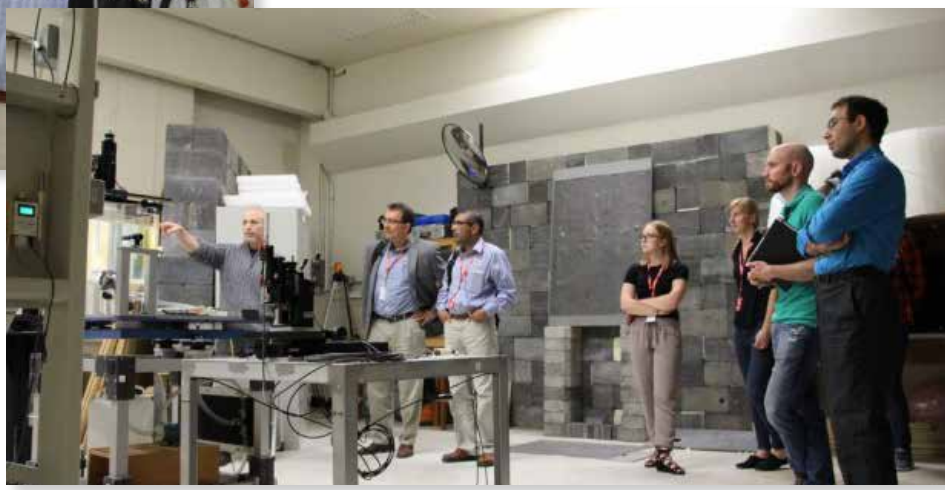
To many medical physicists in Canada, "the NRC" is simply the place where they send their ion chamber for calibration every two years. However, there is much more to Measurement Science and Standards (MSS) at the National Research Council (NRC). On July 11th, 2017, NRC hosted a workshop entitled "Primary Standards, Calibration Services and Research Capabilities." MSS is the National Measurement Institute for Canada, and the half-day event started off with a lecture about the role of MSS in both Canadian and international metrology, with a particular focus on the Canadian input to the redefinition of SI. This was given by the MSS general manager and chief metrologist, Dr Alan Steele, who did a great job explaining why a Watt Balance was better than a silicon sphere for the determination of Plank's constant! Fortunately, the redefinition of the SI, planned for 2019, will only affect absorbed dose measurements at the level of 10 ppb or so (you could hear the sighs of relief from the audience). This exposition was followed by an overview by team lead Malcolm McEwen of Ionizing Radiation Standards at NRC and how traceability is a fundamental part of clinical dose measurements. Finally, Frédéric Tessier cinematically illustrated the importance of Monte Carlo simulations to both the research community and the outside world.

After the lectures, attendees got a glimpse of other NRC activities in a short poster session. The best was saved for last – tours! The whirlwind tour included: Co-60 irradiators, brachytherapy and X-ray primary standards, detectors for security and safety applications, radionuclide metrology, and a longer stop in our vault with the 35 MeV NRC Vickers electron linac and two Elekta clinical linear accelerators.

The roughly 40 attendees were a healthy mix of COMP members, students, radiation professionals, and a few NRC locals exploring a different part of their own organization. Feedback for the event was overwhelmingly positive, with respondents rating the overall experience a 4.7 out of 5. Special appreciation was shown for Alan's charming lecture and the tour experience. Additional feedback included the classic "make the tour faster," followed by "more time for the tour maybe?", and my personal favourite "more EGSnrc".

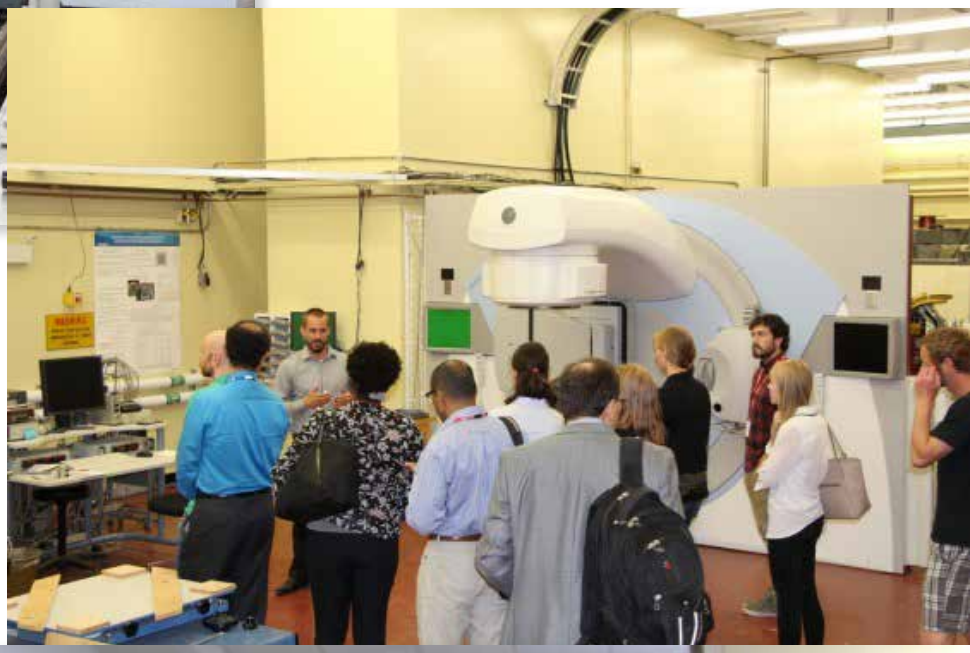
Overall I think we all had a blast! A big thanks to all those who attended, and if you missed it, I hope we're able to catch you next time!

Left: Islam El Gamal demonstrates the Fricke primary standard for Ir-192.



Right: Brad Downton describes the Co-60 absorbed dose primary standard.

Left: Hong Shen shows off the X-ray primary standard system.



Right: Bryan Muir talks about the newly installed Elekta Synergy linac with Agility head, OBI, and portal imaging.

DOES YOUR SMARTPHONE HELP OR HINDER WHEN UNDER PRESSURE?

Brad Downton, Islam El Gamal, and Malcolm McEwen
Ionizing Radiation Standards Group, National Research Council of Canada, Ottawa, ON

Ionization chambers are fantastic devices that are used in almost every field of medical physics. They come in a variety of shapes and sizes for applications, ranging from environmental monitoring to calibration of cancer treatment irradiators. One feature shared by the vast majority of chamber designs is that the air cavity is "open" to atmosphere and therefore requires a correction for the ideal gas law, which changes from day to day, hour to hour, or even minute to minute under certain weather conditions.

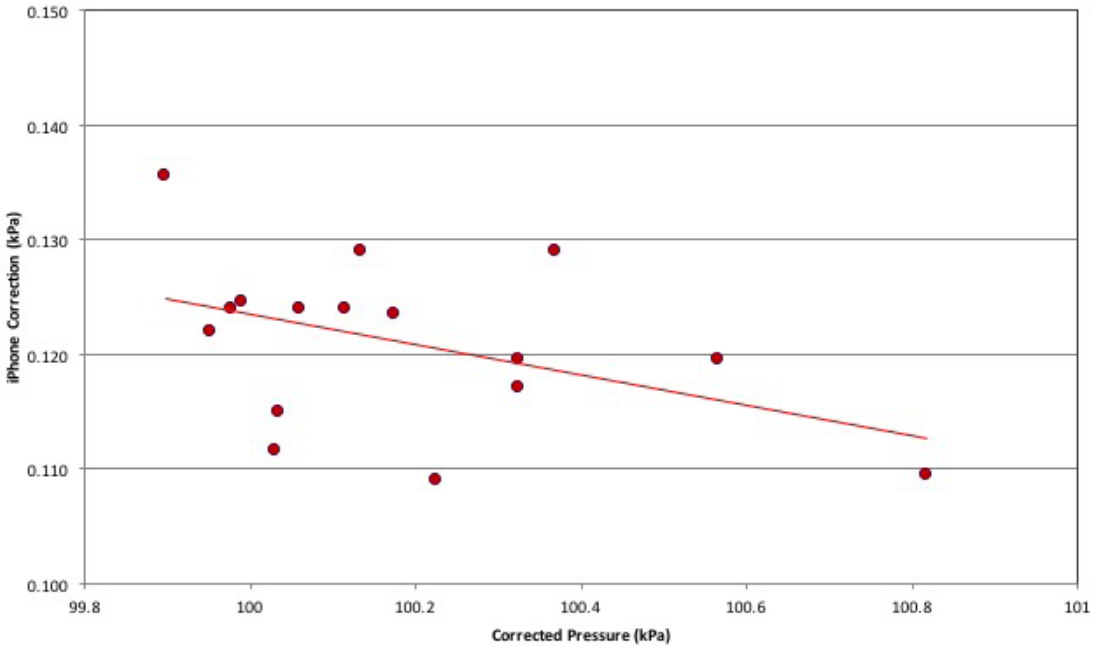
Consequently, not only does one need an ion chamber and electrometer, but also calibrated temperature and barometric pressure sensors. Digital barometers are available on the market, but are not cheap. Although a dedicated system is not required for every ion chamber, it is still tempting to find low-cost alternatives. One approach often used in the past was to call the local weather station for a pressure reading and apply a differential altitude correction between the locations. In recent years, smartphone apps have provided "virtual" barometers by doing this without having to make the phone call. However, in both cases the data relies on measurements made somewhere else, with no knowledge of the reliability or accuracy of the pressure reading provided. Such an approach is inconsistent with dosimetry protocols, and therefore has never been recommended as more than a sanity check on a local pressure measurement.

More recently, things have changed again. Some of latest generation smartphones not only come fully loaded with accelerometers, multi-megapixel cameras, and the processing power of NASA in the 1970s, but can include built-in pressure sensors, providing real time, local pressure measurements of your pocket, backpack, or workstation surface.

How good are these sensors? The Ionizing Radiation Standards group at the National Research Council of Canada (NRC-CNRC) decided to find out!

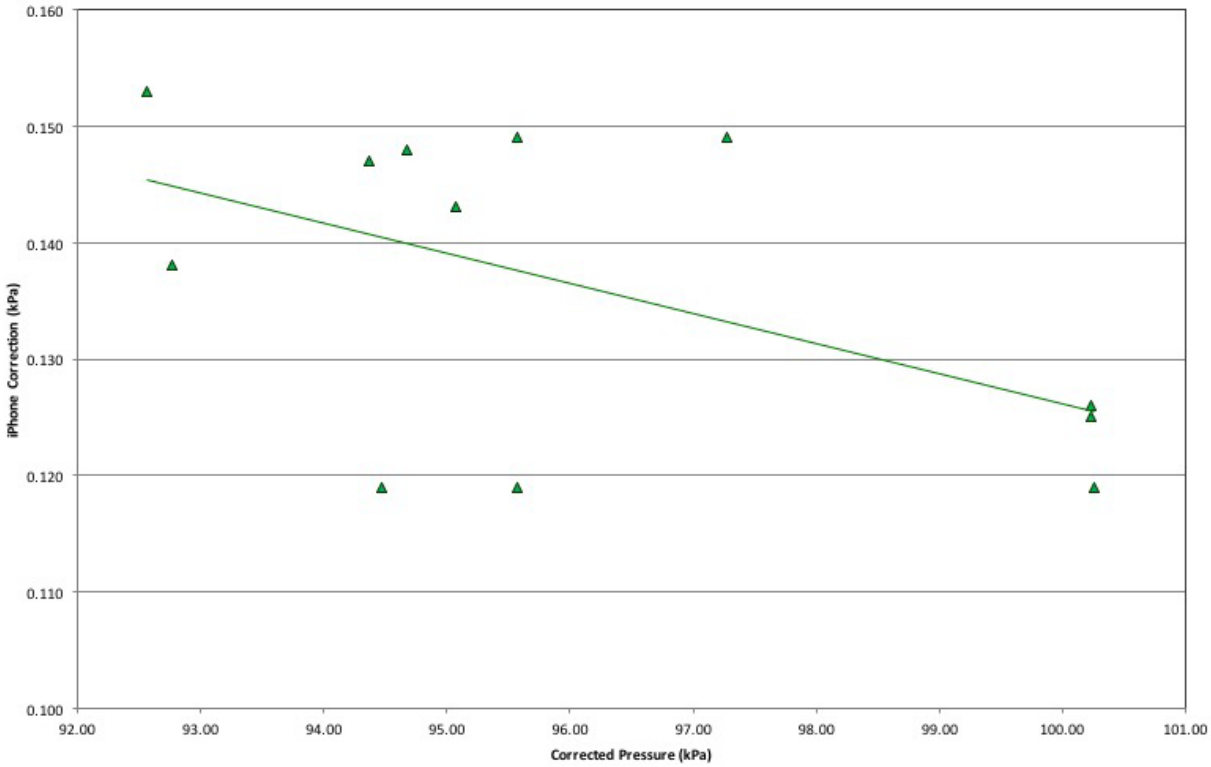
We compared the pressure data provided using a brand-new iPhone6S to data provided by our calibrated air pressure sensors, which are directly traceable to the Canadian primary pressure standard of Canada (handily located in the next building on the NRC Montreal Road campus in Ottawa). The specifications of the iPhone6 pressure sensors have been dissected in fine detail and any search engine will yield multiple sources. We were more interested in whether it works, and the answer, so far anyway, is fairly well. Over several weeks, data was collected to determine the offset between the iPhone readings and the "true" pressure reading provided by our calibrated system. Figure 1 illustrates the iPhone's performance. One can see a constant offset of approximately 0.12 kPa, which appears to be linear to better than 0.1% over the range of pressures measured.

Figure 2: iPhone 6 Pressure Correction Collected Over Several Weeks in the Laboritory



We then put the iPhone in a pressure vessel and took it down to approximately 92.6 kPa. There was a collective sigh when the device did not implode, and we were even more pleased when the data showed results similar to what was observed previously, with a correction of approximately 0.14 kPa and linearity to better than 0.1% over the full range of air pressures likely to be experienced in North America. Figure 2 illustrates the data collected using the pressure vessel.

Figure 2: iPhone 6 Pressure Correction Collected using NRC Vessel



Just to be sure that we didn't have the opposite of a "lemon" (what would the correct fruit be for that?), a second iPhone was tested under the same conditions. The correction value for the second phone was slightly different, but the stability and linearity were comparable to what was observed with the initial device.

Although the performance was impressive, it's important to remember that although smartphones come with a fancy GUI and a lot of decimal places, the pressure sensor is still uncalibrated. The readings provided by a smartphone cannot simply be trusted without some form of calibration. That being said, this new capability of having real-time local pressure measurements sure does beat trusting a value from somewhere else.

Disclaimer

Any reference to a specific device or manufacturer does not imply endorsement by the NRC.

CALL FOR BOARD NOMINATIONS

CALL FOR NOMINATIONS – DUE APRIL 30TH, 2018

The COMP Awards and Nominations Committee is responsible for presenting a slate of nominations for the COMP Board of Directors to ensure that the organization is governed with excellence and vision. There will be five openings on the Board of Directors as of the 2018 Annual General Meeting.

VICE-PRESIDENT

The vice-president serves a two-year term and has the following responsibilities:

1. To work in conjunction with other board members in the best interest of the organization.
2. To prepare for, attend, and actively participate in all board meetings and relevant committee meetings. In-person meetings take place in November and at the Annual Scientific Meeting, and there may be up to four (4) teleconferences.
3. To oversee projects and assume responsibilities as required.
4. To represent the president in his/her absence.

While certainly not necessary, there is an expectation that the vice-president would be willing to stand for the position of President when that position becomes available.

DIRECTORS-AT-LARGE (4)

There will be four openings for directors-at-large. Directors-at-large serve for a term of three years and have the following responsibilities:

1. To work in conjunction with other board members in the best interest of the organization.
2. To prepare for, attend, and actively participate in all board meetings and relevant committee meetings. In-person meetings take place in November and at the Annual Scientific Meeting and there may be up to four teleconferences.
3. To be prepared and willing to chair a committee or lead special projects as required.

On the last point, at present chairs are being sought for the Communications, Science, Education, and Professional Affairs Committees.

Nominations for these roles are due by **April 30th, 2018** and **must be accompanied** by a duly signed Expression of Interest and nomination form endorsed by no fewer than two (2) voting members of COMP as well as a brief bio. To access the nomination form, please visit www.comp-ocpm.ca or contact the COMP office.

GOLD MEDAL AWARD: CALL FOR NOMINATIONS

The COMP Gold Medal will be awarded to a member of COMP (or retired former member) who has made an outstanding contribution to the field of medical physics in Canada. An outstanding contribution is defined as one or more of the following:

1. A body of work which has added to the knowledge base of medical physics in such a way as to fundamentally alter the practice of medical physics.
2. Leadership positions in medical physics organizations which have led to improvements in the status and public image of medical physicists in Canada.
3. Significant influence on the professional development of the careers of medical physicists in Canada through educational activities or mentorship.

The Gold Medal is the highest award given by the Canadian Organization of Medical Physicists and will be given to currently active or retired individuals to recognize an outstanding career as a medical physicist who has worked mainly in Canada. It will be awarded as appropriate candidates are selected, but it will not generally be given more than once per year.

Nominations for the 2018 medal are hereby solicited. Nominations are due by **April 30th, 2018** and must be made by a full member of COMP. Nominations must include:

1. The nominator's letter summarizing the contributions of the candidate in one or more of the areas listed above.
2. The candidate's CV.
3. The candidate's publication list (excluding abstracts) which highlights the candidate's most significant 10 papers.
4. Additional one to two page letters supporting the nomination from three or more members of COMP.

Please forward nominations electronically to Nancy Barrett at the COMP office (preferably in pdf format, nancy.barrett@comp-ocpm.ca).

Candidates selected for the medal will be invited to attend the COMP Annual Scientific Meeting where the award will be presented by the COMP president. Travel expenses will be paid for the medal winner. The medal winner may be asked to give a 30 minute scientific presentation at the COMP meeting, in addition to a short acceptance speech, when the medal is presented.

2018 SYLVIA FEDORUK PRIZE IN MEDICAL PHYSICS

The Saskatchewan Cancer Agency is pleased to sponsor a competition for the 2018 Sylvia Fedoruk Prize in Medical Physics. This award is offered annually to honour the distinguished career of Sylvia Fedoruk, former lieutenant governor of Saskatchewan and previously physicist at the Saskatoon Cancer Centre.

The prize will comprise a cash award of five hundred dollars ($500), an engraved plaque, and travel expenses to enable the winner to attend the joint Annual Scientific Meetings of the Canadian Association of Radiation Oncology (CARO) and the Canadian Organization of Medical Physicists (COMP), which will be held September 10th – 15th, in Montreal, Quebec.

The 2018 prize will be awarded for the best paper: (i) on a subject falling within the field of medical physics, (ii) relating to work carried out wholly or mainly within a Canadian institution, and (iii) published during the 2017 calendar year. The selection of the award-winning paper will be made by a panel of judges appointed by COMP.

Papers published in Physics in Medicine and Biology and Medical Physics, which conform to the conditions of the preceding paragraph, will automatically be entered in the competition and no further action by the author(s) is required. All other papers should be submitted electronically to:

Nancy Barrett
Executive Director
Canadian Organization of Medical Physicists
E-mail: nancy.barrett@comp-ocpm.ca.

Each paper must be clearly marked "Entry for 2018 Sylvia Fedoruk Prize" and must reach the above address no later than **FRIDAY, MARCH 30TH, 2018**.

The award winners from the last five years were:

Burton, Christiane, Mayo, John R., Cunningham, Ian A., Energy subtraction angiography is comparable to digital subtraction angiography in terms of iodine Rose SNR, *Medical Physics, **43**, 5925 (2016); doi: 10.1118/1.4962651*.

Matthews Q, Isabelle M, Harder SJ, Smazynski, J, Beckham W, Brolo AG, Jirasek, A, and Lum JJ, Radiation-Induced Glycogen Accumulation Detected by Single Cell Raman Spectroscopy Is Associated with Radioresistance that Can Be Reversed by Metformin" (PLoS ONE 10(8): e0135356. doi:10.1371/ journal. pone.0135356).

Goulet M, Rilling M, Gingras L, Beddar s, Beaulieu L, and Archambault L, Novel, full 3D scintillation dosimetry using a staticplenoptic camera, *Medical Physics, **41**, Vol. 8, August 2014; 082101*.

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HAROLD JOHNS TRAVEL AWARD ANNOUNCEMENT

CANADIAN COLLEGE OF PHYSICISTS IN MEDICINE

LE COLLÈGE CANADIEN DES PHYSICIENS EN MÉDECINE

DEADLINE FOR APPLICATION: APRIL 6TH 2018

The board of the Canadian College of Physicists in Medicine is pleased to honour the founding president of the college by means of the Harold Johns Travel Award for Young Investigators.

> *H.E. Johns – Officer of the Order of Canada, Ph.D., LL.D., D.Sc., Emeritus University Professor and Professor Emeritus in the Department of Medical Biophysics and Radiology, University of Toronto.*
>
> *Dr. Johns was born of missionary parents while in West China. During his scientific career, he published over 200 peer-reviewed papers, trained over 100 graduate students, many of whom hold key positions in the field of medical physics across Canada and around the world. He has won many prestigious awards and has published four editions of "The Physics of Radiology", the premiere textbook in the field.*
>
> *His developments in the late 1940s of the Cobalt "bomb" led to a career in the pioneering field of medical biophysics. This in turn led to international reputation among scientists. His many awards and accolades reflect the respect and admiration in which he was held by academics and scientists around the world. He was inducted into the Canadian Medical Hall of Fame in 1998. Dr. Johns passed away on August 23, 1998.*

The award is given annually by the Canadian College of Physicists in Medicine to an outstanding CCPM member proposing to visit one or more medical physics centres or to attend specialized training courses or conferences, site visit(s) for advanced practice, or to embark in new areas of research with the intent of gaining further experience in his or her chosen field, or, alternately, to embark on a new field of endeavour in medical physics. Its ultimate goal of the award is to enhance medical physics practice in Canada.

Applicants may travel either inside Canada or elsewhere. Applicants must have passed the CCPM membership exam within the previous three years, and should not have previously taken a similar course or have spent a significant amount of time at the proposed institution. The award is for **$2,250** and will be paid upon receipt of a satisfactory expense claim. Recipients need not be Canadian citizens, but must be working in Canada at time of application.

The deadline for application this year is Friday April 6th, 2018.

Applicants must submit a one-page proposal indicating the course they wish to attend or the name(s) of the institutions they would visit, and the reasons for their choice. They should also submit an estimate of the costs involved and letters from their present employer indicating that they are in agreement with the proposal. If their proposed expenses exceed the value of the award, then they should also indicate the source for the additional funds required. For a visit to an institution, the candidate must have that institution write to the registrar in support of the visit. The candidate should also provide their curriculum vitae and the names and phone numbers of two references that the selection committee can contact. No reference letters are required. The selection committee reserves the right to contact additional individuals or institutions. For additional information, please refer to section I, page 36 of the CCPM regulations.

A panel appointed by the board of the college will choose the award recipient. Their choice will be based upon: 1) the written proposal submitted by the candidate, 2) references obtained by the committee, and 3) membership exam results. The award will be announced at the Annual General Meeting of the college. Recipients will have two years after their application deadline to complete their travel and will be required to submit a short report to the InterACTIONS newsletter.

Applicants who are unsuccessful in any one year and still eligible in subsequent years may have their applications considered again by writing to the registrar and providing any necessary updated information.

Applications should be sent to the registrar of the Canadian College of Physicists in Medicine at:

Ms. Raxa Sankreacha
Carlo Fidani Peel Regional Cancer Centre (F150)
Dept. Of Medical Physics

2200 Eglinton Ave. West
Mississauga, ON L5M 2N1
registrar@ccpm.ca

IDMP 2017: FIERCE MEDPHYS PROFILE CONTEST DETAILS!

November 7th, 2017 marks the 150th birthday of Marie Curie and the 5th annual International Day of Medical Physics (IDMP). To celebrate, COMP is profiling 10 Fierce Female Medical Physicists from across the country over the next 10 weeks.

Of course there is a contest ... following all 10 profiles, COMP will be quizzing you on how closely you followed them! COMP members who answer all 10 questions correctly will be entered into a random draw for $250 in Curie Cash, used towards COMP membership or event registration. Stay tuned for the quiz, and check Sosido or the news section of www.comp-ocpm.ca each week for the latest profile.

INTERESTED IN HOSTING THE 2019 COMP ANNUAL SCIENTIFIC MEETING?

COMP is looking for a location and Local Arrangements Committee (LAC) for the 2019 Annual Scientific Meeting.

The LAC works with the chair of ASM Committee and COMP office and provides the local "flavour" and hospitality for the meeting. This involves organizing the social events, the fun run, any other special activities, providing volunteer support for registration, exhibitor set-up, photography etc.

Hosting the ASM is a great opportunity to showcase your centre and its geographic location, build team within your centre, and provide experience and networking opportunities for both staff and students. In exchange for the time and energy required, LAC's are provided with 10 free registrations to the meeting as well as a cheque for $2000 for the hosting centre.

If you are interested or would like more information about this opportunity, please contact Nancy Barrett at nancy.barrett@comp-ocpm.ca or 613-599-1948.

FELLOW OF COMP AWARD NOMINATION PROCESS

Nominations are being accepted for the Fellow of COMP Award. This honour recognizes an active member who has made a significant contribution to the field of medical physics and to COMP. This contribution is to be in two or more of the following:

- Service to COMP.
- A demonstrated body of work showing an outstanding contribution to research and development in the medical physics profession.
- A demonstrated body of work showing an outstanding contribution to professional practice.
- Through educational activities or mentorship, particularly regarding the education and training of medical physicists, medical residents, and allied health personnel.

Other Criteria that Must be Met:

- Nominees must have a minimum of 10 years of experience in the field of medical physics.
- Nominees must have a minimum of 5 consecutive years as a member of COMP and be a full member in good standing at the time of the nomination.

Nomination Process:

- Any member in good standing may nominate an individual for the FCOMP Award.
- At least two support letters are required in addition to a cover letter from the nominator. If the nominator does not hold an FCOMP, then the nominator is required to solicit two letters of support from members who hold an FCOMP. If the nominator holds an FCOMP, then one additional FCOMP holder must second the nomination and provide a letter of recommendation, and a second letter of support may come from any reference (does not need to be a member of COMP).
- In addition to the cover letter and the letters of support, the nominator must also complete the FCOMP nomination form in order to provide a summary of the nominee's service to COMP, contributions to research and development, contributions to professional practice, and contributions to education and mentorship.
- Should the Awards Committee deem the candidate to be eligible, (s)he will be asked to submit a curriculum vitae prior to a final recommendation to the COMP board.
- If a nominee is slated to receive the FCOMP Award, both the nominator and the nominee will be notified by COMP. The nominee will be asked to confirm his/her willingness to accept the award and will be asked to provide a short bio and a recent photograph.

Nominations may be submitted at any time and those received by **April 30th, 2018** will be considered for presentation at the 2018 AGM in Montreal, QC.

CONTRIBUTIONS TO THE HAROLD E JOHNS TRAVEL FUND 2017

CANADIAN COLLEGE OF PHYSICISTS IN MEDICINE

LE COLLÈGE CANADIEN DES PHYSICIENS EN MÉDECINE

CCPM wishes to recognize and thank the following members of their 2017 donations to the Harold Johns Travel Award. For many years the HE Johns Travel Fund has been awarded to young medical physicists to support their travel to another centre so that they may gain further experience in their specialty. With the economic downturn, investment return is minimal. Donations to the fund have to sustain the annual expenditure in the current economic environment. Please consider donating to the fund this year so that we may continue this legacy of education. Further details on the award can be found on the CCPM website.

The 2017 HEJ winner was Yuji Kamio of CHUM Notre Dame Hospital, Montreal. Yuji plans to attend "9th Young Researchers BNCT Meeting" at Kyoto University in Japan on November 13th - 15th, 2017.

Ismail Aldahlawi
John Aldrich
Ghada Alsdosary
John Andrew
Crystal Angers
Will Ansbacher
Clement Arsenault
Chantal Audet
Parminder Basran
Deidre Batchelar
Jerry Battista
Craig Beckett
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Cupido Daniels
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Dan La Russa
Michael Lamey
Renee Larouche
Darcy Mason
Randall Miller
Vitali Moiseenko
Thalat Monajemi
Maryse Mondat
Michel Moreau
Michelle Nielsen
Ian Nygren
Daron Owen
Horacio Patrocinio
Martin Petric
Ervin Podgorsak
Ioan Popescu
Terence Riauka
David Rogers
Matthew Schmid
John Schreiner
Peter Shragge
Emilie Soisson
David Spencer
Alasdair Syme
Christopher Thomas
Christopher Thompson
Jacob Van Dyk
Eric Vancervoort
Shuying Wan
Brad Warkentin
Glenn Wells
David Wilkins
Conrad Yuen
Ge Zeng-Harpell

MEDICAL PHYSICS FOR WORLD BENEFIT (MPWB): BRIEF UPDATE

Jake Van Dyk
President, MPWB

MPWB is a volunteer organization with a mission of supporting activities which will yield effective and safe use of physics and technologies in medicine through advising, training, demonstrating, and/or participating in medical physics-related activities, especially in low-to-middle income countries. It is a young, membership-driven organization. MPWB opened its membership application process on June 15th, 2017, and as of September 6th, 2017, 127 members have signed up. MPWB held general information meetings at the Canadian Organization of Medical Physicists (COMP) Annual Scientific Meeting in Ottawa, Canada on 13 July 2017 and at the American Association of Physicists in Medicine (AAPM) Annual Scientific meeting in Denver, Colorado, USA on August 1st, 2017. There was excellent attendance, and both meetings provided very positive feedback with various questions, comments, and suggestions. The next phase of MPWB will involve fundraising through corporate sponsorships and granting agencies in support of various projects around the world. MPWB is in close communication with the AAPM/IOMP Equipment Donation Program, especially in the context of providing training support for multiple dosimetry systems that are being refurbished, recalibrated, and donated to needy environments. Updates on MPWB activities can be found on the website www.mpwb.org,including a recent newsletter entitled Benefit Exchange.

9TH CANADIAN WINTER SCHOOL

11-15 February, 2018

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MESSAGE FROM THE EDITOR

Hello all! I'm sorry to report, summer is for the most part over, and the ASM has come and gone as well. I didn't make it, but by all accounts it sounds like it was a success (again!). Many thanks to all who worked on the ASM!

This issue has a lot of content from the ASM as you may have noticed, plus a lot of other great stuff too. Although, we have reprinted some photos taken during the ASM, there are many more on the COMP Facebook page. Also, in this issue is one of my favourite articles: the list of graduate students who successfully defended in the past year. This year it's a little late (sorry about that …), and I hope I heard from all departments, but if not, please make sure to submit something next year as this is a great opportunity to highlight the achievements of our grad students. Remember: they are the future of our field, and getting a graduate degree is a big achievement that should be celebrated. So, congratulations to all the graduates on all your hard work!

And, as always, please consider submitting something to InterACTIONS as YOU are the drivers of content! It can be an article of scientific inquiry ("Does Your Smartphone Help or Hinder When Under Pressure?"), a report on a conference or workshop ("CAP Congress 2017: A COMP Student's Experience"), or a committee report ("Message from the COMP Student Council Chairs").

Thanks for reading! Have a good autumn and see you soon!

Chris Thomas

DATES TO REMEMBER

December 1st, 2017
Deadline for Janaury issue of InterACTIONS

February 11th – 15th, 2018
9th Canadian Winter School

March 30th, 2018
Deadline for 2018 Sylvia Fedoruk Prize applications

April 6th, 2108
Deadline for Harold Johns Travel Award applications

April 30th, 2018
Deadline for COMP Board of Directors nominations

April 30th, 2018
Deadline for COMP Gold Medal Award nominations

April 30th, 2018
Deadline for Fellow of COMP nominations

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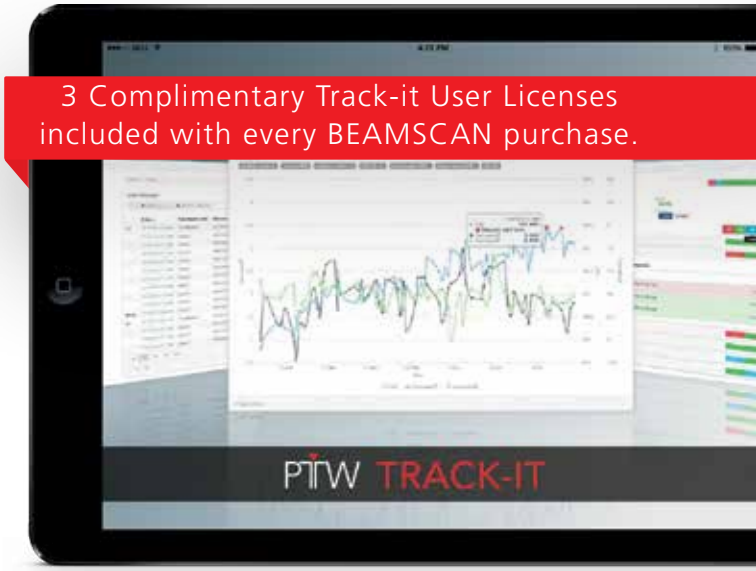

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