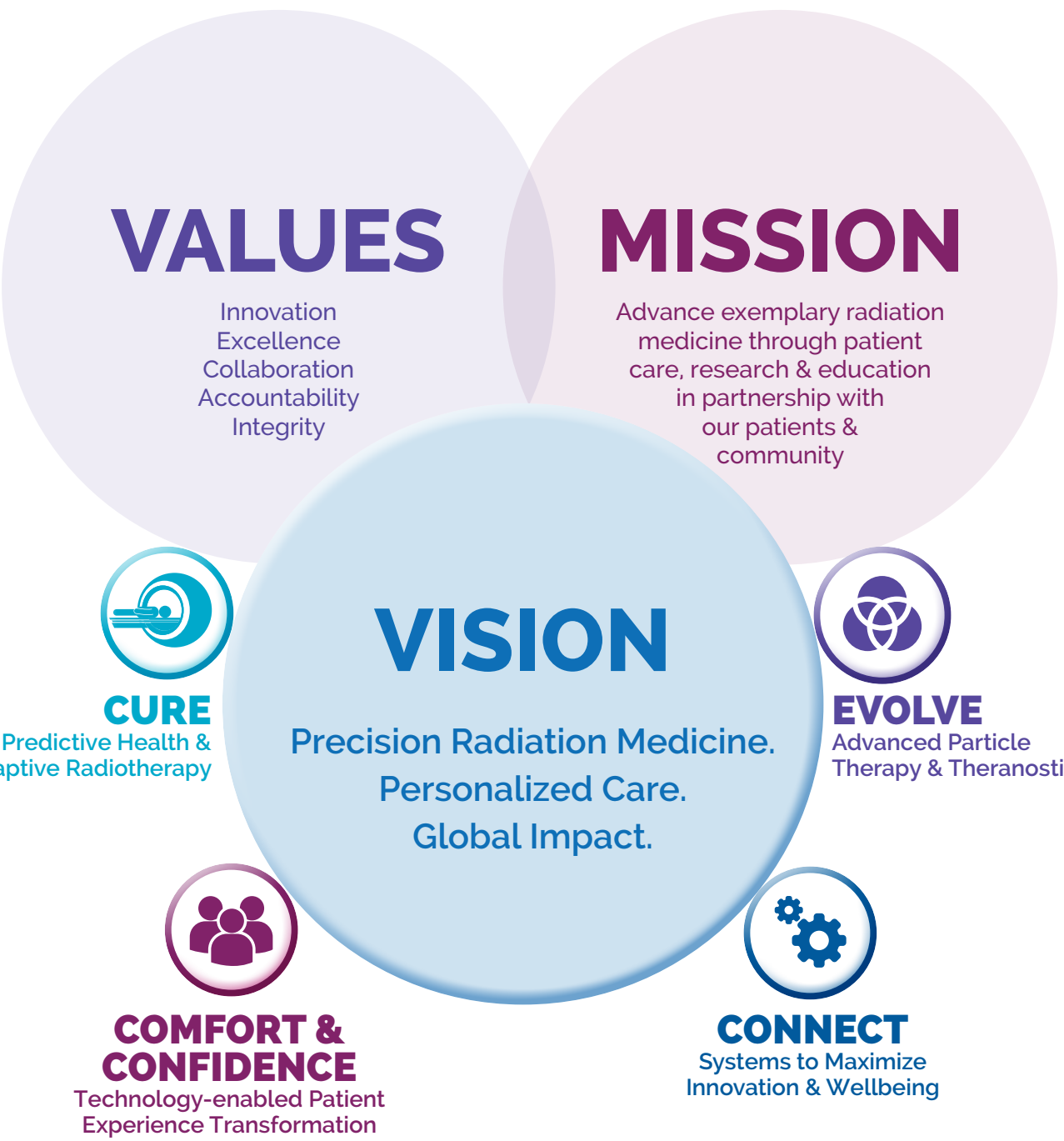


RADIATION MEDICINE PROGRAM



ANNUAL 2021
REPORT 2022



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A MESSAGE FROM THE CHIEF



The Radiation Medicine Program (RMP) at the Princess Margaret Cancer Centre is committed to delivering the highest standard of patient care. Over the past year, our dynamic multidisciplinary team of radiation oncologists, medical physicists, radiation therapists, administrators, and support staff have continued to advance our vision of “Precision Radiation Medicine. Personalized Care. Global Impact.” RMP remains the largest single-site radiation medicine program in the world, providing 8,923 patient consultations and 11,299 courses of radiation treatment in fiscal year 2021-2022.

This year, RMP underwent a successful external review that highlighted our program’s excellence in clinical care, research, and education, and affirmed our standing as one of the top radiation medicine programs in the world. The external team of reviewers described RMP as “a strong program... one of international acclaim with a long-standing reputation of excellence.” I am immensely proud of the important progress and advances our program has made in the past five years. In 2021, we also embarked on a strategic refresh and launched our **Strategic Roadmap to 2026: Revolutionizing Radiation Care Through Digital Health**. Together, we will drive global radiation medicine to new frontiers, by advancing predictive radiotherapy, transforming the patient journey through digital technology, and building comprehensive programs in particle therapy and theranostics. In particular, I would like to take this opportunity to highlight the outstanding efforts undertaken by Team RMP in furthering the particle therapy program for Ontario and Canada. Following the successful launch of our Pan-Canadian Proton Therapy Consultation Service in 2020, the Ontario Ministry of Health announced a \$5 million grant to support the planning of our nation’s first proton therapy facility. A big thank you to our talented multidisciplinary teams who engaged so effectively to advance access to this important treatment modality for our patients closer to home, so that they will no longer have to travel out of the country. Furthermore, several members of Team RMP also received prestigious awards and appointments, including David Hodgson, who was inducted as an ASTRO Fellow, Pdraig Warde, who received the CARO Gold Medal and Gordon Richards Lectureship, and Mary Gospodarowicz, who was appointed inaugural Co-chair of The Lancet Commission on Cancer and Health Systems.

RMP’s innovative education programs continue to attract attendees from around the world. In 2021, RMP successfully concluded its five-year partnership with the University of Hong Kong-Shenzhen Hospital. The Sanming Project of Medicine was highly acclaimed and ranked as one of the top Sanming projects in the Shenzhen municipality. This year, the UTDRO MRI RT Training Program, with Nicole Harnett as Program Advisor, was also launched to accelerate MRI teaching and practice in Radiation Therapy. In training such a diverse group of radiation medicine professionals, we are achieving our goal of global impact, maximizing cancer outcomes for not just our own patients, but for those around the world.

RMP continues to disrupt the radiation medicine landscape through innovative response-driven adaptive radiotherapy research to ensure personalized, precision-based treatment for every patient. This year, RMP continued its upward trajectory on the number of peer-reviewed research publications and grants captured by RMP investigators. We recorded our highest number of peer-reviewed publications, at 307. In 2021, Drs. Scott Bratman and Daniel de Carvalho officially launched their start-up company [Adela Inc.](#), focusing on cfMeDIPseq liquid biopsies. Adela captured \$60M USD in funding, representing one of the largest rounds of Seed Financing in Canadian biotech history. Adela is poised to revolutionize cancer detection, treatment, and monitoring, and will advance our strategic objective of becoming a world leader in radiation medicine technology and innovation.

One of the most important roles for any leader is to build the talent pool. Over the past decade, I have successfully recruited 21 physicians to the Princess Margaret Department of Radiation Oncology. Some of these individuals hail from other globally leading institutions such as the University of Manchester, Stanford, and Memorial Sloan Kettering. Furthermore, this talented group of individuals have diverse ethnic, religious, and racial backgrounds, emanating from Europe, northern Africa, the Middle East, the Americas, and of course, Canada; 40% of these recruits are women. In addition, we have also successfully launched international recruitments for the Head of Medical Physics, and the Head of Radiation Therapy, for the first time in the 60+-year history of the Princess Margaret. We are very fortunate that Dr. Jan Seuntjens from McGill University joined us to lead the Department of Medical Physics in 2021. Dr. Yatman Tsang from the UK will be leading the Department of Radiation Therapy in September 2022.

In summary, I am delighted to share so many program accomplishments in the past year. As I reflect on my final year as Chief of RMP, I am extremely proud and inspired by all that our team has accomplished in the past decade of my tenure. We have made extraordinary progress in our mission to “advance exemplary radiation medicine through patient care, research, and education in partnership with our patients and community,” all while navigating challenging circumstances with grace and resilience. In particular, as we continue to respond to the ongoing COVID-19 pandemic, I am extremely grateful for the strength and dedication of our team, especially our leadership team on RMP Steering, who continue to keep the safety of our patients, staff, partners, and families a priority. As Chief, it is my pleasure to work alongside such a diverse and talented team who share a common vision and passion for delivering world-class personalized radiation medicine. I thank you all deeply for your unwavering support over the past ten years, and look forward to all that we will achieve together in the future.

Fei-Fei Liu, MD, FRCPC, FASTRO
Chief, Radiation Medicine Program, Princess Margaret Cancer Centre
Head, Department of Radiation Oncology, University Health Network

PROGRAM OVERVIEW

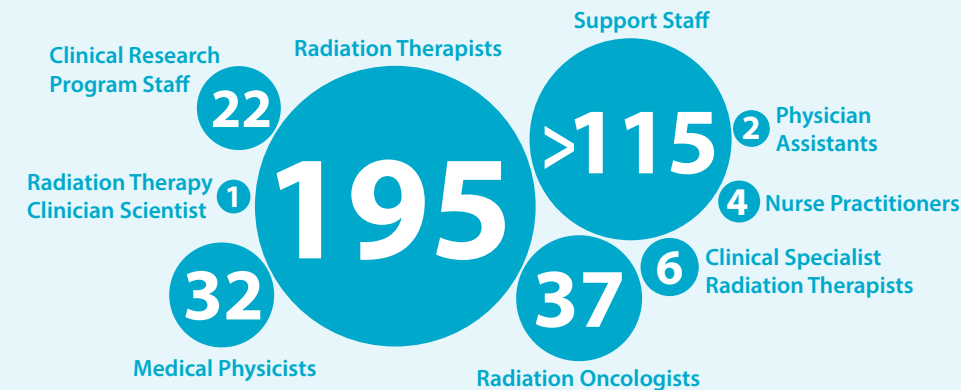
The Radiation Medicine Program (RMP) at the Princess Margaret Cancer Centre is the largest radiation treatment centre in Canada, and one of international acclaim as amongst the top three such programs in the world. RMP is organized into the three core disciplines of radiation oncology, medical physics and radiation therapy; each supported by robust clinical, research, administrative and technical teams. Together, this multi-professional group of over 400 staff work collectively to deliver high quality and safe radiation treatment to over 8,000 cancer patients every year.

RMP has a diverse pool of talent, with many staff holding important leadership roles in patient-centered care, research and education at the local, national and international levels. Our research program, which spans from biological studies, translational biology, medical physics, clinical trials, to health services and education research, aims to innovate and advance radiation medicine practice, producing over 305 peer-reviewed publications annually.

Our interdisciplinary environment facilitates the delivery of innovative education programs covering the entire spectrum of professional learning in radiation medicine. RMP offers training at the undergraduate, graduate and postgraduate levels in collaboration with the University of Toronto and Michener Institute of Education at UHN, as well as continuing medical education through our Observership and Accelerated Education Program (AEP).

TEAM RMP

Our multi-talented, inter-professional staff enables all aspects of our program to succeed. Led by the Program Chief, the RMP Steering Committee defines the principles of operation, and policies of governance for the management of clinical care, quality assurance and safety, research, educational, operational and IT activities.

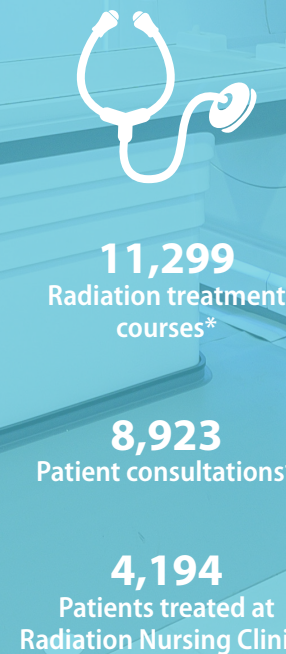


Steering



*As of 2021

2021 THE YEAR IN NUMBERS



STATE OF THE ART FACILITY

- 15 Linear accelerators
- 2 Leksell Gamma Knife Perfexion units
- 3 CT simulators
- 1 MRI 3T simulator
- 1 PET CT simulator
- 1 Orthovoltage/Superficial X-ray unit
- 2 Brachytherapy high dose rate (HDR) remote afterloaders
- 1 Magnetic resonance-guided radiation therapy (MRgRT) facility
- 1 MR-Linac facility

*Fiscal year statistics

STRATEGIC ROADMAP TO 2026

Since the launch of the Strategic Roadmap to 2026 last year, RMP has focused on implementing several key initiatives and activities in Year 1 to help achieve its four strategic priorities to: 1) empower predictive health and accelerate response-driven adaptive radiotherapy; 2) enhance personalized, equitable, compassionate care through a technology-enabled patient experience transformation; 3) establish a centre of excellence in advanced particle therapy and theranostics; and 4) elevate systems to maximize innovation and well-being. Thank you to the continued support of the PM Cancer Program in helping us to achieve our strategic goals. Key highlights from 2021-2022 are shown.

Empower predictive health and accelerate response-driven adaptive radiotherapy



COMFORT & CONFIDENCE

- Initiated evaluation of CERT model to optimize and expand its deployment across the program.
- Initiated efforts to streamline patient education process across the care continuum and improve awareness and accessibility of existing patient educational resources.
- Ongoing PERSON study in breast cancer to evaluate the role of pairing RTT with a patient along the RT journey; this will provide insights into high needs patients/criteria.
- Initiated efforts to optimize the use of ESAS/PRO across the program.

EVOLVE

- Developed UHN Theranostics Forum to increase communication, facilitate cross-departmental collaborations, promote education, and build on current capabilities across UHN and with external partners.
- Received a landmark \$5 million grant from the Ontario Ministry of Health in April 2022 to support the planning of Canada's first hospital-based proton therapy centre in downtown Toronto.
- Conducted site visits to 5 international proton/particle therapy centres.
- Hosted the Canadian Particle Therapy Symposium, themed "Beyond Proton Therapy: Defining the Future of Particle Therapy in Cancer Care" in April 2022.

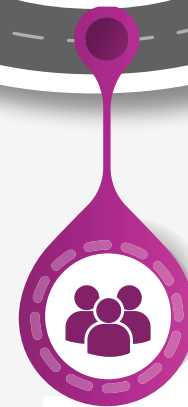
Elevate systems to maximize innovation and wellbeing



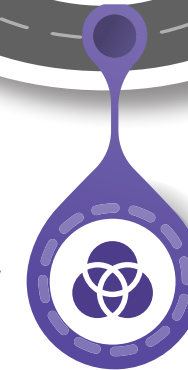
- Super Team 2 and 3 sites migrated plan publication from Web Publishing to EVOQ in February 2022.
- Implemented RO-lite model for online adaptation to delegate online RO tasks to MRT(T)s; five MRT(T)s have been trained in prostate MRL.
- MRL Radiation Oncology Fellowship established to increase clinical and research MRL capacity in GI and GU Sites.
- Umbrella MRL registry study amended to facilitate efficient outcomes collection and consent, aligning with the international Elekta Consortium MRL study (MOMENTUM).
- Activated a Phase 1/2 trial for MR-guided hypoxia targeting in MR and FAZA PET for pancreatic cancer patients.
- Implemented integrated end-to-end daily QC for Unity MR Linac workflows.

CURE

Enhance personalized, equitable, compassionate care through a technology-enabled patient experience transformation



Establish centres of excellence in advanced particle therapy and theranostics



- Established a multidisciplinary GROSS ("get rid of stupid stuff") Working Group to improve efficiency in RMP, and conducted a "Road Show" for staff engagement to introduce GROSS and identify projects that meet GROSS criteria.
- Initiated implementation of MOSAIQ Care Plans, and evaluated SmartClinic to improve patient flow across RMP.
- Completed Phase I development of an AI-driven patient scheduling system to maximize efficiency and optimize resource allocation within RMP.

CONNECT

CLINICAL CARE

Our clinical practice encompasses all aspects of cancer care – from diagnosis to survivorship. In 2021-2022, RMP provided 8,923 patient consultations and delivered 11,299 courses of radiation treatment, with 64% of new patient consultations being conducted within the 14-day target established by Ontario Health - Cancer Care Ontario (OH-CCO). As well, there were 4,194 visits to the Radiation Nursing Clinic (RNC) for symptom and side effect management.

Our clinical practice is integrated into four multi-disciplinary Super Teams comprised of anatomically related tumour site groups. Standardized treatment protocols that relate to evidence-based disease management guidelines are used by each site group to plan and treat patients.

In addition to site groups, a number of specialized programs exist to further support individualized care in a subset of patients. Together, our inter-professional team works collaboratively to assess, plan and deliver personalized care to our patients.

CLINICAL TEAMS

Superteams	Tumour Site Groups
Team 1	Endocrine, eye, head & neck, skin
Team 2	Breast, lung, upper gastrointestinal (GI)
Team 3	Genitourinary (GU), gynecological (GYN), lower GI
Team 4	Central nervous system (CNS), leukemia, lymphoma, palliative, pediatrics, sarcoma

SPECIALIZED PROGRAMS

Brachytherapy	Palliative Radiation Oncology
Gamma Knife Radiosurgery	Pediatric Radiation Therapy
Oligometastases	Stereotactic Radiation Therapy

FIRST IN CANADA: ADVANCING PARTICLE THERAPY



Over the past year, RMP has made great strides in advancing the national discussion on particle therapy. Following the successful launch of RMP's Pan-Canadian Proton Therapy Consultation Service in 2020, the Ontario Ministry of Health announced on April 1, 2022, a landmark \$5 million grant to support the planning of Canada's first hospital-based proton therapy centre in downtown Toronto. This exciting announcement came after years of discussions in assessing the feasibility of a proton therapy program in Canada. The proton therapy centre will be run by PM-UHN together with SickKids and Ontario Health - Cancer Care Ontario (OH-CCO), with collaborations from the Pediatric Oncology Group of Ontario (POGO), as well as patient and family partners, physicians, medical physicists, radiation therapists, allied healthcare professionals, and specialists from pediatric and adult cancer programs across the province.

Thank you to members of Team RMP who have been deeply involved in this project, and made significant contributions to advancing access to proton therapy for patients in Canada: **Susan Awrey, Lisa Chong, James Chow, Leigh Conroy, Tim Craig, Jennifer Croke, Colleen Dickie, Nicole Harnett, Christine Hill, David Hodgson, Michael Holwell, Wendy Issa, John Kim, Catarina Lam, Daniel Letourneau, Patricia Lindsay, Fei-Fei Liu, Andrea McNiven, Victor Malkov, Michael Milosevic, Lyndon Morley, Cathryne Palmer, Amy Parent, Tatiana Ritchie, Tara Rosewall, Jan Seuntjens, Teo Stanescu, Tony Tadic, Derek Tsang, Richard Tsang, Monique Van Prooijen, Michael Velec, Alex Vitkin, John Waldron, Padraig Warde, Jeff Winter, and Rebecca Wong.**

On April 21-22, 2022, RMP also led the first-ever Canadian Particle Therapy Symposium (CPTS) entitled, "Beyond Proton Therapy: Defining the Future of Particle Therapy in Cancer Care" in hybrid format at the Sheraton Centre Toronto Hotel. The symposium was co-chaired by **Fei-Fei Liu** and **Jan Seuntjens**, who brought together an international community of particle therapy experts to discuss the current and future state of particle therapy, including next-generation technologies and scientific innovations. Over 190 hospital leaders, government administrators, health care professionals, researchers, and industry partners from across the nation and the globe gathered in-person and virtually to discuss future perspectives in this exciting field. Thank you to all our organizers, speakers, session/panel chairs and attendees who are helping to define our vision for particle therapy in Canada.



UHN GLOBAL & LOCAL IMPACT AWARDS

The winners of the 2021 UHN Local Impact Awards were revealed during UHN's Virtual Holiday Forum on December 14, 2021. The Local Impact Awards were created to recognize exceptional individuals and teams who advance the strategic pillars and vision of UHN. RMP was proud to have staff win awards in three of the seven UHN strategic priority categories.

Tomorrow's Care Award

This award recognizes individuals and teams who have developed partnerships with patients, communities, and industry to advance new models of compassionate care.

Individual: **Alejandro Berlin, Virtual Care Management System (VCMS)**

Team: **Case Expert Radiation Therapy (CERT) Model Team***

Convergence Award

Awarded to individuals and teams that have developed new models of collaboration to accelerate the translation of research into clinical practice, harnessing the collective power of Canada's academic health sciences ecosystem.

Team: **Accelerated Education Program (AEP): Nicole Harnett, Rebecca Wong**

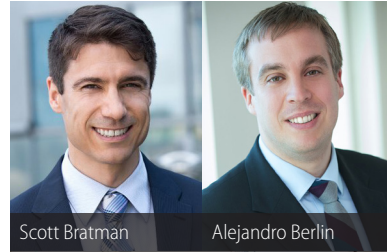
Commercialization Award

This award is bestowed on individuals and teams who have assisted UHN in building and strengthening partnerships with peers, innovators, and industry leaders both locally and internationally.

Team: **Scott Bratman & Daniel De Carvalho, Adela Inc.**

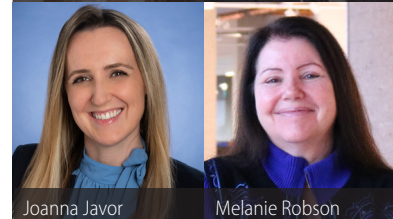
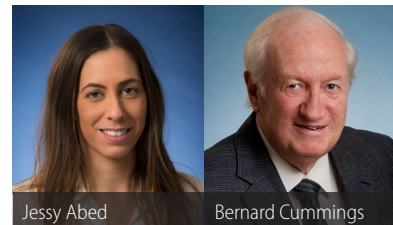


Mary Gospodarowicz also received the 2021 UHN Global Impact Award, which recognizes the exceptional contributions of Team UHN members who have transformed healthcare locally and internationally. Mary received the award for her dedicated service to global radiation oncology, cancer control, and healthcare over the past three decades of her career.

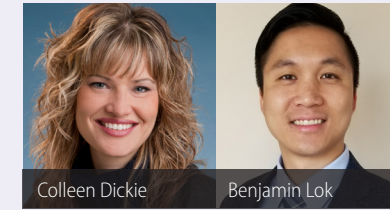


CELEBRATING EXCEPTIONAL COMPASSIONATE PATIENT CARE

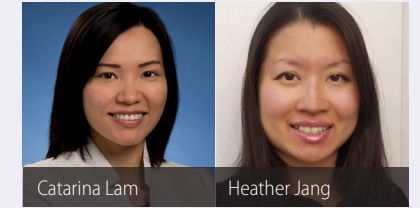
2021 marked the 22nd Gerald Kirsh Humanitarian Awards, which were initiated by the Kirsh family as a tribute to their father and husband, Gerald Kirsh, who was a patient at the Princess Margaret. These awards celebrate staff and volunteers across PM who demonstrate outstanding commitment to delivering exceptional compassionate and humanitarian care for patients with cancer. Congratulations to this year's award winners: Stephanie Kandel, Dr. Mark Minden, and Carolyn Wong, and to RMP's four nominees: **Jessy Abed, Bernard Cummings, Joanna Javor, and Melanie Robson**. Previous RMP winners include **Jennifer Croke** (2020), **David Shultz** (2019), **Alejandro Berlin** (2017), **Sandra Scott** (2015), and **Wilfred Levin** (2008).



EPIC ARRIVES AT UHN

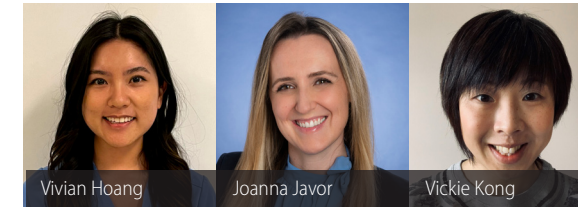


Early in the morning on June 4, 2022, UHN celebrated the launch of the new Health Information System (HIS), Epic. During the milestone livestream event, Dr. Kevin Smith pressed the ceremonial button to signify that Epic was "live" across all of UHN. The transition to Epic involved the hard work, patience, and cooperation of all teams from across RMP, PM, and UHN over the past 19 months. A special thank you to the UHN Synapse HIS Implementation Project Team who led the initiative, and to everyone who ensured a smooth and effective transition. In particular, RMP Co-Leads, **Benjamin Lok, Colleen Dickie, and Catarina Lam**, as well as Radiation Therapist



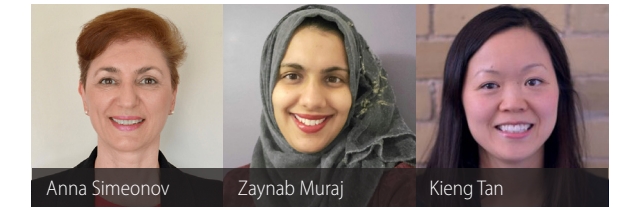
Heather Jang led this landmark project for RMP, bringing the expertise of our specialty subgroups to the forefront to develop an HIS that will serve the needs of our patients and team exceptionally into the future.

RADIATION THERAPY EXCELS IN PATIENT CARE



Vivian Hoang, Joanna Javor, and Vickie Kong were recipients of the 2022 Ontario Association of Medical Radiation Sciences (OAMRS) Awards, which recognize MRTs who have delivered exceptional healthcare and made an impact on the profession through leadership, teamwork, and patient care. Vivian received the Recent Graduate Award, Joanna received the Practitioner of the Year Award, and Vickie received the Mary Cameron Leadership Award.

Anna Simeonov, Zaynab Muraj, and Kieng Tan were elected to the College of Medical Radiation and Imaging Technologists of Ontario (CMRITO) Council of Professional Members for a three-year term, effective June 2022. Anna was elected to District 4 – Magnetic Resonance, Zaynab was elected to District 6 as a member-at-large, and Kieng was elected to District 7 – Academic Councillor. CMRITO serves as the regulating body of medical radiation and imaging technologists in Ontario.



Colin Robertson played an instrumental role in coordinating support for patients at RMP who tested positive for COVID-19. RMP thanks Colin for his dedication to safety and patient care.

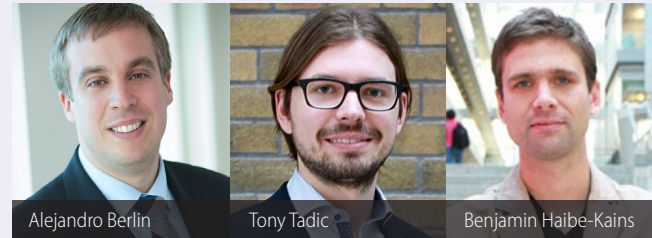


RMP ONCOLOGISTS ON T.O.'S TOP DOCTORS LIST

Charles Catton and Normand Laperriere made Post City's T.O.'s Top Doctors List in March 2022. Norm and Charles join seven other PM physicians who made the list, which honours talented physicians from Toronto who have been selected by their peers.

LAUNCH OF THE CANCER DIGITAL INTELLIGENCE PROGRAM

The Princess Margaret launched the new Cancer Digital Intelligence (CDI) Program in February 2022, led by a multidisciplinary team including RMP's **Alejandro Berlin** (Medical Director), **Tony Tadic** (Imaging Platform Lead), and **Benjamin Haibe-Kains** (Scientific Director). The CDI Program will advance PM's goal of becoming a global leader in digital intelligence through three strategic pillars in Discovery Integration, Care Innovation, and Business Intelligence. The CDI Program will partner with patients, researchers, and healthcare teams to develop new frontiers in cancer care through the fusion of human wisdom, data and technology.



LEADERSHIP APPOINTMENTS



Mary Gospodarowicz was appointed as the inaugural Co-chair of The Lancet Commission on Cancer and Health Systems, effective August 2021.



David Hodgson was re-appointed as Chair of the Pediatric Oncology Group of Ontario (POGO) for a second five-year term, effective September 2021.



Maitry Patel was appointed as President-Elect of the Association of Physician Assistants in Oncology (APAO), effective October 2021.

Lily Chau: Radiation Therapy Endocrine/Ocular Site Leader (May 2021)

Vivian Hoang: Lead Research Therapist for the PERSON study led by Michael Velec and Anne Koch (September 2021)

Michael Holwell: Radiation Therapy Team 1 Reference Planner (May 2022)

Nancy LaMacchia: Radiation Therapy Team 4 Reference Planner (November 2021)

Diana Lee: Radiation Therapy UGI Site Leader (November 2021)

Yilan Lu: Radiation Therapy Team 4 CNS Site Leader (May 2022)

Alejandro Berlin was appointed as the inaugural Medical Director of the PM Cancer Digital Intelligence Program, effective August 2021.



Andrea Bezjak was appointed as the inaugural Medical Director of the PM Cancer Care Network, effective August 2021.



Jan Seuntjens was appointed as the Orey and Mary Fidani Family Endowed Chair in Radiation Physics, effective September 2021, succeeding David Jaffray.



Anisha Patel: GU Brachytherapy Site Leader (April 2021)

Alana Pellizzari and **Jane DeRocchis:** Radiation Therapy Team 2 Reference Planners (February 2022)

Billy Tang: Radiation Therapy Team 1 Reference Planner (April 2021)

Anita Vloet: Radiation Therapist Lead for the Advanced Analytics and Automation (AAA) project led by Srinivas Raman and Philip Wong (May 2021)

Grace Wu: Radiation Therapy Lung Site Leader (November 2021)

QUALITY & SAFETY

The RMP Quality Committee (RMP QC) functions to monitor, analyze, report, and make recommendations on all aspects of radiation treatment quality and safety within RMP. The committee reports to the RMP Steering Committee, which in turn reports to the Princess Margaret Cancer Program Quality Committee. The RMP QC aims to exceed national and international safety standards and oversees a quality-monitoring program for the department covering the following four domains:

- 1. Performance Indicators,** aimed at evaluating compliance with relevant standards
- 2. Quality Assurance,** aimed at monitoring radiation treatment quality control processes
- 3. Quality Education,** aimed at contributing to quality and safety competence through education
- 4. Incident Learning,** aimed at improving the quality of care and patient safety and to promote a just culture through the reporting, investigation and learning from reports of hazards, near misses and incidents

ROLLOUT OF RT-QBP AT RMP



In alignment with the Ministry of Health and Long-term Care (MOHLTC)'s Health System Funding Reform strategy, RMP has worked closely with Ontario Health – Cancer Care Ontario (OH-CCO) since 2018 to develop and implement the new Radiation Treatment Quality Based Procedures (RT-QBP) funding model, which is expected to drive consistent, equitable, and high-quality care for patients treated with RT across Ontario.

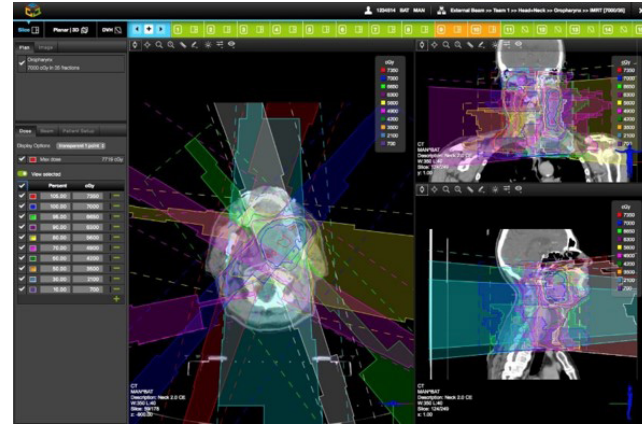
In preparation for the roll-out of RT-QBP on April 1, 2022, many RMP staff have been extensively involved in OH-CCO RT-QBP Expert Panels, Working Groups, and the Advisory Committee. The internal UHN-RMP QBP Advisory Committee comprised of **Fei-Fei Liu, Colleen Dickie, Catarina Lam, Emma Ito, Julie Wenz, Wendy Issa, Keith Stewart, Marnie Weber, Zsolt Hering, and Ivan Lara** was established to provide strategic oversight for RT-QBP implementation at the PM. The committee continues to work with OH-CCO to ensure that RMP is funded appropriately to support its specialized clinical programs, innovative clinical trials, and globally impactful education programs. We thank our large team, including **Lucy Lu, Wei Zhou, Heather Jang, Elizabeth Ng, and Christine Hill**, for their extensive "behind-the-scenes" work over the past four years, which will drive the continuing excellence in innovation, research, and education at RMP.

EVOQ DEPLOYMENT AT RMP



The EVOQ system, developed by **Thomas Purdie**, **Chris McIntosh**, Gavin Disney, Gloria Ng, and Igor Svistoun, is an automated web-based QA application for radiotherapy treatment plan review. In 2018, EVOQ was first deployed in RMP's Breast Site to facilitate clinical

external beam radiotherapy plan review and overcome limitations of a previous "digit paper" solution. The system automatically provides error detection analysis for improper contours, unsuitable planning parameters, and clinically unacceptable dose distributions. Since then, EVOQ has been piloted in 11 centres across Canada in a formal multi-institutional clinical validation project. It was also clinically deployed within the lung, GI, gynecology, and GU groups at RMP in February 2022. All Linac-based external beam radiation treatment planning review will migrate from Web Publishing to EVOQ by the end of 2022.



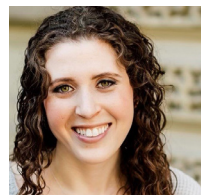
THE FIRST VIRTUAL CNSC INSPECTION AT UHN

The Canadian Nuclear Safety Commission (CNSC) conducted a virtual Type II compliance inspection of the Radiation Medicine Program on November 8-12, 2021. The scope of the inspection included activities related to the linear accelerators, brachytherapy, Gamma Knife, cobalt irradiator, and servicing in the following safety and control areas: radiation protection, physical design, operating performance, fitness for service, and packaging and transport. This was the first virtual inspection CNSC conducted at UHN, and significant work was required for its preparation, including recording videos and photographs to assist observations and submission of documents. RMP is proud of its culture of quality and safety and thanks our Radiation Treatment Radiation Safety Committee (RTRSC) and all staff involved for their contributions to this successful milestone inspection.



Radiation Safety and Protection Office: Matthew Bernacci, Gina Capone, Katie Dionne, Katherine Lima, Dave Niven, Raina Park, Andrew Vuong

LEADERSHIP APPOINTMENTS



Rachel Glicksman was appointed as the inaugural Associate Director of Quality and Safety at RMP, effective December 2021. In this new role, Rachel will work with the RMP Quality and Safety Team, **John Waldron**, **Lyndon Morley**, and **Andrea McNiven** to ensure the highest standards of quality and safety in clinical care. She will also support **Colleen Dickie**, **Christine Hill**, and **Jan Seuntjens** in this important work.

EDUCATION

As the largest radiation medicine program in North America, RMP provides one of the most comprehensive clinical settings for the formal training of radiation oncologists, medical physicists, and radiation therapists. RMP's education portfolio is closely aligned with that of the University of Toronto's Department of Radiation Oncology (UTDRO) as a fully affiliated teaching hospital of the Temerty Faculty of Medicine. This strategic alignment enables the optimal utilization of educational expertise and infrastructure, while facilitating the achievement of the central education mandate of RMP and UTDRO.

The formal professional training programs include undergraduate training for radiation therapy (BSc Medical Radiation Sciences); post-graduate training programs for radiation oncology residency, radiation oncology fellowship, and medical physics residency; as well as the Strategic Training in Transdisciplinary Radiation Science for the 21st Century (STARS21) Training Program. RMP staff also teach residents and fellows from other training programs, as well as graduate students from University of Toronto Departments, such as the Institute of Health Policy, Management and Evaluation; Dalla Lana School of Public Health; Nursing; Institute of Medical Science; Institute of Biomaterials & Biomedical Engineering; and Medical Biophysics.

RMP offers interdisciplinary continuing education catering to practicing radiation medicine professionals, who seek to acquire informal or structured learning experiences at the Princess Margaret, including the RMP Observership Program; the Accelerated Education Program, which delivers in-depth structured 2-3 day courses; and the Personalized Learning Program™ (PLP™) in Radiation Medicine, which offers 3-6 months of on-site and online learning opportunities.

DIVERSE LEARNERS

UNDERGRADUATE

- 28 BSc Medical Radiation Sciences students
- 30 Undergraduate Medical Education students
- 2 CARO-CROF students
- 11 Summer students

POST-GRADUATE

- 23 Radiation oncology residents
- 25 Radiation oncology fellows
- 5 Medical physics residents
- 7 Strategic Training in Transdisciplinary Radiation Science for the 21st Century scholars

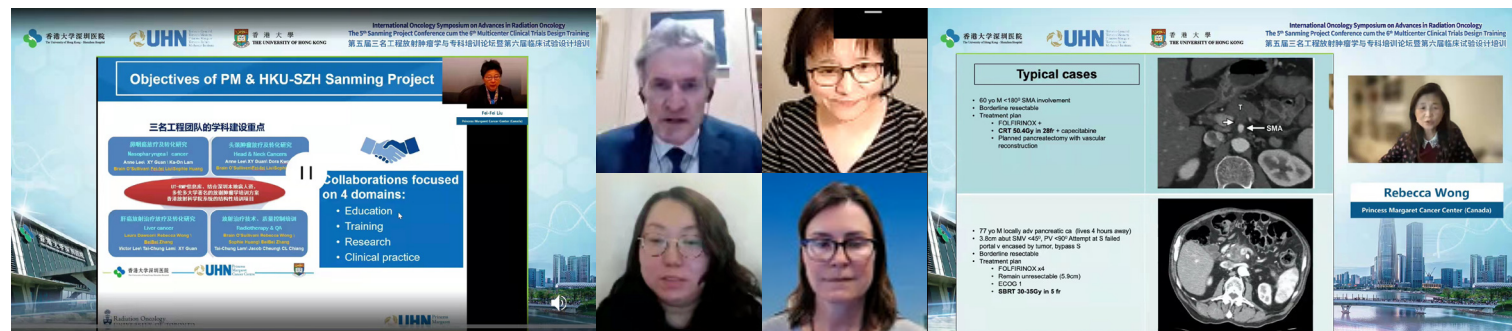
CONTINUING EDUCATION

- 136 AEP external participants

**Academic year statistics*

CELEBRATING THE LEGACY OF A FIVE-YEAR PARTNERSHIP WITH HKU-SZH

The successful RMP - University of Hong Kong-Shenzhen Hospital (HKU-SZH) partnership concluded in December 2021. Throughout the five-year partnership, staff and trainees from both sites collaborated to provide interactive education with medical and inter-professional teams on topics of interest, support for manuscript development, and clinical review of complex and challenging cases, among other activities. The project consistently ranked amongst the highest Sanming projects in Shenzhen; in 2020, the project ranked in the top 95th percentile. The success of the partnership was a testament to the engagement of Team RMP, in particular **Brian O'Sullivan** and **Sophie Huang**, who led many of these initiatives. The Sanming Project of Medicine's 5th Annual International Symposium on Specialist Education and Advances in Radiation Oncology was held in November 2021. RMP participants included **Fei-Fei Liu, Rebecca Wong, Laura Dawson, Scott Bratman, Ali Hosni, Sophie Huang**, and **Brian O'Sullivan** along with over 6,300 virtual attendees. The Sanming Project of Medicine created a lasting partnership with HKU-SZH, and exemplified RMP's standing as one of the leading radiation medicine programs in the world that is committed to improving access to radiation medicine education across the globe.



EXCELLENCE IN TEACHING

Angela Cashell: Winner of the Video Award Competition, PM Cancer Education Program (September 2021)

Leigh Conroy & Jennifer Croke: Classroom Teaching Award in Postgraduate Medical Education, UTDRO (November 2021)

Jennifer Croke: Outstanding Contribution to Cancer Education Award, PM Cancer Education Program (September 2021)

Jennifer Dang: Best Guest Lecturer Award in the MRS Program, UTDRO (November 2021)

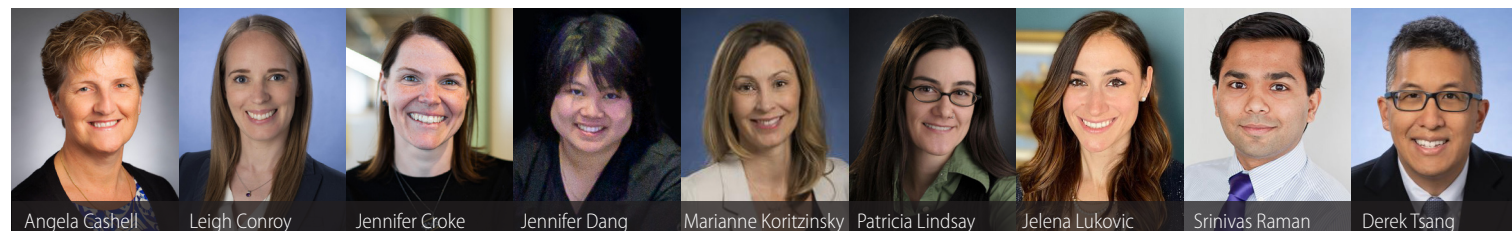
Marianne Koritzinsky: Colin Woolf Excellence in Program Development and Coordination, Temerty Faculty of Medicine, U of T (March 2022)

Patricia Lindsay: Advocacy and Mentorship Award in Postgraduate Medical Education, UTDRO (November 2021)

Jelena Lukovic: Residents' Award for Excellence in Clinical Teaching, UTDRO (June 2021)

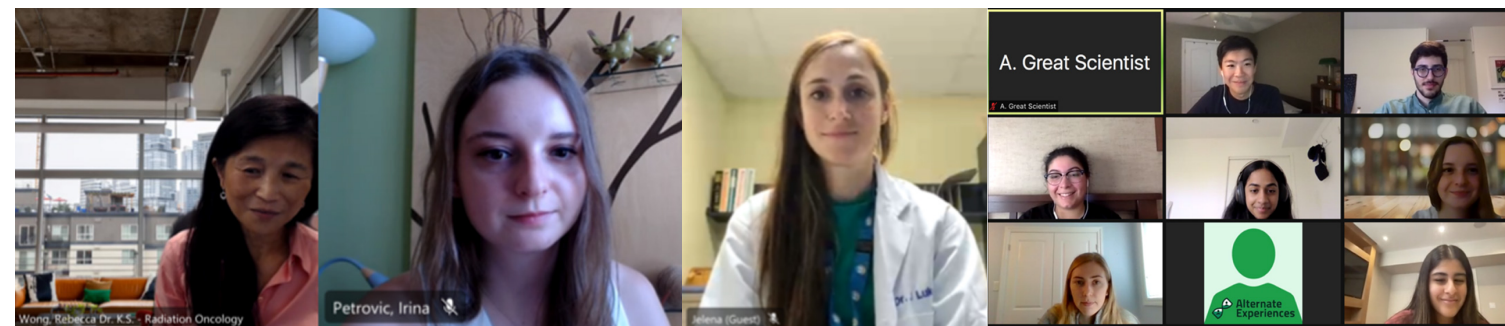
Srinivas Raman: Outstanding Contribution to the UME Program Award, UTDRO (November 2021)

Derek Tsang: Excellence in Research Supervision Award in Postgraduate Medical Education, UTDRO (November 2021)



RMP WELCOMES VIRTUAL SUMMER STUDENTS

RMP welcomed six virtual summer students in 2020. Although the COVID-19 pandemic shortened the program and prevented students from visiting on-site, virtual events provided opportunities for students to connect with colleagues, supervisors, and program staff. The Summer Student Research Day took place in August, allowing students to display their summer projects and gain valuable feedback from Education Director **Rebecca Wong** and other RMP faculty. RMP's ability to provide a valuable summer program in the midst of the pandemic was emphasized by students:



“Within my first few days of the Summer Program, I felt strongly supported by my supervisors and department faculty within RMP's rich learning environment and innovative culture... This program provided me with a new appreciation of the importance of evidence-based cancer research to inform clinical practices that will improve patient health outcomes. RMP has inspired me to further explore the endless boundaries of radiation oncology and I hope to pursue a career in this specialty to make a difference in the lives of cancer patients.”

Summer Student



I felt that the virtual setting did not detract from my experience—we still had the chance to attend excellent seminars and participate in a social event with fellow students, both of which really enriched the summer program. Overall, the experience pushed me to develop both technical skills relevant to the field and a solid understanding of the theoretical, practical, and ethical considerations involved in study design.

Summer Student

ACADEMIC APPOINTMENTS

Rachel Glicksman: Appointed as Assistant Professor at UTDRO (July 2021)

Andrew Hope: Promoted to rank of Associate Professor at UTDRO (July 2021)

Sophie Huang: Promoted to rank of Associate Professor at UTDRO (July 2021)

Anne Koch: Promoted to rank of Associate Professor at UTDRO (July 2021)

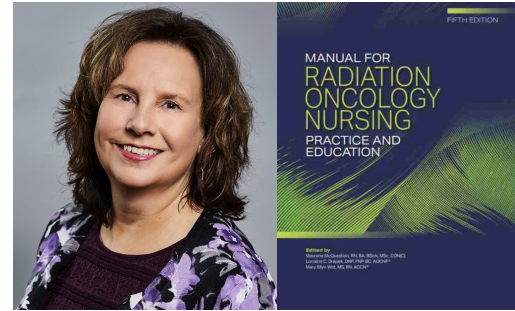
Zabin Mawji: Appointed as Lecturer at UTDRO (January 2022)

Aruz Mesci: Appointed as Assistant Professor at UTDRO (January 2022)

Jan Seuntjens: Appointed as Professor at U of T MBP and Professor at UTDRO (September 2021)

LAUNCH OF 5TH EDITION OF RADIATION ONCOLOGY NURSING TEXTBOOK

The 5th edition of the Oncology Nursing Society's Manual for Radiation Oncology Nursing: Practice and Education was released in September 2021. **Maurene McQuestion** (now retired Clinical Nurse Specialist, Head & Neck) served as one of the lead editors, overseeing an inter-professional team of PM clinicians who contributed as authors, including dietitians, nurses, psychiatrists, as well as geriatric medicine, clinical research, and radiation therapy staff. RMP's **Angela Cashell** authored the eighth chapter focused on External Beam Radiation Therapy (Teletherapy). This publication is an outstanding example of the wonderful and strong collaborations amongst our clinical care teams at the Princess Margaret.



NEW MR-INTEGRATED RADIATION THERAPY TRAINING PROGRAM



In January 2022, UTDRO launched its new MR-integrated Radiation Therapy (MRiRT) Training Program designed for licensed RT professionals interested in integrating MRI technology into their practice. The training program follows a part-time hybrid learning model that provides learners with the flexibility to work in their current roles while enrolled in the program. Learners can receive online didactic instruction as well as hands-on clinical experience. The program is led and delivered by experienced radiation therapists in a unique multidisciplinary environment that is internationally recognized in MRiRT, with RMP's **Nicole Harnett** as Program Advisor and numerous RMP staff participating as faculty.

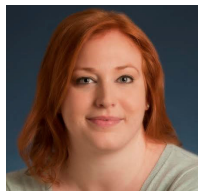


LEADERSHIP APPOINTMENTS



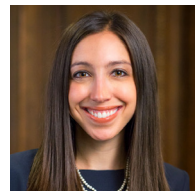
Jean-Pierre Bissonnette: Appointed as the inaugural Director of CAMPEP Medical Physics Specialization in the Department of Medical Biophysics at U of T in 2022

Andrea McNiven: Appointed to the Board of Directors of the Commission on Accreditation of Medical Physics Education Programs (CAMPEP) in 2021



Meredith Giuliani: Appointed as the Associate Dean of Postgraduate Medical Education in the Temerty Faculty of Medicine at U of T in January 2022, succeeding Glen Bandiera, who held this role since 2011

Danielle Rodin: Appointed as Director of Equity, Inclusion, and Professionalism at UTDRO in 2021



RESEARCH

RMP at the Princess Margaret is a world leader in radiation medicine research aimed at developing more precise, personalized treatments to cure more patients with fewer side effects. Our research spans the full spectrum from fundamental biological studies through translational biology and physics to clinical trials, health service, and education research. A unique strength of the program is the diversity of its investigators with respect to both expertise and professional or scientific background. Interdisciplinary research is actively encouraged, reflecting the culture that is foundational to the day-to-day care of patients.

RMP is disrupting the radiation treatment landscape through new response-driven adaptive radiotherapy research and knowledge dissemination to assure the right treatment at the right time for every patient. The program is accomplishing this through innovative approaches that integrate clinical care and research, learning from all of our patients while focusing on the outcomes that matter most to patients along their cancer journey. RMP research activities are strategically focused on six key domains to accelerate the availability of response-driven adaptive radiation therapy for every patient:

1. Radiogenomics
2. Radiomics
3. MR-guided radiotherapy
4. Oligoprosession
5. Regenerative radiation medicine
6. Patient-reported outcomes

These research themes are highly integrated and closely aligned with the research objectives of the Princess Margaret, UHN and University of Toronto's Department of Radiation Oncology. There is strong collaboration with other academic and industry-based research groups within UHN, as well as external groups locally, nationally and internationally.

NOVEL DISCOVERIES



\$43M
peer-reviewed
funding



372
active clinical
studies



307
peer-reviewed
publications



126
active prospective
clinical studies



119
peer-reviewed
grants



8.6%
new patients accrued
to prospective
clinical studies

**calendar year statistics*

CRP STRATEGIC PLANNING REFRESH



RMP boasts a strong Clinical Research Program (CRP) led by **David Shultz** (CRP Director) and **Renise Ayeerst** (CRP Manager) that facilitates clinical research activities within the program. As part of CRP's continuous quality improvement, the program underwent a strategic refresh exercise in March 2021 to determine strategies to improve operational efficiency, assess staff engagement, and review methods to improve relations with RMP investigators. To complement this activity and achieve the stated goals of the CRP strategic refresh, an external review of the program was also requested by RMP Chief, **Fei-Fei Liu** and CRP Director, David Shultz. Occurring in February 2022, the CRP External Review comprised of interviews with the RMP Chief, RMP Director of Research, CRP leadership and team, DRO trial leaders, Princess Margaret Cancer Clinical Research Unit (CCRU)

Program Director, as well as other department representatives and PIs. RMP thanks everyone involved for bringing their expertise and experience around the table to help guide CRP's future strategic planning and quality improvement initiatives.

NOTABLE PUBLICATIONS



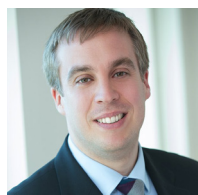
Innovative SMART Protocol Improves Outcomes of Mesothelioma

John Cho and colleagues reported on the final results of a Phase 2 trial evaluating the early and long-term outcomes of a novel approach for managing malignant pleural mesothelioma – surgery for malignant pleural mesothelioma after radiotherapy (SMART).ⁱ Published in *Lancet Oncol*, the results from this innovative treatment indicate favourable early and long-term outcomes and solidify RMP's standing as a world leader in the delivery of exceptional, precision-based radiation medicine. This publication was also awarded the 2021 Till & McCulloch Paper of the Year Award from the Princess Margaret Research Institute in the Clinical category.



Advancing Global Cancer Equity in Canada's National Health Agenda

Danielle Rodin and colleagues discussed global cancer control within Canada's health agenda and opportunities for creating a national cancer control network to promote health equity.ⁱⁱ Published in *Lancet Oncol*, the authors proposed that Canada's experience and expertise in global cancer control provide the country with a unique opportunity to develop a more integrated local and national approach to global cancer control efforts.



Implementation of Virtual Care During COVID-19

Alejandro Berlin and colleagues investigated the outcomes of a cancer-center wide virtual care program, the Virtual Care Management System (VCMS) at the Princess Margaret (PM) Cancer Centre in response to the COVID-19 pandemic.ⁱⁱⁱ Published in *JAMA Oncol*, their data supported the feasibility of implementing virtual care at a high-volume cancer centre, as the VCMS preserved outpatient caseloads and quality of care, while maintaining high patient and practitioner satisfaction. Alejandro was awarded the 2021 UHN Local Impact Award in Tomorrow's Care for the VCMS.



Prognostic Importance of Radiologic Extranodal Extension in Nasopharyngeal Cancer

A team led by **Sophie Huang** assessed the value of radiologic extranodal extension (rENE) as a prognostic factor for nasopharyngeal carcinoma in Canadian patients.^{iv} Published in *Radiother Oncol*, the authors confirmed the strength of rENE as a prognostic factor in non-endemic, Western patients and proposed the inclusion of rENE in the TNM classification to identify groups that may benefit from different treatment approaches in North American populations.



Fifteen-Year Legacy of the STARS21 Training Program

A team led by **Anne Koch** and **Marianne Koritzinsky** evaluated the 15-year impact of the Strategic Training in Transdisciplinary Radiation Science for the 21st Century (STARS21) program at UTDRO.^v Published in *Int J Radiat Oncol Biol Phys*, the authors reported that STARS21 promotes interdisciplinary collaboration in radiation medicine research, and is valued by graduate students, postdoctoral fellows, and clinical trainees, who can acquire important skills for career development through the program.



Hearing Loss in Children Receiving RT for CNS and Head & Neck Cancers

Dana Keilty, **Derek Tsang**, and colleagues conducted a study evaluating incidence and risk factors of hearing loss in children with CNS and H&N tumours receiving RT with or without chemotherapy.^{vi} Published in *J Clin Oncol*, the authors recommended minimizing radiation dose to the cochlea during RT planning whenever possible to reduce the risk of hearing loss following RT.



Performance Monitoring in Machine Learning Treatment Planning

Leigh Conroy, **Thomas Purdie**, and team simulated contouring practices in prostate cancer radiation therapy to observe the impact of changing input data on atlas-based machine learning (ML) treatment planning.^{vii} Published in *Phys Med Biol*, the authors highlighted the importance of benchmarking, characterizing, and quality assurance of ML-based treatment planning algorithms.



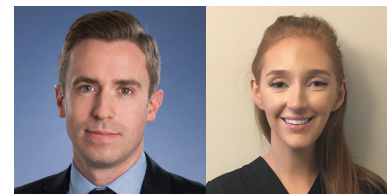
Improving Outcomes of SBRT for Pancreatic Cancer with Simulated Dose Painting

Ahmed Elamir, **Edward Taylor**, and colleagues assessed the feasibility of simulated dose painting to hypoxic tumour sub-volumes in patients with pancreatic cancer receiving treatment with stereotactic body RT (SBRT).^{viii} Published in *Phys Med Biol*, their findings indicated that SBRT with dose painting in hypoxic sub-volumes is a feasible treatment strategy for pancreatic cancer, and could potentially improve local response and survival.



Outlining the Post-operative Cavity in Whole Breast Radiotherapy Treatment Planning

Anthony Fyles, **Grace Lee**, and colleagues examined post-operative cavities and dosimetric coverage in women treated with whole breast RT without previous cavity delineation.^{ix} Published in *JMIRS*, the authors observed that cavity delineation in treatment planning provides optimal tumour bed coverage for patients undergoing whole breast RT, and is particularly important for the coverage of cavities in the extreme margins of the breast.



MRI Evaluation of Normal Tissue Deformation and Breathing Motion Under an Abdominal Compression Device

Michael Velec, **Maureen Lee**, and colleagues used MR imaging to observe the reproducibility of abdominal normal tissues and breathing motion under an abdominal compression device.^x Published in *J Appl Clin Med Phys*, the authors observed that organ deformations were common and may impact normal tissue dosimetry during stereotactic RT.

EXCELLENCE IN CANCER RESEARCH



Fei-Fei Liu was appointed as the 2022-2023 Chair-Elect of the American Association for Cancer Research (AACR) Radiation Science and Medicine Research (RSM) Working Group, effective April 2022. The AACR RSM Working Group provides a forum for communication and collaboration amongst basic, translational, and clinical scientists, physicians, nurses, as well as practicing medical, surgical, and radiation oncologists in academia, industry and government to establish radiation oncology as a global priority supported by improved funding, advanced technologies, and best educational strategies.

NOTABLE AWARDS AND DISTINCTIONS

Scott Bratman: UHN Inventor of the Year Award (November 2021)

Scott Bratman: Princess Margaret Till and McCulloch Paper of the Year Award (Translational Science category) for “Personalized Circulating Tumor DNA Analysis as a Predictive Biomarker in Solid Tumor Patients Treated with Pembrolizumab”, published in Nature Cancer (May 2021)

Catherine Coolens: Appointed as the American Association of Physicists in Medicine (AAPM) Molecular Imaging in Radiation Oncology Working Group Vice Chair (January 2021)

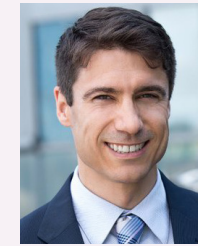
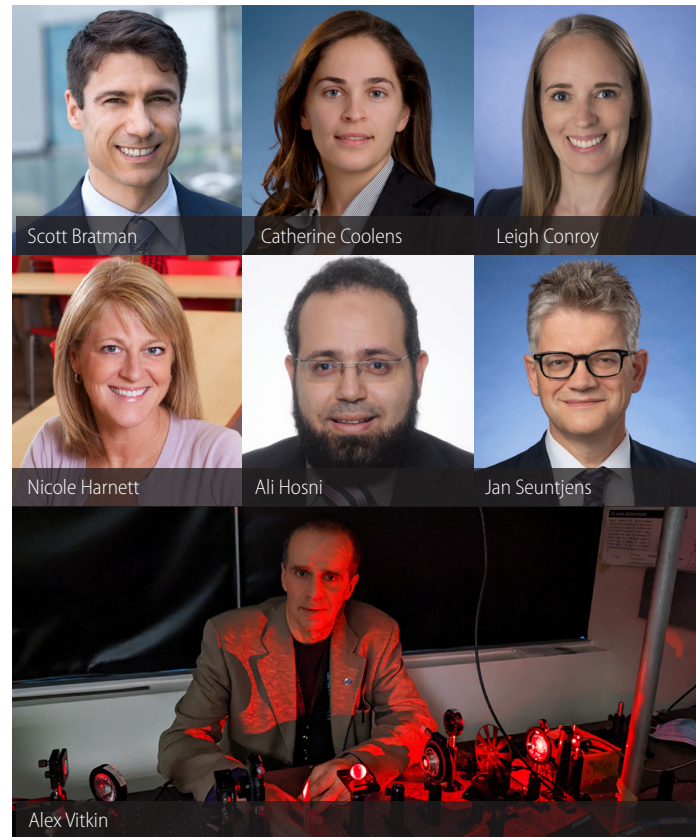
Leigh Conroy: Appointed as the AAPM Early Career and Clinical Research Opportunities Working Group Vice Chair (May 2022)

Nicole Harnett: Journal of Medical Radiation & Imaging Sciences Top Paper Award for “The Palliative Clinical Specialist Radiation Therapist: A CAMRT White Paper” (January 2022)

Ali Hosni: Appointed as an Ontario Association of Radiation Oncologists (OARO) Clinician Scientist (May 2022)

Jan Seuntjens: Appointed as the AAPM Science Council Chair (January 2021)

Alex Vitkin: SPIE G.G. Stokes Award in Optical Polarization for exceptional contribution to the field of optical polarization (January 2022)



Scott Bratman and Daniel de Carvalho successfully launched their start-up company "Adela" (formerly DNAMx) which uses cfMeDip liquid biopsy technology. Adela combines DNA methylation screening with machine learning algorithms to diagnose cancer from a blood sample. This innovative liquid biopsy technique will detect cancer with unprecedented precision and rapidity, revolutionizing cancer diagnosis, treatment, management, and response monitoring. The technology also has the potential to transform detection and management of other complex human diseases beyond cancer. In 2021, Adela secured a \$60M USD investment from five major global investors, making its Seed Financing one of the largest in Canadian biotech history. Scott and Daniel jointly received the 18th Annual UHN Inventor of the Year Award in 2021 for their work on cfMeDIPseq liquid biopsies and Adela Inc.

NOTABLE PEER-REVIEWED FUNDING

Aisling Barry, Philip Wong: Patient Reported Outcomes/Metrics Program Trial (PROMPT) – Palliative Radiation. Princess Margaret Grand Challenges Award for Digital Intelligence.

Scott Bratman: Molecular residual disease interception in locoregionally-advanced high risk HPV-positive and HPV-negative HNSCC (MERIDIAN). OICR Project Grant.

Scott Bratman, Marianne Koritzinsky, Michael Milosevic: Targeted therapeutics to enhance radiotherapy efficacy and safety in the era of image-guided conformal treatment. CFI John R. Evans Leaders Fund.

Jennifer Croke: Development of an education module to improve communication, engagement, and inclusivity at PM: a curriculum focused on pronouns, gender, sexual orientation, and relationship diversity in cancer care. Princess Margaret Young Leaders Cancer Experience Innovation Challenge Grant.

Meredith Giuliani, Catherine Coolens: Closing the global cancer research gap: advanced training in science communication. Princess Margaret Global Cancer Program.

Kathy Han, Scott Bratman: Circulating HPV DNA for early detection of recurrence in HPV-positive cancers. Agnico Eagle Intercept Cancer Grand Challenge Grant.

Kathy Han: Tailored Adjuvant therapy in POLE-mutated and p53-wildtype Early-stage Endometrial cancer (TAPER). CIHR Project Grant.

Nicole Harnett, Vanessa Wan, Kelly Guo, Rebecca Wong: Building radiation therapy capacity through a case based distant simulation learning program. Princess Margaret Global Cancer Program Seed Grant.

David Hodgson: The Harmonized Interventions to Maintain health via Appropriate risk factor modification and Lifestyle changes in Pediatric, Adolescent & Young Adult Cancer Survivors (HIMALAYAS) Trial. CCS/CIHR Project Grant.

Andrew Hope, Tony Tadic, Chris McIntosh: MIRA Clinical Learning Environment (MIRACLE) for lung cancer treatment. University of Toronto Data Sciences Institute Catalyst Grant.

Ali Hosni: SPECT-CT Guided ELeCtive Contralateral Neck Treatment (SELECT) for patients with lateralized oropharyngeal cancer: a phase III randomized controlled trial. CIHR Project Grant.

Daniel Letourneau, Shane Harding, Marianne Koritzinsky: Delivering the radiation therapy in very short bursts (the FLASH effect). Canada Foundation for Innovation John R. Evans Leaders Fund.

Fei-Fei Liu: The characterization and therapeutic targeting of aberrant metabolic and inflammatory signaling in chronic lymphedema. CIHR Project Grant.

David Shultz, Catherine Coolens: Differentiating radionecrosis from tumour progression using hybrid FLT-PET/MRI in patients with brain metastases treated with stereotactic radiosurgery. UHN Catalyst Grant.

Alex Vitkin: Shedding light on SBRT: functional optical coherence tomography and MR imaging for in vivo monitoring of high-dose few-fractions radiotherapy of pancreatic cancer. CIHR Project Grant.

Rebecca Wong, Robert Weersink: First-in-human porphyrin nanotechnology for precision tumor ablation and surgical guidance. Agnico Eagle Beyond Chemotherapy Grand Challenge Grant.

**Only RMP Pls/Co-Pls listed*

TEAM RMP

With a team of over 410 radiation specialists, the Radiation Medicine Program is fortunate to have a diverse pool of talent to increase RMP's capacity to deliver on its vision to achieve **Precision Radiation Medicine. Personalized Care. Global Impact.** In 2021, RMP continued to exhibit excellence, innovation, and leadership in patient-centered care, research, and education, exemplified by the high level of productivity and achievements of our staff.



Jean-Pierre Bissonnette was inducted as a 2022 Fellow of the American Association of Physicists in Medicine (AAPM). This prestigious award is granted to members of AAPM who have made outstanding contributions to medical physics or provided exceptional service to the association.



James Chow was elevated to the rank of Senior Member of the Institute of Electrical and Electronics Engineers (IEEE), the world's largest technical professional organization for the advancement of technology. Senior Member is the highest professional grade of IEEE, comprising only 10% of IEEE's over 400,000 members.



David Hodgson was inducted as a 2021 American Society for Radiation Oncology (ASTRO) Fellow. David is only the 9th Canadian to receive the prestigious designation since its establishment in 2006, and joins five other PM staff who have been inducted. Previous PM recipients include Bernard Cummings (2007), Mary Gospodarowicz (2007), Brian O'Sullivan (2007), Laura Dawson (2016), and Fei-Fei Liu (2019).



Alex Vitkin was inducted to the 2022 Class of the American Institute for Medical and Biological Engineering (AIMBE) College of Fellows. The College of Fellows comprises the top 2% of medical and biological engineers, professors, research directors, and entrepreneurs. Alex was elected for outstanding contributions to optical imaging, diagnostic technologies for preclinical and clinical applications, and international outreach activities in biophotonics.



Padraig Warde received the 2021 Canadian Association of Radiation Oncology (CARO) Gold Medal and Gordon Richards Lectureship. The Gold Medal is the society's highest honour, which is presented to a Canadian Radiation Oncologist in honour of outstanding contributions and sustained commitment to Radiation Oncology. Previous RMP recipients include Laura Dawson (2018), Michael Milosevic (2015), and Fei-Fei Liu (2012).

NEW TALENT

Radiation Oncology Rachel Glicksman, Andrew McPartlin, Aruz Mesci

Medical Physics Matthew Bergshoeff, Peter Klages, Monica Serban, Jan Seuntjens

Radiation Therapy Kelly Guo, Vivian Hoang, Paige Lau, Sandra Mac, Marie Ramnarine, Neva Ratnakumar, Vanessa Wan

Administration/ Research/Operations Denada Alushaj, Natoya James, Zahra Rasoul, Sheryll Vergara, Tegist Woldie

Clinical Research Program Neel Choudhary, Hebe Chu, Hitesh Dama, Jana Huang

SUSTAINED SERVICE

Congratulations and thank you to our dedicated RMP members who have reached their ≥25 year service milestone in 2021.

25 Years Ben Guibord, Simon Leung

30 Years Andrea Bezjak, Jim Brierley, Frederick Cheung, Sin Ping Li-Cheung, Andrea Shessel

35 Years Eleni Sachinidis

**Permanent new staff hires listed*

HONOURING A LIFETIME OF ACHIEVEMENT



Elen Moyo retired in August 2021 after 38 years of working in Radiation Therapy (RT). For the past 7 years, Elen served exceptionally as the Head of Radiation Therapy. Under her leadership, the department flourished. She initiated the award-winning Case Expert Radiation Therapy (CERT) Model, which provides exceptional personalized radiation medicine care for our cancer patients. The innovative model envisions a primary radiation therapist, who functions within the multidisciplinary radiation team, but is engaged in all aspects of the patient's journey, serving as a continuous advocate and steward for the patient through patient education, CT simulation, planning, treatment delivery, patient care and symptom management. Today, our RT Department is one of the top in the world for academic output, education, and innovation. RMP thanks Elen for her many years of excellent service, leadership, and care for our patients.

RMP also congratulated **Kathleen Conway** and **Karen Edwards** on their well-deserved retirements in November and December 2021, respectively. RMP thanks Kathleen and Karen for their decades of excellent service to RMP to enable high quality, patient-centered care at the Princess Margaret.



STAYING ENGAGED & CONNECTED THROUGHOUT THE COVID-19 PANDEMIC

Team RMP made a conscious effort to stay engaged and connected over the past two years, through staff wellness and mental health activities across its diverse groups. Thank you to everyone who contributed to these initiatives and supported their colleagues. RMP is grateful to its partners in UHN Wellness, the PM Cancer Program, and PMCF for their generous support. Below are some highlights from the past year.

The RT Social Committee, comprised of **Vanessa Wan, Kelly Guo, David Le, Stephanie Mannella, Uzma Awan, Nelissa Chaudhry, Simon Xie,** and **Jennifer Su**, regrouped in the spring of 2022 after taking a hiatus during the COVID-19 pandemic. The team launched many appealing activities for RT staff including:

- A ping pong table, and a foosball table
- Dog therapy sessions
- Raptors and TFC tickets giveaway (A big thank you to **Jerry Roussos** for the donation)
- Staff appreciation lunch
- Steps challenge

These staff wellness and team-building activities were supported by generous donations from the PM Cancer Program and DRO Partnership.

The Department of Medical Physics also stayed connected through:

- Wednesday (virtual) coffee breaks
- Virtual Christmas parties with games, prizes, customized gifts, and a guest musician
- Dog therapy sessions courtesy of the Department of Radiation Therapy
- Baby shower celebrations
- "Life in pictures" submissions

The DRO Administrative Team's activities included:

- A virtual holiday social event with prizes and giveaways
- Weekly positive messages distributed every Monday
- Seated massages
- Well-Being Index (WBI) Survey presentation led by Dr. Mary Elliott



NOTABLE AWARDS AND DISTINCTIONS

On October 19, 2021, RMP held its first-ever hybrid (in-person and virtual) awards ceremony, which was organized by the **RAD Team**. As per Ontario's public health guidelines, there were 25 in-person attendants in addition to over 100 online participants. Dr. Keith Stewart delivered the closing remarks. RMP congratulates and thanks all award recipients for their exceptional dedication and contributions to the program.



RMP Education Awards

- Distinction in Professional Mentorship Award: **David Shultz** and **Maitry Patel**
- Distinction in Teaching Award: **Nancy La Macchia**
- Trainee Excellence in Education Award: **Marissa Sherwood**
- Excellence in Education Support Award: **Kathleen Conway**
- Best RMP Rounds: Best of RTi3 (**Christine Hill, Vickie Kong, Winnie Li**)
- Chief's Choice RMP Rounds: **Benjamin Lok**
- AEP Highest Overall Teaching Effectiveness Score Award: **John Cho**
- AEP "Putting Innovation to Work" Builder Award: **Patricia Lindsay, Catherine Coolens, Barbara Ann-Millar, Bern Norrlinger**

RMP Research Awards

- Paper of the Year - Radiation Oncology: **Derek Tsang** - Intellectual Changes After Radiation for Children With Brain Tumors: Which Brain Structures Are Most Important?

Neuro Oncol. 2021; 23(3):487-497.

- Paper of the Year - Radiation Physics: **Edward Taylor** - Quantifying Reoxygenation in Pancreatic Cancer During Stereotactic Body Radiotherapy. *Sci Rep.* 2020; 10(1):1638.
- Paper of the Year - Radiation Therapy: **Joanna Javor** - Can Conformity-Based Volumetric Modulated Arc Therapy Improve Dosimetry and Speed of Delivery in Radiation Therapy to Lumbosacral Spine Compared with Conventional Techniques? *J Med Imaging Radiat Sci.* 2020; 51(3):404-410.
- Paper of the Year - Interdisciplinary: **Anne Koch, Grace Lee, Amy Liu, Fei-Fei Liu, Anthony Fyles, Kathy Han, Aisling Barry, Jennifer Croke, Danielle Rodin, Joelle Helou, Ezra Hahn, Naghme Isfahanian, Jane DeRocchis, Susanne Lofgren, Tom Purdie** - Rapid Adaptation of Breast Radiotherapy Utilization during the COVID-19 Pandemic at a Large Academic Cancer Centre in Canada. *Adv Radiat Oncol.* 2020;5(4):749-756.
- Exceptional Research Support: **Andrea Shessel, Amy Liu, Maria Braganza**

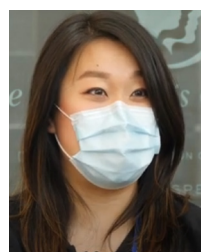
- Research Leadership Award: **Alejandro Berlin**
- Top Clinical Trial Accrual Investigator Award: **Peter Chung**

RMP Clinical Awards

- Exceptional Program Service Award: **Susan Awrey** and the Medical Physics Administration Team (**Angela Alivio, Fe Berbano, Renata Czech, Shima Marand, Amaliya Nishanth**)
- Distinction in Quality & Process Improvement Award: RMP Care Plan Team (**Lyndon Morley, Heather Jang, Steve Tran, Leigh Conroy, Marianela Lopez**)
- Distinction in Technical Improvement Award: RMP Helpdesk (**Arash Marand, Faisal Baig, Nicholas Andrada, Stephen Liu, Tashi Tsering**)
- Excellence in Patient Experience Award: Patient Flow Coordinators (**Shakira Agun, Kristoffer Cawagas, Nick De Ocampo, Atsuko Kawamura, Sebastian Koprowski, Nareesa Lalwah, Connie Martins, Rachel Pierro, Maureen Savage**)

TEAM RMP IN ACTION – PROTECTING OUR COMMUNITIES

Team RMP worked diligently to protect the safety and well-being of patients during the pandemic, while volunteering their time to ensure our communities were healthy. A big shout-out to **Angela Alivio**, **Fei-Fei Liu**, **Jelena Lukovic**, and **Derek Tsang** who volunteered within various Toronto communities to support public health throughout previous COVID-19 waves. In May 2021, Angela worked in a pop-up clinic at the Toronto Zoo along with Global Medic staff and UHN OpenLab's Friendly Neighborhood Volunteers. She later worked with Women's College Hospital and UHN OpenLab for a pop-up clinic at Women's College. Fei-Fei, Jelena, and Derek also helped deliver vaccines to Toronto citizens at a first dose pop-up clinic within Firgrove Public School in June 2021. Additionally, RMP contributed to the "Our Winning Shot" vaccine clinic at Scotiabank Arena on Toronto Vaccine Day on June 27, 2021, where Fei-Fei and Angela helped deliver vaccines at the record-breaking event. RMP thanks Angela, Fei-Fei, Jelena, and Derek for their commitment to keeping our communities safe.



Radiation Therapist **Diana Lee** was featured on CBC's Metro Morning to highlight [UHN's #GiveitaShot campaign](#), an initiative aimed at promoting vaccine confidence. Diana was invited to share her insight on the COVID-19 vaccine as a frontline worker, and to address doubts, concerns, and misinformation regarding vaccination. Diana received her shot as soon as it became available to healthcare workers, and spoke on her role in convincing her mother, who was nervous about the vaccine, to get hers as well. After Diana's mother received her first dose it was as if "a switch had flipped". Her mother became a confident vaccine ambassador and encouraged her own friends and coworkers to become protected as well. Diana concluded her story with advice for others experiencing challenges in reassuring loved ones of vaccine safety. Her counsel was to be patient, use a fact-based approach, and encourage family members with misgivings to speak to the health professionals in their lives that they trust.

THE HILL WE MUST CLIMB: ELIMINATING INEQUALITIES IN OUR MIDST

In 2021, RMP organized a Summer Seminar Series entitled, "The Hill We Must Climb: Eliminating Inequalities in Our Midst." This series was developed as a collaboration between UTDRO and the Princess Margaret to highlight topics related to equity, discrimination, and professional culture – issues that have come into sharp focus in recent years. The series featured national and international experts who guided attendees through interactive sessions with the aim of sparking broad discussions on how we can foster and support a diverse and healthy workforce at the Princess Margaret. RMP was proud to participate and help lead this important initiative.

Annual Report Contributors

Denada Alushaj
 Emma Ito
 Fei-Fei Liu
 Radiation Treatment Radiation Safety Committee
 RMP Education Committee
 RMP Quality Committee
 RMP Research Committee
 RMP Steering Committee

Design and Layout

Lisa Chong

Photo Credits

Angela Alivio (p.28, 30), Denada Alushaj (p.29), Renise Ayearst (p.22), Angela Cashell (p.12), Kitty Chan (p.28), Veng Chhin (p.28), Lisa Chong (p.12, 24, 29), CMRITO (p.13), Kathleen Conway (p.27), Donna Santos Studio (p.12, 14, 24-25), Karen Edwards (p.27), Rachel Glicksman (p.16), Vivian Hoang (p.13), Kelvin Young Photography (p.6-7, 11), Vickie Kong (p.13), Fei-Fei Liu (p.30), Shahbano Mustafa (p.18-19), Maitry Patel (p.14), Thomas Purdie (p.16), UHN Radiation Safety and Protection Office (Matthew Bernacci, Gina Capone, Katie Dionne, Katherine Lima, Dave Niven, Raina Park, Andrew Vuong; p.16), SPIE (p.24), Jeffrey Truitt (p.5, 15, 24), UHN (p.10, 12-16, 18, 20, 22-23, 26, 27, 30), UTDRO (p.13, 20, 23-24, 26), Rebecca Wong (p.12)

Case Expert Radiation Therapy (CERT) Model Team* (see p.12)

Team 1: Carla Cerase, Erica Messner, Devin Hindle, Mary Stewart, Jessica Gesualdi, Catherine Ellis, Julie Kang, Steven Tran
 Team 2: Suyeon Kim, Kirsten Bryant, Susanne Lofgren, Sajida Moledina, Susan Chen, Anita Vloet, Olive Wong
 Team 3: Rachel Dick, Amanda Hogan, Zaynab Muraj, Lian Pablo, Erin Prisciak, Michelle Truong, Louise Wei, Lani Wong, Daphne Yick
 Team 4: Sam Appiah, Olga Kotlyar, Chiron Lee, Kevin LeNeve, Yilan Lu, Melanie Padiachy, Aleks Petrovska, Nathaniel So
 Radiation Therapy Leadership: Elen Moyo, Christine Hill, Angela Cashell, Jerry Roussos, Andrea Shessel, Lorella Divanbeigi, Nareesa Ishmail, Ryan Hyvarinen, Veng Chhin, Lyndon Morley, Tara Rosewall, Tatiana Ritchie, Michael Velec

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Radiation Medicine Program
Princess Margaret Cancer Centre

610 University Avenue
Toronto ON M5G 2M9 Canada

www.radiationatpm.com
info@rmp.uhn.ca

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