ITART 2010
Meeting Program

Continental Breakfast

7:30 am - 8:15 am	Maryland Ballroom Foyer

Welcome and Introduction

8:15 am - 8:30 am	Maryland Ballroom 1, 2, 3

Imaging for Target Definition Symposium

8:30 am - 9:30 am	Maryland Ballroom 1, 2, 3

8:30 am **How Do We Define the Treatment Target?** - B. van der Kogel *
8:50 am **How Do We Image the Treatment Target?** - V. Gregoire*
9:10 am **How Are We Going to Define Targets in 20 Years?** - S. Bentzen*

Discussion

9:30 am – 9:50 am	Maryland Ballroom 1, 2, 3

Poster Viewing Break

10:00 am - 10:30 am	Maryland Ballroom Foyer

Imaging for Target Definition

10:30 am - 11:40 am	Maryland Ballroom 1, 2, 3

10:30 am **Effects of Image Acquisition Mode and Reconstruction Parameters On Target Volume and SUV Metrics Using PET-Threshold-Based Segmentation** - P. Galavis*, N. Jallow, C. Jaskowiak, B. Paliwal, R. Jeraj
10:42 am **Dosimetry Impact of Accurate PET Segmentation for Radiotherapy Treatment Planning** - A. Le Maitre*, M. Hatt, N. Albarghach, O. Pradier, C. Cheze - Le Rest, M. Bal, D. Visvikis
10:54 am **Advanced Image Registration for PET-Pathology Correlation Studies of Primary Prostate Carcinoma** - T. Fox*, E. Schreibmann, A. Waller, D. Schuster
11:06 am **Characterizing Inter-Patient and Intra-Patient Variability in Hypoxia Imaging-Based Dose Painting Prescriptions** - S. Bowen*, S. Bentzen, R. Jeraj
11:18 am **Using V/Q SPECT-CT to Classify Anatomic Normal Lung for Individualized Radiation Treatments of Primary Lung Tumors** - R. Ten Haken*, S. Yuan, M. Gross, K. Frey, F. Kong

General Discussion

11:40 am - 12:00 pm	Maryland Ballroom 1, 2, 3

Lunch Break

12:00 pm - 1:00 pm	Maryland Ballroom Foyer

Imaging for Treatment Assessment Symposium

1:00 pm - 2:00 pm	Maryland Ballroom 1, 2, 3

1:00 pm **What Can Anatomical Treatment Assessment Tell Us?** - D. Jaffray*
1:20 pm **What Can Biological Treatment Assessment Tell Us?** - R. Wahl*
1:40 pm **Imaging for Treatment Assessment: Are We Forgetting Normal Tissue?** - L. Marks*, S. Das, M. Lawrence, J. Bailey

Discussion

2:00 pm – 2:20 pm	Maryland Ballroom 1, 2, 3

Poster Viewing Break

2:30 pm - 3:00 pm	Maryland Ballroom Foyer

Imaging for Treatment Assessment

3:10 pm - 5:00 pm	Maryland Ballroom 1, 2, 3

3:10 pm **What Does Volume Regression Tell Us About Radiosensitivity of Tumors?** - M. Guerrero*, J. Hou, W. D''Souza
3:22 pm **Response of Endogenous MRI Contrast Metrics (ADC, T2) During Radiotherapy for Prostate Cancer** - W. Foltz*, A. Wu, C. Catton, P. Chung, A. Bayley, R. Bristow, P. Warde, A. Simeonov, M. Haider, C. Ménard
3:34 pm **Early Prediction of Outcome in Brain Metastases Patients Based On Vascular Alterations After Radiotherapy: A Prospective Perfusion MRI Study** - F. Feng, C. Tsien, P. Wang, D. Gomez-Hassan, J. Hayman, L. Junck, T. Lawrence, Y. Cao*
3:46 pm **Texture Changes On Hartley-Transformed MRI Images as An Early Indicator of Treatment Response in Glioblastoma Multiforme** - H. Keller*, D. Assefa, A. Gladwish, E. Koh, J. Hoisak, I. Yeung, N. Laperriere, C. Ménard
3:58 pm **Intracranial Murine Tumour Investigation of Radiation and Anti-Angiogenic Agents Using Serial MRI** - C. Chung*, W. Foltz, P. Lindsay, K. Burrell, P. Wildgoose, A. Kassner, K. Camphausen, A. Brade, M. Milosevic, D. Jaffray, G. Zadeh, C. Menard
4:10 pm **Quantification of Response During Radiotherapy Via PET/CT Imaging of Proliferation and Hypoxia** - M. Nyflot*, P. Harari, S. Perlman, R. Jeraj
4:22 pm **A Novel Method to Assess the Potential of Pre-Treatment Ventilation-Based Functional Imaging in Predicting Radiation Pneumonitis** - Y. Vinogradskiy*, M. Martel, S. Tucker, Z. Liao, R. Castillo, E. Castillo, T. Guerrero
4:34 pm **Poorly and Well Functional Lung Regions Change Differently After Radiation in Lung Cancer** - F. Kong*, S. Yuan, Y. Cao, R. Ten Haken
4:46 pm **FDG-PET Based Local Dose Effect Relation for Oesophageal Toxicity in Lung Cancer Patients** - J. Sonke*, J. Nijkamp, M. Rossi, M. Kwint, W. Uyterlinde, J. van den Heuvel, J. Knegjens, E. Damen, M. van Herk, W. Vogel, J. Belderbos

General Discussion

5:00 pm – 5:20 pm	Maryland Ballroom 1, 2, 3

Poster Viewing Break

5:30 pm – 6:00 pm	Maryland Ballroom Foyer

Dinner	**Pienza Italian Market Restarurant**
6:30 pm - 8:30 pm	(located on the first floor of the Hotel)

Continental Breakfast

7:30 am - 8:30 am	Maryland Ballroom Foyer

Quantitative Imaging Symposium

8:30 am - 9:30 am	Maryland Ballroom 1, 2, 3

8:30 am **How Important Is Quantification?** - M. Schnall*
8:50 am **How Can We Improve Quantification?** - E. Jackson*
9:10 am **What Can We Learn From Each Other?** - D. Sullivan*

Discussion

9:30 am – 9:50 am	Maryland Ballroom 1, 2, 3

Poster Viewing Break

10:00 am - 10:30 am	Maryland Ballroom Foyer

Tuesday, June 22, 2010

Quantitative Imaging

10:40 am - 12:20 pm	Maryland Ballroom 1, 2, 3

10:40 am   **QARC QA of Imaging and Radiation Therapy Improves Protocol Compliance in Advanced Technology Cancer Clinical Trials** - M. Urie*, K. Ulin, F. Laurie, R. Hanusik, S. Kessel, M. Jodoin, T. FitzGerald

10:52 am   **Development of a Dynamic Perfusion Phantom for Validation of Dynamic Contrast Enhanced (DCE) Imaging** - A. Thomas*, J. Balter, S. Hollister

11:04 am   **Improvement of MRI T1 Estimation Using Adaptively Weighted Spatial Regularization** - H. Wang*, Y. Cao

11:16 am   **New PET/CT Quantification Strategies for Treatment Response Assessment of the Lung Lesion** - T. Pan*, A. Riegel, D. Luo, O. Mawlawi, E. Rohren

11:28 am   **Integrating PET/CT Image Features for Prediction of Radiotherapy Local Failure in Lung Cancer** - I. El Naqa*, M. Vaidya, K. Creach, J. Seuntjens, J. Bradley

11:40 am   **Prognostic Value of Total Glycolytic Volume in Esophagus Cancer : Impact of Automatic Tumor Volume Delineation On 18F-FDG PET Images** - M. Hatt*, N. Albarghach, D. Visvikis, C. Cheze - Le Rest

11:52 am   **Effects of ROI Placement On Quantitative Intra-Treatment Tumour Response Assessment Using FDG-PET** - M. Sattarivand*, C. Caldwell, I. Poon

12:04 pm   **Impact of Different SUV Measures On PET-Based Treatment Response Assessment** - M. Vanderhoek*, S. Perlman, G. Liu, R. Jeraj

General Discussion

12:20 pm - 12:30 pm	Maryland Ballroom 1, 2, 3

Lunch Break – Maryland Ballroom Lobby

12:30 pm - 1:30 pm	Maryland Ballroom Foyer

Industry, Regulatory Issues Symposium

1:30 pm - 2:30 pm	Maryland Ballroom 1, 2, 3

1:30 pm   **What Is Industry Perspective On Imaging?** - J. Evelhoch*

1:50 pm   **Tumor Imaging for Treatment and Response Evaluation-Regulatory Issues** - G. Sokol*

2:10 pm   **NCI Initiatives: Imaging As a Biomarker for Therapy Response** - L. Clarke*

Discussion

2:30 pm – 3:30 pm	Maryland Ballroom 1, 2, 3

Conclusion

3:30 pm – 3:45 pm	Maryland Ballroom 1, 2, 3

General Posters

Imaging for Target Definition

PO-ITD--01 Automatic Definition of the Gross Tumor Volume Using Features Derived From PET/CT Images - C. Caldwell*, H. Yu, K. Mah

PO-ITD--02 Development of a Tissue Slicing-Imaging System for Correlating 3D Pathology Tumor Volume to in Vivo Imaging Studies in a Mouse Model: Initial Results - W. Lu*, D. Ma, J. Hoefert, J. Wen, R. Laforest, T. Voller, F. Yang, P. Parikh

PO-ITD--03 Feasibility of Co-60 Cone Beam Computed Tomography for Image Guidance in Modern Co-60 Therapy - N. Rawluk*, J. Schreiner, J. Darko, A. Kerr

PO-ITD--04 Intensity Modulated Proton Therapy with PET Guided Heterogeneous Target Prescription for Stage IIIB Non-Small Cell Lung Cancer - X. Zhang*, Y. Li, X. Li, M. Quan, T. Pan, N. Sahoo, J. Chang

PO-ITD--05 Monitoring of HER2 Expression In Vivo by PET Imaging - G. Kramer-Marek, J. Capala*

PO-ITD--06 Planning Target Volume Evaluation Using An Epid - R. Caivano*, S. Clemente, M. Cozzolino, P. Pedicini, G. Califano, V. Fusco

General Posters

PO-ITD--07 Use of Pre-Surgery MRI Images for Post-Surgery Brain Tumor Target Delineation Using Multiple-Intensity Deformable Image Registration - D. Yang*, W. Lu, J. Esthappan, D. Mansur

Quantitative Imaging

PO-QI--01 Stability of Quantitative Metrics Derived From DCE MRI and a Pharmacokinetic Model - Y. Cao*, D. Li, Z. Shen, D. Normolle

PO-QI--02 Predictors of Survival for Patients with Non-Small Cell Lung Cancer and Synchronous Brain Metastases with FDG-PET/CT Staging - N. Ohri*, Y. Xiao, M. Werner-Wasik

PO-QI--03 Quantitative Inaccuracies in PET Due to Acquisition Mode and Reconstruction Parameters - N. Jallow*, C. Jaskowiak, S. Rice, M. McNall, S. Perlman, R. Jeraj

PO-QI--04 Change-Based Image Quantification for Cancer Diagnosis - T. Sawyer*, R. Robb, R. Foote, S. Yokoyama, J. Bourland

PO-QI--05 A New Clinical Utility for Tumor Delineation Using SUV of PET Images in Treatment Planning - D. Luo*, O. Mawlawi, M. Vicic, P. Balter, M. Martel, T. Pan

PO-QI--06 Quantitative PET Imaging of Heterogeneous Tumors: The Dosimetric Effect of Patient Set-Up On Image-Based Dose Painting Plans - K. McCall*, S. Bowen, R. Jeraj

PO-QI--07 A Quantitative Approach for Lesion Detection and Classification in Breast DCE-MRI - G. Borasi*, A. Botti, R. Sghedoni, A. Nitrosi, M. Iori

Imaging for Treatment Assessment

PO-ITA--01 Metabolic Tumor Volume On PET Reduced More Than Gross Tumor Volume On CT During Radiotherapy in Patients with Non-Small Cell Lung Cancer - F. Kong*, P. Mahasittiwat, S. Yuan, C. Xie, T. Ritter, J. Hayman, Y. Cao, R. Ten Haken

PO-ITA--02 Response of Exogenous Dynamic Contrast Enhanced (DCE) MRI During Radiotherapy for Prostate Cancer - M. Haider, W. Foltz, C. Catton, P. Chung, A. Bayley, R. Bristow, P. Warde, A. Simeonov, M. Milosevic, C. Menard*

PO-ITA--03 A Mechanical Stress Model to Analyze Ventilation Changes in Normal Lung Tissue Following Radiation Therapy - H. Zhong*, J. kim, C. Glide-Hurst, I. Chetty

PO-ITA--04 RECIST and Volumetric Measurement On Cone-Beam CT Images for Treatment Assessment of Head and Neck Cancer - J. Hou, J. Hou*, W. Chen, M. Guerrero, W. D''Souza

PO-ITA--05 Metabolic Tumor Activity and Metabolic Tumor Volume at 3 Months After Radiotherapy in Patients with Lung Cancer - J. Wang*, P. Mahasittiwat, R. Ten Haken, F. Kong

PO-ITA--06 Global and Regional Pulmonary Function Change During the Course of Radiotherapy in Patients with Non-Small Cell Lung Cancer - S. Yuan*, K. Frey, M. Gross, J. Hayman, R. Ten Haken, A. Eisbruch, F. Kong

PO-ITA--07 In Vivo Measurement of Normal Tissue Radiosensitivity Using FLT-PET Imaging - P. Scully*, U. Simoncic, R. Jeraj

PO-ITA--08 PET-Based Tumor Response Quantification for Clinical Trials Through Level Set Clustering - E. Schreibmann*, I. Crocker, W. Curran, T. Fox

PO-ITA--09 Monitoring of Mouse Tumor Model Response to Varying Doses of Radiation Therapy with FDG-PET and CT - J. Perez*, M. Vilalta, G. Nelson, E. Graves

PO-ITA--10 Effect of Radiation On Hippocampal White Matter: A Prospective DTI Study - C. Chapman*, V. Nagesh, C. Tsien, P. Sundgren, H. Buchtel, T. Chenevert, L. Junck, T. Lawrence, Y. Cao

PO-ITA--11 Observation of Reduction and Subsequent Recovery of Hepatic Perfusion in Patients Undergoing Focal Radiotherapy - H. Wang*, A. Thomas, M. Feng, C. Pan, J. Balter, T. Chenevert, H. Hussain, R. Ten Haken, T. Lawrence, Y. Cao

PO-ITA--12 Assessment of Blood-Brain-Barrier (BTB) Permeability Change in Brain Metastases After Whole-Brain Radiation Therapy Using Dynamic Contrast-Enhanced Magnetic Resonance Imaging (DCE-MRI) - P. Wang, C. Tsien, F. Feng, D. Gomez-Hassan, J. Hayman, L. Junck, T. Lawrence, Y. Cao*

PO-ITA--13 Image-Based Scoring of Radiation Injury in Lung for Dose-Effect Correlations: Analysis of Sources of Uncertainties - S. Lee*, G. Stroian, J. Seuntjens

PO-ITA--14 A Novel Scatter Reduction and Correction Method to Improve CBCT Image Quality for Image Guided Radiotherapy (IGRT) and Adaptive Radiotherapy (ART) - J. Jin*, L. Ren, Q. Liu, J. kim, B. Movsas, I. Chetty

General Posters

PO-ITA--15 A Generic Respiratory Motion Model to Describe Tumor and Normal Tissues Motion for Radiotherapy Applications - H. Fayad*, T. Pan, N. Albarghach, C. Roux, D. Visvikis

PO-ITA--16 Using Textural Features Derived From 18F-FDG PET Imaging for Predicting Cancer Treatment Outcomes - F. TIXIER*, C. Cheze - Le Rest, N. Albarghach, L. CORCOS, D. Visvikis

PO-ITA--17 Reproducibility of Vaginal Dilator Placement in the Treatment of Squamous Cell Carcinoma of the Anal Canal - T. Briere*, P. Das, S. Beddar, C. Crane

PO-ITA--18 Simulating the Growth of GBM Using Patient-Specific DTI and FEC-PET Data - P. Trépanier*, P. Després, F. Lacroix

PO-ITA--19 Change-Based Image Quantification for Tailoring Radiation Therapy and Chemotherapy to Individual Patients - T. Sawyer*, R. Robb, R. Foote, S. Yokoyama, J. Bourland

PO-ITA--20 Assessing Skin Injuries with Thermal Effusivity Imaging – A Promising Application for Adaptive Radiation Therapy - J. Chu*, J. Sun, A. Templeton, A. Coon, R. Yao, K. Griem

PO-ITA--21 Sensitivity of Tumor-Volume During Radiotherapy to Radiobiological Parameters - A. Chvetsov*

PO-ITA--22 Lung In-Vivo Dosimetry by a Portal Ionization Chamber - M. Cozzolino*, S. Clemente, R. Caivano, P. Pedicini, G. Califano, G. Castaldo, C. Chiumento, V. Fusco

PO-ITA--23 Objective Assessment of Solid Tumor Response to Therapy Based On Tumor Growth Kinetics - E. Mehrara*, E. Forssell-Aronsson, P. Bernhardt

PO-ITA--24 Impact of Deformable-Regsitration-Based Contour Propagation On PET-Based Treatment Response Assessment - S. Yip*, M. Vanderhoek, R. Jeraj

PO-ITA--25 Surface Base Dose Comparison for Photon Radiotherapy - H. Li*, L. Dong, L. Zhang, R. Zhu

PO-ITA--26 Initial Studies of Prompt Gamma Imaging During Proton Radiotherapy for the Assessment of Tumor and Healthy Tissue Response - J. Polf*, S. Peterson, D. Robertson, S. Beddar