# ViewRay MRIdian Bibliography

FDA-cleared since 2012, ViewRay’s MRIdian® is actively being used to treat cancer patients at leading cancer centers world-wide. This bibliography has been prepared by ViewRay to highlight the capabilities of ViewRay’s innovative MRIdian radiation therapy technology.

In this bibliography we list peer-reviewed publications and conference proceedings that have been published by members of the radiation oncology care teams who have pioneered the use of MR image guidance in Radiation Therapy using ViewRay’s MRIdian technology.

<table>
<thead>
<tr>
<th>Section</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>MRIDIAN PEER REVIEWED PUBLICATIONS</td>
<td>2</td>
</tr>
<tr>
<td>MRIdian Clinical Studies</td>
<td>2</td>
</tr>
<tr>
<td>MRIdian Advanced MRI Studies</td>
<td>4</td>
</tr>
<tr>
<td>MRIdian Technology Description and Evaluation</td>
<td>4</td>
</tr>
<tr>
<td>Quality Assurance</td>
<td>6</td>
</tr>
<tr>
<td>CONFERENCE PROCEEDINGS FEATURING MRIDIAN</td>
<td>8</td>
</tr>
<tr>
<td>ESTRO 2018 CONFERENCE PAPERS</td>
<td>8</td>
</tr>
<tr>
<td>ASTRO 2017 CONFERENCE PAPERS</td>
<td>12</td>
</tr>
<tr>
<td>AAPM 2017 CONFERENCE PAPERS</td>
<td>15</td>
</tr>
<tr>
<td>ASTRO 2016 CONFERENCE PAPERS</td>
<td>17</td>
</tr>
<tr>
<td>AAPM 2016 CONFERENCE PAPERS</td>
<td>20</td>
</tr>
<tr>
<td>CONFERENCE PROCEEDINGS (2005 – 2015)</td>
<td>25</td>
</tr>
</tbody>
</table>
MRIDIAN PEER REVIEWED PUBLICATIONS

MRIdian Clinical Studies


**MRIdian Advanced MRI Studies**


**MRIdian Technology Description and Evaluation**


**MRIdian Quality Assurance**


CONFERENCE PROCEEDINGS FEATURING MRIDIAN

ESTRO 2018 CONFERENCE PAPERS

Oral Presentations

SBRT using MR-guided, video-assisted gated treatment delivery during patient breath holds (#oc-0185)
J. van Sornsen de Koste, M. Palacios, A. Bruynzeel, B. Slotman, S. Senan, F. Lagerwaard

Real-time long-term multi-object tracking on cineMR using a tracking-learning-detection framework (#oc-0186)
J. Dhont, D. Cusumano, L. Boldrini, G. Chiloiro, L. Azario, F. Cellini, M. De Spirito, L. Omelina, J. Vandemeulebroucke, D. Verellen, V. Valentini

In room MR imaging (#sp-0237)
M. Palacios

Linac MRI guided SBRT treatment in pancreatic cancer: dosimetric evaluation of a new technology (#oc-0300)
D. Cusumano, S. Menna, L. Boldrini, E. Placidi, G. Chiloiro, L. Placidi, F. Greco, G. Stimato, F. Cellini, V. Valentini, M. De Spirito, L. Azario

The effect of density overrides on treatment planning for MR-Linacs (#oc-0408)
O. Schrenk, C. Spindeldreier, L. Burigo, M. Bangert, A. Pfaffenberger

A film-based end-to-end test for MR-guided online adaptive radiotherapy (#oc-0409)
D. Hoffmans, O. Bohoudi, N. Niebuhr, A. Pfaffenberger, L. Battum, B. Slotman, M. Palacios, A. Bruynzeel, F. Lagerwaard

Radiotherapy plan quality using a double focused, double stacked multi-leaf collimator (#oc-0519)
O. Bohoudi, M. Palacios, B. Slotman, S. Senan, A. Bruynzeel, F. Lagerwaard

MR-LINAC technological advances and potential usability in clinical setting (#sp-0546)
O. Jäkel

Posters

Age and frailty do not limit Magnetic Resonance guided Radiotherapy (MRgRT) in elderly patients (#PO-0856 link to abstract book)
Estimation of gating latency in MR-guided radiotherapy by modeling the dosimetric effects (#PO-0944 link to abstract book)
D. Hoffmans, J. Cuijpers

Feasibility of MRgRT neoadjuvant treatment for locally advanced rectal cancer. (#EP-1501 link to abstract book)

Modelling of MR-guided radiotherapy system on Monte Carlo code GEANT4 (#EP-1766 link to abstract book)

Comparison of surface dose between linac and MRI-guided radiotherapy system by film measurement (#EP-1767 link to abstract book)
Y. Shibata, H. Okamoto, T. Sakasai, Y. Miura, J. Kuwahara, C. Kuroki, T. Kat, Y. Abe1, J. Itami

Evaluation of dose calculation accuracy at lung-tissue interface in presence of 0.35T magnetic field (#EP-1821 link to abstract book)
D. Cusumano, S. Teodoli, F. Greco, A. Fidanzio, L. Boldrini, M. Massaccesi, F. Cellini, V. Valentini, M. De Spirito, L. Azario

A prospective study developing decision algorithm for respiration-controlled radiotherapy (#EP-2016 link to abstract book)

ASTRO 2017 CONFERENCE PAPERS

Oral Presentations

Session: GI 3 - Clinical Results of Esophagogastric and Hepatobiliary Cancers
Track: Gastrointestinal Cancer
Presenter: Naomi Jiang, MD

Session: MRI-Guided Radiation Therapy
Track: Radiation and Cancer Physics
Presenter: Yu Gao, MS
MRI-Directed EP-Guided Noninvasive Cardiac Radioablation (ENCORE) for Treatment of Ventricular Tachycardia (VT)
http://www.redjournal.org/article/S0360-3016(17)31342-1/abstract  Session: MRI-Guided Radiation Therapy
Track: Radiation and Cancer Physics
Presenter: Olga Green

Rapid Access Palliative Radiation Workflow Using MRI-Guided Single-Session Simulation, Online Adaptation, and Treatment
http://www.redjournal.org/article/S0360-3016(17)31347-0/abstract  Session: MRI-Guided Radiation Therapy
Track: Radiation and Cancer Physics
Presenter: Anna-Maria Alicia De Costa, MD, PhD

Towards Tumor Margins Reduction: Tracking Accuracy Evaluation of an MRI-RT System
Track: Radiation and Cancer Physics
Presenter: David Cusumano

Stereotactic MR-Guided Adaptive Radiation Therapy (SMART) for Locally Advanced Pancreatic Tumors
http://www.redjournal.org/article/S0360-3016(17)31345-7/fulltext  Session: MRI-Guided Radiation Therapy
Presentation#: 269
Presenter: Anna Bruynzeel, MD, PhD

Role of Daily Plan Adaption during Breath-Hold MR-Guided Stereotactic Ablative Radiotherapy for Adrenal Metastases
http://www.redjournal.org/article/S0360-3016(17)31346-9/abstract  Session: MRI-Guided Radiation Therapy
Track: Radiation and Cancer Physics
Presentation#: 270
Presenter: Miguel Palacios, PhD

ePoster

Stereotactic MR-Guided Adaptive Radiotherapy (SMART) for Ultra-Central Thorax Lesions: Results of a Phase 1 Trial
Presentation#: 1152
Presenter: Lauren E Henke, MD

Differential Response Rates of Gastrointestinal Tumors During Real-time MRI-Guided Radiation Therapy: Opportunities for Treatment Individualization
Accuracy and Temporal Efficiency of Self-Directed Breath Hold During MRI-Guided Radiation Therapy

Poster

High Dose Adaptive MRI Guided Radiation Therap Improves Overall Survival of Inoperable Pancreatic Cancer

Phase I Study of Stereotactic Body Radiotherapy for Liver Tumors Utilizing MRI-guided Tri-Co Teletherapy System

Dose-Dependent Increase in Solid Tumor Heterogeneity Measured by the Standard Deviation of T2 Relaxation Time Constant

Longitudinal diffusion MRI for early assessment of treatment response in sarcoma patients after preoperative radiation therapy

Evaluation of Single Fraction High-Gradient Partial Breast Irradiation as the Sole Method of Radiation Therapy for Low-Risk Stage 0 and 1 Breast Cancer – Early Results of a Single Institution Prospective Clinical Trial

Feasibility of Stereotactic Body Radiation Therapy for Non-Small Cell Lung Cancer Using a Linear Accelerator-Based Magnetic Resonance Image Guided Radiation Therapy System
Presenter: Bin Cai, PhD

Novel Use of 0.35T MRI Guidance for High Dose Rate Brachytherapy in the Treatment of Cervical Cancer
http://www.redjournal.org/article/S0360-3016(17)32370-2/pdf  Presentation#: 2711
Presenter: Huaising Cindy Ko, MD

Stereotactic MR-Guided Adaptive Radiation Therapy (SMART) or Prostate Cancer
http://www.redjournal.org/article/S0360-3016(17)33300-X/abstract  Presentation#: 3626
Track: Physics
Presenter: Frank Lagerwaard, MD, PhD

Impact of Daily Adaptive Plans for Stereotactic MR-Guided Radiation Therapy (SMART) in Early Stage Lung Cancer
http://www.redjournal.org/article/S0360-3016(17)33389-8/abstract  Presentation#: 3713
Track: Physics
Presenter: Suresh Senan, PhD, MBBS

Treatment Plan Quality of Tri-Co-60 Intensity Modulated Radiation Therapy Compared to Volumetric Modulated Arc Therapy for Cervical Cancer
http://www.redjournal.org/article/S0360-3016(17)33362-X/fulltext  Presentation#: 3687
Track: Physics
Presenter: Jong Min Park, PhD

Dosimetric Characteristics of Double-Focused MLCs in MRI-Guided Radiation Therapy
http://www.redjournal.org/article/S0360-3016(17)33355-2/pdf  Presentation#: 3680
Track: Physics
Presenter: Hiroyuki Okamoto, PhD

AAPM 2017 CONFERENCE PAPERS

Oral Presentation

MR-Guided Radiotherapy; Radiation Therapy Optimized for MRI
C Glide-Hurst, Presenting Author
TU-FG-FS4-0 (Tuesday, August 1, 2017) 1:45 PM - 3:45 PM Room: Four Seasons 4

Validation Phantom of Dosimetric and Deformable Accuracy for Purposes of Commissioning An MR-Guided Online Adaptive Radiotherapy (ART) Program
K Mittauer*, P Hill, J Bayouth,
TU-D-FS4-1 (Tuesday, August 1, 2017) 11:00 AM - 12:15 PM Room: Four Seasons 4

Clinical Indications and Applications of MRI Guided Radiotherapy
Bassetti, Michael, Presenting Authors
Session: MR-guided Radiotherapy

12
Advances in MRI-based motion management for radiation therapy

J Cai, Presenting Author

Optimization of Treatment Planning Workflow and Tumor Coverage During Daily Adaptive MR-G-RT of Pancreatic Cancer

S Olberg1*, O Green2, B Cai, D Yang, V Rodriguez, H Zhang, P Parikh, S Mutic, J Park

SU-K-601-12 (Sunday, July 30, 2017) 4:00 PM - 6:00 PM Room: 601

Performance of a Multi Leaf Collimator System for MR-Guided Radiation Therapy

B Cai*, H Li, D Yang, V Rodriguez, A Curcuru, Y Wang, J Wen, R Kashani, S Mutic, O Green

MO-F-FS1-7 (Monday, July 31, 2017) 4:30 PM - 6:00 PM Room: Four Seasons 1

A Method to Accelerate Monte Carlo Calculation Based QA for MRI Guided Online Adaptive Radiation Therapy

Y Wang*, T Mazur, J Park, D Yang, S Mutic, H Li,

TU-D-205-1 (Tuesday, August 1, 2017) 11:00 AM - 12:15 PM Room: 205.

Development of a Fast Monte Carlo Dose Calculation System for Online Adaptive Radiation Therapy Quality Assurance

Y Wang*, T Mazur, J Park, D Yang, S Mutic, H Li

TU-D-205-3 (Tuesday, August 1, 2017) 11:00 AM - 12:15 PM Room: 205

Fluence-Weighted Gating Considerations in MR-Guided Radiotherapy

T Mazur*, Y Wang, H Li, S Mutic, O Green

TU-FG-FS2-12 (Tuesday, August 1, 2017) 1:45 PM - 3:45 PM Room: Four Seasons 2.

Optimizing and troubleshooting MRI for radiation therapy - H Gach, Presenting Author MO-DE-702-0

(Monday, July 31, 2017) 1:45 PM - 3:45 PM Room: 702

Respiratory Motion-Resolved, Self-Gated 4D-MRI Using Rotating Cartesian K-Space (ROCK): Initial Clinical Experience On An MRI-Guided Radiotherapy System

F Han, Z Zhou, D Du, Y Gao, M Cao, N Shaverdian, J Hegde, M Steinberg, P Lee, A Raldow, D Low, K Sheng, Y Yang, P Hu

Session - MR in RT: MR Image Processing, Registration and Planning in Radiation Therapy

MO-F-FS2-3 (Monday - 7/31/2017) 4:30 PM - 6:00 PM Room: Four Seasons 2

MR Image Processing, Registration & Planning On ViewRay

Yingli Yang, Presenting Author
A Preliminary Evaluation of Respiratory Motion Modeling at 0.35T for MRI-Guided Radiotherapy
J Ginn, D O'Connell, D Thomas, N Agazaryan, M Cao, Y Yang, D Low, J Lamb
TU-FG-FS2-2 (Tuesday, August 1, 2017) 1:45 PM - 3:45 PM Room: Four Seasons 2.

Accelerated 3D BSSFP Imaging for Treatment Planning On a Low-Field MRI-Guided Radiotherapy System
Y Gao*, Z Zhou, F Han, M Cao, N Shaverdian, J Hegde, B Bista, M Steinberg, P Lee, A Raldow, D Low, P Hu, Y Yang
TU-FG-FS2-3 (Tuesday, August 1, 2017) 1:45 PM - 3:45 PM Room: Four Seasons 2.

Cardiac BSSFP Cine MRI for MR Guided Radiation Therapy of Centrally Located Thoracic Tumors
Y Yang*, M Cao, S Rashid, F Han, Y Gao, J Lamb, P Beron, P Lee, D Low, P Hu
TU-FG-FS2-4 (Tuesday, August 1, 2017) 1:45 PM - 3:45 PM Room: Four Seasons 2.

Dosimetric Impact of Air Cavities in Gastrointestinal Tract for MR-Guided Stereotactic Body Radiotherapy of Pancreas Cancers
J Neylon*, C Wang, P Lee, D Du, Y Yang, J Lamb, K Sheng, N Agazaryan, D Low, M Cao
TU-H-605-9 (Tuesday, August 1, 2017) 4:30 PM - 6:00 PM Room: 605

Dynamic MRI for radiation therapy - K Sheng, Presenting Author
MO-DE-702-0 (Monday, July 31, 2017) 1:45 PM - 3:45 PM Room: 702

MRI-Guided Soft Tissue Alignment Improved Dose Delivery Accuracy for Head And Neck Radiation Therapy, D Wang*, J Neylon, A Santhanam, Y Yang, R Chin, X Qi, UCLA, Los Angeles, CA WE-RAM2-GePD-J(A)-5 (Wednesday, August 2, 2017) 10:00 AM - 10:30 AM Room: Joint Imaging-Therapy ePoster Lounge - A

Feasibility of Adaptive MR-Guided SBRT of Lung Cancers
N Dogan*, K Padgett, G Simpson, A Ishkanian
TU-D-FS4-7 (Tuesday, August 1, 2017) 11:00 AM - 12:15 PM Room: Four Seasons 4

ePoster

Validation of Plan Verification QA and Workflow Process Through Benchmark Plans for Commissioning of An MR-Guided Online Adapted Radiotherapy (ART) Program
K Mittauer*, P Hill, J Bayouth, University of Wisconsin, Madison, WI
MO-L-GePD-J(A)-1 (Monday, July 31, 2017) 1:15 PM - 1:45 PM Room: Joint Imaging-Therapy ePoster Lounge - A

Low-Field 4D MRI for MRI-Guided Treatment Planning and Dose Delivery
H Gach1*, T Mazur1, H Wang1, H Song2, M Fernandez-Seara3, V Stenger4, B Vajko5, J Dempsey6, Y Mota17, S Mutic1, O Green1
MO-RAM-GePD-JT-3 (Monday, July 31, 2017) 9:30 AM - 10:00 AM Room: Joint Imaging-Therapy ePoster Theater
Gating Performance Considerations in MR-Guided Radiation Therapy
E Omari, T Mazur, H Gach, O Green
MO-L-GePD-J(A)-2 (Monday, July 31, 2017) 1:15 PM - 1:45 PM Room: Joint Imaging-Therapy ePoster Lounge – A

Stability Test for MRI Quality Assurance in Radiation Therapy
B McClain*, A Curcuru, O Green, S Matic, H Gach
MO-RPM-GePD-IT-1 (Monday, July 31, 2017) 3:45 PM - 4:15 PM Room: Imaging ePoster Theater

A Quick and Inexpensive QA Test Phantom and Procedure for Large Volume Phased Array Receiver Coils
A Curcuru*, B McClain, S Matic, O Green, H Gach
MO-RPM-GePD-IT-5 (Monday, July 31, 2017) 3:45 PM - 4:15 PM Room: Imaging ePoster Theater

Motion-Compensated Free-Breathing 3D MRI for MR Simulation Using Rotating Stack-Of-Stars Acquisition
Z Zhou*, F Han, Y Gao, M Cao, M Steinberg, P Lee, A Raldow, D Low, Y Yang, P Hu
MO-L-GePD-I-5 (Monday, July 31, 2017) 1:15 PM - 1:45 PM Room: Imaging ePoster Lounge

An Evaluation of Patient Independent Image Distortion in a 0.35T MRI-Guided Radiotherapy System
J Ginn1*, N Agazaryan1, M Cao1, U Baharom2, D Low1, Y Yang1, Y Gao1, P Hu1, P Lee1, J Lamb1
U-CI-GePD-JT-1 (Tuesday, August 1, 2017) 9:30 AM - 10:00 AM Room: Joint Imaging-Therapy ePoster Theater

Clinical Assessment of Spatial Uncertainty for a Combined 0.35T MR and EBRT Treatment Machine
J Neylon*, K Sandler, D Du, Y Yang, J Lamb, K Sheng, D Low, M Cao
TU-RPM-GePD-J(B)-6 (Tuesday, August 1, 2017) 3:45 PM - 4:15 PM Room: Joint Imaging-Therapy ePoster Lounge – B

Quantification of the Low Field MRI Image Quality for Deformable Registration
E Boehnke1*, F Han1, P Hu1, Y Yang1, K Sheng2
TU-L-GePD-J(A)-6 (Tuesday, August 1, 2017) 1:15 PM - 1:45 PM Room: Joint Imaging-Therapy ePoster Lounge – A
Radiomics Feature Variability On 0.35T MR-Guided-RT System
K Padgett, I Mihaylov
TU-L-GePD-JT-1 (Tuesday, August 1, 2017) 1:15 PM - 1:45 PM Room: Joint Imaging-Therapy ePoster Theater

ESTRO 2017 CONFERENCE PAPERS

Oral Presentation

OC-0161: Patient tolerance of stereotactic MR-guided adaptive radiation therapy: an assessment using PRO’s
R. Bakker, M. Jeulink, S. Tetar, S. Senan, B. Slotman, F. Lagerwaard, A. Bruynzeel, VU University Medical Center, Radiotherapy, Amsterdam, The Netherlands
Session: Novelties in image guidance

SP-0212: Automatic image segmentation and structure evaluation for on-line adaptive RT
S. Mutic, Washington University School of Medicine, Department of Radiation Oncology, St. Louis, USA

Session: Ultra fast online therapy adaptation (replanning, dose accumulation QA)

OC-0262: Implementation of patient specific QA for daily adaptive MR-guided radiation therapy
M. Palacios, T. Apicella, D. Hoffmans, T. Rosario, M. Admiraal, I. Kawrakow*, J. Cuijpers, VU Medical Center, Radiation Oncology Department, Amsterdam, The Netherlands.
*ViewRay- Inc., Research & Development, Mountain View, USA.

Session: Best of online MRI-guided radiotherapy

SP-0396: Can we perform RCTs evaluating MR guided radiotherapy?
V. Valentini, Università Cattolica del Sacro Cuore - Policlinico A. Gemelli, Gemelli ART, Rome, Italy.

Session: MR guided radiotherapy: the new standard of care in 10 years time

OC-0425 Clinical experience with stereotactic MR-guided adaptive radiation therapy for pancreatic tumors
A. Bruynzeel, F. Lagerwaard, O. Bohoudi, S. Teter, N. Haasbeek, S. Oei, B. Slotman, M. Meijerink, S. Senan, M. Palacios, VU University Medical Center, Radiotherapy, Amsterdam, The Netherlands

Session: Upper and Lower GI

SP-0494: Using a MRI-guided radiation therapy system for prostate cancer patients
O. Bohoudi, A. Bruynzeel, S. Senan, B. Slotman, M. Palacios, F. Lagerwaard, VUMC, Radiotherapy, Amsterdam, The Netherlands.

Session: Focus on prostate cancer: what is the best of radiotherapy we need to treat our patients with?

OC-0490: A robust and fast planning approach for adaptive MR-guided treatment of pancreatic cancer
O. Bohoudi, A. Bruynzeel, B. Slotman, S. Senan, F. Lagerwaard, M. Palacios, VUMC, Radiotherapy, Amsterdam, The Netherlands.

Session: Inter-fraction motion management

SP-0593: Clinical commissioning of MR guided treatment systems
O. Green, Washington University School of Medicine, Department of Radiation Oncology, St. Louis, USA.

Session: Applications and challenges in dosimeters for MR-Linacs

OC-0231: The suitability of radiochromic film in 0.35T magnetic field CO-60 compared with conventional 6MV
D. Barten, L. van Battum, D. Hoffmans, S. Heukelom
VUMC, Radiotherapie, Amsterdam, The Netherlands

Poster
PV-0322: Rapid Early Response of Gastroesophageal Junction Tumors During Real-time MRI-Guided Radiotherapy
H. Musunuru, S. Rosenberg, J. Bayouth, K. Mitteur, M. Ritter, B. Paliwal, M. Witek, A. Baschnagel, N. Uboha, S. Lubner, N. Loconte, P. Harari, M. Bassetti, University of Wisconsin Hospital and Clinics, Medical Oncology, Madison, USA
Session 7: Upper and lower GI

ASTRO 2016 CONFERENCE PAPERS

Oral Presentation

Speaker: Clifford Robinson, MD
Session EDU 44 - Practical clinical implementation and use of adaptive radiotherapy
Topic: Practical clinical implementation and use of adaptive radiotherapy
Date: 9/28 (11 AM - 12:30 PM)
Venue: 156 A/B/C

Speaker: Sasa Mutic, PhD
Panel 23 - MRI Guided Radiotherapy: clinical experience, promise, value and pitfall
Date: 9/28 (1:30 PM – 3 PM)
Venue: 205 A/B/C

Speaker: Jeff Michalski, MD
Session - International Session 2 - ASTRO/ESTRO: In Room Adaptive Imaging with a Focus on MRI
Topic: ViewRay Device Experience
Date: 9/25 (1:15 PM – 2:45 PM), Dr. Michalski to speak at 1:35PM
Venue: 206 A/B

Speaker: Minsong Cao, PhD
Session: MRI Guided Radiotherapy: Clinical Experience, Promise, Value and Pitfall
Title: Longitudinal studies based on daily MRI images for IGRT
Date: 9/28 (1:30 PM – 3 PM), Minsong Cao to speak at 2:10 PM
Venue: 205 A/B/C

Speaker: Dan Nguyen
Session: Physics: MR-Guided and Motion Adaptive Therapy
Title: Automated triplet beam orientation optimization for MRI guided Co-60 radiotherapy
Date: 9/26 (4:15 PM - 5:45 PM), Dan Nguyen to speak at 4:15 PM
Venue: 160 A/B/C
Speaker: Xiangrong Qi, PhD  
Session: Physics - MR-Guided and Motion Adaptive Therapy  
Title: MRI-guided soft tissue alignment for head and neck radiotherapy: Margin reduction and its clinical feasibility  
Date: 9/26 (4:15 PM - 5:45 PM), Xiangrong Qi to speak at 4:25 PM  
Venue: 160 A/B/C

Speaker: Stephen Rosenberg, MD  
Session: Physics - MR-Guided and Motion Adaptive Therapy  
Title: Real-time MRI-Guided Radiotherapy for Gastroesophageal Junction/Gastric Cancers  
Date: 9/26 (4:15 PM - 5:45 PM)  
Venue: 160 A/B/C

Speaker: Andrzej Wojcieszynski, MD  
Session: Physics - MR-Guided and Motion Adaptive Therapy  
Title: Prospective Results of Real-Time MRI-Guided Lumpectomy Cavity Boost Treatment  
Date: 9/26 (4:15 PM – 5:45 PM)  
Venue: 160 A/B/C

ePoster

Presenter: Benjamin Fischer-Valuck, MD  
Discussion - Hematologic - Fruit for Thought  
Date: 9/25 (1:15 PM – 2:45 PM)  
Venue: 052 A

Presenter: Lauren Henke, MD  
Discussion - Scientific Session - Physics - Outcome Analysis and Modeling  
Topic: Online adaptive magnetic resonance guided (OAMR) - stereotactic body radiation therapy for abdominal malignancies: Prospective dosimetric results from a Phase I trial - NOTE: Lauren won the Physis Award Winner in the Resident ePoster Recognition Award - will receive trophy at Final Program.  
Date: 9/28 (11 AM – 12:30 PM)  
Venue: 052 B

Presenter: Michael Reilly, PhD  
Session: Physics Planning Strategies  
Topic: Quantitative and dosimetric evaluation of offline adaptive radiotherapy toweard establishing a decision support framework for evaluating the necessity for real-time adaptation  
Date: 9/28 (1:30 PM – 3 PM)  
Venue: 052 A

Presenter: Benjamin Fischer-Valuck, MD
Title: Magnetic resonance image-guided radiation therapy (MR-IGRT) for the treatment of prostate cancer: Initial clinical experience and patient selection.
Date: 9/25 (10 AM-5 PM), 9/26 (10 AM-5 PM), 9/27 (10 AM-5 PM)
Presenter: Olga Green, PhD

Title: Vector analysis of bladder cancer patient setup utilizing a magnetic resonance image-guided radiation therapy (MR-IGRT) system
Date: 9/25 (10 AM-5 PM), 9/26 (10 PM-5 PM), 9/27 (9 AM-5 PM)
Venue: Poster Hall
Presenter: Lauren Henke, MD

Title: Adaptive MR-guided stereotactic body radiotherapy (AMR-SBRT) for oligometastatic or unresectable primary abdominal malignancies: Results of a prospective phase I trial
Date: 9/25 (10 AM-5 PM), 9/26 (10 PM-5 PM), 9/27 (9 AM-5 PM)
Venue: Poster Hall
Presenter: Sasa Mutic, PhD

Title: The design and implementation of a novel compact linac based MRI guided radiation therapy (MR-IGRT) system
Date: 9/25 (10 AM-5 PM), 9/26 (10 PM-5 PM), 9/27 (9 AM-5 PM)
Venue: Poster Hall
Presenter: Kathryn Mittauer, PhD

Session: Physics – Motion Management
Title: Multi-Institutional Investigation of Relative Pancreatic Tumor to Duodenal Motion in MRI-Guided Radiotherapy for Potential Online Adaptive Radiotherapy (Poster # 1114)
Date: 9/27 (4:45 PM – 6:15 PM)
Poster
Presenter: Mitchell Kamrava, MD

Title: Assessment of Intrafraction Motion of the Vaginal Apex During Postoperative MRI-Guided Radiation Therapy (Poster # 2738)
Date: 9/25 (10 AM – 5PM), 9/26 (10 AM – 5PM), 9/27 (10 AM-5 PM)
Presenter: Daniel Low, PhD

Title: The Physics of a Novel Compact Linear Accelerator–Based Magnetic Resonance Imaging–Guided Radiation Therapy System (Poster # 3555)
Date: 9/25 (10 AM – 5PM), 9/26 (10 AM – 5PM), 9/27 (10 AM-5 PM)
Presenter: Benjamin Fischer-Valuck, MD

Title: Magnetic resonance image-guided radiation therapy (MR-IGRT) for the treatment of prostate cancer: Initial clinical experience and patient selection.
Date: 9/25 (10 AM-5 PM), 9/26 (10 AM-5 PM), 9/27 (10 AM-5 PM)
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Date: 9/25 (10 AM-5 PM), 9/26 (10 PM-5 PM), 9/27(9 AM-5 PM)  
Venue: Poster Hall

AAPM 2016 CONFERENCE PAPERS

Oral Presentation

Session: Online Adaptive Radiotherapy - Considerations for Practical Clinical Implementation  
3:25 pm: Fast Online Replanning Techniques - X Li  
MO-E-BRC-3 (Monday, August 1, 2016) 2:45 PM - 3:45 PM Room: Ballroom C  

Implications for Online Adaptive and Non-Adaptive Radiotherapy of Gastic and Gastroesophageal Junction Cancers Using MRI-Guided Radiotherapy  
K Mittauer*, M Geurts, R Toya, M Bassetti, P Harari, B Paliwal, J Bayouth  
TH-CD-202-11 (Thursday, August 4, 2016) 10:00 AM - 12:00 PM Room: 202  

Indications for Online Adaptive Radiotherapy Based On Dosimetric Consequences of Interfractional Pancreas-To-Duodenum Motion in MRI-Guided Pancreatic Radiotherapy  
K Mittauer1*, S Rosenberg1, M Geurts1, M Bassetti1, J Chen2, J Henke2, J Olsen3, R Kashani2, A Wojcieszynski1, P Harari1, Z Labby1, P Hill1, B Paliwal1, P Parikh2, J Bayouth1  
TU-AB-BRA-11 (Tuesday, August 2, 2016) 7:30 AM - 9:30 AM Room: Ballroom A  

Session: Motion Management in Current Stereotactic Body Radiation Therapy (SBRT) Practice  
9:10 AM : MRI-guided tracking and gating - O Green, Presenting Author  
MO-B-201-0 (Monday, August 1, 2016) 8:30 AM - 9:30 AM Room: 201  
Online Adaptive Radiotherapy - Considerations for Practical Clinical Implementation
2:45 PM - Online Adaptive MR-Guided RT: Workflow and Clinical Implementation - R Kashani,
MO-E-BRC-0 (Monday, August 1, 2016) 2:45 PM - 3:45 PM Room: Ballroom C

Interactive Auto-Segmentation for Bowel in Online Adaptive MRI-Guided Radiation Therapy by Using a Multi-Region Labeling Algorithm
Y Lu*, I Chen, R Kashani, H Wan, N Maughan, D Muccigrosso, P Parikh
SU-C-BRA-1 (Sunday, July 31, 2016) 1:00 PM - 1:55 PM Room: Ballroom

Use of Gradient Echo Plural Contrast Imaging (GEPCI) in MR-Guided Radiation Therapy:A Feasibility Study Targeting Brain Treatment
B Cai1*, J Wen2, Y Rao1, C Tsien1, J Huang1, O Green1, S Mutic1, D Yablonskiy2, H Gach
SU-D-207A-4 (Sunday, July 31, 2016) 2:05 PM - 3:00 PM Room: 207A

A Novel Doubly-Focused Multileaf Collimator Design for MR-Guided Radiation Therapy
H Li1*, S Mutic1, D Low2, O Green1, G Fought3, I Kawrakow3, A Sharma3, S Shvartsman3, J Dempsey
TH-AB-BRA-1 (Thursday, August 4, 2016) 7:30 AM - 9:30 AM Room: Ballroom A

MOSFET-Based Dosimetry in An MR Image-Guided Radiation Therapy System: Comparison with and Without a Static 0.3T Magnetic Field
J Cammin*, A Curcuru, H Li, S Mutic, O Green
TH-AB-BRA-6 (Thursday, August 4, 2016) 7:30 AM - 9:30 AM Room: Ballroom A

PENEOPE-Based GPU-Accelerated Dose Calculation System Applied to MRI-Guided Radiation Therapy
Y Wang*, T Mazur, O Green, Y Hu, H Li, V Rodriguez, H Wooten, D Yang, T Zhao, S Mutic, H Li, TH-AB-BRA-7 (Thursday, August 4, 2016) 7:30 AM - 9:30 AM Room: Ballroom A

3D Remote Dosimetry for MRI-Guided Radiation Therapy: A Hybrid Approach
L Rankine1,2*, S Mein3, J Adamovics4, B Cai1, A Curcuru1, T Juang3, D Miles3, S Mutic1, Y Wang1, M Oldham5, H Li1
TH-CD-BRA-2 (Thursday, August 4, 2016) 10:00 AM - 12:00 PM Room: Ballroom A

Magnetic Field Effects On Gafchromic-Film Response in MR-IGRT
F Reynoso1*, A Curcuru1, O Green1, S Mutic1, I Das2, L Santanam1,
TH-CD-BRA-6 (Thursday, August 4, 2016) 10:00 AM - 12:00 PM Room: Ballroom A
Implementation and Evaluation of a New 3D Dosimetry Protocol for Validating MRI Guided Radiation Therapy Treatments
S Mein1*, L Rankine2,3, J Adamovics4, H Li3, M Oldham5
TH-CD-BRA-11 (Thursday, August 4, 2016) 10:00 AM - 12:00 PM Room: Ballroom A

Quantitative Evaluation of Deformable Image Registration in MRI-Guided Adaptive Radiation Therapy
K Mooney1*, T Zhao1, Y Duan2, M Zhang3, O Green1, S Mopic1, D Yang1
TU-AB-202-6 (Tuesday, August 2, 2016) 7:30 AM - 9:30 AM Room: 202

Slice by Slice Approach to Quantifying Inter-Fractional Organ Motion
M Cardenas*, T Mazur, H Li, S Munic, J Bradley, C Tsien, O Green
TU-AB-BRA-8 (Tuesday, August 2, 2016) 7:30 AM - 9:30 AM Room: Ballroom A

Treatment of Gastric MALT Lymphoma Utilizing a Magnetic Resonance Image-Guided Radiation Therapy (MR-IGRT) System: Evaluation of Gating Feasibility
T Mazur*, H Gach, A Chundury, B Fischer-Valuck, J Huang, M Thomas, O Green
TU-AB-BRA-10 (Tuesday, August 2, 2016) 7:30 AM - 9:30 AM Room: Ballroom A
http://www.aapm.org/meetings/2016AM/PRAbs.asp?mid=115&aid=34431

J Andreozzi1*, K Mooney2, P Bruza1, A Curcuru2, S Saunders1, D Gladstone3, B Pogue1, O Green2
TU-AB-BRA-12 (Tuesday, August 2, 2016) 7:30 AM - 9:30 AM Room: Ballroom A

An Effective Homomorphic Unsharp Mask Filtering Method to Correct Intensity Inhomogeneity in Daily Treatment MR Images
D Yang*, H Gach, H Li, S Mutic
TU-H-206-4 (Tuesday, August 2, 2016) 4:30 PM - 6:00 PM Room: 206

The Physics of High Power Radiofrequency Isolation in a Novel Compact Linear Accelerator Based MRI Guided Radiation Therapy System
J Lamb1*, D Low1, S Mopic2, S Shvartsman3, T Chmielewski3, G Fought3, A Sharma3, J Dempsey
TU-H-BRA-1 (Tuesday, August 2, 2016) 4:30 PM - 6:00 PM Room: Ballroom A

The Physics of Magnetic Field Isolation in a Novel Compact Linear Accelerator Based MRI-Guided Radiation Therapy System
D Low1*, S Mopic2, S Shvartsman3, T Chmielewski3, G Fought3, A Sharma3, J Dempsey3
TU-H-BRA-2 (Tuesday, August 2, 2016) 4:30 PM - 6:00 PM Room: Ballroom A
http://www.aapm.org/meetings/2016AM/PRAbs.asp?mid=115&aid=32688
Characterization of a Linear Accelerator Operating in a Compact MRI-Guided Radiation Therapy System
O Green1*, S Matic1, D Low2, H Li1, T Chmielewski3, G Fought3, M Hernandez3, I Kawrakow3, A Sharma3, S Shvartsman3, J Dempsey3,
TU-H-BRA-6 (Tuesday, August 2, 2016) 4:30 PM - 6:00 PM Room: Ballroom A
http://www.aapm.org/meetings/2016AM/PRAbs.asp?mid=115&aid=33594

The Design and Characteristics of a Novel Compact Linac-Based MRI Guided Radiation Therapy (MR-IGRT) System
S Matic1*, D Low2, T Chmielewski3, G Fought3, M Hernandez3, I Kawrakow3, A Sharma3, S Shvartsman3, J Dempsey3
TU-H-BRA-8 (Tuesday, August 2, 2016) 4:30 PM - 6:00 PM Room: Ballroom A

Session: MRgRT
5:36 PM : Strategies for adaptive RT - O Green, Presenting Author
WE-H-207B-0 (Wednesday, August 3, 2016) 4:30 PM - 6:00 PM Room: 207B

Distortion-Free 3D Diffusion MRI On An MRI-Guided Radiotherapy System for Longitudinal Tumor Response Assessment
Y Gao*, Y Yang, N Rangwala, M Cao, D Low, P Hu
TU-AB-BRA-7 (Tuesday, August 2, 2016) 7:30 AM - 9:30 AM Room: Ballroom A

Rest In Peace – ITV
11:50 AM : Gating Is the Best ITV Killer - D Low, Presenting Author
TU-D-202-0 (Tuesday, August 2, 2016) 11:00 AM - 12:15 PM Room: 202

Assessment of Treatment Response Via Longitudinal Diffusion MRI On A MRI-Guided System: Initial Experience of Quantitative Analysis X Qi*, Y Yang, L Yang, D Low, K Sheng
WE-FG-202-8 (Wednesday, August 3, 2016) 1:45 PM - 3:45 PM Room: 202

Longitudinal Diffusion MRI for Treatment Assessment of Sarcoma Patients with Pre-Operative Radiation Therapy
Y Yang*, M Cao, M Kamrava, D Low, K Sheng, J Lamb, N Agazaryan, D Thomas, P Hu
WE-FG-202-11 (Wednesday, August 3, 2016) 1:45 PM - 3:45 PM Room: 202

4:52 PM: MR-driven RT Planning - M Cao, Presenting Author
WE-H-207B-0 (Wednesday, August 3, 2016) 4:30 PM - 6:00 PM Room: 207B
Automated Triplet Beam Orientation Optimization for MRI-Guided Co-60 Radiotherapy
D Nguyen*, D Thomas, M Cao, D O'Connor, J Lamb, K Sheng
TH-AB-BRA-2 (Thursday, August 4, 2016) 7:30 AM - 9:30 AM Room: Ballroom A

Simulation of Errors in Maximal Intensity Projection (MIP)-Based Lung Tumor Internal Target Volumes (ITV) Using Real-Time 2D MRI and Deformable Image Registration Based Lung Tumor Tracking
D Thomas*, A Kishan, A Santhanam, Y Min, D O'Connell, J Lamb, M Cao, N Agazaryan, Y Yang, P Lee, D Low
SU-G-BRA-4 (Sunday, July 31, 2016) 4:00 PM - 6:00 PM Room: Ballroom A

Poster

Spatial Accuracy Evaluation for Real-Time MR Guided Radiation Therapy Using a Novel Large-Field MRI Distortion Phantom
A Antolak*, J Bayouth, R Bosca, E Jackson
SU-G-JeP2-13 (Sunday, July 31, 2016) 4:30 PM - 5:00 PM Room: ePoster Theater

MRI-Guided Single-Session Simulation, Online Adaptation, and Treatment
P Hill*, M Geurts, K Mittauer, J Bayouth
SU-F-J-110 (Sunday, July 31, 2016) 3:00 PM - 6:00 PM Room: Exhibit Hall

Lower Esophagus Margin Implications Based On Rapid Computational Algorithm for SBRT
M Cardenas*, T Mazur, H Li, S Matic, J Bradley, C Tsien, O Green
SU-F-J-102 (Sunday, July 31, 2016) 3:00 PM - 6:00 PM Room: Exhibit Hall

Experimental Measurement of Optically Stimulated Luminescence Detectors in a MR-IGRT Environment Toward Assessing Magnetic Field Effects On These Devices and Their Use as An In-Vivo Dosimeter
M Reilly*, A Curcuru, S Yaddanapudi, O Green
SU-F-T-324 (Sunday, July 31, 2016) 3:00 PM - 6:00 PM Room: Exhibit Hall

Validation of Absolute Dose Measurements for MR-IGRT With and Without Magnetic Field
O Green1*, H Li1, S Goddu1, S Matic1, I Kawrakow
SU-F-T-472 (Sunday, July 31, 2016) 3:00 PM - 6:00 PM Room: Exhibit Hall

Patient Localization Using MRI-Guided Soft Tissue for Head-And-Neck Radiotherapy: Indication for Margin Reduction and Its Feasibility
X Qi*, Y Yang, N Jack, A Santhanam, L Yang, A Chen, D Low
SU-F-J-17 (Sunday, July 31, 2016) 3:00 PM - 6:00 PM Room: Exhibit Hall
Effects of Couch Position Variability On Dosimetric Accuracy with An MRI-Guided Co-60 Radiation Therapy Machine
P Chow*, D Thomas, N Agazaryan, M Cao, D Low, Y Yang, J Lamb
SU-F-J-125 (Sunday, July 31, 2016) 3:00 PM - 6:00 PM Room: Exhibit Hall

Evaluation of a Magnetic Resonance Image Gated Radiotherapy System Using a Motion Phantom and Radiochromic Film
J Lamb*, J Ginn, D O'Connell, D Thomas, N Agazaryan, M Cao, Y Yang, D Low
SU-F-J-151 (Sunday, July 31, 2016) 3:00 PM - 6:00 PM Room: Exhibit Hall

Respiratory Motion Resolved, Self-Gated 4D-MRI Using Rotating Cartesian K-Space Sampling
F Han*, Z Zhou, Y Yang, K Sheng, P Hu
SU-F-J-158 (Sunday, July 31, 2016) 3:00 PM - 6:00 PM Room: Exhibit Hall

MRI-Based HDR Prostate Brachytherapy: A Phantom Study for Interstitial Catheter Reconstruction with 0.35T MRI Images
S Park1*, M Kamrava1, Y Yang
SU-G-JeP2-14 (Sunday, July 31, 2016) 4:30 PM - 5:00 PM Room: ePoster Theater

Automatic Quantification of MLC Positional Accuracy in An MRI Guided Radiotherapy System
X Li*, M Studenski, F Yang, N Dogan, N Lamichhane, K Padgett
SU-G-JeP2-3 (Sunday, July 31, 2016) 4:30 PM - 5:00 PM Room: ePoster Theater

Skin exposure outside the treatment field during treatment of breast cancer with tri-Co-60 MR-IGRT system
Jong Min Park, Jung-in Kim, So-Yeon Park, Sang-Tae Kim, Kyung Hwan Shin
Poster: SU-F-T-317 (Sunday, July 31, 2016) 3:00 PM - 6:00 PM Room: Exhibit Hall


2015


2014


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