INNOVATIONS TORONTO **2016** PRESENTS

INNOVATIONS IN

RADIATION ENGINEERED THERAPY

November 14 - 15, 2016

The Vaughan Estate of Sunnybrook

Toronto, Canada

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The Terry Fox Research Institute
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Speakers

FEATURED

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Posters

Authors	Title
Syed Bilal Ahmad, Moti Raj Paudel, Arman Sarfehnia, Mark Ruschin, Geordi Pang, Arjun Sahgal, Brian M. Keller.	The Dosimetric Impact of Gadolinium-Based Contrast Media in GBM Brain Patient Plans using the Monaco TPS for the MRI-Linac
Niki Law, Azza Al-Mahrouki, Scott Mckay, Christine Tarapacki, Farah Hussein, Gregory Czarnota.	Effective Ultrasound Stimulated Microbubbles Therapy Used to Treat PC3 Xenografts in a Rabbit model
Daniel DiCenzo, Claire McCann, Carl Kumaradas.	An In Vitro Study of Radiation Dose Enhancement Using Gold Nanorods and Plasmonic Photothermal Therapy
Derek J Gillies, Lori Gardi, Ren Zhao, Aaron Fenster.	Real-Time Prostate Motion Compensation for 2D/3D Ultrasound-Guided Biopsy
Ezra Hahn, Sandi Bosnic, Nadiya Makhani, Hany Soliman, Danny Vesprini, Maureen Trudeau, Brian Keller, Claire McCann, Justin Lee.	Hypofractionated Partial Breast Irradiation for Unresected Locally Advanced Breast Cancer in Metastatic and Medically Inoperable Patients
Christianne Hoey, Jessica Ray, Samira Taeb, Xiaoyong Huang, Nancy Yu, Paul Boutros, Stanley K. Liu.	MicroRNA-106A Confers Radiotherapy Resistance and Tumour Aggression by Targeting LITAF in Prostate Cancer
I. Karam, M. Yao, D.E. Heron,I. Poon, S. Koyfman, S.S. Yom, F. Siddiqui, E. Lartigau, M. Cengiz, H. Yamazaki, W. Hara, J. Phan, J. Vargo, V. Lee, R.L. Foote, K.W. Harter, N.Y. Lee, A. Sahgal, S.S. Lo.	Consensus Statement from the International Stereotactic Body Radiotherapy Consortium for Head and Neck Carcinoma- Technical Factors
Anthony Kim, Shahad Al-Ward, Claire McCann, Patrick Cheung, Arjun Sahgal, Brian M. Keller.	Magnetic Field Effects on Dose Delivery Robustness of Lung Stereotactic Body Radiation Therapy
Jae. Lee, Eric D. Silva, Shun Wong, Claire McCann, Carl J. Kumaradas.	A Novel Dissolvable Seed for Brachytherapy
Lucas C. Mendez, Moti Paudel, Matt Wronski, Lisa Barbera, Ananth Ravi, Eric Leung.	Dosimetric Comparison of Interstitial Brachytherapy with Multi-Channel Vaginal Cylinder Plans in Patients with Vaginal Cancer
Geordi Pang	Could α/β Ratio Change During MRI-Guided Brachytherapy?
Michael C Tjong, Salman Faruqi, Joelle Helou, Liying Zhang, Patrick Cheung, Darby Erler, Ian Poon.	Post-Stereotactic Body Radiation Therapy (SBRT) Tumor Response and Inflammatory Changes as Predictors of Non-Local Failure and Survival Outcomes in Patients with Stage I Non-Small Cell Lung Cancer (NSCLC)
L. Chin, A. Dhillon, S. Lim-Reinders, J. Cifuentes Gaitan, T. Conrad, D. Brotherston, C. Caldwell, J. Lee, I. Karam, I. Poon.	Can Intratreatment PET CT Based Adaptive Radiotherapy Reduce Treatment Margins in Head and Neck Cancers ?

Posters

Authors	Title
Jessica Ray, Christianne Hoey, Samira Taeb, Xiaoyong Huang, Stanley K. Liu.	MicroRNA-191 Promoting Prostate Cancer Radiation Therapy Resistance
Jessica Ray, Christianne Hoey, Samira Taeb, Xiaoyong Huang, Stanley K. Liu.	MicroRNA-198 Targets Wnt Signaling to Regulate Prostate Cancer Aggression
Jessica R. Rodgers, Kathleen Surry, David D'Souza, Eric Leung, Aaron Fenster.	360-Degree 3D Transvaginal Ultrasound Needle Guidance System for Interstitial Gynecologic Brachytherapy
Arman Sarfehnia, Niloufar Entezari, Humza Nusrat, James Renaud.	Accurate Dosimetry in MR-Linac and GammaKnife
Deepa Sharma, Anoja Giles, Amr Hashim, Jodi Yip, Juliana Sebastiani, Martin Stanisz, Scott Mckay, William Tyler Tran, Gregory J. Czarnota.	Ultrasound Microbubble Potentiated Enhancement of Hyperthermia in Tumours
Ekaterina Tchistiakova, Anthony Kim, William Y. Song,Geordi Pang.	Investigating effects of strong magnetic field on OSLD personal dosimeters

Innovations in Radiation Engineered Therapy
Monday, November 14th 2016

Presenter	Time	Title
BREAKFAST	**08:00 - 08:45**	
G. Czarnota & A. Sahgal	08:45	Welcome & Introduction
R. Kolesnick	09:00	The "New Biology" of Single Dose Radiotherapy
MRI BRACHYTHERAPY – Chaired by G, Stanisz		
E. Leung	09:30	Innovations in Interstitial Brachytherapy
N. Mayr	09:50	Functional Imaging and Integration of MR
W. Song	10:10	MRI-Guided Direction Modulated Brachytherapy for Cervical Cancer
A. Owrangi	10:30	Magnetic Resonance Imaging-Guided Brachytherapy
BREAK	**10:45 - 11:15**	
MRI IMAGING – Chaired by A. Sahgal		
L. Warner	11:15	MRI for Radiation Oncology: From Spatial Accuracy to MR-Only Radiation Therapy Planning Welcome & Introduction
G. Stanisz	11:30	Advanced MR Imaging and Radiation Response
C. Heyn	11:50	Evolution of Perfusion Parameters in Brain Metastases Treated with Stereotactic Radiosurgery in the First Month after Treatment: Comparison of Dynamic Contrast Enhanced MRI and Intravoxel Incoherence Motion
C. Cunningham	12:05	Acquisition & Reconstruction Strategies for ^{13}C MRI Integrated with Radiation Therapy
B. Chugh	12:20	Development of Realistic Phantoms for MR-Guided Radiotherapy
LUNCH	**12:35 - 14:00**	
ULTRASOUND & RADIATION- Chaired by G. Stanisz		
M. Kolios	14:00	Ultrasound Tissue Characterization at Multiple Scales to Inform Tissue Characterization Approaches for Treatment Monitoring
W. Tome	14:20	Development of Animal Models for Radiation Engineered Oncology- Experiences and Potential Pitfalls
G. Czarnota	14:40	*A Priori* Prediction of Neoadjuvant Chemotherapy Response and Survival in Breast Cancer Patients Using Quantitative Ultrasound
P. Kupelian	15:00	Trends in Radiotherapy
BREAK	**15:15 - 15:45**	
ADVANCED & PARTICLE RADIATION - Chaired by A. Sahgal		
J. Jachinowski	15:45	Addressing the Limitations of Conventional Proton Pencil Beam Scanning
J. Capala	16:00	Particle Beam Therapy in the United States
L. Ma	16:20	Sharpening a Knife with Precision Dose Sculpting
A. Nicolae	16:50	Evaluation of a Machine-Learning Algorithm for Treatment Planning in Prostate Low-Dose-Rate Brachytherapy
POSTER SESSION & HORS D'OEUVRES	**17:15 - 18:45**	
DINNER	**18:45 - 20:30**	

Innovations in Radiation Engineered Therapy

Tuesday, November 15th 2016

Presenter	Time	Title
BREAKFAST	**08:00 - 08:45**	
MRI-BASED RADIOTHERAPY -Chaired by G. Czarnota		
B. Raaymakers	09:00	The Promise of the MRI Linac: Simultaneous MRI and Irradiation
A. Li	09:20	MRI-Guided Adaptation: From Anatomy to Biology
J. Goldwein	09:40	Prospects of MR-guided Radiotherapy
B. Keller	10:10	The MRI Linac Program at Sunnybrook Health Sciences Centre
E. Tseng	10:25	Dosimetric Feasibility of the Hybrid Magnetic Resonance Imaging (MRI)-LINAC System for Brain Metastases: The Impact of the Magnetic Field
BREAK	**10:40 - 11:10**	
RADIOTHERAPY ENHANCEMENT – Chaired by A. Sahgal		
S. Krishnan	11:10	The Current Landscape of Radiosensitization Strategies using Gold Nanoparticles
C. Guha	11:30	Immune Priming Ablation (IPA) for *in situ* Vaccines
G. Czarnota	11:50	Ultrasound-Stimulated Microbubble Enhancement of Radiation Responses
LUNCH	**12:10 - 14:00**	
HYPOFRACTONATION & RADIOSURGERY – Chaired by S. Liu		
A. Sahgal	14:00	Brain Hypofractionated Radiosurgery for Metastases: Rationale and Outcomes
D. Schaal	14:20	Facing the Future of Radiation Oncology
J. Kirkpatrick	14:35	Understanding and Optimizing Clinical Outcomes in Stereotactic Radiosurgery
D. Prasad	14:55	Gamma Knife Icon: Early North American Experience
B. Valcu	15:10	Technology Solutions for Modern Management of Cerebral Metastatic Disease
BREAK	**15:25 - 16:00**	
BIOPHYSICS OF RADIATION – Chaired by A. Sahgal		
S. Liu	16:00	Unravelling the Biology of Recurrent Radioresistant Cancer
D. Vesprini	16:15	Using Genetics to Tailor Prostate Cancer Care: The Male Oncology Research and Education (MORE) Program
J. Michael	16:30	Development of Three-Dimensional Ultrasound Scanner and Needle Template Localizing Arm for Guidance of Permanent Seed Breast Brachytherapy
CLOSING REMARKS	**16:45 - 16:55**	