VISION
Excellence and Leadership in Radiation Medicine
Research, Education, and Clinical Practice

DEPARTMENT OF
RADIATION ONCOLOGY

MISSION
To Advance the Science and Practice of
Radiation Medicine
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Chair Letter

It is with great pleasure that I present to you the University of Toronto, Department of Radiation Oncology 2008–2009 Annual Report. Despite challenges posed by an unstable economic climate, the Department continues to strengthen and innovate upon our first class academic and clinical programs.

I am proud to report that we have expanded our pool of talent in the disciplines of Radiation Oncology, Physics and Radiotherapy, with seven new faculty members joining the Department. We welcomed Dr. Deidre Batchelar, Dr. Marco Carlone, Dr. Hans Chung, Dr. Catherine Coolens, Dr. Saibishkumar Elantholi Parameswaran, Anna Kirilova, Dr. Daniel Létourneau, Dr. Patricia Lindsay, Dr. Miller MacPherson, and Dr. Danny Vesprini to the Department. As UT DRO continues to grow, we are mindful of ensuring that we establish a solid infrastructure and recruit outstanding leaders. We are very proud of the 2008 Michael Fry Research Prize in recognition of his extraordinary contributions to the field of radiation research awarded by the Radiation Research Society to Professor Bradly Wouters last year. In recognition of her contributions to research and teaching, mentorship and promoting international collaboration, and her leadership contribution to the International Gynecologic Cancer Society (IGCS), Dr. Gillian Thomas was awarded the 2008 IGCS Award for Excellence. Dr. Gregory Czarnota was awarded a prestigious Cancer Care Ontario Research Chair. Moreover, Dr. Robert Bristow received the 2009 Faculty of Medicine Excellence in Postgraduate Medical Education Award in recognition of his achievements in Teaching and Performance, Mentorship and Advocacy.

Within the past year, Dr. Juanita Cook left Toronto to assume a position as Professor of Radiation Oncology at the BCCA Center for the Southern Interior, University of British Columbia Okanagan.

I want to congratulate Drs. Cynthia Menard, Michael Sharpe, and Yee Ung, who were promoted to the rank of Associate Professor, and Drs. Andrea Bezjak, Robert Bristow, Edward Chow, and Michael Milosevic, who were promoted to the rank of Professor.

Our education programs continued to expand. Under the leadership of Professor Charles Catton, the Radiation Oncology Fellowship Program introduced an intake of new fellows midyear in January in addition to the usual July intake. This will provide greater flexibility for international applicants to join our program and a smoother turnover. This will give particular advantage to the applicants from the southern hemisphere.

Professor David Wiljer and his team revitalized the UT DRO Continuing Education Program. The CE events and courses were particularly successful this year, boasting increased attendance, and drawing participants from all over Canada, the United States, and international institutions in Australia, the United Kingdom, and Mexico. Key events such as Target Insight III and the 6th Toronto Radiation Medicine Conference saw a boost in sponsorship in spite of challenging economic environment. Moreover due to success in
attendance and feedback, the Image-Guided Radiation Therapy (IGRT) Education Course was extended for another year. The faculty developed a new IMRT Course to meet the provincial educational needs. This course will run four times over a period of two years.

In order to facilitate discussion about our strategic vision and direction among myself and the Department’s Vice-Chairs and Directors, we hosted our first annual UT DRO Leadership event. It is with great enthusiasm that I share with you our decision to develop a strategic plan in the coming months. We eagerly anticipate developing a course of action for actualizing the Department’s vision of excellence and leadership in radiation medicine research, education, and clinical practice.

Finally, I would like to acknowledge the contributions made by Dr. Shun Wong, who served as Acting Chair from April to July 2009 during my sabbatical leave and UT DRO Vice-Chairs Professor Pamela Catton, Professor David Jaffray, and Professor Shun Wong. Their leadership contributions are invaluable to the success of UT DRO.

I am confident that, as you review this year’s report, you will be impressed with the accomplishments, the vision and the direction of the department.

Mary Gospodarowicz, MD, FRCPC, FRCR (Hon)
Professor and Chair
Vice-Chair Reports

Academic Affairs
Dr. Pamela Catton

As Vice-Chair for Academic Affairs, Dr. Pamela Catton is responsible for the oversight of all education and financial activities in the Department. During the 2008-2009 period her efforts were focused on 1) initiating key partnerships in the radiation oncology field to enhance and expand educational programming despite fiscal limitations in a challenging economic climate; 2) ensure all departmental educational activities are orientated towards serving the professional and research training needs of all radiation professional disciplines; 3) adapt and build on established programs to meet the educational needs of a much wider group of learners external to the Department.

Initiatives in Continuing Medical Education included partnering with Princess Margaret Hospital and Cancer Care Ontario (CCO) to offer larger and more innovative collaborative events and expand the program of interprofessional radiation medicine education events offered. In order to meet provincial practice needs in the field of intensity modulated radiation therapy (IMRT), a two-day education course in IMRT was offered externally to radiation medicine professionals from across Ontario. Dr. Michael Sharpe was awarded an educational grant by CCO to lead this initiative.

A clinical education partnership is in development with the Southlake Regional Health Center in Newmarket and the McLaughlin Durham Regional Cancer Centre in Oshawa. Moreover the Department is actively working with Ryerson University to form linkages with Physics education and training in support of several of our education programs.

At the graduate level, the Department is committed to adhering to a standard of excellence and cutting edge innovation. It is also recognized that course delivery methods need to become more flexible to reach the working professional. This year the Radiobiology Course was delivered in a condensed format, as a prelude to making our training programs more accessible to practitioners, residents and graduate students across the country. Plans to develop technology assisted courses are in the works.

The outstanding leadership and teaching abilities of several members of the Department were acknowledged through prestigious awards. Dr. Robert Bristow received the 2009 Faculty of Medicine “Excellence in Postgraduate Medical Education Award” in recognition of his achievements in Teaching and Performance, Mentorship and Advocacy. Dr. Meredith Giuliani, PGY2 won one of only two Postgraduate Medical Education (PGME) "Trainee Leadership Awards", introduced this year by the Faculty of Medicine; the nominees were from across all programs of the University of Toronto. Dr. Michael B. Sharpe presented a refresher course at the Radiological Society of North America’s 2008 Annual Meeting and Scientific Assembly entitled: “Multimodality Image Integration”. Only a select group of radiologists are invited to contribute to the continuing professional development of their colleagues at this annual meeting which was attended this year by over 27,427 professional registrants representing 95 countries.
Clinical Affairs
Dr. Shun Wong

As Vice-Chair for Clinical Affairs, Dr. Shun Wong is responsible for policy and program issues related to relations with clinical sites and faculty. In this portfolio, he oversees the appointment, three-year review and promotions of members of the Department, and ensures that the recruitment and medical manpower plan at the clinical sites is aligned with the academic plan of the University Department.

The past 12 months have witnessed continuing growth of clinical, research and educational activities at Princess Margaret Hospital-University Health Network and Odette Cancer Centre-Sunnybrook Health Sciences Centre. Both centres continued with upgrading of state-of-the-art radiation planning and treatment machines and information systems. Despite the economic downturn, the radiation program at the two sites continued to benefit from strong philanthropic support by the respective hospital foundations.

The Department continued to foster its regional leadership in research and cancer care with multiple provincial partners including the Southlake Hospital, Royal Victoria Hospital, Credit Valley Hospital and the Molecular Medicine Research Centre at the Thunder Bay Regional Health Sciences Centre. Dr. Padraig Warde was appointed the Head of the Provincial Radiation Treatment Program of Cancer Care Ontario. The Department continued to provide educational and clinical support to an expanding list of academic and community hospitals both within and outside the Toronto Central LHIN.

Dr. Peter O’Brien retired after a long and illustrious career as Head of Medical Physics at Odette Cancer Centre. We bid farewell to Dr. Juanita Crook who moved to Kelowna to pursue other career interests after building an internationally renowned prostate brachytherapy program at Princess Margaret Hospital.

The academic activities of the Department continue to grow and renew with a number of successful recruits in all three disciplines, Radiation Oncology, Physics and Radiotherapy. New appointments in 08-09 included: Dr. Deidre Batchelar, Assistant Professor; Dr. Marco Carlone, Assistant Professor; Dr. Hans Chung, Assistant Professor; Dr. Catherine Coolens, Assistant Professor; Dr. Saibishkumar Elantholi Parameswaran, Assistant Professor; Anna Kirilova, Assistant Professor; Dr. Daniel Létourneau, Assistant Professor; Dr. Patricia Lindsay, Assistant Professor; Dr. Miller MacPherson, Assistant Professor; and Dr. Danny Vesprini, Assistant Professor.

Congratulations are in order to Drs. Andrea Bezjak, Robert Bristow, Edward Chow and Michael Milosevic who were promoted to the rank of Professor, and Drs. Cynthia Menard, Michael Sharpe and Yee Ung to the rank of Associate Professor.
Academic Programs
Dr. David Jaffray

The rapid pace of innovation in the field of Radiation Oncology shows no evidence of slowing. Advances in technology and our understanding of the biological basis of radiation response suggest that the field is fertile for further improvements in the therapeutic ratio. Fortunately, we have had a number of young and eager minds join our faculty in the past year and the quality of applicants applying to our residency and fellowship programs suggests that there will be more joining in the future. The department has had many successes over the past year including the addition of a CCO research chair in the domain of Radiation Oncology (Dr. Gregory Czarnota), the successful funding of the Hypoxia program project grant from the NCIC Terry Fox Program, and numerous operating grants from the CIHR, NCIC, and the OICR. Overall, our grant funding is holding strong with more of our faculty being successful in peer-reviewed grant funding. The department has developed into a rich mosaic of interdisciplinary teaching and research in the domain of radiation oncology.

A department of this scale is poised to tackle the major questions in Radiation Oncology - issues of technology assessment, adoption of adaptive methods, optimization of combined modality therapy, the role of heavy ions, and the potential for integration of repair/regeneration strategies come to mind. We are also well positioned to advance education programs on the many topics of which we have demonstrated skill. Previous success in teaching of Radiobiology, IGRT, and IMRT could easily be extended to developing areas, such as, MR in Radiation Oncology or the use of pre-clinical imaging in radiation research. The development of the professional masters and the physics residency program in the Department highlight yet another dimension in which we have grown and can grow further. With so much potential, it is timely to take inventory and reflect on where we should go collectively with this collaboration. The fall of 2009 will see us embark on a strategic planning process for the department and I invite you to engage in this activity and help set the course for Radiation Oncology in Toronto and beyond.
## Faculty

### Radiation Oncology

#### Professor
- James Brierley
- Pamela Catton
- Bernard Cummings
- Anthony Fyles
- Mary Gospodarowicz
- Fei-Fei Liu
- Brian O'Sullivan
- Jean-Philippe Pignol

#### Associate Professor
- Ida Ackerman
- Andrea Bezjak
- Robert Bristow
- Charles Catton
- Edward Chow
- Cyril Danjoux
- Laura Dawson
- David Hodgson
- Normand Laperriere
- Andrew Loblaw
- Robert G. MacKenzie
- Michael Milosevic
- Lawrence F. Paszat
- David Payne

#### Assistant Professor
- Judith Balogh
- Lisa Barbera
- Elizabeth Barnes
- Andrew J. Bayley
- Anthony Brade
- Patrick Cheung
- John Cho
- Hans Chung
- Peter Chung
- Gregory Czarnota
- Phillip Davey
- Robert E. Dinniwell
- Mary A. Doherty
- Saibishkumar Elantholi
- Parameswaran
- Andrew J. Hope
- John Kim
- Anne Koch
- Wilfred Levin
- Cynthia Menard
- Lee A. Manchul
- Michael McLean

#### Lecturer
- Jacqueline Spayne

#### Adjunct
- Thomas McGowan

## Radiation Physics

### Professor
- David Jaffray
- John Rowlands
Assistant Professor
Hamideh Alasti
Deidre Batchelar
Jean-Pierre Bissonnette
Stephen L. Breen
Kristy K. Brock
Marco Carlone
Young-Bin Cho
James Chow

Catherine Coolens
Timothy Craig
Mostafa Heydarian
Mohammad Islam
Harald Keller
Daniel Letourneau
Patricia Lindsay
Miller MacPherson

Katherine Mah
Howard Michaels
Douglas Moseley
Geordi Pang
Thomas Purdie
Michael Sharpe
Collins Yeboah
Ivan Yeung

Lecturer
David Beachey
Robert Heaton
Alexander Lightstone

Radiation Therapy
Assistant Professor
Carol Gillies
Lori Holden

Tara Rosewall
Douglass Vines

Lecturer
Amanda Bolderston
Lisa DiProspero
Cynthia Eccles
Nicole Harnett
Sophie Huang
Valerie Kelly
Anna Kirilova
Karen A. Moline

Cathryne Palmer
Emily Sinclair

Instructor
Ruth Barker
Renate Bradley
Angela Cashell
Martin Chai
Patricia Charman
Fiona Cherryman
Marta Evans
Wendy Flanagan

Jane Higgins
Kari Osmar
Marc Potvin
Aisha Sheikh

Biology
Professor
Bradly G. Wouters

Assistant Professor
Allison Brown
Marianne Koritzinsky

Education
Associate Professor
Joyce Nyhof-Young

Assistant Professor
David Wiljer
Cross-appointments
Professor
Richard Hill
Andrew M. Rauth

Associate Professor
Alex Vitkin

Assistant Professor
John Rawlinson     Milton Woo

New Appointments 2008-2009
Deidre Batchelor  Saibishkumar Elantholi  Patricia Lindsay
Marco Carlone     Parameswaran        Miller MacPherson
Hans Chung        Anna Kirilova       Danny Vesprini
Catherine Coolens Daniel Letourneau

Departures 2008-2009
Parminder Basran  Caroline Davey       Jeffrey Siewerdsen
Juanita Crook     Peter O'Brien

Promotions - Effective July 2009
Professor
Andrea Bezjak  Edward Chow
Robert Bristow Michael Milosevic

Associate Professor
Cynthia Ménard
Michael Sharpe
Yee Ung
Administrative Staff
Administrative Manager Effie Slapnicar
Business Officer Telma Liu
Departmental Secretary Rosa Da Silva

Administrative Coordinators
Resident Training Program Kim O’Hearn
Physics Residency in Radiation Oncology Wanita Lambert
Fellows Elena Gessas

Medical Radiation Sciences Program
Associate Registrar Jeremy Kwan
Student Services Officer Humberto Rocha
Administrative Assistant Tanya Webb
Department of Radiation Oncology Committees

Executive Committee
Mary Gospodarowicz (Chair)
Pamela Catton
Peter Chung
Anthony Fyles
David Jaffray
Fei-Fei Liu
Nicole Harnett
Barbara-Ann Millar
Peter O'Brien
Cathryne Palmer
John Rowlands
Jacqueline Spayne
Padraig Warde
Shun Wong
Effie Slapnicar (Ex-officio)

Finance Committee
Pam Catton (Chair)
Mary Gospodarowicz
David Jaffray
Shun Wong
Telma Liu (Ex-officio)
Effie Slapnicar (Ex-officio)

Appointments Committee
Shun Wong (Chair)
Pam Catton
Anthony Fyles
Mary Gospodarowicz
John Rowlands
Gillian Thomas
Padraig Warde
Effie Slapnicar (Ex-officio)
**Academic Communications Committee**
Anthony Brade (Chair)
Gaurav Bahl
Kristy Brock
Greg Czarnota
Rosa da Silva
Sten Myrenhaug
Kim O'Hearn
Effie Slapnicar
Danny Vesprini
Tanya Webb

**Academic Promotions Committee**
Shun Wong (Chair)
Pam Catton
Anthony Fyles
Mary Gospodarowicz
David Jaffray
John Rowlands
Gillian Thomas
Padraig Warde
Effie Slapnicar (Ex-officio)

**Research Advisory Committee**
Anthony Fyles (Chair)
Charles Catton
David Jaffray
Andrew Loblaw
Fei-Fei Liu
Michael Milosevic
John Rowlands

**Teaching Effectiveness Committee**
Pam Catton (Chair)
Ida Ackerman
Jean-Pierre Bissonnette
Cathryne Palmer

**Education Committees**

**Undergraduate Medical Education Committee**
May Tsao (Chair)
Joyce Nyhof-Young
Lee Manchul
Ewa Szumacher
Woodrow Wells

Postgraduate Medical Education Committee
Barbara-Ann Millar (Chair)
Ida Ackerman (Interim Chair)
Sadia Ali
Ameen Al-Omair
Gaurav Bahl
Jean-Pierre Bissonnette
Elisa Chan
Louis Fenkell
Matthew Follwell
Meredith Giuliani
Eugene Hong
Harold Kellar
Eric Leung
Karen Lim
Mike Milosevic
Sten Myrenhaug
Kim O’Hearn
Sarah Rauth
Ewa Szumacher
May Tsao
Woodrow Wells
Rebecca Wong

Fellowship Committee
Charles Catton (Chair)
Andrea Bezjak
Gregory Czarnota
Anthony Fyles
Mary Gospodarowicz
Michael Milosevic
Gerard Morton
Padraig Warde
Shun Wong
Effie Slapnicar (Ex-officio)
Department of Radiation Oncology Representation
On University of Toronto Committees

Catton, P
Faculty of Medicine Education Committee, Member
Institute of Medical Science, Admissions Committee, Member

Gospodarowicz, M
Clinical Chairs Committee, Faculty of Medicine, Member
Clinical and Basic Science Chairs Committee, Faculty of Medicine, Member
Clinical Relations Committee, Faculty of Medicine, Member
Council of Health Sciences Committee, Faculty of Medicine, Member

Harnett, N
Curriculum Committee, Institute of Medical Science, Member
Admissions Committee, Institute of Medical Science, Member
Faculty Council, Faculty of Medicine, Member

Manchul, L
Continuing Education and Faculty Development Committee, Faculty of Medicine Faculty
Council, Chair
Agenda Committee, Faculty of Medicine Faculty Council, Member

Nyhof-Young, J
Dean's Advisory Committee for Equity and Diversity, Member
Faculty Research Grants Committee (Clinical/Public Health Section), Faculty of Medicine, Member

Ringash, J
Academic Board of the Governing Council, Member
Faculty of Medicine Faculty Council, Member
Clinical Epidemiology, Department of Health Policy, Management and Evaluation,
Associate Programme Director
Curriculum Committee, Department of Health Policy, Management and Evaluation, Member
Faculty Committee, Department of Health Policy, Management and Evaluation, Member
Clinical Epidemiology Institute (CME event) Committee, Department of Health Policy, Management and Evaluation, Member
Clinical Programs

Princess Margaret Hospital  
Dr. Padraig Warde

The Princess Margaret Hospital Radiation Medicine Program (RMP) is one of the largest in the world. With modern facilities equipped with 16 linear accelerators, all IMRT and IGRT enabled, Leksell Gamma Knife 4C and Perfexion, HDR and PDR brachytherapy programs, it is capable to handle most radiation therapy challenges.

The clinical expertise spans all cancer sites with large breast, lung, genitourinary, upper and lower gastrointestinal, gynecologic, head and neck, central nervous system, ocular, lymphoma, sarcoma, skin, endocrine and pediatric radiation oncology groups. In 2008 – 2009, PMH RMP continued to expand its clinical and academic programs. RMP faculty provided consultations in many collaborating institutions including St Michael’s and St. Joseph’s Hospitals in Toronto and the Southlake Cancer Centre in Newmarket.

The staff is involved in broad scope of research programs from basic cancer biology research, translational research program, large clinical trials program, and significant health services research portfolio. Last year witnessed continued expansion of translational research conducted in newly opened STTARR. The STTARR research programs, www.sttarr.ca, foster collaboration and interdisciplinary research.

In recognition of compassionate and outstanding care at the Princess Margaret Hospital, Dr. Wilfred Levin received the Gerald Kirsh Humanitarian Award.

We are especially proud of the expanding research initiatives conducted by PMH radiation therapists, the largest such program in the country and one of the largest internationally.

RMP PMH leadership extends well beyond radiation oncology and Toronto. Dr Padraig Warde has been appointed as Provincial Head, Radiation Treatment Program at Cancer Care Ontario. Dr. Marco Carlone was appointed chair of Science and Education Council of the Canadian Organisation of Physicists in Medicine (COMP). Drs. Ivan Yeung and Miller MacPherson have been appointed at the clinical physics leads in Southlake and Credit Valley Cancer Centres respectively. Dr. Jim Brierley has been appointed as chair of the National Staging Advisory Committee of the Canadian Partnership against Cancer.

The ongoing partnership with the Aviano Cancer Centre in Italy saw faculty from Italy visit PMH and presentations by RMP staff at the Aviano Cancer Centre’s “Highlights in Oncology” meeting in Pordenone in February 2009.
The past twelve months have witnessed continuing growth of the clinical, research and educational activities of the Radiation Treatment Program at Sunnybrook Health Sciences Centre - Odette Cancer Centre. Over 6200 new radiation oncology patients were seen in academic year 08-09, and about 100,000 fractions of radiation treatment were delivered. Upgrades to the existing clinical infrastructure continued. The clinical operations of the Program became fully electronic and paperless in June 2009. New linacs added capacity to IGRT utilizing kV cone beam CT. Many other specialized programs including tomotherapy, stereotactic radiation therapy (body and head) and brachytherapy continued to expand. Dosimetry moved to a newly renovated suite with significant ergonomic improvement for the staff. Renovation began for a 3T MRI research program in collaboration with Imaging Research at Sunnybrook. The Radiation Treatment Program continued to benefit from philanthropic support from The Sunnybrook Foundation.

Dr. Hans Chung and Dr. Danny Vesprini were appointed to the Department, and three additional radiation oncologists were successfully recruited to start over the next two academic years. Dr. Peter O’Brien retired as Head of Medical Physics after over 30 years of service. His leadership will be deeply missed.

The Program continued to foster its regional leadership role in cancer care. In addition to managing the temporary radiation treatment facility at the Royal Victoria Hospital (RVH), Radiation Oncologists continued to participate in peripheral clinics and multidisciplinary cancer conferences at a large number of community hospitals both within and outside of the Toronto Central LiHN.

Faculty members continued to be successful in securing external peer-reviewed and industry supported grants. Dr. Gregory Czarnota was awarded a Cancer Care Ontario Research Chair. These research grants and awards are detailed elsewhere in the annual report. Last but not least, members of the Department garnered three Cancer Care Ontario Innovation Awards.
Education Report

In 2008-2009, the UT DRO continued its strong commitment to quality health professional education and research training. As a result, a number of important Departmental initiatives came to fruition.

Initiatives in Continuing Medical Education included partnering with Princess Margaret Hospital and Cancer Care Ontario (CCO) to offer larger and more innovative collaborative events and expand the program of interprofessional radiation medicine education events offered. In order to meet provincial practice needs in the field of intensity modulated radiation therapy (IMRT), a two-day education course in IMRT was offered externally to radiation medicine professionals from across Ontario. Dr. Michael Sharpe was awarded an educational grant by CCO to lead this initiative.

A clinical education partnership is in development with the Southlake Regional Health Center in Newmarket and the McLaughlin Durham Regional Cancer Centre in Oshawa. Moreover the Department is actively working with Ryerson University to form linkages with Physics education and training in support of several of our education programs.

At the graduate level, the Department is committed to adhering to a standard of excellence and cutting edge innovation. It is also recognized that course delivery methods need to become more flexible to reach the working professional. This year the Radiobiology Course was delivered in a condensed format, as a prelude to making our training programs more accessible to practitioners, residents and graduate students across the country. Plans to develop technology assisted courses are in the works.

Dr. Peter O’Brien retired as Program Director of the Medical Physics Residency Program and the role has been filled by Dr. Jean-Pierre Bissonnette. Now in its second year, the program had eight Physics Residents and expects to have ten in 2009-2010.

The outstanding leadership and teaching abilities of several members of the Department were acknowledged through prestigious awards. Dr. Robert Bristow received the 2009 Faculty of Medicine “Excellence in Postgraduate Medical Education Award” in recognition of his achievements in Teaching and Performance, Mentorship and Advocacy. Dr. Meredith Giuliani, PGY2 won one of only two Postgraduate Medical Education (PGME) “Trainee Leadership Awards”, introduced this year by the Faculty of Medicine; the nominees were from across all programs of the University of Toronto. Dr. Michael B. Sharpe presented a refresher course at the Radiological Society of North America’s 2008 Annual Meeting and Scientific Assembly entitled: “Multimodality Image Integration”. Only a select group of radiologists are invited to contribute to the continuing professional development of their colleagues at this annual meeting which was attended this year by over 27,427 professional registrants representing 95 countries.
Graduate Education

The UT DRO has made a substantial commitment to research training in Radiation Medicine by developing collaborative programs within the Faculty of Medicine's Graduate Institute: the Institute of Medical Science, supporting graduate training in other Departments i.e. Health Policy, Management and Evaluation (HPME) and Medical Biophysics, and by supervising graduate students from a variety of programs in within and outside the University of Toronto.

UT DRO Graduate Training Initiatives at the University of Toronto

UT DRO and Institute of Medical Science
Graduate Program Director – Nicole Harnett

Research Stream

The UT DRO has established a collaborative relationship with the Institute of Medical Science in developing graduate research training opportunities in radiation medicine via the Radiation Oncology Stream. Eligible Trainees in all three radiation medicine professional programs can apply to the MSc or PhD program to be supervised by UT DRO Faculty who have graduate appointments.

In 2008-2009 the following UT DRO graduate students were enrolled in the MSc/PhD stream in the Institute for Medical Sciences:

<table>
<thead>
<tr>
<th>Name</th>
<th>Degree</th>
<th>Thesis Supervisor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chan, Phillip</td>
<td>MSc</td>
<td>Fyles, A.</td>
</tr>
<tr>
<td>Dinniwell, Robert</td>
<td>MSc</td>
<td>Milosevic, M.</td>
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<tr>
<td>Franks, Kevin</td>
<td>MSc</td>
<td>Jaffray, D.</td>
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<tr>
<td>Koh, Eng-Siew</td>
<td>MSc</td>
<td>Catton P.</td>
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<tr>
<td>Case, Robert</td>
<td>MSc</td>
<td>Dawson, L.</td>
</tr>
<tr>
<td>Lim, Karen</td>
<td>MSc</td>
<td>Milosevic, M.</td>
</tr>
<tr>
<td>Meh dizadeh, Hany</td>
<td>MSc</td>
<td>Siewerdsen, J.</td>
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<tr>
<td>Amaral, Joao</td>
<td>MSc</td>
<td>Roberts, T.</td>
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<tr>
<td>Chopra, Supriya</td>
<td>MSc</td>
<td>Menard, C.</td>
</tr>
<tr>
<td>Chung, Caroline</td>
<td>MSc</td>
<td>Menard, C.</td>
</tr>
<tr>
<td>McArdle, Orla</td>
<td>MSc</td>
<td>Hodgson, D.</td>
</tr>
<tr>
<td>Taremi, Mogan</td>
<td>MSc</td>
<td>Bezjak, A.</td>
</tr>
</tbody>
</table>

Three graduate courses were offered in IMS to support this graduate program:

**MSC1500H - Advanced Radiotherapy and Medical Physics**
Dr. Jean-Philippe Pignol, Supervisor

**MSC1501H - Frontiers in Radiation Medicine Research**
Dr. Robert Bristow and Dr. Bradly Wouters, Supervisors
Professional Stream - MHSc Medical Radiation Sciences
In 2008 a new professional masters degree program - MHSc Medical Radiation Sciences was approved. There were no students registered for the 2008-2009 academic year but the program has selected the intake class for 2009-2010. Course development is underway.

EIRR 21 Research Training Program
Program Director Dr. Fei-Fei Liu

Introduction
The EIRR 21 research training program is a CIHR funded initiative designed to provide enhanced training opportunities to develop a new cadre of transdisciplinary scientists.

Participants
The trainees currently fully enrolled in the Program in 2008-2009 include:

<table>
<thead>
<tr>
<th>Trainee</th>
<th>Status</th>
<th>Supervisor(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bassi, Christian</td>
<td>MSc</td>
<td>Stambolic, V.</td>
</tr>
<tr>
<td>Chopra, Supriya</td>
<td>MD-MSc</td>
<td>Menard, C.</td>
</tr>
<tr>
<td>Harding, Shane</td>
<td>PhD</td>
<td>Bristow, R.</td>
</tr>
<tr>
<td>How, Christine</td>
<td>PhD</td>
<td>Liu, F-F.</td>
</tr>
<tr>
<td>Lakshman, Minalini</td>
<td>PDF</td>
<td>Bristow, R.</td>
</tr>
<tr>
<td>Lee, Justin</td>
<td>MD-MSc</td>
<td>Czarnota, G.</td>
</tr>
<tr>
<td>Lee, Mark</td>
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<td>Dawson, L.</td>
</tr>
<tr>
<td>Lim, Karen</td>
<td>MD-MSc</td>
<td>Fyles, A. / Milosevic, M.</td>
</tr>
<tr>
<td>O'Donnell, Lara</td>
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<td>Shirodkar, Purnata</td>
<td>MSc</td>
<td>Koch, A.</td>
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<tr>
<td>Stewart, Kelly</td>
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<td>Kelley, S.</td>
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<tr>
<td>Taghibakhsh, Farhad</td>
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<td>Rowlands, J.</td>
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</table>

Structure of program
EIRR21 continues to expand, with the current cohort of 12 active trainees, in addition to 12 alumni (Table 1), and 15 full graduates. Many of these graduates hold academic positions in Canada and Europe, as either clinician-scientists, research physicists, post-doctoral fellows in research, or careers in the biotechnology industry. Hence, all alumni (100%) are contributing to biomedical research in some capacity, either within Canada or globally.

From the group of the current 24 trainees, 12 have completed their full 2 years within EIRR21, but are still active participants because they find the Brainstorm sessions of particular value. The remaining 12 active trainees all currently hail from the University of Toronto. With the most recent competition (December 2007), we successfully recruited 4 MD trainees, which addresses an area of need in our program.
Academic output
The spectrum of research in EIRR21 continues to be broad, ranging from in vitro understanding of basic molecular mediators of radiation damage response and repair, to complex in vivo models of radiation-induced lung injury, novel radiopharmaceuticals for therapy and imaging human tumour models, to optimizing radiation treatment delivery to lung, cervix, and liver cancer patients, and discovering biomarkers for prostate cancer patient radiation response and toxicity. Such a breadth of research topics, embedded within a single research training program is truly unique, providing an outstanding network for interdisciplinary interactions, enabling “bridging” science to be conducted.

The publication record from the EIRR21 trainees continues to be exceptional. In terms of quantity of publications, there are a total of 94 (published or in press) publications, contributed by 26 trainees, for an average of 3.6 papers per trainee, which is an impressive feat, given that the average duration for each trainee in EIRR21 is only approximately 2 years. In addition, several are in high impact cancer Journals, including Science, Curr Biol, Mol Cell, J Clin Oncol, Mol Cell Biol, Cancer Res, Cl Cancer Res, Nucl Acid Res, J Cell Biol, hence, both the quantity and quality of research are remarkable. For the second year in a row, Dr. Nadine Kolas, an EIRR21 alumnus (supervisor Dr. Daniel Durocher), was the recipient of the highly coveted John Charles Polanyi Prize from the Ontario Government, targeting researchers in the early stages of their careers who are continuing post-doctoral studies in Ontario.

Special activity this year
The 2008 Excellence in Radiation Research for the 21st Century (EIRR21) Research Day took place Monday afternoon, June 9th, 2008. This year, the format was comprised of two Presentation and Discussion Sessions. The first session, entitled “Applied Molecular Biology to Radiation Response” was chaired by Dr. Bradly Wouters, with selected oral presentations from Dr. Paul Boutros (Medical Biophysics), Danny Costantini (Pharmaceutical Sciences), Dr. Nadine Kolas (Molecular Genetics), and Kelly Stewart (Biochemistry). Following their presentations, these four EIRR21 trainees constituted a panel, discussing the challenges of how their science could be applied to improve radiation response of cancer patients.

The second session, entitled “Imaging and Physics Challenges for Radiation Therapy” was chaired by Dr. David Jaffray, with oral presentations by Jinzi Zheng (Medical Biophysics), Dr. Justin Lee (Medical Biophysics/UT-DRO), Dr. Naomi Matsuura (Medical Biophysics), and Dr. Karen Lim (IMS/UT-DRO), with their presentations addressing how their sciences could improve radiation therapy outcome for cancer patients. The content of the afternoon’s presentations and discussions will be formulated into a position paper on “Future Research Challenges for Radiation Medicine”.

There was also a poster competition, with a First Prize awarded to David Katz (supervisor Dr. Fei-Fei Liu), and shared Second Prizes to Kristin McLarty (supervisor Dr. Raymond Reilly), and Michelle Li (supervisor Dr. Brent Derry).
Medical Education

Undergraduate Medical Education
Program Director: Dr. May Tsao
Associate Program Director: Dr. Joyce Nyhof-Young

Introduction
The UT DRO not only supports the Faculty of Medicine Undergraduate Medical Education curriculum, but is also committed to support the needs of individual medical students throughout the country and abroad as they seek knowledge and experiences in Radiation Oncology. These experiences are primarily offered as electives, observerships and research attachments.

Structure of program
The Department of Radiation Oncology continued to provide teaching to pre-clerkship (years 1 and 2) and clerkship (years 3 and 4) medical students. Pre-clerkship teaching included teaching students in the Determinants of Community Health (DOCH) II course and providing lectures and seminars for the Pathobiology of Disease course.

Eighteen University of Toronto electives, eighteen visiting electives, seventeen observership's, six Ambulatory Community Experience (ACE) students and nine Ivan Smith Scholarship awardees rotated through the Department of Radiation Oncology clinical practices at both Sunnybrook Health Sciences Centre - Odette Cancer Centre and Princess Margaret Hospital.

Academic output
The overall average teaching effectiveness score was 4.5 (out of 5) for Sunnybrook Health Sciences Centre - Odette Cancer Centre and Princess Margaret Hospital, meeting Departmental standards for “Excellent”.

Special activity this year
An undergraduate medical education objectives package for the Department of Radiation Oncology at University of Toronto was developed during this academic year.

Postgraduate Medical Education

Radiation Oncology Residency Program
Program Director: Dr. Barbara Ann Millar
Associate Program Director and Acting Program Director: Ida Ackerman
Associate Program Director and Director Resident Research: Dr. Rebecca Wong
Associate Program Director: Dr. Woodrow Wells

Introduction
The Radiation Oncology Residency Program is a five year CARMS entry specialty training program fully accredited by the RCPSC. The goal of this radiation oncology program is to produce the academic clinical leadership of the future.
Participants
The trainees currently enrolled include:

<table>
<thead>
<tr>
<th>PGY1</th>
<th>PGY2</th>
<th>PGY3</th>
</tr>
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<tbody>
<tr>
<td>Barrett, Kate</td>
<td>AlDuhaiby, Eman</td>
<td>Ishkanian, Adrian</td>
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<td>Caissie, Amanda</td>
<td>Han, Kathy</td>
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<td>Conrad, Tatiana</td>
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<td>Khan, Luluel</td>
<td>Marchand, Eve-Lyne</td>
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<td></td>
<td>Mohammed, Fazilat</td>
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<tr>
<th>PGY4</th>
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<tr>
<td>Follwell, Matthew</td>
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<td>Myrehaug, Sten</td>
<td>Fenkell, Louis</td>
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<tr>
<td>Soliman, Hany</td>
<td>Banihashemi, Behzad</td>
</tr>
<tr>
<td>Yoon, Fred</td>
<td>Liu, Stanley</td>
</tr>
<tr>
<td></td>
<td>Rauth, Sarah</td>
</tr>
</tbody>
</table>

Structure of program
The residency program is comprised of a series of clinical attachments primarily at two fully affiliated teaching hospitals associated with the UT DRO: the University Health Network and the Sunnybrook Health Science Centre and their respective cancer programs the Sunnybrook Health Sciences Centre - Odette Cancer Centre and the Princess Margaret Cancer Program. PGY1 and PGY2 are primarily off service rotations although the trainees do get some exposure and time in radiation oncology. Residents can also elect to do up to 6 months of research training as part of the program. The clinical program is supplemented by a rich academic milieu of rounds tumour boards, case conferences and visiting professorships at both institutions.

The clinical program is supplemented by formal teaching sessions and courses in the Academic Block (PGY1 and 2), the Academic Half-Day (all years) and PGY3 Applied Physics.

Evaluations
- Written examinations in physics and radiobiology in PGY1 or PGY2
- OSCE’s in PGY1 or PGY2
- Clinical Applied Physics Examination in PGY3’s
- Radiation Treatment Planning Competency Examinations in PGY4 and PGY5
- Royal College Fellowship Certification Examinations at conclusion of program
Radiation Oncology Residents presented their research at the Postgraduate Education Research Day on May 9, 2009. There were 52 abstracts submitted for peer review by our physics trainees, radiation oncology fellows and radiation oncology residents. 5/17 oral presentations and 7 of 35 poster presentations were given by radiation oncology residents.

Dr. Adrian Ishkanian, PGY3, won the W.J. Simpson Award for Academic Excellence in Research by a Resident (Supervisor: Dr. Robert Bristow) for as second time. Dr. Adrian Ishkanian also won the overall academic excellence award for the second year.

In addition, radiation oncology residents published 15 papers, 18 abstracts, received 12 awards, had 9 oral presentations and 5 posters presented at Canadian Association of Radiation Oncology (CARO), 1 oral presentation and 5 posters at American Society for Radiation Oncology (ASTRO), and two posters at American Society of Clinical Oncology (ASCO) and American Association for Cancer Research (AACR) respectively.

Special activity this year
The Radiobiology Course was restructured this year under the leadership of Dr. Bradly Wouters and Dr. Robert Bristow and offered in a condensed format. Distinguished Professor Dr. Mike Joiner attended as visiting faculty for the 2009 course.

Residency Program in Radiation Oncology Physics
Program Director: Dr. Jean-Pierre Bissonnette
Site Coordinators: Dr. Jean-Pierre Bissonnette (PMH); Dr. Milton Woo (OCC)

Introduction
The Toronto Residency Program in Radiation Oncology Physics is an intensive two-year practical training program that prepares students to become future leaders in medical physics. Through clinical rotations, a research project in clinical physics and educational components, students are equipped with fundamental knowledge of the disciplines of radiation oncology and radiation therapy. Physics Residents learn to recognize, understand, and address scientific and technical problems by working directly with experienced radiation oncologists, radiation therapists and medical physicists.

The program had eight Physics Residents in 2008-2009 and expects to have ten in 2009-2010.

The Residency Program in Radiation Oncology Physics started in July 2007 by combining existing long-standing medical physics residency programs at the Princess Margaret Hospital and Sunnybrook Health Sciences Centre - Odette Cancer Centre. The goal of the joint program is to produce highly competent medical physicists who combine a comprehensive understanding of clinical radiation physics and specific knowledge of radiation therapy and radiation oncology principles and practice with enhanced leadership, research and teaching skills. On March 10, 2008, the program was accredited to the maximum of 3 years through the Committee on Accreditation of Medical Physics Education Programs (CAMPEP).
The trainees currently enrolled include (expected graduation date in parenthesis)

Karotki, Alex (September, 2009)
McNiven, Andrea (September, 2009)
McCann, Claire (January, 2010)
Rink, Alexandra (January, 2010)
Leavens, Claudia (maternity leave)
Ravi, Ananth (September 2011)
Comsa, Daria (September 2011)

Structure of the Program
The program accepts applications from qualified and highly motivated candidates with a post-graduate degree in medical physics or a related discipline. Offers have been made to five candidates to enter the program in September 2010.

The minimum program length is 2 years and includes a mix of didactic instruction, clinical rotations and clinical projects. Each resident is assigned a mentor who acts as a guide throughout the program. During the first year the residents have didactic training in Radiation Biology, Radiation Safety, Clinical Radiation Physics and Dosimetry and the Principles of Treatment Planning. There are rotations in Instrumentation, Treatment Planning and Quality Management. In the second year there are rotations in Brachytherapy and Imaging Physics, Advanced Treatment Planning and a continuation of Quality Management. One distinguishing feature of the program is that residents interact with a multidisciplinary environment involving radiation oncologists and radiation therapists during parts the Academic Block, the Applied Physics tutorials and the Interdisciplinary Rotation that follows specific patients from first clinic to treatment.

Evaluation
Resident knowledge is evaluated at regular, topical resident question and answer sessions based upon the program syllabus. To complete the program the resident must successfully pass the Peer Review A oral examination, organized by a standing provincial committee of Cancer Care Ontario. Dr. Jean-Pierre Bissonnette is a member of the Peer Review A examination committee.

In October 2008, both candidates successfully passed their Peer Review A exams

Academic output
Throughout the 2-year program the resident is expected to work one or more clinical physics projects under the supervision of a staff medical physicist. The results of this work were presented as posters during the UT DRO Research Day and also as posters and oral presentations at the meetings of the Canadian Organization of Medical Physicists, and the American Association of Physicists in Medicine.

The winner of the 2009 J.R. Cunningham award for academic excellence in research by a medical physics resident was Dr. Andrea McNiven, supervisor Dr. Kristy Brock. As a result, Dr. McNiven also received a US$1000 travel award from the American Association of Physicists in Medicine.
Special activity this year
In 2009, the program commenced an affiliation process with the RS McLaughlin Durham Regional Cancer Centre, leading to ten resident positions for 2009-2011.

Radiation Oncology Fellowship Program
Program Director: Dr. Charles Catton

Introduction
The UT DRO Fellowship Program is one of the largest and most successful radiation oncology fellowship programs in North America, attracting excellent candidates from around the world. It has two streams: a one-year clinical research program and a two-year research program. During the one-year Clinical Research Program, fellows acquire clinical expertise in one or two radiation oncology disease sites and complete a research project. The two-year Research Fellowship Program emphasizes training in the principles and conduct of scientific research. Fellows earn advanced degrees in a relevant department at the School of Graduate Studies at UT.

Participants

<table>
<thead>
<tr>
<th>2008-2009 Fellows</th>
<th>Country of Origin</th>
<th>Supervisor(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bahl, Gaurav</td>
<td>India</td>
<td>Hodgson, D. / Laperriere, N.</td>
</tr>
<tr>
<td>Cho Charles,</td>
<td>Canada</td>
<td>Dawson, L.</td>
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<tr>
<td>Chopra, Supriya</td>
<td>India</td>
<td>Ménard, C.</td>
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<tr>
<td>Chung, Caroline</td>
<td>Canada</td>
<td>Ménard, C. / Brade, A.</td>
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<tr>
<td>Chu, William</td>
<td>Canada</td>
<td>Czarnota, G. / Wong, S.</td>
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<tr>
<td>Clarke, Amanda</td>
<td>United Kingdom</td>
<td>Gospodarowicz, M.</td>
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<tr>
<td>Fitzpatrick, David</td>
<td>Ireland</td>
<td>Kim, J. / Brierley, J.</td>
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<tr>
<td>Forrest, Jennifer</td>
<td>United Kingdom</td>
<td>Thomas, G.</td>
</tr>
<tr>
<td>Goda, Jayant Sastri</td>
<td>India</td>
<td>Bristow, R.</td>
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<tr>
<td>Gómez-Iturriaga Piña, Alfonso</td>
<td>Spain</td>
<td>Crook, J.</td>
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<td>Hoebers, Frank</td>
<td>The Netherlands</td>
<td>Waldron J. / O'Sullivan, B.</td>
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<td>Kassam, Zahra</td>
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<td>Gospodarowicz, M. / Ringash, J.</td>
</tr>
<tr>
<td>King, Bronwyn</td>
<td>Australia</td>
<td>Fyles, A. / Milosevic, M.</td>
</tr>
<tr>
<td>Lavoie, Caroline</td>
<td>Canada</td>
<td>Bezjak, A.</td>
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<td>Lee, Justin</td>
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<td>Lim, Karen</td>
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<td>Mallick, Indranil</td>
<td>India</td>
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<td>McArdle, Orla</td>
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<td>Catton, P.</td>
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<td>McCarty, Heather</td>
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<td>Levin, W.</td>
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<td>Nikapota, Ashok</td>
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<td>O'Sullivan, B. / Waldron, J.</td>
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<td>Patil, Nikhilesh</td>
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<td>Potter, Andrew</td>
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<td>Wong, R.</td>
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<td>Shaw, Mark</td>
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<td>Catton, P. / Warde, P.</td>
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<td>Stevens, Christiaan</td>
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<td>Taremi, Mojgan</td>
<td>Canada</td>
<td>Bezjak, A.</td>
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</table>
Teh, Amy  Australia  Fyles, A.
Wajstaub, Sandra  Canada  Catton, P.

Structure of the Program
Fellows spend one or two years in a Research Fellowship or a Clinical Research Fellowship at either the Princess Margaret Cancer Program or the Sunnybrook Health Sciences Centre - Odette Cancer Centre. The foundation of the Research Fellowship is formal graduate training at a masters or doctoral level and requires the fellow to be accepted into graduate school. The UT DRO has developed a RO stream within the Institute of Medical Science as well as associations with the Departments of Medical Biophysics and Health Policy Management and Evaluation and the Ontario Institute for Studies in Education though UT DRO faculty cross appointments. The foundation of the Clinical Research Fellowship is practice-based experience and research supervision in the clinical and translational academic programs of the Department. This past year 28 Fellows were involved in the program at both sites, coming from Australia (6); Canada (8); India (5), Ireland (2), UK (5), Netherlands (1), Spain (1).

Academic output
The quality of their research work has been internationally recognized. Two Fellows won travel awards to present their work, and another was a finalist for the 2009 IMS poster award. Four fellows won ASCO merit awards; one won a merit award at the 2008 San Antonio Breast Conference, and another at the American Brachytherapy Society meeting. A former Fellow, Dr. Stephen Supiot received a very prestigious award when he was named the 2009 ESTRO Varian-Juliana Denekamp winner for his work at UT DRO. Four Fellows received over $248,000 in peer reviewed funding. Fellow research made a substantial contribution to the annual Postgraduate Research Day held in May, 2009. The winner of the 2009 RS Bush for Academic Excellence in Research by a Fellow was Dr. Andrew Potter, supervisor Dr. Rebecca Wong. A fellow was also the recipient of the Best Poster by a Postgraduate Trainee: Dr. Alfonzo Gomez-Iturriaga, supervisor Dr. Juanita Crook.

Quality measures
Abstracts presented: 56
Manuscripts published: 7
Grants: PI (n=4) $248,400
Awards: 2 International Travel Awards
  4 ASCO Merit Awards
  1 San Antonio Merit Award
  1 ABS Merit Award
  2009 ESTRO Varian-Juliana Denekamp Awardee.
Continuing Education

Director: Dr. David Wiljer

Highlights
This was a very successful year for UT DRO CE activities. Despite global economic challenges, there were modest increases in event attendance over last year. In addition, we had a 13% increase in sponsorship from our major events and a budget surplus for the first time in 5 years.

Leadership
The Departmental CE activities were led by individual course directors, with oversight provided by Dr. David Wiljer. In addition, the CE Committee provided strategic direction throughout the 2008/9 year.

CEI³ Core Curriculum

The UT DRO CEI³ is made up of a curriculum comprised of a fixed core of 3 annual elements including 1) UT DRO Rounds; 2), the Radiation Medicine Conference and 3) Target Insight, in addition to a variable program hosted by UT DRO faculty.

1) UT DRO Rounds
Coordinator: Dr. Anthony Fyles

These twice a year symposia moderated by Dr. Anthony Fyles profile the academic programs of the UT DRO, share information and ideas between the two campuses, foster new research collaborations, and stimulate inquiry.

Our Fall symposia New Developments in Brachytherapy featured:

- Dr. Ranjan Sur (Faculty at McMaster University and Juraviniski Cancer Centre) - "Thoracic Brachytherapy Program at the Juraviniski Cancer Centre in Hamilton."
- Dr. Gerald Morton – Prostate high dose-rate brachytherapy research at the Odette Cancer Centre.
- Dr. Michael Milosevic - Image-guided brachytherapy in cervix cancer: Optimized treatment for individual patients.

Our Spring symposia Recent Studies Impacting Clinical Practice featured:

- Dr. Yee Ung - PET lung cancer clinical trials in Ontario: Translating evidence based medicine to impact clinical care.
- Dr. Arjun Sahgal - Implementing a Spine Stereotactic Body Radiotherapy Program at the University of Toronto.
- Dr. Miller MacPherson - Image-guided prostate radiotherapy without implanted fiducials.
6th Annual Toronto Radiation Medicine Conference
March 6-7, 2009, The Old Mill, Toronto, Ontario
Course Directors: Amanda Bolderston and Tara Rosewell

137 people were present this year, including attendees and speakers from all over Canada, the United Kingdom and the United States.

This year’s event featured a new research focus, partnering with the annual Radiation Therapist Research Symposium. Our scientific program included the results of research performed by therapists into professional practice, symptomology, imaging and IG-IMRT. The merging of these two events provided a wider variety of concurrent research presentations than in previous years, and allowed us to focus on this year’s theme: “Inspire, Inquire, Innovate” reflecting the importance of using up-to-date evidence to inform and stimulate current clinical practice.

Keynote Speaker
Our keynote speaker was Dr. John French, Director, Clinical Operations and Research for the British Columbia Cancer Agency and the Editor in Chief of the Journal of Medical Imaging and Radiation Sciences. Dr. French spoke about the importance of research in an emergent profession, and how the growth of the Radiation Therapy profession could be supported and enhanced.

Abstract submission award winners this year were:

Best Oral Presentation: Kitty Chan, Princess Margaret Hospital

Best Poster Presentation: Carol Agapito and Jaclyn Gouin, Windsor Regional Cancer Centre
New Dosimetry Training Initiatives: Needs identification, development and implementation at the Windsor Regional Cancer Centre.

Highlights of Evaluations
- 72% of attendees who completed the evaluations felt that the event would change their practice
- 82% of attendees who completed the evaluations said they plan to attend next year
- 99% of attendees who completed the evaluations said they would recommend the conference to others
Target Insight III Conference - "Next Generation Radiation Medicine: Putting Biology and Technology to Work"
June 5-6, 2009: Sutton Place Hotel
Course Director: Dr. Anthony Fyles
Planning Committee: Dr. Robert Bristow, Dr. Philip Chan, Dr. Gregory Czarnota, Nicole Harnett, Mary Hooey, Dr. David Jaffray, Dr. Michael Milosevic, Dr. John Radwan, Dr. Yee Ung, Dr. David Wiljer and Dr. Shun Wong.

There were a total of 155 registrants with representation across Ontario, United States, United Kingdom and Australia.

The program provided an opportunity for participants to review and discuss novel imaging modalities and strategies for image guided and adaptive radiation therapy. Our five guest faculty keynote speakers covered a variety of topics including, "IMRT and Chemoradiation for Head and Neck Cancer: Pitfalls and Promises" by Dr. Rosenthal; "Image Guided Radiation Therapy for Nodal Radiation" by Dr. Tereffe; "Toward Treatment Individualization" by Dr. Parker who was named the Cancer Care Ontario Guest Lecturer and "Stem Cells in Central Nervous System Tumours" by Dr. Dirks. There were a total of 19 local faculty members who participated in this two day conference.

This continuing education event was accredited by the University of Toronto, Canadian Association of Medical Radiation Technologists and the Medical Dosimetrist Certification Board.

Other Continuing Education Activities

Advanced Education Program (AEP)

AEP now has two foundational courses: the IGRT and IMR Courses. Last November, the IGRT Education Course held its last session in a series of courses that began in October 2005, after 17 sessions, 500 attendees from all corners of the world. In addition, Cancer Care Ontario (CCO) has sponsored the development of an IMRT Education Course in partnership with PMH and UT DRO. The first 3 external sessions were held in October 2008, February and April 2009 and has hosted over 120 professionals thus far.

In addition, a research grant, entitled “From Education to Practice: Development of a Tool to Assess Change in Inter-professional Practice Behaviour and Performance through Continuing Education” (Wiljer, Harnett, Bisonnette, Gillan, Kane, Catton), was short listed for the Philip Manning Research Grant in Continuing Medical Education award. However, no grant was awarded this year.

UT DRO Faculty in Continuing Education Leadership

The UT DRO Director is playing an active role in the University of Toronto CE Office, attending the monthly CE Leadership Meeting as well as the Research in Continuing Education (RICE) quarterly meetings.
Leadership Positions
Dr. Pamela Catton, Chair, Conference Planning Committee, Canadian Association of Radiation Oncology
Dr. Lee Manchul, Chair, UT Faculty Council Continuing Education and Professional Development Committee
Dr. Lee Manchul, Chair, CME Section, Northeast Group on Educational Affairs, Association of American Medical Colleges
Dr. David Wiljer, Member, Research Advisory Committee, Mayo National Consensus Conference on Continuing Education

Medical Radiation Sciences Program
Academic Director: Dr. Pamela Catton
Academic Coordinator: Cathryne Palmer

Introduction
The undergraduate Medical Radiation Sciences (MRS) Program is a second-century joint BSc/Diploma of health professional education program offered by UT DRO and the Michener Institute. This four year interprofessional degree is offered in three calendar years and is comprised of didactic, simulated and clinical courses. Three discipline specific streams are offered: Radiation Therapy, Radiological Technology, and Nuclear Medicine Technology. There were 385 students registered in 2008-2009. The MRS Program prepares students for tomorrow’s professional practice, for future leadership roles and to pursue advanced graduate degrees.

Participants

2008-2009 MRS Students

Adams, Alexander  Bach, Tam  Brooks, Sarah
Adams, Evan  Badiuk, Stacey  Brothers, Nadine
Adem, Finte  Banga, Tarndeen  Bryant, Kirsten
Ahmed, Farrah  Barantseva, Anna  Bu, Hong
Ahmed, Sabreena  Barker, Marisa  Bukator, Michelle
Ajodha, Shannon  Barradas, Karen  Burgess, Amy
Akhter, Hina  Barrette, Justin  Butt, Faria
Alesi, Gentiana  Bhatia, Aditya  Butt, Iram
Allanigue, Gayle  Bhatti, Michael  Cai, Yong
Alsibai, Hiba  Biernaski, Heather  Campbell, Marie
Andani, Salmaan  Blair, Leslie  Celinski, Anders
Andrews, Kayla  Bodnar, Calli  Chalas, Peter
Arroso, Sebastian  Bonnar, Carolyn  Chambers, Samantha
Atwal, Sandeep  Bourque, Jennifer  Chan, Angie
Au, Calvin  Bowen, Andre  Chan, Carey
Aulakh, Mehma  Boyer, Jessica  Chan, Crystal
Austin, Jenna  Bracken, Allison  Chan, Elena
Avansi, Artin  Breeze, Carole  Chan, Matthew
Student Statistics

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<th>Radiation Therapy</th>
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<td>44</td>
<td>50</td>
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<td>Class 2010</td>
<td>38</td>
<td>33</td>
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Graduation Numbers: (eligible to graduate November 2009)

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<th>Enrollment</th>
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<th>Nuclear Medicine</th>
<th>Radiation Therapy</th>
<th>Total</th>
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</thead>
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<td>Class 2009</td>
<td>37</td>
<td>35</td>
<td>59</td>
<td>131</td>
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</tbody>
</table>

Structure of the Program

This joint program combines the strengths of the Faculty of Medicine of the University of Toronto and The Michener Institute for Applied Health Sciences (Michener) and makes full use of their complementary resources and expertise. The integrated three-year curriculum aims to provide students with a broad-based theoretical and analytical foundation for their discipline-specific professional responsibilities. Graduates receive a B.Sc. in Medical Radiation Sciences from the University of Toronto and an Advanced Diploma of Health Sciences from Michener. Students receive instruction at both institutions.

Teaching faculties are drawn from both the University of Toronto and Michener. The program is designed to accommodate 130 students per year. The three-year curriculum provides students in each of the three disciplines a core curriculum of broadly based content along with discipline-specific courses and clinical practice activities. The program provides breadth and depth of knowledge and develops analytical, critical and evaluative skills. Professional values, responsibility, accountability, sensitivity and ethical attitudes towards both the consumer and health care community are emphasized. Students learn to evaluate and consider the implications of their professional actions. The clinical practicum components integrate and apply the material taught in lectures and labs, leading to the development of clinical competence. Each student is required to complete 38 weeks of full-time clinical practice.

Courses delivering knowledge and imparting skills required in common by all three disciplines comprise the core curriculum and include instruction in anatomy, clinical behavioral sciences, inter-professional collaboration, patient care, physiology, relational anatomy and research methods. Students in each discipline undertake, in addition, a set of courses focused on discipline specific material. Clinical practice and experiences at the affiliated hospital sites are specific to the discipline. The curriculum emphasizes critical thinking, evidence-based practice and problem solving in the belief that these attributes play a crucial role in the optimal delivery of health care in today’s evolving health care environment.

Evaluation - National Certification Results

<table>
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<th>Year</th>
<th>Radiological Technology</th>
<th>Nuclear Medicine</th>
<th>Radiation Therapy</th>
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<tbody>
<tr>
<td>2004</td>
<td>92.7 (92.5)</td>
<td>78.9 (93.8)</td>
<td>96.9 (97.0)</td>
</tr>
<tr>
<td>2005</td>
<td>100.0 (95.0)</td>
<td>89.3 (87.1)</td>
<td>87.5 (87.0)</td>
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</table>
2006 84.0 (88.1) 90.6 (89.5) 97.1 (90.4)  
2007 96.0 (94.2) 83.9 (82.8) 98.2 (89.2)  
2008 96.9 (94.9) 81.8 (79.2) 71.7 (75.0)  
Percent of students successful on the first write of the exam. National averages in brackets.  

*Academic output*

*Overall Highest Academic Standing:*  
Gold, Silver and Bronze awards are given to the graduates attaining the highest overall gap at the November 2008 Convocation Ceremony  

**Gold Medalist:** Heng (Helen) Yang - Radiological Technology  
**Silver Medalist:** Elli Wan Fong Luy - Radiological Technology  
**Bronze Medalists:** Laura Taylor - Nuclear Medicine  

*Research Awards*  
University of Toronto/Michener Institute Award for Excellence in Research by a Final Year Medical Radiation Sciences Student.  
**Winner:** Christine Hill - Radiation Therapy  
**Title:** "A Pilot Study: The Effect of Cone Beam Computed Tomography Image Guidance on the Accelerated Partial Breast Irradiation Technique"  
**Co-Supervisors:** Robert Case, Hon. BSc, M.R.T. (T) & Dr. John Cho, MD, PhD  
**Honourable Mention:** Karen Tse Radiation Therapy  
**Supervisor:** Maureen Engel, M.R.T.(T.)  

*Clinical Project Awards*  
In each discipline the students who have the highest combined marks for Clinical Project I & II are recognized for their achievements.  

**Radiological Technology**  
**Outstanding achievement in clinical project (TIE):** Peter Arora & Anna Formosa  

**Nuclear Medicine**  
**Outstanding achievement in clinical project:** Laura Taylor  
**Honourable mention:** Kamandeep Basrai  

**Radiation Therapy**  
**Outstanding achievement in clinical project:** Timothy Yan  
**Honourable mention:** Rachel Woo  

*Special Activity this Year*  
Course development and approvals for the redesigned curriculum continued for the 2008/2009 academic year. The redesign of the curriculum has really focused on utilizing various teaching and learning techniques, and has been structured so that courses are integrated and cumulative. In the Fall 2008 students from all three disciplines completed a
full course entitled “Integrated CT Imaging Theory & Practice”. The MRS Program continues to be the only program in Ontario educating undergraduate students to this level of practice.

This past winter saw a collaboration between the MRS Program and the Department of Physiology. Traditionally taught by faculty in the lecture format, the physiology course is now delivered online giving students more flexibility in terms of time and location, and allows self-directed learning within a semi-structured framework.

Summer 2009 saw the launch of the clinical simulation semester. Students participated in both interprofessional and discipline specific simulation. The purpose of the simulation semester is to prepare students for entry into the clinical component of the Program. Through case scenarios, with and without standardized patients, peer/self-assessment tools, and a variety of other assessments students have the opportunity to consolidate and apply their knowledge and skills prior to going to clinic. The students, ultimately, must demonstrate a specific standard of performance before proceeding into the clinical environment.

There has been increased representation this year on several University of Toronto working committees including Interfaculty Curriculum Committee, Health Sciences Committee on Emergency Preparedness, Faculty of Medicine Distributed Education and Physician Assistants Steering Committee.

**Equity Report**

Program Director: Fei-Fei Liu

Since the initial appointment of the Equity Officer within UT DRO in 2007, a website has been established, hosted on the UT DRO webpage, informing the community of the existence of this position, and accessibility to the Equity Officer to discuss any issues of concern.

Important information is provided on this webpage, including relevant dates for religious observances, the University of Toronto Human Resources and Equity Annual Report, the University of Toronto Employment Equity Report, and the Ontario Human Rights Code.

There has also been co-ordination with counterparts within the Faculty of Medicine to ensure streamlining and harmonization of Equity and Professionalism activities. To that end, the UT DRO Equity Officer has been collaborating with Dr. David McKnight, the Associate Dean of Equity and Professionalism in the Faculty of Medicine, at the University of Toronto on developing programmatic activities promoting Diversity and Professionalism within UT DRO.
**Research Report**

The UT DRO research program continues to grow and consolidate its profile as one of the pre-eminent multidisciplinary radiation medicine research programs in the world. The following report summarizes the areas of progress, new initiatives, and benchmarks of success in 2008-2009.

Research in UT DRO is conducted in all domains of radiation medicine; including radiation physics, therapy and nursing. The scope includes clinical research, quality of life and health services and outcomes research, basic and translational studies related to radiation response, and advanced high-precision radiation and imaging. Research is performed in collaboration with the other clinical and basic science departments, extra-departmental units including hospital research institutes, both within and outside of the University of Toronto.

**Research Highlights**

- Dr. Fei-Fei Liu and co-applicants were successful in obtaining a renewal of their CIHR Training Grant “Excellence in Radiation Research”

- Dr. Thomas Purdie received a grant from the Canadian Breast Cancer Research Alliance for “Automating the breast radiation therapy process to improve efficiency and reduce treatment related toxicity”.

- Dr. Gregory Czarnota, 2009 Cancer Care Ontario Research Chair for cancer experimental therapeutics and cancer imaging.

- Dr. Bradly Wouters received the prestigious Michael Fry Award at the 54th Annual Meeting of Radiation Research Society.

- Dr. Alex Vitkin and Dr. Wilfred Levin received a grant from the Collaborative Health Research Projects (CHRP) partnership program (operated jointly by CIHR and NSERC), for their project entitled “Optical coherence tomographic imaging for monitoring radiation complications in the colon”.

- Dr. Gillian Thomas received the International Gynecologic Cancer Society Award for Excellence in "research and teaching, mentorship and promoting international collaboration, and her leadership contribution to the IGCS”.

- Dr. David Jaffray and Dr. Alex Vitkin along with Dr. Ralph DaCosta, were awarded a CIHR Operating Grant “Probing the Temporal Dynamics of Tumor Cell Kill and Vascular Damage in Radiation Therapy Using Optical Molecular Imaging”.

- The PMH Hypoxia Program (Drs. Robert Bristow, Bradly Wouters, Richard Hill, David Jaffray, Ivan Yeung, Marianne Koritzinsky, Michael Milosevic, Anthony Fyles) were successful in renewing their Terry Fox funded program project.
• Dr. Stanley Liu was selected to receive a 2009 ASCO Cancer Foundation Young Investigator Award for his fellowship research “Identification and characterization of the cellular mechanisms underlying DLL4 Notch pathway mediated tumor radioresistance.”

• Dr. Jean-Pierre Bissonnette, received funding from the Canadian Cancer Society (Ontario Division) for “Prospective study of 4DCT and 4DPET imaging during a course of radical radiotherapy to monitor tumour response and predict treatment outcome for non-small cell lung cancer”.

• Dr. Robert Bristow for his OICR grant ‘Genomic Alterations and DNA Repair As Predictors Of Intermediate Risk Prostate Cancer Radiotherapy Outcome”.

Indicators of Success

Yearly Research Funding

![Faculty Research Funding Chart]

Active Protocols

Summary

- Although the total number and amount of awards decreased in 2007/08, funding over the 3-year review period increased from the previous review. The average amount awarded per funded investigator also increased from the previous review to $1.2M from $1.0M.

- Over the 2005-2008 review period, U of T DRO investigators had increasing numbers of ongoing and total active approved protocols.
Comparison of Publication Record with Peers (3 Full Year Period 05-08)

<table>
<thead>
<tr>
<th>Institution</th>
<th>Papers</th>
<th>Citations (June 2009)</th>
<th>Papers per PI per year</th>
<th>Cites per Paper</th>
<th>Proportion cited</th>
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<tr>
<td>U of T Core†</td>
<td>826</td>
<td>8165</td>
<td>2.0</td>
<td>9.9</td>
<td>81.8%</td>
</tr>
<tr>
<td>U of T All*</td>
<td>832</td>
<td>8210</td>
<td>1.6</td>
<td>9.9</td>
<td>81.7%</td>
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<tr>
<td>MD Anderson</td>
<td>589</td>
<td>6691</td>
<td>3.5</td>
<td>11.4</td>
<td>85.6%</td>
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<tr>
<td>UBC</td>
<td>162</td>
<td>1757</td>
<td>0.8</td>
<td>10.8</td>
<td>84.6%</td>
</tr>
</tbody>
</table>

UTDRO High-impact Publications: 2005-2008

Highly cited

- 27.0% (2005)
- 20.7% (2006)
- 21.3% (2007)
- 16.8% (2008)

In High-Impact Journals

- 10.7% (2005)
- 6.4% (2006)
- 8.3% (2007)
- 6.4% (2008)
Summary of Bibliographic Review

- U of T DRO investigators published an increasing number of papers annually over the last three years, twice more than UBC but lower than its peers from MD Anderson.

- Though citation and publication rates were unchanged from 2008, U of T DRO investigators demonstrated relatively lower publication impact in this review, both in terms of journal impact, and proportions of cited and highly cited papers. This is likely due to an increasing number of publications in lower impact journals. The difference, however did not reach significance.

Research Objectives for 2008-2009

- Increase collaboration with new research partners
- Expand translational research programs to move new discoveries to practical applications in patients
- Foster recruitment to support DRO research goals
- Increase number of peer-reviewed publications in high-impact journals
Research Grants


Au HJ, Brade A. A phase II study of AZD0530 as first line treatment in patients with metastatic or locally advanced gastric carcinoma. National Cancer Institute of Canada (NCIC) Cancer Therapy Evaluation Program. $175,000, 2008-2009.


Barzda V, Rowlands JA. Nonlinear microscopy imaging for clinical diagnostics. Natural Sciences and Engineering Research Council (NSERC), Strategic Project Grant. $384,713, 2008-2010.


Brade A, Oza A, Siu L, Chen E, Milosevic M. A phase I dose escalation study of concurrent low dose radiation with sorafenib in three anatomically based, independent cohorts (thorax, abdomen, pelvis) – the TAP study. Bayer Canada. $225,000, 2007-Present


Brade A. A phase I-II clinical study of nimotuzumab (TheraCIM h-R3) in combination with external radiotherapy in NSCLC stage IIB, III and IV patients unsuitable for radical therapy. YM Biosciences Mississauga. $520,000, 2005-2009.


**Bristow R.** Basic and translational studies of DNA damage and repair as relates to p53. National Cancer Institute of Canada (NCIC) and the Canadian Cancer Society (CCS). Salary Support Award. $75-85,000, 2004-2010.


**Brock K.** Cancer Care Ontario Research Chair. Cancer Care Ontario (CCO). $500,000, 2008-2013.

**Brock K.** Investigation of the inclusion of motion and deformation in dose calculations for external beam radiotherapy. Dean’s Fund, University of Toronto. $9,801.40, 2005-2010.


**Brock K.** Validation and comparison of deformable image registration algorithms. Connaught New Staff Matching Grant, University of Toronto. $40,000, 2006-2009.


Chow JCL. Determination of the mucosal dose using Monte Carlo method in radiation therapy. Dean’s Fund, University of Toronto. $10,000, 2009-2013.


Czarnota G. Ministry of Research and Innovation (MRI) Early Researcher Award. $150,000, 2009.

Czarnota G. Cancer Care Ontario (CCO) Research Chair, Imaging and Experimental Therapeutics Cancer Care Ontario. $500,000, 2009-2014.


**Czarnota GJ.** Diffuse optical spectroscopy tomographic device for monitoring neoadjuvant chemotherapy. Sunnybrook Health Sciences Centre Foundation. $300,000, 2008.


**Dinniwell R.** Multimodal imaging for response assessment in locally advanced breast cancer. Princess Margaret Hospital Locally Advanced Breast Cancer Pilot Grant. $8,500, 2009.


**Harnett, N, Catton P.** Clinical specialist radiation therapist demonstration project - phase I extension 2. Ministry of Health and Long Term Care Grant. $504,310, 2009-2010.


Hynynen K, **Rowlands J, et al.** Centre for research in image-guided therapeutics. Canada Foundation for Innovation, Research Hospital Fund-LSIE. $57,351,858 from the CFI; total project cost $143,379,193, 2008-2014.


Liu F-F, O'Sullivan Brian, M. Pintile and Dr. B. Perez-Ordonez. The role of micro-RNA’s in human nasopharyngeal carcinoma. Canadian Institutes of Health Research (CIHR). $875,000, 2008.


Ménard C, Brock K. Integration of diagnostic and interventional MRI for the study of persistent prostate cancer after external beam radiotherapy. Department of Defense Prostate


Ménard C. Individualized therapy for patients with prostate cancer by integrating interventional MRI in the radiotherapy planning process. Canadian Institutes of Health Research (CIHR) New Investigator Award. $300,000, 2007-2012.


Nyhof-Young J, Johnson I. Promoting research excellence: The DOCH 2 website for medical students. Information Technology Course Development Fund (ITCDF), University of Toronto. $20,000, 2006-2009.

Nyhof-Young J, Urowitz S, Friedman A. Measuring patient satisfaction with care at Princess Margaret Hospital: Survey development project. Ambulatory Care Department, Princess Margaret Hospital. $5,000, 2008-2009.


Pignol JP. A multicentre registry study of Permanent Breast Seed Implant (PBSI) for early stage breast cancers. Sunnybrook Health Sciences Centre Foundation. $300,000, 2008-2010.


Purdie TG, Sharpe MB, Dinniwell RE, Letourneau D, Jaffray DA. Automating the breast radiation therapy process to improve efficiency and reduce treatment related toxicity.


Sun A. A pilot prospective study of FDG-PET-CT imaging utility in radiotherapy treatment planning and assessment in all stages and histological types of lung cancer. Funded by Phillips Medical Systems. $124,000.00, 2007-2009.

Szumacher E, Paszat L, Angus J, Metcalfe K, Whelan T, Llewellyn-Thomas H. The development of the decision-aid investing patients’ preferences for adjuvant radiotherapy and antiestrogen therapy versus antiestrogen therapy alone in patients 70 years or older with


Tang C, Loblaw DA, Klotz L. The role of bound prostate specific antigen in predicting risk of progression in the active surveillance population with low risk localized prostate cancer. CUOG - AstraZeneca Fellowship Award. $9,940, 2007-2008.


Vitkin A. Optical Coherence tomographic imaging for monitoring radiotherapy complications in the rectum. Natural Sciences & Engineering Research Council Canada (NSERC), Canadian Institutes of Health Research (CIHR) Collaborative Health Research Program. $152,000, 2009-2012.

Vitkin A. Spectral turbid polarimetry in birefringent turbid chiral media. Natural Sciences & Engineering Research Council Canada (NSERC), $41,000, 2007-2012.


Warde P. Phase III randomized trial comparing total androgen blockage versus total androgen blockage plus irradiation in clinical stage T3-T4, N0, M0 adenocarcinoma of the prostate. National Cancer Institute of Canada Clinical Trials Group / Eastern Co-operative Oncology Group / South Western Oncology Group / Medical Research Council. $845,000, 1995-2009.


Wong CS. Positron emission tomography (PET) evaluation study - Sunnybrook site. Ministry of Health and Long-Term Care Research Grant. $130,000, 2006-2008.


**Wouters B.** Deregulation of mTOR and HIF1 as a cause of Birt-Hogg-Dubé syndrome. Profileringsfonds -- Academic Hospital Maastricht (AZM). (Euro) 150,600, 2007-2010.


**Yeboah C.** Development of magnetically-confined very high energy laser-accelerated electron beam therapy. University of Toronto Dean’s Fund. $10,000, 2006-2010.


Publications

Peer Reviewed Publications


Choo R, Long J, Gray R, **Morton G**, Gardner S, **Danjoux C**. Prospective survey of sexual function among patients with clinically localized prostate cancer referred for definitive
radiotherapy and the impact of radiotherapy on sexual function. Support Care Cancer, (published online June 2009).


Cleven AH, Wouters BG, Schutte B, Spiertz AJ, van Engeland M, de Bruine AP. Poorer outcome in stromal HIF-2 alpha- and CA9-positive colorectal adenocarcinomas is associated
with wild-type TP53 but not with BNIP3 promoter hypermethylation or apoptosis. Br J Cancer 99(5): 727-33, 2008.


Davidson MT, Yuen J, D'Souza DP, **Batchelar DL**. Image guided cervix HDR brachytherapy treatment planning: does custom CT-planning for each insertion provide better conformal avoidance of organs at risk? Brachytherapy 7:57-42, 2008.


Hird A, Wong J, Zhang L, Tsao M, Barnes E, Danjoux C, Chow E. Exploration of symptoms clusters with in cancer patients with brain metastases using the Spitzer Quality of Life Index. Support Care Cancer (published online May 2009).


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Koh WY, Ren W, Mukherjee RK, **Chung HT**. Internal audit of a comprehensive IMRT program for prostate cancer: a model for centers in developing countries? Int J Radiat Oncol Biol Phys (published online February 2009).


Para AE, **Bezjak A**, **Yeung IW**, Van Dyk J, **Hill RP**. Effects of genistein following fractionated lung irradiation in mice. Radiother Oncol (published online May 2009).


Non Peer-Reviewed Publications


Bolderston A. What’s your (learning) style? Over-X-Posure, Medical Radiation Sciences Program Newsletter Winter (3), 2009.


Goda JS, Tsang RW. Involved field radiotherapy for limited stage Hodgkin lymphoma: Balancing treatment efficacy against long-term toxicities. Hematol Oncol (published online: Mar 8, 2009).


Leonard K, Wiljer D, Urowitz S. Yes, Virginia – there are system benefits to be gained from providing patients access to their own health information. Healthcare Quarterly 11(4):64-68, 2008.


**Sahgal A**, **Tsao MN**. Gamma knife radiosurgery: Clinical applications, 2008.


Tward DJ, **Siewerdsen JH**, Fahrig RA, Pineda A. Cascaded systems analysis of the 3D noise transfer characteristics in cone-beam CT and tomosynthesis. SPIE Physics of Medical Imaging 6913:69131S, 2008.


Books and Book Chapters


Fuss M, **Dawson LA.** Image guided radiation therapy and stereotactic body radiation therapy. In: Biliary Tract and Gallbladder Cancer: Diagnosis and Therapy. Thomas, Jr. CR and Fuller CD (Eds.), New York : Demos Medical, 2009.


Abstracts


**Bristow R**. Radiation therapy – the potential to target DNA repair. European Society of Therapeutic Radiation Oncology (ESTRO) Annual Meeting, Göteborg. Radiother Oncol


Cai Z, Pignol JP, Chan C, Reilly R. Cellular dosimetry of $^{111}$In using Monte Carlo N-Particle (MCNP) computer code: comparison with reported analytical methods and predictive value. SNM Annual Meeting, Toronto, 2009.


Chan KY, Craig T, Kong V, Li W, Ng E, Petrovska A, Wong M, Bayley A, Chung P, Ménard C. Comparing the performance of CBCT during radiotherapy to the prostate gland


mesothelioma improves local control. 9th International Conference International Mesothelioma Interest Group, Amsterdam, 2008.


Dickie-Euler CI, Parent A, Griffin A, Chung P, Catton C, Craig T, Sharpe M, O’Sullivan B. Measuring interfraction and intrafraction motion with cone beam computed tomography (CBCT) and an optical localization system (OLS) for lower extremity soft tissue sarcoma patients treated with preoperative Intensity Modulated Radiation Therapy (IMRT) (poster


Elit L, Refik S, Barbera L, Krzyzanowska M. Gender, socioeconomic and geographic disparities in cancer screening in Ontario (POWER) study, # 173 Canadian Society for Epidemiology and Biostatistics (CSEB) Association of Public Health Epidemiologists in Ontario (APHEO), Ottawa, 2009.


Foltz W, Haider M, Kirilova A, Chan K, Chung P, Catton C, Warde P, Jaffray D,


Grigorov G, Chow JCL, Yazdani N, Barnett R. Sliding window IMRT: Uncertainties of the leading edge and plateau of the beam profile. Canadian Organization of Medical Physicists


Abstracts Cont’d…


McArdle O, Lee G, Clemons M, Dinniwell R. CT/MRI fusion significantly reduces the risk of geographic miss when ablating the ovaries by radiotherapy. Canadian Association of Radiation Oncology (CARO) Annual Scientific Meeting, Montreal. Radiother Oncol 88(Suppl 1),S45, 2008.


**Moseley DJ, Sharpe MB, Craig TD, Jaffray DA. Integration of kV image-guidance with arc therapy for radiotherapy of the prostate. Med Phys 35(6):2633, 2008.**


A comprehensive team-based approach to lung SBRT treatment planning and delivery.
Canadian Association of Radiation Oncology (CARO) Annual Scientific Meeting, Montreal.


Pignol JP. Comparison of total body scatter dose to various organs for standard and accelerated partial breast irradiation techniques. World Congress of Brachytherapy Annual Scientific Meeting, Boston. Brachytherapy 7:107, 2008.


Pintilie M, Lakovlev V, Milosevic M, Hedley D, Bachiary B, Fyles A, Hill RP.


Ringash J, Lockwood G, Lee M, Kim J, Dinniwell R, Brierley J, Dawson LA. Responsiveness of FACT-HEP and EORTC QLQ-C30 to radiotherapy for malignant liver


Saurabh S, Litofsky D, Ain KB, Bigos T, Brierley JD, Cooper DS, Haugen BR, Jonklass J, Ladenson W, Magner JA, Maxon HR, Robbins J, Ross DS, Skarulis M, Steward DL,


Vines D, Keller H, Breen S, Sun A. Lung FDG-PET dual time point SUVs: Effects of


Waldron J, Bayley A, Cummings B, Dawson L, Kim J, Ringash J, O'Sullivan B. Feeding tube requirements for advanced head and neck cancer (HNC) patients treated with IMRT versus two dimensional radiation techniques (2DRT). Canadian Association of


Presentations

**Ackerman, Ida**
Endometrial Cancer and Brachytherapy, Kitchener. 2009

**Barker, Ruth**

**Barnes, Elizabeth Antonia**
Hypofractionated Radiotherapy Offers Effective Palliation for Non Melanoma Skin Cancer. Multinational Association of Supportive Care in Cancer Annual Meeting, Houston, USA. 2008

Referring Physicians Expectations of Palliative Radiotherapy for Brain Metastases. American Society for Therapeutic Radiology and Oncology Annual Meeting, Boston, USA. 2008


**Batchelar, Deidre**
Delivering Brachytherapy for Cervical Cancer: Organizational and technical advice to facilitate care. Canadian Organization of Medical Physicists, Victoria. 2009

**Bayley, Andrew**
Genitourinary Oncology – The Radiation Oncology Perspective. University of Toronto Urology Fellows Didactic Course. 2008

**Bezjak, Andrea**

Intensity-Modulated Radiotherapy in Lung Cancer. Continuing Medical Education course on Intensity-Modulated Radiotherapy, Princess Margaret Hospital, Toronto. 2008

Image-Guided Radiotherapy in Lung Cancer. Image-Guided Radiation Therapy Education Course, Princess Margaret Hospital, Toronto. 2008

Improving the Cure Rate of Lung Cancer with Radiotherapy. 8th Princess Margaret Hospital Conference - New Developments in Cancer Management: Conquering Cancer in our Lifetime, Toronto. 2008

Lung Stereotactic Radiotherapy – The Princess Margaret Hospital Experience. Cleveland Clinic 3rd Annual International Symposium on Stereotactic Body Radiation Therapy and Stereotactic Radiosurgery, Orlando, USA. 2009

The Princess Margaret Hospital Experience with Lung Stereotactic Body Radiation Therapy Juravinski Cancer Center Research Rounds, Department of Radiation Oncology, Hamilton. 2009

**Bissonnette, Jean-Pierre**
Safe and Effective Implementation of Image-Guided Radiation Therapy. American Association of Physicists in Medicine, Texas, USA. 2008

Quality Assurance for Image-Guided Radiation Therapy. American Association of Physicists in Medicine, Houston, USA. 2008

A Simple, Robust IMRT Optimization Method for Lung Cancer, Accounting for Tissue Heterogeneity and Intra-fraction Lung Tumor Motion. American Society for Therapeutic Radiology and Oncology Scientific Meeting, Boston, USA. 2008

Analyse Rétrospective des Incidents en Radiothérapie: Élaboration et utilisation d’un nouveau système de classification. Scientifiques de la Société Française de Physique Médicale, Marseille, France. 2008

Safe and Effective Implementation of Image-Guided Radiation Therapy. American Association of Physicists in Medicine Professional Course Series Houston, USA. 2008


PMH Lung SBRT Program. 2009 Elekta Synergy Lung SBRT Work Group, Detroit, USA. 2009

**Brade, Anthony**
Improving Outcomes for Early-Stage Non-Small Cell Lung Cancer (NSCLC) with Stereotactic Body Radiation Therapy (SBRT). Ontario Thoracic Cancer Conference, Niagara-on-the-Lake. 2008
Pemetrexed with Concurrent Cisplatin/Radiation for Unresectable Stage III Non-Small Cell Lung Cancer: A Phase I trial. Eli Lilly Canada National Thoracic Advisory Meeting, Montebello, Quebec. 2008

A Phase I Study of Palliative Thoracic Radiation with Concurrent and Adjuvant Nimotuzumab for Patients with Stage IIB/III/IV Non-small Cell Lung Cancer. Poster Discussion - American Society for Therapeutic Radiology and Oncology Annual Meeting, Boston, USA. 2008


A Phase I Clinical Trial of 111In-Human Epidermal Growth Factor in Patients with Metastatic EGFR-Positive Breast Cancer (poster). American Society for Therapeutic Radiology and Oncology Annual Meeting, Boston, USA. 2008

A Phase I Study of Palliative Thoracic Radiation with Concurrent and Adjuvant Nimotuzumab for Patients with Stage IIB/III/IV Non-small Cell Lung Cancer. European Society for Therapeutic Radiology and Oncology, Göteborg, Sweden. 2008


Role of SBRT in Early Stage Lung Cancer. 34th Annual Thoracic Surgery Refresher Course, Toronto. 2009

Locally Advanced Disease Optimal Local Control and Survival: The role of radiotherapy. Western Canadian Lung Cancer Conference, Vancouver. 2009


Optimal Approach to Combined Modality Treatment in Locally Advanced NSCLC. Asia Pacific Thoracic Cancer Regional Medical Conference, Kuala Lumpur, Malaysia. 2009

**Bristow, Robert**

Biomarkers for DNA Repair Inhibitor Radiotherapy Trials Workshop on New Developments in Molecular Imaging for Translational Research for Clinical Applications, University Hospital Carl Gustav Carus, Technische Universität Dresden Dresden, Germany. 2008
Radiation Treatment of Cancer Measuring and Delivering the Dose. Pharmacy Student Symposium, University of Toronto, Toronto, 2008

Tumour Hypoxia and Therapeutic Response: Friend or foe? 4th International PacRim Breast and Prostate Cancer Meeting, Whistler. 2008


Hypoxia as a Modifier of DNA Repair and Targeted Therapeutics, Inaugural Symposium, Gray Institute of Radiation Oncology and Biology, University of Oxford, Oxford, United Kingdom. 2008

Radiation Therapy – Clinical potential to target DNA repair. European Society for Therapeutic Radiation Oncology Annual Meeting, Göteborg, Sweden. 2008

DNA Repair Inhibitors and the Clinic. American Society of Therapeutic Radiology and Oncology Annual Meeting, Boston, USA. 2008

Individualized Prostate Cancer Therapy. Princess Margaret Hospital Conference - New Developments in Cancer Management: Conquering Cancer in our Lifetime, Toronto. 2008

Antioxidants and Prostate Cancer radiosensitivity. Golden Horseshoe Radiobiology Meeting, University of Rochester, Rochester, USA. 2008

STTARR-MaRs, Advanced In Vivo Imaging Centre PMH Toronto. Australian Canadian Prostate Cancer Research Alliance Program, Brisbane, Australia. 2008

Hypoxia, DNA Repair and Prostate Cancer. Australian Canadian Prostate Cancer Research Alliance Program, Brisbane, Australia. 2008

Canadian Research Network. Australian Canadian Prostate Cancer Research Alliance Program, Brisbane, Australia. 2008

Prostate Hypoxia– Panel: Pathology as a Validation Tool for Cell Function. Canadian Prostate Cancer Research Institute Strategic Workshop, Pathology and Functional Imaging, King City, Ontario. 2009

Cancer Cell Hypoxia and DNA Repair: New targets and new therapies. 2nd International Workshop on Radiation and Multidrug Resistance Mediated via the Tumor Microenvironment, Dresden, Germany. 2009

Hypoxia, DNA Repair and Genetic Instability. International Conference on Translational Research (ICTR) and Pre-Clinical Strategies in Radiation Oncology, Geneva, Switzerland. 2009
Scoring DNA Damage In Situ: Tissue specificity and comparison to MN and plasma DNA. Center for Biophysical Assessment and Risk Management Following Irradiation (CBMARFI) Rochester Retreat, Rochester, USA. 2009

Assessing Organ Exposure by Measuring DNA Damage in Situ. CBMARFI Rochester Retreat, Rochester, USA. 2009

Radiosensitization by DNA Repair Inhibitors. American Association for Cancer Research Annual Meeting, Denver, USA. 2009

Feasibility of an ICGC Project on Prostate Cancer. Canadian Cancer Research Alliance Genome Meeting, Toronto. 2009


Research Breakthroughs in Prostate Cancer Research. Prostate Cancer Foundation of Canada, Toronto. 2008

Spying on Chromosomal Damage in Cancer Cells: New tests and new treatments. Canadian Cancer Society Volunteer and Staff Conference, Kleinburg, Ontario. 2009

Harry Rosen 5K Run, PMH and Prostate Cancer Research. CFRB 1010 The Guy Talk Show, Toronto. 2009

Prostate Cancer and Oxygen: New targets and new therapies. Us Too! Brampton Chapter, Brampton. 2009


**Brock, Kristy**


Image Processing and Analysis for Personalized and Evidence-Based Medicine. American Association of Physicists in Medicine Annual Meeting, Houston, USA. 2008

Deformable Modeling Techniques to Facilitate Classification, Targeting, and Response Assessment. Field's Institute, Toronto. 2008

Image Registration of Image Guided and Adaptive Radiotherapy Canadian Association of Radiation Oncologists – Canadian Organization of Medical Physicists, Montreal. 2008
Challenges in Online Image Guided Radiotherapy Management for Liver Tumors. European Society for Therapeutic Radiology and Oncology, Göteborg, Sweden. 2008


Respiratory Management: The Princess Margaret Hospital experience. Washington University, Respiration Motion Management Workshop, St. Louis, USA. 2009

Cashell, Angela
The Development of a Professional Practice Portfolio in Radiation Therapy. Princess Margaret Hospital Innovation rounds, Toronto. 2008

Catton, Charles
Radiotherapy for Prostate Cancer. 1st Annual Princess Margaret Hospital Genito-Urinary dialogue. Miami, USA. 2009

Chai, Martin

Laboratory Skills & Professionalism Evaluation in Radiation Therapy, in-service for the Medical Radiation Sciences faculty, Toronto Michener Institute, Toronto. 2009

University of Toronto Discovery Days in Health Sciences: Seek, Aim and Shoot Radiation Therapy 101, Workshop for visiting high school students, Toronto Michener Institute, Toronto. 2009

Charman, Patricia
Transition from the Academic to the Clinical Environment: Steps to success. Seminar, Michener Institute of Applied Sciences, Toronto. 2009

Cherryman, Fiona
Clinical Remediation Processes and Strategies for Supporting Radiation Therapy Student Success. Workshop presentation at Radiotherapy in Practice 4 Conference, Sheffield Hallam University, Sheffield, UK. 2008

Cheung, Patrick


Debate: Surgery vs Radiotherapy for Localized High Risk Prostate Cancer. GU Conversations, Mississauga. 2009
Debate: Radiosurgery vs Surgery for T1 N0 Lung Cancer. 4th Annual Ontario Thoracic Cancer Conference, Queen’s Landing Inn & Conference Centre, Niagara-on-the-Lake. 2009

**Chow, Edward**  
Quality of Life and Pain Flare in Bone Metastases.  Grand Round, Royal Victoria Hospital, Barrie. 2008


Survival Prediction. American Society for Therapeutic Radiology and Oncology Annual Meeting, Nursing Symposium, Boston, USA. 2008


Symptom Cluster Research in Patients with Bone Metastases Receiving Palliative Radiotherapy.  Province-Wide Sleep Rounds, Toronto. 2008

Phase III and IV Development of the EORTC QLQ-BM22.  EORTC QLG Semi-Annual Meeting, Brussels, Belgium. 2009

Validation of the EORTC Brain Cancer Module (QLQ-BN20) in Brain Metastases Patients. EORTC QLG Semi-Annual Meeting, Brussels, Belgium. 2009

Bone Metastases: Quality of life – whose perspectives.  VU University Medical Center, department of Neurology, Medical Center Haaglanden, The Hague, The Netherlands. 2009


Determining the accuracy of health care professionals in predicting the survival of patients with advanced metastatic cancer. Annual Hospice Palliative Care Conference, Toronto. 2009

Validation of Meaningful Change in Pain Scores in the Treatment of Bone Metastases. Annual Hospice Palliative Care Conference, Toronto. 2009

**Chung, Hans**  
Research Ethics Rounds: The Case of the Nanny. Sunnybrook Health Sciences Centre, Toronto. 2009
Grand Medical Rounds: The Role of Radiotherapy in Rectal Cancer. Toronto East General Hospital, Toronto. 2009

Sunnybrook Odette Cancer Centre, Rapid Response Radiotherapy Program (RRRP) Role of Palliative Radiotherapy in GI Cancers. Sunnybrook Odette Cancer Centre, Toronto. 2009

Prostate Brachytherapy. Prostate Cancer Support Group, Newmarket. 2008

Chung, Peter
IMRT for Prostate Cancer: Not just the prostate alone. Hamilton Health Sciences, Hamilton. 2009

Integrating Technology for Radiotherapy in Prostate Cancer. Brampton. 2009

Radiotherapy is the Preferred Treatment for Muscle Invasive Bladder Cancer. First Annual Princess Margaret Hospital Uro-Oncology Dialogue, Hollywood, USA. 2009

Clinical Case Presentation: Prostate Cancer, Intensity-Modulated Radiation Therapy (IMRT) Education Course, Princess Margaret Hospital, Toronto. 2009

Craig, Tim
Advanced Image Guidance Allows Margin Reduction in Radiation Therapy of Prostate Cancer. Presented at the American Society for Therapeutic Radiology and Oncology Annual Meeting, Boston, USA. 2008

Crook, Juanita
Catheterization Rates and the Severity of lower Urinary Tract Symptoms. Canadian Association of Radiation Oncology, Montreal. 2008

Brachytherapy for Squamous Carcinoma of the Penis: A penile conserving option. Societe Internationale D’Urologie World Uro-oncology update, Santiago, Chile. 2008


Planning LDR Prostate Brachytherapy. ABS Prostate Brachytherapy School, Chicago, USA. 2008

Salvage Prostate Brachytherapy. ABS Prostate Brachytherapy School, Chicago, USA. 2008


Final Report of a Multicenter Canadian Phase III Randomized Trial of 3 Vs 8 months Neoadjuvant Androgen Deprivation Prior to Conventional Dose Radiotherapy for Clinically
Localized Prostate cancer. American Society for Therapeutic Radiology and Oncology, Boston, USA. 2008


Access to Brachytherapy in Canada. 18th Australasian Brachytherapy Group Annual Meeting, Gold Coast, Australia. 2009

Comparision of CT and MR-based Post Implant Dosimetry. Australasian Brachytherapy Group Annual Scientific Meeting, Gold Coast, Australia. 2009

Optimal Equations for Describing the Relationship Between Prostate Volume, Number of Sources and Total Activity in Permanent Prostate Brachytherapy. Australasian Brachytherapy Group Annual Scientific Meeting, Gold Coast, Australia. 2009

Late Urinary Toxicity After Iodine-125 Prostate Brachytherapy. 18th Australasian Brachytherapy Group Annual Meeting, Gold Coast, Australia. 2009

Iodine - 125 Brachytherapy (BT) as Monotherapy in Men Aged <55 years with Localized Cancer. 18th Australasian Brachytherapy Group Annual Meeting, Gold Coast, Australia. 2009

PSA Bounce After Iodine-125 Prostate Brachytherapy. 18th Australasian Brachytherapy Group Annual Meeting, Gold Coast Australia. 2009

The Radiation Story: Toronto Man to Man Prostate Cancer Support Group, Toronto. 2009

A Phase III Randomized Trial of Meloxicam Started Either 1 Week Prior to or Concurrent with Iodine-125 Prostate Brachytherapy to Reduce Post Implant Edema,

Squamous Call Carcinoma of the Penis: Results of brachytherapy as primary management for 74 patients over 18-year period. Genito-Urinary Cancers Symposium, Orlando, USA. 2009

**Cummings, Bernard**

American Society for Therapeutic Radiology and Oncology and the International Community. Sino-American Network of Therapeutic Radiologists and Oncologists Symposium, Beijing, China. 2008

Gastric Cancer: North American Consensus recommendations for curative surgery and adjuvant treatment. Sino-American Network of Therapeutic Radiologists and Oncologists Symposium, Beijing, China. 2008

Gastric Cancer: Background to the North American approach. Sino American Network of Therapeutic Radiologists and Oncologists Symposium, Beijing, China. 2008
Presentations Cont’d…

Anal Canal Cancer: North American Consensus and Background. Sino American Network of Therapeutic Radiologists and Oncologists Symposium, Beijing, China. 2008

Progress in Anal Canal Cancer: The contributions of chance and systematic research. Fudan University Cancer Hospital, Shanghai, China. 2008


Chemoradiation for Anal Canal Cancer. Early luck but slow progress. Princess Margaret Hospital Conference - New Developments in Cancer Management: Conquering Cancer in our Lifetime. Toronto. 2008


American Society for Therapeutic Radiology and Oncology International Programs and the IAEA. International Atomic Energy Agency Headquarters, Vienna, Austria. 2009

Radiation and Chemotherapy for Rectal Cancer: Before or after surgery? Latin American Symposium on GAmerican Society for Therapeutic Radiation and Oncology Intestinal Malignancies, Vina del Mar, Chile. 2009

Perisurgical Treatment for Pancreas Cancer. Latin American Symposium on GAmerican Society for Therapeutic Radiation and Oncology Intestinal Malignancies, Vina del Mar, Chile. 2009

Cancers of the Esophagus and Stomach. Limits and advantages of perioperative treatment. Latin American Symposium on GAmerican Society for Therapeutic Radiation and Oncology Intestinal Malignancies, Vina del Mar, Chile. 2009

Czarnota, Gregory


Microbubble and Ultrasound Enhancement of Radiation-Induced Tumour Cell Death in Vivo, American Institute of Ultrasound in Medicine Meeting, San Diego, USA. 2008


Novel Anti-Vascular Ultrasound and Radiation Cancer Treatment. Target Insight Conference III, Toronto. 2009


Novel Anti-Vascular Combined Ultrasound and Radiation Therapy. Bioacoustics Research Laboratory Seminar, Beckman Institute, University of Illinois Urbana Champaign, Urbana, USA. 2009

Davey, Philip
The Radiotherapeutic Management of Pituitary Adenomas. Sunnybrook Endocrine Rounds, Sunnybrook Health Sciences Centre, Toronto. 2008

Dawson, Laura
Uncertainties in Liver Cancer Radiotherapy. Minimizing the adverse effects of uncertainties in external radiation therapy. Society for Mathematical Biology Conference at Fields Institute, Toronto. 2008

Radiation Therapy for Hepatocellular Carcinoma. Sino-American Network for Therapeutic Radiology and Oncology, Beijing, China. 2008

Systemic Therapy for Hepatocellular Carcinoma. Sino-American Network for Therapeutic Radiology and Oncology, Beijing, China. 2008


Image Registration Educational Session, American Society for Therapeutic Radiology and Oncology, Boston, USA. 2008

Upper Abdominal Cancer E-contouring Symposium. American Society for Therapeutic Radiology and Oncology, Boston, USA. 2008


High Precision Radiation Therapy for Upper Abdominal Malignancies. Princess Margaret Hospital Conference - New Developments in Cancer Management: Conquering Cancer in our Lifetime, Toronto. 2008

Stereotactic Radiotherapy for Liver Tumors. Moffit Interdisciplinary GI Oncology Conference, Tampa, USA. 2008


Leader of Regional Therapy Panel, Hepatocellular Carcinoma, State of the Science Meeting, National Institute of Health, Washington, USA. 2008

Leader of Regional Therapy Panel, Hepatocellular Carcinoma, State of the Science Meeting, NIH, Washington, USA. 2008


Panel Speaker, Cancer Advances: A public forum on American Society for Therapeutic Radiation and Oncology intestinal cancers. American Society of Clinical Oncology Cancer Foundation, San Francisco, USA. 2009

Panelist, Unresectable Hepatocellular Carcinoma. American Society of Clinical Oncology Cancer GI Meeting, San Francisco, USA. 2009

Motion Management in IMRT Panel. American Society for Therapeutic Radiology and Oncology Intensity Modulated Radiation Therapy Symposium. Phoenix, USA. 2009


Palliative Treatment for Hepatocellular Carcinoma. Canadian Association of Hepatology Nurses, in partnership with the Canadian Association for the Study of the Liver and the Canadian Association of GAmerican Society for Therapeutic Radiation and Oncologyenterology, Banff. 2009

Evolving Role of Radiation Therapy for Hepatocellular Carcinoma, Fourth International
Conference on Translational Research and Pre-Clinical Strategies in Radiation Oncology (ICTR), Geneva, Switzerland. 2009


IGRT and the New Practice of Radiotherapy. Advances in Radiotherapy Planning and Delivery. The San Francisco Radiation Oncology Conference, San Francisco, USA. 2009

IGRT for GI Cancers. Advances in Radiotherapy Planning and Delivery. The San Francisco Radiation Oncology Conference, San Francisco, USA. 2009

**Dinniwell, Robert**

Inguinal Nodal Clinical Target Volume Delineation: Validation of a class solution for precision radiotherapy. Canadian Association of Radiation Oncologists Annual Meeting, Montreal. 2008

Nanoparticle-Enhanced MRI for Clinical Target Volume Delineation. The Radiation Treatment Program, Juravinski Cancer Centre, Hamilton. 2009

**Eccles, Cynthia**
Comparison of Liver Tumour Motion with and without Abdominal Compression Using Cine MRI. American Society for Therapeutic Radiology and Oncology, Boston, USA. 2008

Motion Management for SBRT Liver Cancers. H. Lee Moffit Cancer Center, Tampa, USA. 2008

The Role of the R&D Radiation Therapist in Investigator Initiated Studies. Lunch and Learn for the Clinical Research Support Unit, Princess Margaret Hospital, Toronto. 2008

**Fyles, Anthony**
Current Status of Hypoxia and Targeting Tumour Cell Signaling and Microenvironment, Canadian Association of Radiation Oncologists Annual Meeting, Montreal. 2008

**Gillies, Carol**
Results of a Radiation Therapist Opinion Survey Identifying, Measuring and Addressing Radiation Therapy Patient Supportive Care Needs. CHSS Health Services Sciences Symposium, Sunnybrook Health Sciences Centre, Toronto. 2008
Gospodarowicz, Mary
Prognostic Factors in Cancer. International Union for Cancer Control, World Cancer Congress, Geneva, Switzerland. 2008

Case Presentations in Hodgkin’s Disease. American Society for Therapeutic Radiology and Oncology Annual Meeting, Boston, USA. 2008

Diffuse Large B-cell Lymphoma – Refresher Course. American Society for Therapeutic Radiology and Oncology Annual Meeting, Boston, USA. 2008

Masters in Radiation Oncology. American Society for Therapeutic Radiology and Oncology, Boston, USA. 2008

The Role of Radiotherapy in Localized MZL. Danish Lymphoma Group 11th Plenary Meeting, Copenhagen. 2008

RT Role in the Treatment of MZL. Marginal Zone B-Cell Lymphomas: A reappraisal, Bolzano, Italy. 2008


Survivorship in Cancer. Importance of international collaboration. Workshop on survivorship in Hodgkin lymphoma, Rockefeller Foundation Grant, Bellagio, Italy. 2008


International Atomic Energy Agency – IAEA, Vienna, Austria. 2009


Cancer Staging and Prognosis – Basic Concepts in Cancer Control, Education, and Practice (presentation sent via CD). WHO/IAEA Coordination and Planning Meeting, Cairo, Egypt. 2009

The Role of Radiation Oncology Training Within Comprehensive Cancer Management. WHO/IAEA Coordination and Planning Meeting, Vienna, Austria. 2009.

Cancer Staging and Prognosis – Basic Concepts in Cancer Education and Practice. WHO/IAEA Coordination and Planning Meeting, Vienna, Austria. 2009.

Harnett, Nicole
What Comes First: Interprofessional practice or interprofessional education? Ottawa International Conference on Clinical Competence, Melbourne Australia. 2008
Clinical Impact of Clinical Specialist Radiation Therapist (CSRT) for Patients Requiring Palliative Radiotherapy. Canadian Association of Radiation Oncology Annual Meeting, Montreal. 2008


Heaton, Robert
The Evolution of Total Body Irradiation delivery at Princess Margaret Hospital. McGill University Health Centre, Montreal. 2008

Higgins, Jane


Exploring PMH Radiation Therapists’ Perceived Values in Conducting Research: Related challenges and opportunities. Canadian Association of Radiation Oncology Annual Meeting. 2008


Frequency of Setup Errors Based on Daily Cone-Beam CT Imaging for Lung Patients Undergoing Conventionally Fractionated Radiotherapy. Canadian Association of Radiation Oncology Annual Meeting, Montreal, Canada, 2008

Hodgson, David


Utilizing Large Databases for Health Services Research: Considerations for design and implementation. Ontario Project Planning Meeting for Canadian Partnership Against Cancer Synoptic Reporting Tools Project for Ovarian Cancer Surgeries. Toronto. 2008

Learning from the Fat Man: Modeling radiation-related second cancer risk for clinical use. Workshop on Growth and Control of Tumors: Theory and Experiment. Fields Institute, Toronto. 2008

Redefining the Achievable: Adopting RT innovation in Ontario’s cancer care system. Clinical Epidemiology Rounds, St. Michael's Hospital, Toronto. 2008

Cardiac Screening Among Hodgkin lymphoma Survivors. Princess Margaret Hospital Conference: Developments in Cancer Management: Conquering cancer in our lifetime, Toronto. 2008


Innovations in Radiation Therapy for Childhood Brain Tumours. b.r.a.i.n.child Foundation Educational Event. Toronto. 2008


**Hope, Andrew**
Models of Lung and CNS Injury Using Modern Small Animal Conformal RT, FOREM, St. Louis, USA. 2008

Medical Imaging and Radiation Oncology: Targeting a cure, Fields Institute, Toronto. 2009

Outcomes Research in Lung Cancer, Maastricht University, Maastrict, Netherlands. 2009

**Huang, Sophie**
Patterns of Care in Elderly Head and Neck Cancer Patients: The recent PMH experience. International Conference on Innovative Approaches in Head & Neck Oncology, Barcelona, Spain. 2009

**Jaffray, David**
Moderator Small Animal IGRT: Systems and studies. American Association of Physicists in Medicine, Houston, Texas, USA. 2008

Quantitative Oncology Workshop, Field’s Institute, Toronto. 2008

MR @ GE Technology, GE Healthcare Medical Advisory Board Conference, Chicago, USA. 2008

Investigators of Performance and Application of the Perfection Unit, American Society for Therapeutic Radiology and Oncology / European Society for Therapeutic Radiology and Oncology, Göteborg, Sweden. 2008

Investigations of Performances and Applications of the Perfection Unit. European Society for Therapeutic Radiology and Oncology-Elekta users meeting. Göteborg, Sweden. 2008

A Relocatable Frame for use with the Perfection Unit. European Society for Therapeutic Radiology and Oncology, Göteborg, Sweden. 2008

Technological Advances in Imaging Research, SIT workshop. American Society for Therapeutic Radiology and Oncology Annual Meeting, Boston, USA. 2008


Chair, Introduction and Closing remarks, Imaging Network Ontario, University of Toronto, Toronto. 2008

Centre for Addiction and Mental Health. Spatio-Temporal Targeting and Amplification of Radiation Response (STTARR), Toronto. 2008

Physics Seminar Series, Chair Technology Session. The 8th Princess Margaret Hospital Conference: Developments in Cancer Management: Conquering cancer in our lifetime, Toronto. 2008

Imaging Applications in Prostate Cancer. Canadian Institutes of Health Research - Ontario Institute of Cancer Research-Imaging Pipeline Platform, London Regional Cancer Centre, London. 2008

Imaging for Real Time Monitoring. Radiological Society of North America, Chicago, USA. 2008

Advances in Medical Imaging applied to Radiotherapy. International Atomic Energy Agency, Trieste, Italy. 2009


Preclinical Imaging. PMH Phase I Consortium Biomarkers-Imaging-Biostatistics. Think-Tank Meeting Invitation, Kingsbridge. 2009

Nano-Modulated Radiation Therapy using Gold NPs. ICTR. Third International Conference on Translational Research and Pre-Clinical Strategies in Radiation Oncology, Geneva, Switzerland. 2009

The Physics of Imaging and Radiotherapy. International Conference on Translational Research and Pre-Clinical Strategies in Radiation Oncology, Geneva, Switzerland. 2009

Keller, Harald
Association of Texture Features to Structure and Function in a Simple Tumor Model and Potential Application to Treatment Response Monitoring using FDG-PET. American Association of Physicists in Medicine Annual Meeting, Houston USA. 2008

Kelly, Valerie
Mentorship and Radiation Therapy, Toronto Michener Institute, Toronto. 2008

Sex, Gender and Radiotherapy. Women’s College Research Institute, University of Toronto Graduate Student Research Day, Toronto, Canada. 2008

Kim, John
Larynx and Nasopharynx Cancers. Radiation Therapy student lecture, The Michener Institute, University of Toronto, Toronto. 2008

Preparations for Treatment Planning and Delivery: A radiation oncologist’s perspective. IMRT Course, Princess Margaret Hospital, Toronto. 2008

IMRT and IGRT in the Management of Head and Neck Cancer. Princess Margaret Hospital Conference: Developments in Cancer Management: Conquering Cancer in our Lifetime, Toronto. 2008

Image Guided Radiation Therapy in Head and Neck Cancer. Princess Margaret Hospital, Toronto. 2008

Altered Fractionation in Head and Neck Radiotherapy. Sudbury Regional Hospital, North East Regional Cancer Program, Sudbury. 2009

The Multi-Disciplinary Approach to Rectal Cancer Management: Radiation oncology perspective. St. Michael’s Hospital GI Oncology Program Evening, Toronto. 2009

Koch, Christine Anne
Lapperriere, Normand

Letourneau, Daniel

Novel Dosimetric System for Volumetric Modulated Arc Therapy. Sun Nuclear Corporation QA Symposium, Orlando, USA. 2009

Online Planning and Delivery Technique for Radiotherapy of Spinal Metastases. Palliative rounds at the Odette Cancer Center, Toronto. 2009

Levin, Wilfred
Bone Metastases Grid - Coping with Multiple Previous Treatment Fields in a Technological Age. Canadian Association of Radiation Oncology Annual Meeting, Montreal. 2008

Living Well with Long Term/Late Effects-Awareness and Interventions. Canadian Cancer Society, Surviving Cancer and Living Well. Toronto. 2008

Palliative Radiotherapy – How to Cope with Multiple Previous Treatment Volumes in the Electronic Age. Canadian Association of Radiation Oncology Annual Meeting, Quebec. 2008

Adult Radiation Late Effects Clinic – A Clinic Dedicated to the Management of Patients with Complications of Radiation Therapy. PREVENT Conference, Brussels, Belgium. 2009


Radiation Late Effects and the Plastic Surgeon – Plastic Surgery Resident Program. Hospital for Sick Children, Toronto. 2009

Liu, Fei-Fei
The emerging entity of HPV in HNSCC. Invited speaker at Dalhousie University, Department of Virology, Halifax. 2008


Translational Research in Head & Neck Cancers. Princess Margaret Hospital Conference: Developments in Cancer Management: Conquering Cancer in our Lifetime, Toronto. 2008

Micro-RNAs in Head & Neck Cancer. Institute of Biochemistry and Molecular Biology, University of Waterloo, Waterloo. 2009

**Loblaw, Andrew**
Active Surveillance for Prostate Cancer and the Role of Bionutrients in Disease Stabilization. Oncology Grand Rounds, Odette Cancer Centre / Sunnybrook Health Sciences Centre, Toronto. 2009

**Mah, Katherine**
Advances in CT and PET Imaging for Radiation Treatment Planning, American Society of Therapeutic Radiology and Oncology Annual Meeting, Quebec City. 2008

Automatic Definition of Radiation Targets using Textural Characteristics of both CO-Registered PET and CT Images. American Association of Physicists in Medicine Annual Meeting, Houston USA. 2008

Tirona Observer Variability in Radiotherapy Targeting of Head and Neck Tumors: Can PET-CT reduce the variability? Society of Nuclear Medicine Annual Meeting, New Orleans, USA. 2008

FDG PET/CT Based Feature Analysis of Head and Neck Cancer for Radiation Targeting. Society of Nuclear Medicine Annual Meeting, New Orleans, USA. 2008

Co-registered Multi-modality Pattern Analysis Segmentation System (COMPASS) for Radiation Targeting of Head and Neck Cancer Using FDG PET/CT. The Canadian Organization of Medical Physicists Annual Scientific Meeting, Victoria. 2009


**Manchul, Lee**
Needs Assessment in Interprofessional Education. IPE: Faculty Development Program, Centre for Faculty Development, University of Toronto and St. Michael's Hospital, University of Toronto Conference Centre, Toronto. 2008

The Development and Testing of an Instrument to Measure Faculty Development Needs of Clinician-Educators. RIME oral abstract presentation, Association of American Medical Colleges meeting, San Antonio, USA. 2008

Forming Academic Identity: Mentoring faculty in the rules of the academic game. RIME oral abstract presentation, Association of American Medical Colleges meeting, San Antonio, USA. 2008

Developing Self Assessment Programs. Royal College of Physicians and Surgeons of Canada Accredited Providers Meeting, Ottawa. 2008
McGowan, Thomas

A Discussion on the DART/NCICCTG PR.12 Study (Neoadjuvant Docetaxel and Androgen Suppression Plus Radiation Therapy vs Androgen Suppression Alone Plus Radiation Therapy for High Risk Localized Adenocarcinoma of the Prostate). Sanofi-Aventis, Department of Medical and Radiation Oncology and Department of Urology, Credit Valley Hospital. Toronto. 2008

Topics in Prostate Cancer Management from the Perspective of Radiation Oncology. Presented to physicians and other medical personnel, Credit Valley Hospital. Toronto. 2009

Ménard, Cynthia


Image-Guidance in Prostate Brachytherapy. American Society for Therapeutic Radiology and Oncology Annual Meeting: Refresher Course, Boston. USA. 2008


Augmenting the Radiotherapeutic Management of Prostate Cancer Using MRI. American Society for Therapeutic Radiology and Oncology Annual Meeting: GE Symposium, Boston, USA. 2008

MRI-Guided Biopsy and Brachytherapy of the Prostate. Imaging Network Ontario, Imaging Symposium, University of Toronto, Toronto. 2008


Interventional MRI to Augment Radiotherapy in Prostate Cancer. Imaging Applications in Prostate Cancer Workshop. London. 2008

Precision and Accuracy of MRI-Guided Therapeutics. Downtown Imaging Physics Seminar, Toronto. 2009

Milosevic, Michael
Vascular, Interstitial Fluid and Oxygen Dynamics in Tumors: Clinical implications. Workshop on New Developments in Molecular Imaging for Translational Research and Clinical Applications, OncoRay – Center for Radiation Research in Oncology, Dresden, Germany. 2008
Angiogenesis, Interstitial Fluid Dynamics and Hypoxia in Tumors. Workshop on Growth and Control of Tumors: Theory and experiments, Field's Centre for Mathematical Medicine, Toronto. 2008

Improving the Effectiveness of Radiation and Chemotherapy: Molecular targeting of angiogenesis and hypoxia in human tumors. Vanderbilt Integrative Cancer Biology Center Workshop, Mathematical Oncology, Through the Mathematical Looking Glass, Toronto. 2008

Imaging Tumor Vasculature and Hypoxia in Radiation Oncology. Canadian Association of Radiation Oncology Annual Meeting, Montreal. 2008

Angiogenesis and Hypoxia in Prostate Cancer: Relevance to radiotherapy and biological treatment targeting. Royal Australian and New Zealand College of Radiologists Annual Meeting, Adelaide, Australia. 2008


Contouring for Post-Prostatectomy Radiotherapy. Keynote International Speaker 59th Annual Scientific Meeting of the Royal Australian and New Zealand College of Radiologists Adelaide, Australia. 2008

Radiation Oncology in Canada: Annual Canadian Association of Radiation Oncology Workload and Staffing Survey. Meeting of the National Specialty Societies of Canada with the Royal College of Physician and Surgeons of Canadian, Toronto. 2008


Hypoxia and Angiogenesis in Cervix Cancer: Opportunities and challenges. Radiation Oncology Research Rounds, Odette Cancer Centre, Toronto. 2008

**Moline, Karen**
Interprofessional Collaboration Session for Therapy Students. Spiritual Care Workshop, Odette Cancer Centre, Toronto. 2009

**Morton, Gerard**
Timing of Androgen Deprivation as Salvage Treatment. Radiotherapy Group of New South Wales, Sydney, Australia. 2008

Invited speaker, Australasian Brachytherapy Group, Sydney, Australia. 2008

Prostate High Dose-Rate Brachytherapy: A hands-on workshop. 30th Annual Meeting of the American Brachytherapy Society, Toronto. 2009

**Moseley, Douglas**


User Interfaces for Visualizing Complex Data. Workshop presented at the International Conference hosted by the IBM Centers for Advanced Studies (CASCON), workshop, Toronto. 2008

Modern Radiation Therapy: Image is everything. Fields workshop, University of Toronto, Toronto. 2008

Presenter, Regional Cancer Program Open House, Southlake Regional Health Centre, Toronto. 2008


**Nyhof-Young, Joyce**

Clothing for Lymphedema, Chicagoland Lymphedema Network, North Shore University Health System, Rehabilitation Services, Lymphedema Center, Glenview, USA. 2008


Empowering Breast Cancer Patients Through Medical Student Research: The DOCH2 approach. Princess Margaret Hospital, Clinical Breast Rounds, Toronto. 2009

Career Panelist, Canadian Medical Hall of Fame Discovery Day in Health Sciences, University of Toronto, Toronto. 2009

Survivorship – Empowering breast cancer survivors with, through, and beyond. Updates in Oncology, Regional Cancer Program, Barrie. 2009
Chaplaincy and DOCH2: A great opportunity for applied research and program development! UHN Chaplaincy, Toronto. 2009

Osmar, Kari
A Competency Based Orientation Program. Toronto Radiation Medicine Conference, Toronto. 2009


An Introduction to Radiation Therapy. Oncology Nursing Day, York Central Hospital, Toronto. 2009

O'Sullivan, Brian


Does Genetic and Molecular Information Trump Anatomic Disease Extent? Symposium on cancer classification, staging and prognosis at International Union for Cancer Control, World Cancer Congress 2008, Geneva, Switzerland. 2008

What is the Standard of Care for Unresected Locally Advanced HNSCC? Radiotherapy and a targeted agent with or without chemotherapy? European Society of Radiation Oncology Annual Meeting, Göteborg, Sweden. 2008

How to Give a Talk. Annual Scientific Seminar of the Association of Residents In Radiation Oncology. American Society of Therapeutic Radiology and Oncology Annual Meeting, Boston, USA. 2008

Education Course: Nasopharynx Cancer. American Society of Therapeutic Radiology and Oncology Annual Meeting, Boston, USA. 2008

Challenges in Realising the Benefits of Targeted Treatment for Head and Neck Cancer. Saint Lukes Hospital visiting professor lecture, Dublin, Ireland. 2008

NPC: Head and neck’s most unusual mucosal cancer. Saint Lukes Hospital visiting professor lecture, Dublin, Ireland. 2008

Radiotherapy: Why, when & how? Symposium on Multiple Disciplines in Sarcoma Management, Annual Scientific Meeting of the Faculty of Radiologists, Royal College of Surgeons in Ireland, Dublin, Ireland. 2008
An Introduction to IMRT in Head & Neck Cancer in Symposium on New Technology in Radiation Oncology. Annual Scientific Meeting of the Faculty of Radiologists, Royal College of Surgeons in Ireland, Dublin, Ireland. 2008

The Honorary Fellow’s Lecture to the Faculty of Radiologists: Diagnostic & therapeutic radiology in the multidisciplinary management of soft tissue sarcomas. Annual Scientific Meeting of the Faculty of Radiologists, Royal College of Surgeons in Ireland, Dublin, Ireland. 2008

Current Approaches to the Treatment of Soft Tissue Sarcoma. Brazilian Society of Radiation Oncology Annual Meeting, Recife, Brazil. 2008

Treatment of Primary and Recurrent Tumors of the Nasopharynx. Brazilian Society of Radiation Oncology Annual Meeting, Recife, Brazil. 2008

Impact of IMRT in the Treatment of Head and Neck Tumors. Brazilian Society of Radiation Oncology Annual Meeting, Recife, Brazil. 2008


Lessons Learnt from Experience of Conducting Clinical Trials – How to ensure successful completion and quality control. Scientific Symposium on Clinical Trials for Nasopharyngeal Cancer - The Hong Kong Nasopharyngeal Cancer Study Group and Central Coordination Committee (Clinical Oncology) Hospital Authority, Hong Kong. 2008


Benefits and Challenges of Multi-modality Approaches in the Management of Head & Neck Cancer. Head And Neck Session: Target Insight III, University of Toronto, Department of Radiation Oncology, Toronto. 2009
Molecular Targeting of NPC with Monoclonals and Small Molecules: Challenges, rationale, and present status. International Symposium on Nasopharyngeal Carcinoma, Atlas Marrakech Hotel, Marrakech, Morocco. 2009

**Palmer, Cathryne**

Clinical Remediation Processes and Strategies for Supporting Radiation. Therapy Student Success, Radiotherapy in Practice 4 Conference, Sheffield, United Kingdom. 2008


Just-in-time Tomography. Canadian Organization of Medical Physicists Annual General Meeting, Quebec. 2008

**Paszat, Lawrence**
A Case-control Study of Mammography Screening Among Women Under Age 50. Union International Contre le Cancer, Geneve, Suisse. 2008

Biomarkers of Gastric Cancer Risk and Vaccine Targets, Clinical Epidemiology / Institute for Clinical Evaluative Sciences Rounds, Toronto. 2009


**Pignol, Jean-Philippe**

**Poon, Ian**
Pilot Study to Assess Intra-Treatment FDG-PET Parameters that Predict for Loco Regional Control in Advanced Head and Neck Cancer Treated with Chemoradiation. Canadian Association of Radiation Oncology Annual Meeting, Montreal. 2008

**Ringash, Jolie**
American Society for Therapeutic Radiation and Oncology Intestinal Cancers Symposium, Orlando, USA. 2008


The NCIC-CTG QOL Committee. PROBE meeting, European Organization for Research and Treatment of Cancer Quality of Life Committee, Brussels, Belgium. 2008
Case Study #2: SR.2. National Cancer Institute of Canada Clinical Trials Group, Quality of Life Committee Educational Workshop, Toronto. 2008

Quality of Life in the Era of Chemoradiation. Princess Margaret Hospital Conference: Developments in Cancer Management: Conquering Cancer in our Lifetime, Toronto. 2008


Quality of Life Measurement in NCIC-CTG Clinical Trials. National Cancer Institute of Canada – Clinical Trials Group annual spring meeting, Clinical Research Associate Lecture, Toronto. 2009

Rowlands, John
Noise, Quantum noise and Psychophysics: Their role in medical imaging. University of Toronto, Mississauga. 2008

X-ray integrated along/within MRI. Society for Cardiovascular Magnetic Resonance Annual Scientific Session, Orlando, USA. 2009


Sahgal, Arjun
Stereotactic Body Radiotherapy (SBRT) for Spinous Metastases: Preliminary experience at the University of California, San Francisco. Canadian Association of Radiosurgery, Mt. Tremblant. 2008


Stereotactic radiotherapy for juxtapapillary choroidal melanoma 3 year follow-up. American Radium Society, Vancouver. 2009


Radiosurgery of the Spine and Radiation Tolerance of the Spinal Cord. E. Harry Botterell Lectureship in Neurosurgery., The Toronto Western Hospital, University of Toronto. 2008

Technologies for Spine Mets: Does more pain mean more dose? The Science and Art of Pain and Symptom Management, Annual Conference, University of Toronto, Toronto. 2008


Is Radiation the Best Treatment for Anaplastic Oligodendroglioma or Does it Just Melt Brains. Division of Neurology, J.C. Richardson Neurology Subspecialty Day, University of Toronto, Toronto. 2009


Overview of What is New in Nonsurgical Treatment of Metastatic Spinal Disease-When to consider radiosurgery. Annual Canadian Contemporary Spinal Techniques Course, University of Toronto. 2009

Sharpe, Michael
Implementing IMRT in Clinical Practice. American Society for Therapeutic Radiology and Oncology Practicum, Orlando, USA. 2008

IGRT Practicum. American Society for Therapeutic Radiology and Oncology, Newport, USA. 2008


Target Localization Systems for Radiation Therapy Treatment, A Continuing Education Symposium at the American Society for Therapeutic Radiology and Oncology Annual Meeting, Boston, USA. 2008

Advances in Technology. American Society for Radiation Oncology, Chandler, USA. 2009

Sheikh, Aisha

Conflict in Professional Life. An IPE Ethics Seminar/Workshop for Third Year Medical Students, Final Year Nusing and Social Work Students, Office of Interprofessional Education, Faculty of Medicine, University of Toronto, Toronto. 2008

Siewerdsen, Jeffrey


C-Arm Volumetric CT in Interventional Procedures: The physics perspective. American Association of Physicists in Medicine, Annual Meeting, Anaheim, USA. 2009


Image Quality and Image Processing: A Categorical review for the research and clinical medical physicist, Annual Meeting of the American Association of Physicists in Medicine, Anaheim, USA. 2009

Image-Guided Interventions. Imaging Network Ontario, Toronto. 2008

Image Quality in Flat-Panel Detector CT, Categorical Course on CT and MRI. 2008 Meeting of the Radiological Society of North America, Chicago, USA. 2008

Multi-Modality and Multi-Dimensional Imaging. American Association of Physicists in Medicine Annual Meeting, Houston, USA. 2008


Sinclair, Emily

Minimally Invasive Surgical Procedures for Palliative Bone Metastases. Humber Annual Provincial Conference on Palliative and End of Life Care, Toronto. 2009

How to Recommend which Minimally Invasive Surgical Procedures for Bone Metastases Patients. Bonus 4 Conference, Princess Margaret Hospital, Toronto. 2009
**Spayne, Jacqueline**  
Indications for Resection or Ablation of Metastases in Lung Cancer. Lung Rounds, Odette Cancer Centre, Toronto. 2008

Grand Rounds Presentation; Advanced Cancer – Advanced Care; An overview of the locally advanced breast cancer program. Grand Rounds Presentation, Sunnybrook Health Sciences Centre, Odette Cancer Centre, Toronto. 2008

**Sun, Alex**  
Clinical Trials Education and Recruitment Committee (CTER) presentation. Radiation Therapy Oncology Group – National Cancer Institute/National Institutes of Health Grant Renewal Site Visit, Bethesda, USA. 2008

**Szumacher, Ewa**  
Effectiveness of Educational Intervention on the Congruence of Prostate and Rectal Contouring as Compared to a Gold Standard in Three-Dimensional Radiotherapy for Prostate Cancer. Canadian Association of Radiation Oncology Annual Meeting, Montreal. 2008

Canadian Patterns of Practice in Adjuvant Radiotherapy for Elderly Women with Stage 1 Breast Cancer. 31st Annual San Antonio Breast Cancer Symposium, San Antonio, USA. 2008

Phase II Clinical Trial of Single Fraction High Dose-Rate Brachytherapy and Hypofractionated External Beam Radiotherapy – Men with Intermediate Risk Carcinoma of the Prostate. American Society of Clinical Oncology GU Meeting, Orlando, USA. 2009

Canadian Patterns of Practice in Adjuvant Radiotherapy for Elderly Women with Stage I Breast Cancer. Annual San Antonio Breast Cancer Symposium, San Antonio, USA. 2008


Collaborating Across Borders: Building bridges between interprofessional education & practice through continuing education in academic cancer centre. Clinical and Scientific rounds (R-3) and Interprofessional Radiation Oncology Rounds, Association for Medical Education in Europe, Malaga, Spain. 2009

Collaborating Across Borders: Building bridges between interprofessional education & practice through continuing education in academic cancer centre. Clinical and Scientific rounds (R-3) and Interprofessional Radiation Oncology rounds, American Society for Therapeutic Radiology and Oncology, Chicago, USA. 2009

**Thomas, Gillian**  
Neoadjuvant Treatment in Cervical Cancer. European Society for Therapeutic Radiology and Oncology, Göteborg, Sweden. 2008
Combination Treatment in Cervical Cancer. European Society for Therapeutic Radiology and Oncology, Göteborg, Sweden. 2008


Endometrial Cancer: Role of adjuvant radiotherapy vs chemotherapy. British Gynecology Cancer Society, Liverpool, UK. 2008

Risk Based Management of Early Endometrial Cancer. University of Hong Kong Hospital, Hong Kong. 2009

Treatment of Cervical Cancer: Past, present and future. Obstetrics and Gynecological Society of Hong Kong, Hong Kong. 2009

Case Presentation and Expert Discussion FIGO 2B: Which patients are suitable for surgery and which patients should receive radiotherapy? European Congress: Perspectives in Gynecologic Oncology, Nice, France. 2009

Cisplatin /Paclitaxel is the Treatment of Choice for Recurrent, Metastatic Carcinoma of Cervix. Con Position. Sixth International Symposium on Ovarian cancer and other Gynecologic Malignancies, New York, USA. 2009

Tsang, Richard

Ung, Yee
Adjuvant Radiotherapy for Gastric Cancer: The geometric challenge. Canadian Association of Radiation Oncology Annual Meeting, Montreal. 2008
Defining the Appropriate PET Intensity Threshold and CT Threshold for Target Delineation in Early Stage Non-Small Cell Lung Cancer: a radiological and pathological correlation study. American Society for Therapeutic Radiology and Oncology, Boston, USA. 2008

The Challenge of Lung Cancer Treatment. Philips Meeting, Boston, USA. 2008


Evidence Based Role for PET CT in Lung Cancer: The Ontario Experience. Atlantic Clinical Oncology Group (ACOG) Meeting, Charlottetown. 2009

The Role of PET in Lung Cancer. Visiting Speakers Program, McGill University, Montreal. 2009

PET in Lung Cancer, Target Insight Meeting, Toronto. 2009

**Vesprini, Danny**

**Vines, Douglass**
PET/CT Research in Radiation Oncology at PMH. GE Healthcare Multi-Modality Educational Symposium, Halifax. 2008

**Vitkin, Alex**
Polarized Light Assessment of Biological Tissues Using Mueller Matrix Decomposition, European Conference on Biomedical Optics, Munich, Germany, 2009

High-Resolution Structural and Functional Imaging of Tissues with Doppler Optical Coherence Tomography, SAOT Clinical Biophotonics Workshop, Erlangen, Germany, 2009


Imaging Blood Flow in Tissues for Therapy Monitoring Applications, Brody School of Medicine, Greenville, NC, USA. 2009

Biomedical Optics – Fundamentals and Applications, Waterloo Lecture Series in Medical Physics, Waterloo, Canada. 2009
Polarized Light Diagnostics in Turbid Media, Laser Applications in Life Sciences, Taipei, Taiwan. 2008

Optical Diagnostics in Biomedicine, SPIE Visiting Lectureship Series, National Taiwan University, Taipei, Taiwan. 2008

Using the Wave Nature of Light to Examine Tissues – Polarimetry and Optical Coherence Tomography, Clinical Photonics Rounds, Friedrich-Alexander Universität, Erlangen-Nürnberg, Germany. 2008

Progress in Polarization-Based Optical Diagnostic Technique, Center for Optics, Photonics, and Lasers rounds, Université Laval, Quebec City, Canada. 2008

High-Resolution Imaging of Tissue Microvasculature – Diagnostic, Therapeutic and Basic Science Applications, COMP Annual Conference, CCPM Biophotonics Symposium, Quebec City, Canada, 2008

Overview of Biophotonics, Diffusion-Wave Technologies seminar, Mechanical Engineering, Toronto, Canada. 2008

Polarized Light Assessment of Biological Tissues, Harvard Medical School / Mass General Hospital Photomedicine Rounds, Boston, USA. 2008

Microstructural and Microvascular Tissue Imaging with Doppler Optical Coherence Tomography, Lawson Imaging Institute, Medical Imaging Rounds, London, Canada. 2008

Light at the End of the Tunnel – Endoscopic Uses of Optical Coherence Tomography, University of Houston Biomedical Engineering seminar, Houston, USA. 2008


**Warde, Padraig**

Image-Guided Radiotherapy for Cancer. Highlights in Oncology. Centro di Riferimento Oncologico National Cancer Institute, Aviano, Italy. 2009


**Wiljer, David**
Social Networking in Cancer Care: A new paradigm for CDM. International Union for Cancer Control, Geneva, Switzerland. 2008.
How Much is Too Much information? Understanding the impact of access to personal health information on breast cancer patients. Odette Cancer Centre, Oncology Grand Rounds, Toronto. 2008


One Patient, One Record. One day symposium to promote patient e-Health, The creation of InfoWell, Toronto. 2009
Awards 2008-2009

**UT DRO Faculty Education Awards**

Postgraduate Advocacy & Mentorship  
**Eileen Rakovitch**

MRS Excellence in Research Supervision  
**Caitlin Gillan**

MRS Excellence in Clinical Supervision  
**Kulwinder Flora**

MRS Excellence in Classroom Teaching  
**Terri Flood**

Postgraduate Classroom Teaching  
**Stephen Breen**

Postgraduate Medical Education Excellence in Research Supervision  
**Michael Milosevic**

MRS Excellence in Clinical Supervision  
**Rhonda Gannon**

MRS Best Guest Lecture  
**Rebecca Wong**

**UT DRO Faculty Research Awards**

Sustained Excellence in Research  
**Robert Bristow**

Outstanding Research Potential  
**Arjun Sahgal**

Excellence in Research Leadership  
**Rebecca Wong**

Best Annual Research Performance  
**Gregory Czarnota**
Other Awards and Honours

**Toni Barnes**
- Cancer Care Ontario: Quality Award for the Rapid Response Radiotherapy Program, Odette Cancer Centre, Sunnybrook Hospital, 2008

**Stephen L Breen**
- Third Place Prize for a Technologist Poster, Technologist Section of the Society of Nuclear Medicine, 2008

**Robert Bristow**
- Excellence in Postgraduate Medical Education: Teaching Performance, Mentorship and Advocacy, Faculty of Medicine, University of Toronto, 2009

**Angela Cashell**
- Beth Wastle Research Bursary, Ontario Association of Medical Radiation Technologists (OAMRT), 2008

**Charles Catton**
- Radiation Oncology Research Productivity Award, Radiation Medicine Program, Princess Margaret Hospital, 2008

**Edward Chow**
- Excellence in Research Leadership, Department of Radiation Oncology, University of Toronto, 2008
- Cummings Education Leadership Award, Department of Radiation Oncology, University of Toronto, 2008
- Quality Award to Rapid Response Radiotherapy Program by Cancer Care Ontario, Cancer Quality Council of Ontario and Canadian Cancer Society, 2008

**James Chow**
- Dean’s Fund, 2008

**Gregory Czarnota**
- Early Researcher Award, Ministry of Research and Innovation, 2009
- Research Chair in Imaging and Experimental Therapeutics, Cancer Care Ontario, 2009
- Academic Merit Award, Radiation Oncology, 2008

**Young-Bin Cho**
- Best Oral Presentation, Canadian Organization of Medical Physicists Annual Meeting, 2008

**Cyril Danjoux**
- Cancer Care Ontario: Quality Award for the Rapid Response Radiotherapy Program, Odette Cancer Centre, Sunnybrook Hospital, 2008
Carol Gilles
• Philips Exhibit Award, Canadian Association of Medical Radiation Technologists, 2008

Harald Keller
• Third Place Prize for a Technologist Poster, Technologist Section of the Society of Nuclear Medicine, 2008

Andrew Loblaw
• Frank Ellis Medal, Royal College of Radiologists, 2009
• Flims Grant, Fellow awarded First Annual Canadian Radiation Oncology Foundation, 2009

Cynthia Menard
• New Investigator Award, Canadian Institutes of Health Research (CIHR), 2007-2012
• Most Influential Research Publication, Radiation Medicine Program- Princess Margaret Hospital, 2008

Karen Moline
• Champions of Care Award, The Sunnybrook Foundation, 2008
• Philips Exhibit Award, Canadian Association of Medical Radiation Technologists, 2008

Joyce Nyhof-Young
• Best Paper Award: Design and Aesthetics Track, International Textile and Apparel Association (ITAA), 2008
• Best presentation, Health Care category, Ontario Medical Student Research Day, 2009

Brian O'Sullivan
• Best Annual Scientific Rounds, Radiation Medicine Program, Princess Margaret Hospital, University of Toronto, 2009
• Honorary Fellow of the Faculty of Radiologists, Royal College of Surgeons in Ireland (FFRCSI,Hons), 2008

Cathryne Palmer
• David Fear Fellowship nominee, University of Toronto (CEPD), 2008

Ringash, Jolie
• Research Project Supervisor Award Recipient, Princess Margaret Hospital Radiation Medicine Programme Annual Education Awards, 2008
• Best Poster Award (Zahra Kassam), University of Toronto Resident Research Day, 2008
• AstraZeneca Exhibit Prize (Karen Wong), Royal Australian and New Zealand College of Radiologists (RANZCR), 2008
• PSI Resident Research Award (Louis Fenkell), Physician Services Incorporated. Foundation, 2008
Rosewall Tara
• Nursing and Professional Services Staff Scholarship, University Health Network, 2008-2009
• Research Productivity Award. Radiation Medicine Program, Princess Margaret Hospital, 2008

Arjun Sahgal
• Best Research Project Supervisor Award, Department of Radiation Medicine, Princess Margaret Hospital, 2009
• Cancer Care Ontario: Quality Award for the Rapid Response Radiotherapy Program, Odette Cancer Centre, Sunnybrook Hospital, 2008

Emily Sinclair
• Cancer Care Ontario: Quality Award for the Rapid Response Radiotherapy Program, Odette Cancer Centre, Sunnybrook Hospital, 2008

Jeffrey Siewerdsen
• Laidlaw Manuscript Award, Institute of Medical Sciences, University of Toronto, 2008
• Magna Cum Laude Presentation Award, Society for Thoracic Radiology, 2008
• Michael B. Merickel Best Student Paper Competition, First Place. SPIE Medical Imaging, 2008

Alexander Sun
• Third Place Prize for a Technologist Poster, Technologist Section of the Society of Nuclear Medicine, 2008

Gillian Thomas
• Award for Excellence, International Gynecologic Cancer Society (IGCS), 2008

May Tsao
• Cancer Care Ontario: Quality Award for the Rapid Response Radiotherapy Program, Odette Cancer Centre, Sunnybrook Hospital, 2008

Douglass Vines
• Best Paper Award for 2007, First Place for the Journal of Nuclear Medicine Technology, Technologist Section of the Society of Nuclear Medicine, 2008
• Third Place Prize for a Technologist Poster, Technologist Section of the Society of Nuclear Medicine, 2008

Alex Vitkin
• Exceptional Research Support Award, The Radiation Medicine Program, Princess Margaret Hospital, 2008
• Premier’s Research Excellence Award, University of Toronto, 2003-2008
Ivan Yeung
• Best Oral Presentation, Canadian Organization of Medical Physicists, 2008
• The John S. Laughlin-Science Council Research Symposium presentation, American Association of Physicists in Medicine (AAPM), 2008

Bradly Wouters
• Michael Fry Award, American Society of Therapeutic Radiology and Oncology, 2008
Research Day - May 9, 2009

Oral Presentations

Gaurav Bahl, Radiation Oncology Fellow
A population-based study of medulloblastoma in Ontario.
Supervisor: D. Hodgson

Endocrine complications in children treated for medulloblastoma or ependymoma using radiation therapy: Outcomes in the CT-planning era.
Supervisor: N. Laperriere

Amanda Caissie, Radiation Oncology Resident
Ultrasound-activated microbubbles as novel radiosensitizers with vascular disrupting effects.
Supervisor: S. Wong; G. Czarnota

Daria Comsa, Medical Physics Resident
Efficient treatment delivery of lung stereotactic body radiation therapy (SBRT) using volumetric modulated arc therapy (VMAT).
Supervisor: D. Moseley

Supriya Chopra, Radiation Oncology Fellow
Technical development of MRI voxel to biopsy co-localization in patients with prostate cancer.
Supervisor: C. Ménard

Jenny Forrest, Radiation Oncology Fellow
Treatment outcomes for patients with advanced cervical cancer treated with ‘GOG Protocol compatible’ definitive chemo-radiotherapy and HDR brachytherapy.
Supervisor: G. Thomas

Meredith Giuliani, Radiation Oncology Resident
Resident assessment using multi-source feedback in the CanMEDS era: The development of user-centered assessment tools.
Supervisor: P. Catton

Alfonso Gomez-Iturriaga, Radiation Oncology Fellow
Iodine 125 brachytherapy (BT) as monotherapy in patients aged \( \leq 55 \) years with localized prostate cancer.
Supervisor: J. Crook

Adrian Ishkanian, Radiation Oncology Resident
Array CGH identifies high-frequency copy number alterations in DNA damage sensing and repair pathways and predicts for biochemical recurrence in intermediate risk prostate cancer.
Supervisor: R. Bristow
Alex Karotki, Medical Physics Resident
Using PET for defining internal target volume in lung cancer.
Supervisor: K. Mah

Caroline Lavoie, Radiation Oncology Fellow
Improvement of target coverage in radical lung radiotherapy using image guidance cone-beam CT (CBCT).
Supervisor: A. Bezjak

Eve-Lyne Marchand, Radiation Oncology Resident
Treatment planning with volumetric modulated arc therapy for stereotactic body radiotherapy (SBRT) of spinal/paraspinal tumours.
Supervisor: D. Létourneau

Andrea McNiven, Medical Physics Resident
3D deformable registration of the prostate from whole-mount histology to in vivo MRI.
Supervisor: K. Brock
Evaluation of a new metric for assessing IMRT modulation complexity and plan deliverability.
Supervisor: T. Purdie

Andrew Potter, Radiation Oncology Fellow
Factors influencing dose/fractionation choices for palliation of bone metastases.
Supervisor: R. Wong

Hany Soliman, Radiation Oncology Resident
Functional imaging of neoadjuvant chemotherapy response in women with locally advanced breast cancer using diffuse optical spectroscopy.
Supervisor: G. Czarnota

Christiaan Stevens, Radiation Oncology Fellow
Palliative radiotherapy for head and neck cancer: A retrospective, single-institutional review.
Supervisor: J. Ringash

Poster Presentations

Gaurav Bahl, Radiation Oncology Fellow
Intensity modulated radiation therapy for skull base chordomas and chondrosarcomas: Outcomes in the image-guided era.
Supervisor: N. Laperriere

Prognostic factors and outcomes for elderly patients with glioblastoma multiforme.
Supervisor: N. Laperriere

Radical radiation therapy in the management of radiation-induced meningiomas.
Supervisor: N. Laperriere
William Chu, Radiation Oncology Fellow
A pilot study of in vivo tumour imaging with hyperpolarized 13C-MRSI.
Supervisor: C. Cunningham; S. Wong; G. Czarnota

Caroline Chung, Radiation Oncology Fellow
Serial MRI imaging for the design and evaluation of xenograft intracranial brain tumour mouse models.
Supervisor: C. Ménard

David Fitzpatrick, Radiation Oncology Fellow
Defining the target for bone metastases – The impact of 3D planning CT.
Supervisor: R. Wong

Matthew Follwell, Radiation Oncology Resident
Is there an advantage to IMRT for hard to treat primary brain cancer?
Supervisor: A. Sahgal

Jenny Forrest, Radiation Oncology Fellow
IMRT compared with 4 field conformal pelvic radiotherapy for the definitive treatment of cervical carcinoma.
Supervisor: G. Thomas

Meredith Giuliani, Radiation Oncology Resident
Survival impact of prophylactic cranial irradiation in limited stage small cell lung cancer.
Supervisor: A. Hope

Jayant Goda, Radiation Oncology Fellow
A pilot study of γH2AX DNA repair foci kinetics in peripheral blood lymphocytes during prostate cancer radiotherapy.
Supervisor: R. Bristow

High risk extracranial chondrosarcomas - Long term results of surgery and radiotherapy therapy.
Supervisor: P. Chung

Hodgkin lymphoma with relapsed or progressive disease after autologous stem cell transplantation: Efficacy of salvage radiation therapy.
Supervisor: R. Tsang

Alfonso Gomez-Iturriaga, Radiation Oncology Fellow
The efficacy of hyperbaric oxygen therapy in the treatment of medically refractory soft tissue necrosis after penile brachytherapy.
Supervisor: J. Crook

The impact of perineural invasion on biochemical outcome following permanent prostate 125I brachytherapy.
Supervisor: J. Crook
Toxicity results and biochemical outcome in patients receiving D90 doses of 180Gy or higher after $^{125}$I prostate brachytherapy.

**Supervisor:** J. Crook

**Kathy Han, Radiation Oncology Resident**

A comparison of two immobilization systems for stereotactic body radiation therapy (SBRT) of lung tumours.

**Supervisor:** P. Cheung

Comparison of helical, slow and average CT for radiation treatment planning and normal tissue contouring in stereotactic body radiotherapy of lung tumours.

**Supervisor:** P. Cheung

Intensity-modulated radiotherapy (IMRT) and concurrent chemotherapy (ChT) for anal and perianal cancer: Preliminary report of acute toxicity.

**Supervisor:** J. Kim

**Justin Lee, Radiation Oncology Fellow**

Detection of tumour response to radiotherapy and radiosensitization agent using quantitative non-invasive high frequency ultrasound.

**Supervisor:** G. Czarnota

**Mark Lee, Radiation Oncology Fellow**

Simplifying liver cancer intensity modulated radiation therapy (IMRT).

**Supervisor:** L. Dawson

**Karen Lim, Radiation Oncology Fellow**

Variability in delineation of clinical target volumes for cervix cancer intensity-modulated pelvic radiotherapy.

**Supervisor:** A. Fyles

**Indranil Mallick, Radiation Oncology Fellow**

Partial laryngeal irradiation in T1aN0M0 glottic cancer – Determination of PTV margins.

**Supervisor:** J. Waldron

**Orla McArdle, Radiation Oncology Fellow**

Fertility in young breast cancer survivors - Novel assessment of ovarian reserve.

**Supervisor:** D. Hodgson

**Claire McCann, Medical Physics Resident**


**Supervisor:** J-P. Bissonnette

**Heather McCarty, Radiation Oncology Fellow**

A pilot study to investigate the feasibility of using an intravaginal stent to prevent vaginal stenosis following radiation therapy for gynecologic cancer.
Supervisor: W. Levine

Dyspareunia after chemoradiation (Chemo-RT) for anal carcinoma – An under reported complication.
Supervisor: D. Hodgson

Sten Myrehaug, Radiation Oncology Resident
Hypofractionated radiotherapy for high-risk prostate cancer: Dosimetric comparison and acute clinical toxicity of two pelvic nodal volume delineation techniques.
Supervisor: A. Sahgal

Hypofractionated radiotherapy for high-risk prostate cancer: Dosimetric comparison of intensity modulated radiotherapy and volumetric modulated arc therapy.
Supervisor: A. Sahgal

Nikhilesh Patil, Radiation Oncology Fellow
Management of pituitary adenoma with stereotactic radiotherapy at Princess Margaret Hospital.
Supervisor: R. Tsang

Andrew Potter, Radiation Oncology Fellow
Dosimetric comparison of two-dimensional (2D) versus three dimensional (3D) planning for bone metastases.
Supervisor: R. Wong

Alexandra Rink, Medical Physics Resident
Investigation of discrepancy in reports on GafChromic EBT energy dependence.
Supervisor: P. Lindsay

Qiulin Tang, Radiation Oncology Fellow
Alternative methods of cone-beam CT image reconstruction for under-sampled and truncated projection data.
Supervisor: I. Yeung

Mojgan Taremi, Radiation Oncology Fellow
Princess Margaret Hospital experience with lung stereotactic body radiotherapy for early stage non-small cell lung cancer.
Supervisor: A. Bezjak

Amy Teh, Radiation Oncology Fellow
A feasibility study of intensity modulated radiation therapy for concomitant boost breast radiotherapy.
Supervisor: A. Fyles; F-F Liu; J. Cho

Timothy Yeung, Research Assistant
Assessment of liver tissue perfusion by dynamic contrast-enhanced computed tomography (DCE-CT) using a dual-input two-compartment model.
Supervisor: I. Yeung