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References cited describe research undertaken in the development of SCINTIX® biology-guided radiotherapy and the RefleXion® X1, and do not represent product performance. SCINTIX biology-guided radiotherapy is indicated for tumors in the lung and bone. 735-00034 Rev K

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Using EGSnrc**

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Dose Calculation for Improved Treatment Planning and BgRT
Delivery**

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**Mitigation of IMRT/SBRT Treatment Planning Errors on the First
Biology-guided Radiotherapy System Using FMEA within Six
Sigma Framework**

**E.A. Simiele, B. Han, L. Skinner, D. Pham, J. Lewis,
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**Mitigation of Intensity Modulated Radiation Therapy and
Stereotactic Body Radiation Therapy Treatment Planning Errors
on the Novel RefleXion X1 System Using Failure Mode and Effect
Analysis Within Six Sigma Framework**

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Pilot Study of a Novel Ring Gantry-Based PET/CT Linear Accelerator in Patients with Prostate Cancer Receiving [18F]-DCFPyL for PSMA PET Imaging

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F. Mironenko, Y. Voronenko, L. Shao

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Treatments Using Dose Backprojection Algorithm**
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**Reproducibility and Repeatability of Pelvic Radiomics Features
with Daily Imaging on a Novel Biology-guided Radiotherapy
Machine Compared to Daily Imaging on Other Radiotherapy
Delivery Systems**

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**Stereotactic Radiation Therapy Boost for Patients with Breast
Cancer in the Prone Position Using a Novel Fast Ring-gantry
Radiotherapy System: A Treatment Planning Study**

O.M. Oderinde, K.A. Al Feghali, A. Maniyedath, S.M. Shirvani

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**Suitability of biology-guided radiotherapy for metastatic renal
cell carcinoma directed by PSMA PET**

**M. Gaudreault, D. Chang, N. Hardcastle, C. Udovicich, M. Hofman,
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**Towards Biology-guided Radiotherapy Planning and Delivery on
a Novel O-Ring PET-Linac Platform: Extended Beyond Bone and
Lung Lesions**

**G. Gibbard, T.A. Aguilera, T. Dan, T. Zhuang, M.H. Lin, H. Peng,
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Treatment Plan Creation and Delivery with and without BgRT for Static and Motion Trajectories

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AMERICAN ASSOCIATION OF PHYSICISTS IN MEDICINE -
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A Detailed Process Map for Clinical Workflow of a New Biology-guided Radiotherapy (BgRT) Machine

M. Hwang, R. Lalonde, M. Huq

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DOI: <https://doi.org/10.1002/acm2.13606>

A Treatment Planning Feasibility Study for Cranio-Spinal Irradiation (CSI) Using RefleXion X1

D. Pham, T. Ngo, B. Han, M. Surucu, S. Hiniker, N. Kovalchuk

AMERICAN ASSOCIATION OF PHYSICISTS IN MEDICINE -
ANNUAL MEETING, JULY 2022

Beam Commissioning of the First Clinical Biology-guided Radiotherapy System

B. Han, D. Capaldi, N. Kovalchuk, E. Simiele, J. White, D. Zaks, L. Xing, M. Surucu

J APPL CLIN MED PHYS. 2022; 23:E13607

DOI: <https://doi.org/10.1002/acm2.13607>

Biology-guided Radiotherapy (BgRT) Treatment Planning Feasibility Study for Head-and-Neck, Abdomen, and Pelvis

N. Kovalchuk, L. Vtizthum, D. Pham, C. Chuang, M. Gensheimer, A. Da Silva, B. Han, D. Chang, M. Surucu

AMERICAN ASSOCIATION OF PHYSICISTS IN MEDICINE -
ANNUAL MEETING, JULY 2022

BgRT Motion Management Maintains Target Dose Coverage for Respiratory and Non-Respiratory Motion

P. Olcott, S. Khan, G. Bal, J. Schmall, S. Xu, Y. Voronenko, L. Shao, O.M. Oderinde, M. Surucu, M. Narayanan, G. Kuduvalli

INT J RADIATION ONCOL BIOL PHYS. 2022;114(3);116-117

DOI: <https://doi.org/10.1016/j.ijrobp.2022.07.556>

Characterizing Metastatic Non-Small Cell Lung Cancer Presenting to an Academic Medical Center in an Era of Changing Treatment Paradigms

N. Raja, H.J. No, R. Von Eyben, M. Das, M. Roy, N. Myall, A.L. Chin, M. Diehn, B.W. Loo Jr, D.T. Chang, E. Pollock, L. Vitzthum

INT J RADIATION ONCOL BIOL PHYS. 2022;114(3); 407

DOI: <https://doi.org/10.1016/j.ijrobp.2022.07.1582>

Combined Biology-guided Radiotherapy and Lutetium PSMA Treatment in Metastatic Prostate Cancer

M. Gaudreault, D. Chang, N. Hardcastle, P. Jackson, T. Kron, M.S. Hofman, S. Siva

INT J RADIATION ONCOL BIOL PHYS. 2022;114(3);116

DOI: <https://doi.org/10.1016/j.ijrobp.2022.07.555>

Deep Learning Based Patient-Specific Auto-Segmentation of Target and Organs at Risk on Daily Fan-Beam CT Images*

Y. Chen, S. Butler, L. Yu, Y. Zhou, L. Shen, N. Kovalchuk, H. Bagshaw, M. Gensheimer, L. Xing, B. Han

AMERICAN ASSOCIATION OF PHYSICISTS IN MEDICINE - [ANNUAL MEETING, JULY 2022](#)

Disease Burden on PET Predicts Outcomes for Advanced NSCLC Patients Treated with First-Line Immunotherapy

T.Y. Andraos, B. Halmos, H. Cheng, C. Huntzinger, S.M. Shirvani, N. Ohri

CLIN LUNG CANCER. 2022;23(4);291-299

DOI: <https://doi.org/10.1016/j.cllc.2022.02.003>

*Patients in this study were not treated with SCINTIX™ biology-guided radiotherapy.

Evaluating Accuracy of Biology-guided Radiotherapy Using QUASAR 4D Motion Phantom

G. Bal, P. Olcott, D. Zaks, S. Kahn, J. Burns, J. Schmall, L. Shao, T. Laurence, O. Oderinde, M. Surucu, M. Narayanan, G. Kuduvalli
AMERICAN ASSOCIATION OF PHYSICISTS IN MEDICINE - ANNUAL MEETING, JULY 2022

Evaluation of Repeatability and Reproducibility of Radiomic Features Produced by the Fan-Beam KV-CT on a Novel Ring Gantry-Based PET/CT Linear Accelerator Using Two IBSI-Compliant Software Packages

T. Ketcherside, A. Sundquist, C. Han, W. Watkins, L. Court, C. Huntzinger, Q. Chen, T. Williams, A. Liu
AMERICAN ASSOCIATION OF PHYSICISTS IN MEDICINE - ANNUAL MEETING, JULY 2022

Feasibility and Dosimetric Benefits of Adaptive Planning in Prostate Cancer Radiotherapy Using a Novel Treatment Planning Machine with Integrated Dual kVCT/PET Imaging Systems

O.M. Oderinde, C. Han, Z. Sun, T. Cornwell, K. Feghali, A. Amini, S. Sampath, A. Liu, S.M. Shirvani

INT J RADIATION ONCOL BIOL PHYS. 2022;114(3):592
DOI: <https://doi.org/10.1016/j.ijrobp.2022.07.2277>

Feasibility of Biology-guided Radiation Therapy Using a Long-Lived Antibody PET Tracer

A. Natarajan, S. Khan, D. Anders, N. Malik, H. Nguyen, O. Oderinde, F. Chin, E. Rosenthal, G. Pratz

AMERICAN ASSOCIATION OF PHYSICISTS IN MEDICINE - ANNUAL MEETING, JULY 2022

Feasibility of Biology-guided Radiotherapy Using PSMA-PET to Boost to Dominant Intraprostatic Tumour

M. Gaudreault, D. Chang, N. Hardcastle, P. Jackson, T. Kron, M.S. Hofman, S. Siva

CLIN TRANSL RADIAT ONCOL. 2022;35:84-89
DOI: <https://doi.org/10.1016/j.ctro.2022.05.005>

Feasibility of Single Fraction Brain Metastases Radiotherapy in a Novel Ring Gantry Treatment System

O.M. Oderinde, C. Schuman, M.K. Owens, M. Surucu, A. Da Silva, S.M. Shirvani

AMERICAN RADIUM SOCIETY - ANNUAL MEETING, MAY 2022

Feasibility Study of Using a Built-in KVCT Imaging System on a Novel Radiotherapy Machine with Integrated Dual-Imaging Systems for Radiotherapy Treatment Planning

C. Han, O. Oderinde, Z. Sun, A. Maniyedath, S. Shirvani, A. Liu
AMERICAN ASSOCIATION OF PHYSICISTS IN MEDICINE -

ANNUAL MEETING, JULY 2022

Imaging Performance of the Onboard Kilo-Voltage Fan-Beam Computed Tomography for Ring Gantry Therapy Unit

G. Gibbard, J. Tan, Y. Park, M. Lin, K. Wang, W. Lu, R. Reynolds, A. Godley, A. Pompos, S. Jiang, B. Cai, T. Zhuang
AMERICAN ASSOCIATION OF PHYSICISTS IN MEDICINE -
ANNUAL MEETING, JULY 2022

IMRT and SBRT Treatment Planning Study for the First Clinical Biology-guided Radiotherapy System

D. Pham, E.A. Simiele, D. Breitkreutz, D.P. Capaldi, B. Han, M. Surucu, O.M. Oderinde, L. Vitzthum, M.F. Gensheimer, A.L. Chin, H.P. Bagshaw, L. Xing, D.T. Chang, N. Kovalchuk
INT J RADIATION ONCOL BIOL PHYS. 2022;114(3):579
DOI: <https://doi.org/10.1016/j.ijrobp.2022.07.2247>

IMRT and SBRT Treatment Planning Study for the First Clinical Installation of Biology-guided Radiotherapy System

D. Pham, E. Simiele, D. Breitkreutz, D. Capaldi, O. Oderinde, B. Han, M. Surucu, L. Vitzthum, M. Gensheimer, H. Bagshaw, A. Chin, D. Chang, N. Kovalchuk
AMERICAN ASSOCIATION OF PHYSICISTS IN MEDICINE -
ANNUAL MEETING, JULY 2022

Independent Beam Modeling for the RefleXion X1 System

M. Chen, J. Tan, G. Gibbard, Y. Park, T. Zhuang, M. Lin, K. Wang, X. Jia, B. Cai, W. Lu

AMERICAN ASSOCIATION OF PHYSICISTS IN MEDICINE -
ANNUAL MEETING, JULY 2022

Intensity Modulated Radiotherapy on a Novel Ring Gantry-Based Linac with Integrated Dual PET-CT Imaging Systems: Dosimetric Plan Comparison and Initial Clinical Delivery Experience

C. Han, B. Liu, A. Tam, K. Qing, W.T. Watkins, T.M. Williams, A. Liu
INT J RADIATION ONCOL BIOL PHYS. 2022;114(3):534-535

DOI: <https://doi.org/10.1016/j.ijrobp.2022.07.2142>

Investigation of Computation Time and Storage Saving Using Generative Adversarial Network (GAN) Source Models for Dose Simulation of a Binary MLC Linac

M. Shi, S. Cui, C. Chuang, O. Oderinde, N. Kovalchuk, K. Bush, M. Surucu, L. Xing, B. Han

AMERICAN ASSOCIATION OF PHYSICISTS IN MEDICINE -
ANNUAL MEETING, JULY 2022

One Year Quality Assurance Experience of the First RefleXion System

B. Han, M. Shi, S. Cui, C. Chuang, N. Kovalchuk, L. Xing, M. Surucu

AMERICAN ASSOCIATION OF PHYSICISTS IN MEDICINE -
ANNUAL MEETING, JULY 2022

Process Based Tolerance and Action Limits for IMRT/SBRT Delivery on a Novel Biology-guided Radiotherapy System

M. Ashraf, N. Kovalchuk, J. Fu, M. Shi, S. Cui, B. Han, M. Surucu

AMERICAN ASSOCIATION OF PHYSICISTS IN MEDICINE -
ANNUAL MEETING, JULY 2022

Repeatability and Reproducibility of Radiomic Features Produced over Time by the Fan-Beam kV-CT on a Novel Ring Gantry-Based PET/CT Linear

T. Ketcherside, A. Sundquist, C. Han, W.T. Watkins, L.E. Court, C. Huntzinger, T.M. Williams, A. Liu

INT J RADIATION ONCOL BIOL PHYS. 2022;114(3):129

DOI: <https://doi.org/10.1016/j.ijrobp.2022.07.956>

**Robustness of Biology-guided Radiotherapy Delivery to PET
Biodistribution Changes within Target**

**S. Khan, M. Narayanan, P. Olcott, O.M. Oderinde, G. Bal,
J. Schmall, S. Xu, Y. Voronenko, L. Shao, G. Kuduvali, M. Surucu**
INT J RADIATION ONCOL BIOL PHYS. 2022;114(3);551
DOI: <https://doi.org/10.1016/j.ijrobp.2022.07.2180>

State of the Art of Adaptive Radiotherapy

R. Mak, R. Kashani, K. Mittauer, B. Han
AMERICAN ASSOCIATION OF PHYSICISTS IN MEDICINE -
ANNUAL MEETING, JULY 2022

**Systematic Study of Patient-Specific Organs at Risk Auto-
Segmentation on Daily kVCT Images for Adaptive Head and Neck
Radiotherapy**

**Y. Chen, L. Yu, Y. Zhou, L. Shen, N. Kovalchuk, L. Xing, B. Han,
M.F. Gensheimer**
INT J RADIATION ONCOL BIOL PHYS. 2022;114(3);590
DOI: <https://doi.org/10.1016/j.ijrobp.2022.07.2272>

**Treatment Planning System Commissioning of the First Clinical
Biology-guided Radiotherapy Machine**

**E. Simiele, D. Capaldi, D. Breitkreutz, B. Han, T. Yeung, J. White,
D. Zaks, M. Owens, S. Maganti, L. Xing, M. Surucu, N. Kovalchuk**
J APPL CLIN MED PHYS. 2022; 23:E13638
DOI: <https://doi.org/10.1002/acm2.13638>

**Utility of Biology-guided Radiotherapy to *De Novo* Metastases
Diagnosed During Staging of High-Risk Biopsy-Proven
Prostate Cancer**

**M. Gaudreault, D. Chang, N. Hardcastle, P. Jackson, T. Kron, G.G.
Hanna, M.S. Hofman, S. Siva**
FRONTIERS IN ONCOLOGY 2022;12
DOI: <https://doi.org/10.3389/fonc.2022.854589>

A Generative Adversarial Network (GAN) Based Monte Carlo Model for a Biology-guided Radiation Therapy Machine

M. Shi, S. Cui, D. Zaks, B. Han

AMERICAN ASSOCIATION OF PHYSICISTS IN MEDICINE –
ANNUAL MEETING, JULY 2021

A Motion Phantom Study on Reflexion X1: The Dosimetric Impacts of Stereotactic Radiation Therapy Delivery Technique and Motion

D.P.I. Capaldi, E.A. Simiele, M.K. Owens, B.Han, M. Surucu, L. Xing, L. Vitzthum, D. Chang, N. Kovalchuk

AMERICAN ASSOCIATION OF PHYSICISTS IN MEDICINE –
ANNUAL MEETING, JULY 2021

Characterization of the Entire Metastatic Spectrum for Non-Small Cell Lung Cancer in the Immunotherapy Era

T.Y. Andraos, S.M. Shirvani, T. Cornwell, N. Ohri

INT J RADIATION ONCOL BIOL PHYS. 2020;111(3):428-429

DOI: <https://doi.org/10.1016/j.ijrobp.2021.07.1220>

Characterization of Single-Dose Radiotherapy (SDRT) Performance in a New High-Speed Ring Gantry-Based LINAC System

O.M. Oderinde, S. Khan, A. Da Silva, S. Tian, X. Yang, K. Higgins, S. Shirvani, G. Kuduvalli

AMERICAN ASSOCIATION OF PHYSICISTS IN MEDICINE –
ANNUAL MEETING, JULY 2021

Comparison of a First-in-Class LINAC-Integrated PET System and a Diagnostic PET/CT Scanner

M. Surucu, A. Maniyedath, M. Narayanan, B. Han, N. Kovalchuk, M. Gensheimer, L. Vitzhum, A. Iagaru, V. Ferri, L. Xing, S.M. Shirvani, D.T. Chang

INT J RADIATION ONCOL BIOL PHYS. 2021;111(3):515-516

DOI: <https://doi.org/10.1016/j.ijrobp.2021.07.1411>

**Comprehensive Metastatic Ablation in Advanced NSCLC Through
Biology-guided Radiotherapy – A Path Forward?**

A.R. Filippi, M. Garassino, S.M. Shirvani, J. Feldman, K.A. Higgins

LUNG CANCER. 2021;162;203-206

DOI: <https://doi.org/10.1016/j.lungcan.2021.10.013>

**Does Disease Burden on PET Predict Outcomes for Advanced
NSCLC Patients Treated With First-Line Immunotherapy?**

T.Y. Andraos, B. Halmos, H. Cheng, C. Huntzinger, and N. Ohri

INT J RADIATION ONCOL BIOL PHYS. 2021;111(3);428

DOI: <https://doi.org/10.1016/j.ijrobp.2021.07.1219>

**Dosimetric Comparison of Single-Isocenter and Multiple-
Isocenter Techniques for Two-Lesion Lung SBRT Using the
RefleXion High-Speed Ring-Gantry System**

**O.M. Oderinde, Y. Voronenko, S. Tian, X. Yang, K. A. Higgins,
A. Da Silva, and S.M. Shirvani**

INT J RADIATION ONCOL BIOL PHYS. 2021;111(3);139-140

DOI: <https://doi.org/10.1016/j.ijrobp.2021.07.582>

**Estimating the Total US Incidence of Advanced/Metastatic Non-
Small Cell Lung (NSCLC) Including Recurrent Disease**

C. Huntzinger, H. Leach, Y. Fu, A. Amini, D. Peng, S.M. Shirvani

J THORACIC ONCOL. 2021;16(3)317-18

DOI: <https://doi.org/10.1016/j.jtho.2021.01.485>

**Evaluating Backscattered Radiation into the Dose Monitor
Chamber in the Reflexion X1 Using Monte Carlo Simulation**

**O.M. Oderinde, D. Zaks, C. Huntzinger, S. Shirvani, A. Maniyedath,
T. Laurence, M. Lu**

AMERICAN ASSOCIATION OF PHYSICISTS IN MEDICINE –
ANNUAL MEETING, JULY 2021

Evaluation of PSMA-PET Biology-guided Radiotherapy Sequential Boost to the PSMA-avid Subvolume in the Prostate Region in Low-Volume Advanced Prostate Cancer

M. Gaudreault, D. Chang, N. Hardcastle, P. Jackson, T. Kron,

M.S. Hofman, G.G. Hanna, S.M. Shirvani, and S. Siva

INT J RADIATION ONCOL BIOL PHYS. 2021;111(3);52

DOI: <https://doi.org/10.1016/j.ijrobp.2021.07.136>

Feasibility of Using FDG in the Stereotactic Ablative Setting for Tracked Dose Delivery with BgRT: Results from a Prospective Study of Serial Inter-Fraction PET/CTs

A. Da Silva, P. Olcott, S. Tian, X. Yang, I. Sethi, S.M. Shirvani,

S. Mazin, T.K. Owonikoko, J.D. Bradley, D.M. Schuster, K.A. Higgins

INT J RADIATION ONCOL BIOL PHYS. 2021;111(3);97

DOI: <https://doi.org/10.1016/j.ijrobp.2021.07.226>

First Beam QA and Commissioning Report of a Novel Biology-guided Radiotherapy System

B. Han, N. Kovalchuk, D. Capaldi, E. Simiele, A. Purwar, J. White, D. Zacks, L. Vitzthum, D. Chang, L. Xing, M. Surucu

AMERICAN ASSOCIATION OF PHYSICISTS IN MEDICINE –

ANNUAL MEETING, JULY 2021

First Beam Commissioning Report of a Novel Medical Linear Accelerator Designed for Biologically Guided Radiotherapy

B. Han, N. Kovalchuk, D.P. Capaldi, E. Simiele, J. White, A. Purwar, T. Yeung, S. Maganti, A. Mitra, Y. Voronenko, O.M. Oderinde, S.M. Shirvani, G. Kuduvalli, L. Vitzthum, D.T. Chang, L. Xing, and M. Surucu

INT J RADIATION ONCOL BIOL PHYS. 2021;111(3);512

DOI: <https://doi.org/10.1016/j.ijrobp.2021.07.1404>

Focal Spot Size Effect of the Reflexion X1 Radiotherapy Machine: A Monte Carlo Simulation Study

O.M. Oderinde, D. Zaks, C. Huntzinger, S. Shirvani, T. Laurence, M. Lu

AMERICAN ASSOCIATION OF PHYSICISTS IN MEDICINE –

ANNUAL MEETING, JULY 2021

Improving Workflow Efficiency and Safety for RefleXion X1

Treatment Planning Process Via Eclipse API Scripting

E. Simiele, N. Kovalchuk

AMERICAN ASSOCIATION OF PHYSICISTS IN MEDICINE -

[ANNUAL MEETING, JULY 2021](#)

IMRT Treatment Planning Study for the First Clinical Biology-guided Radiotherapy System

D. Pham, D. Breitkreutz, E. Simiele, D. Capaldi, L. Vitzthum, M. Gensheimer, H. Bagshaw, B. Han, M. Surucu, L. Xing, D. Chang, N. Kovalchuk

AMERICAN ASSOCIATION OF PHYSICISTS IN MEDICINE -

[ANNUAL MEETING, JULY 2021](#)

Initial Evaluation of Biology-guided Radiotherapy (BgRT)

Plans Generated Using PET Acquired on the First Installation of New System

M. Surucu, M. Narayanan, B. Han, S. Khan, A. Da Silva, A. Maniyedath, T. Yeung, S.M. Shirvani, G. Kuduvalli, M. Gensheimer, L. Vitzthum, A. Iagaru, L. Xing, D.T. Chang, N. Kovalchuk

INT J RADIATION ONCOL BIOL PHYS. 2021;111(3);516

DOI: <https://doi.org/10.1016/j.ijrobp.2021.07.1412>

New Dosimetric Standard for Radiotherapy: Bounded Dose

Volumetric Histogram Derived From Gamma Criteria

P. Olcott, Y. Voronenko, A. Da Silva, O.M. Oderinde

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[ANNUAL MEETING, JULY 2021](#)

Physical Confirmation of Biology-guided Radiotherapy

Directed at Static Targets with Varying Shapes and Background Contrast Environments

M. Narayanan, D. Zaks, P. Olcott, Y. Voronenko, S. Xu, M. Haytmyradov, D. Rigie, L. Shao, J. Burns, O.M. Oderinde, S.M. Shirvani, and G. Kuduvalli

INT J RADIATION ONCOL BIOL PHYS. 2021;111(3);513

DOI: <https://doi.org/10.1016/j.ijrobp.2021.07.1406>

Physical Validation of Biology-guided Radiotherapy for Delivering a Tracked Dose Distribution to a Moving PET-Avid Target

M. Narayanan, D. Zaks, P. Olcott, Y. Voronenko, J. Burns, S. Xu, D. Rigie, M. Haytmyradov, L. Shao, O.M. Oderinde, S.M. Shirvani, M. Surucu, and G. Kuduvalli

INT J RADIATION ONCOL BIOL PHYS. 2021;111(3);22

DOI: <https://doi.org/10.1016/j.ijrobp.2021.07.078>

Positron Emission Tomography (PET) Characterization for Biology-guided Radiotherapy (BgRT)

Z. Hu, M. Narayanan, V. Ferri, A. Iagaru, N. Kovalchuk, B. Han, L. Xing, S. Shirvani, D. Chang, M. Surucu

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Preliminary Treatment Planning System Commissioning Results for the First Clinical Biology-guided Radiotherapy Machine

N. Kovalchuk, B. Han, E. Simiele, D. Capaldi, D. Breitkreutz, T.P.C. Yeung, J. White, D. Zaks, M. Owens, A. Purwar, L. Vitzthum, D. Chang, L. Xing, M. Surucu

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Quantification of Peripheral Dose in the New Ring-gantry RefleXion X1 Radiotherapy Machine

O.M. Oderinde, S. Khan, M. Narayanan, A. Maniyedath, S. Shirvani, G. Kuduvalli

AMERICAN ASSOCIATION OF PHYSICISTS IN MEDICINE - [ANNUAL MEETING, JULY 2021](#)

Small Field Dosimetry of a Novel Biology-guided Radiotherapy System

B. Han, N. Kovalchuk, M. Shi, K. Bush, D. Capaldi, D. Breitkreutz, E. Simiele, L. Xing, M. Surucu, C. Chuang

AMERICAN ASSOCIATION OF PHYSICISTS IN MEDICINE - [ANNUAL MEETING, JULY 2021](#)

Small-Field Measurement and Monte Carlo Model Validation of a Novel Image-guided Radiotherapy System

M. Shi, C.F. Chuang, N. Kovalchuk, K. Bush, D. Zaks, L. Xing, M. Surucu, B. Han

MED PHYS. 2021;48(11):7450-60

DOI: <https://doi.org/10.1002/mp.15273>

The kVCT System Commissioning of a Novel Medical Linear Accelerator Designed for Biology-guided Radiotherapy

B. Han, N. Kovalchuk, D.P. Capaldi, A. Purwar, Z. Sun, A. Moghadam, J. Ye, T. Laurence, L. Vitzthum, D.T. Chang, L. Xing, M. Surucu

INT J RADIATION ONCOL BIOL PHYS. 2021;111(3):532-533

DOI: <https://doi.org/10.1016/j.ijrobp.2021.07.1452>

The Technical Design and Concept of a PET/CT Linac for Biology-guided Radiotherapy

O.M. Oderinde, S.M. Shirvani, P. Olcott, G. Kuduvali, S. Mazin, D. Larkin

CLIN TRANSL RADIAT ONCOL. 2021;29:106-112

DOI: <https://doi.org/10.1016/j.ctro.2021.04.003>

Utilizing Biology-guided Radiotherapy for Coronary Artery Avoidance During Free-Breathing External Beam Radiation Delivery

O.M. Oderinde, T. Cornwell, M. Owens, S. Tian, X. Yang, K.A. Higgins, A. Da Silva, and S.M. Shirvani

INT J RADIATION ONCOL BIOL PHYS. 2021;111(3):542-543

DOI: <https://doi.org/10.1016/j.ijrobp.2021.07.1476>

Benchmark Performance Measurements of a Prototype Biology-guided Radiotherapy (BgRT) System Using TG-148 and TG-142

D. Zaks, R. Bassalow, O. Volotskova, M. Narayanan, C. Huntzinger, S.M. Shirvani, S. Mazin, G. Kuduvalli

AMERICAN ASSOCIATION OF PHYSICISTS IN MEDICINE –
[ANNUAL MEETING, JULY 2020](#)

Biology-guided Radiotherapy: Redefining the Role of Radiotherapy in Metastatic Cancer

S.M. Shirvani, C. Huntzinger, T. Melcher, P. Olcott, Y. Voronenko, J. Bartlett-Roberto, S. Mazin

BR J RADIOL 2020;93:20200873

DOI: <https://doi.org/10.1259/bjr.20200873>

Characterization of IMRT, SBRT and SRS Patient Plan Quality Assurance of a Novel Biology-guided Radiotherapy (BgRT) Machine

D. Zaks, A. Purwar, M. Narayanan, S. Khan, J. White, A. Da Silva, C. Han, J. Liang, D. Du, A. Liu, Y. Voronenko, D. Pal, D. Rigie, J. Burns, G. Kuduvalli

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[ANNUAL MEETING, JULY 2020](#)

Characterization of the IMRT and SBRT Performance of a Novel Biology-guided Radiotherapy (BgRT) Machine Using ArcCHECK

D. Zaks, M. Narayanan, R. Bassalow, O. Volotskova, Y. Voronenko, D. Pal, D. Rigie, Jon Burns, A. Purwar, P. Olcott, G. Kuduvalli

AMERICAN ASSOCIATION OF PHYSICISTS IN MEDICINE –
[ANNUAL MEETING, JULY 2020](#)

Characterization of the IMRT Performance of a Novel Biology-guided Radiotherapy (BgRT) Machine Using the TG-119 Methodology

A. Purwar, M. Narayanan, S. Khan, D. Zaks, J. White, C. Huntzinger, S.M. Shirvani, S. Mazin, G. Kuduvali

AMERICAN ASSOCIATION OF PHYSICISTS IN MEDICINE – ANNUAL MEETING, JULY 2020

Comprehensive Dosimetric Evaluation of a Biology-guided Radiotherapy Machine in Treatment Plans for Brain, Lung, Head and Neck, Esophagus, and Prostate Malignancies

C. Han, J. Liang, A. Da Silva, J.P. Neylon, D. Du, A. Liu

INT J RADIATION ONCOL BIOL PHYS. 2020;108(2):61

DOI: <https://doi.org/10.1016/j.ijrobp.2020.02.615>

Comparative Evaluation of Treatment Plan Quality for a Prototype Biology-guided Radiotherapy System in the Treatment of Nasopharyngeal Carcinoma

C. Han, A. Da Silva, PhD, J. Liang, C. Wohlers, C. Huntzinger,

J.P. Neylon, D. Du, J.Y.C. Wong, A. Liu

MOEDDOS 2020;46(2):171-78

DOI: <https://doi.org/10.1016/j.meddos.2020.11.002>

Evaluation of Treatment Planning Performance of a New BgRT Platform for SBRT of Multiple Metastases

A. Bulent, S. Chumra, J. George, J. Partouche

EUROPEAN SOCIETY FOR THERAPEUTIC RADIOLOGY AND ONCOLOGY – ESTRO ANNUAL MEETING, NOVEMBER 2020

Expanding the Definition of Oligometastatic in Lung Adenocarcinoma

A. Amini, B. Chau, I. Mambetsariev, C. Huntzinger, S.M. Shirvani, K. Reckamp, E. Massarelli, J.Y.C. Wong, R. Salgia

INT J RADIATION ONCOL BIOL PHYS. 2020;108(2):50-1

DOI: <https://doi.org/10.1016/j.ijrobp.2020.02.588>

Extending the IAEA-AAPM TRS-483 Methodology for Radiation Therapy Machines with Field Sizes Down to $10 \times 2 \text{ Cm}^2$

L. Mirzakhanian, R. Bassalow, C. Hutzinger, J. Seuntjens

MED PHYS. 2020;47(10):5209-221

DOI: <https://doi.org/10.1002/mp.14325>

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Feasibility of Biology-guided Radiotherapy for Pancreatic Tumors: An Assessment of Normalized Target SUV

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Feasibility of Biology-guided Radiotherapy (BgRT) Targeting Fluorodeoxyglucose (FDG) Avid Liver Metastases

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IAEA-AAPM TRS-483-Based Reference Dosimetry of the New RefleXion Biology-guided Radiotherapy (BgRT) Machine

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Increased 18-FDG Metabolic Activity During Lung SBRT Predicts Risk of Disease Progression: Results from a Prospective Study of Serial Inter-Fraction PET/CTs

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Prognostic Value of FDG-PET Metrics for Advanced NSCLC

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Simultaneous Integrated Boost of Lung Tumors in the Stereotactic Ablative Setting using BgRT Tracked Delivery

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