

# CURRICULUM VITAE

**Yonggang Lu PhD**

**Associate Professor  
Department of Radiology**

## **OFFICE ADDRESS:**

9200 West Wisconsin Avenue

Milwaukee, WI 53226

## **POSTGRADUATE TRAINING AND FELLOWSHIP APPOINTMENTS:**

04/2003 - 09/2005 Research Fellow, Radiology, Vanderbilt University

02/2010 - 03/2015 Research Associate, Medical Physics, Memorial Sloan Kettering Cancer Center

07/2017 - 07/2019 Medical Physics Resident, Radiology, Medical Physics, Medical College of Wisconsin

## **FACULTY APPOINTMENTS:**

05/1991 - 07/1996 Lecturer, College of Engineering, Nanjing Forestry University, Nanjing, China

07/1999 - 10/2002 Senior Engineer, Research and Development, Wiscom Systems Co., Ltd, Nanjing, China

01/2006 - 01/2009 Vice Director, Research and Development, Wiscom Systems Co., Ltd, Nanjing, China

04/2015 - 07/2017 Clinical Bioinformaticist, Radiation Oncology, Washington University in St. Louis

07/2019 - Present Assistant Professor, Radiology, Medical college of Wisconsin, Milwaukee, WI

## **SPECIALTY BOARDS AND CERTIFICATION:**

<u>Board Certified</u>	<u>Issue Date</u>	<u>Expiration</u>
Magnetic Resonance Safety Expert	06/2019	None
Diagnostic Medical Physics	08/2021	None

## **AWARDS AND HONORS:**

07/2015 Distinguished Reviewer, Journal of Magnetic Resonance Imaging

2018 - 2019 Outstanding Graduate School Educator, Medical College of Wisconsin

## **MEMBERSHIPS IN HONORARY AND PROFESSIONAL SOCIETIES:**

02/2002 - 02/2015 International Society of Magnetic Resonance in Medicine (Member)

02/2015 - Present Radiological Society of North America (Member)

02/2015 - Present American Association of Physicists in Medicine (Member)

03/2022 - Present Society of Nuclear Medicine and Molecular Imaging (Member)

## **EDITORSHIPS/EDITORIAL BOARDS/JOURNAL REVIEWS:**

Editorship

07/2021 - 07/2023 Frontiers in Physics

Journal Review

10/2010 - Present Journal of Magnetic Resonance Imaging

07/2021 - Present Frontiers in Oncology

Ad-Hoc Reviewer

03/2015 - 03/2016 Radiographysics

10/2015 - Present Medical Physics

09/2023 - Present Scientific Reports

## RESEARCH GRANTS/AWARDS/CONTRACTS/PROJECTS:

### Active

#### Peer Review

Title: A Thermal Physics Informed Neural Network (PINN) to Improve MRI-Guided Laser Induced Thermal Therapy (MRIGLITT) for Brain Tumors

Source: Strain For The Brain, Inc.

Role & Effort: Principal Investigator

PI: Yonggang Lu, Max Krucoff

Dates: 04/01/2024 - 04/01/2025

Direct Funds: \$50,000

#### Non-Peer Review

Title: Fabricating abdominal ultrasound biopsy phantoms

Source: Radiology

PI: Yonggang Lu

Dates: 01/2023 - Present

Direct Funds: \$5,000

Title: Analyses of Plastic & Reconstructive Surgery Operative Procedures of Craniofacial Anomalies

Role & Effort: Investigator

PI: Kant Lin

Dates: 01/2024 - Present

### Prior

#### Peer Review

Title: MR Dynamic Imaging and Spectroscopy in Head and Neck Cancers

Source: National Institute of Health R01

Role & Effort: Investigator

PI: Amita Dave

Dates: 2010 - 2012

Title: Predictive MRI metrics for tumor aggressiveness in micropapillary thyroid cancer

Source: National Institute of Health R21

Role & Effort: Investigator

PI: Amita Dave

Dates: 2013 - 2015

Title: Bowel segmentation and registration in MRI guided radiation therapy

Source: Washington University in St. Louis

Role & Effort: Investigator

PI: Parag Parikh

Dates: 2015 - 2017

Title: Experimental validation on Boltzmann radiation dose simulation in CT

Source: National Institute of Health

Role & Effort:	Investigator
PI:	Taly Gilat-Schmidt
Dates:	2019 - 2021
Title:	To identify ferromagnetic materials in medical implants with dual energy CT
Source:	MCW RAC
PI:	Yonggang Lu
Dates:	07/2022 - 08/2023
Direct Funds:	\$35,000

#### **PEER REVIEWED WORKSHOPS/PRESENTATIONS:**

##### **International**

Lori. R. Arlinghaus, Yonggang Lu, Rui. Li., B. M. Dawant, Adam. W. Anderson, A Framework for Semi-automated Data Analysis Based upon Fiber Tracking, ISMRM workshop on diffusion, Alberta, 03/2005

Yonggang Lu, Zhaohua Ding, John C. Gore, Adam W. Anderson, A Recursive Method for Characterizing Complex Fiber Distributions from High Angular Resolution Diffusion Images, ISMRM workshop on diffusion, Alberta, 05/2005

##### **National**

Brian McClain, Austen Crucuru, Deshan Yang, Kevin Grantham, Yonggang Lu, Parag Parikh, Michael Gach, Sasa Mutic, Rojano Kashani, Evaluation of MR for Calculating Attenuation (MRCAT) and Comparison to Generic CT Deformation in Prostate Cancer Patients, MR in RT symposium, St. Louis, 04/2016

Lauren Henke, Yonggang Lu, Ishita Chen, Parag Parikh, Rojano Kashani, Variations in Patient Anatomy During Online Adaptive MR-guided Radiotherapy of Abdomen, MR in RT symposium, St. Louis, 04/2016

##### **Local**

Yonggang Lu, Steven Yuvan, Bret Barnes, Dustin Ragan, Troy Crawford, Michael Griffin, Andrew Nencka, Yu Liu, To Identify Ferrous Components of Medical Implants in Patients with Machine Learning based on CT Images, Olson Radiology Retreat, Milwaukee, 09/2023

#### **COMMITTEE SERVICE:**

##### **Medical College of Wisconsin**

07/2019 - Present Member, Medical Physics Resident Program

##### **Hospital**

07/2017 - Present Member, MRI Safety Committee

07/2019 - Present Member, CT Dose Review Committee

07/2021 - Present Member, Radiation Safety Committee

#### **MCW TEACHING ACTIVITIES:**

##### **Medical Student Education**

01/2023 Lectures of CT Physics, Radiation Dosimetry

##### **Graduate Student Education**

2019 - 2020 Lectures of Healthcare Technologies Management

##### **Resident and Fellow Education**

07/2017 - 07/2022 Lectures on Radiological Physics

## **EXTRAMURAL TEACHING:**

### **Resident and Fellow Education**

04/2012 Memorial Sloan Kettering Cancer Center, Dynamic contrast enhanced MRI in Oncology

### **Continuing Medical Education**

07/2021 - 05/2022 Froedtert Hospital, Course director of Radiological Physics for radiological technologists

## **COMMUNITY SERVICE ACTIVITIES:**

11/13/2019 Judge for 29th Annual Graduate School Poster Session.

02/18/2021 Judge for 30th MCW Annual Research Poster Session

11/02/2022 Judge for 32nd Annual Graduate School Poster Session Award Winners Announced

09/15/2023 Judge for 2023 Postdoc Research Symposium

11/15/2023 Judge for 33rd Annual Graduate School Research Poster Session.

11/2023 External grant reviewer for Hong Kong Innovation and Technology Commission

## **BIBLIOGRAPHY**

### **Refereed Journal Publications/Original Papers**

1. Lu Y, Kumbhar S, Liu Y, Vo NJ, Lu J, Baker M, Qi J, Assessment of infant gonadal dose irradiated from urine-contaminated diapers during diuretic renal scintigraphy. Nucl Med Commun 2024 Jan 01;45(1):45-50.
2. Hualiang Zhong, Lei Ren, Yonggang Lu, Yu Liu, On the correction of respiratory motion-induced image reconstruction errors in positron-emission tomography-guided radiation therapy, Phys Imaging Radiat Oncol. 26 (2023) 100430
3. Sara Principi, Yonggang Lu, Yu Liu, Adam Wang, Alex Maslowski, Todd Wareing, John Van Heteren, Taly Gilat Schmidt, Validation of a deterministic linear Boltzmann transport equation solver for rapid CT dose computation using physical dose measurements in pediatric phantoms, Med Phys. 2021 Dec; 48(12): 8075–8088
4. LoCastro E, Paudyal R, Mazaheri Y, Hatzoglou V, Oh JH, Lu Y, Konar AS, Vom Eigen K, Ho A, Ewing JR, Lee N, Deasy JO, Shukla-Dave A. Computational Modeling of Interstitial Fluid Pressure and Velocity in Head and Neck Cancer Based on Dynamic Contrast-Enhanced Magnetic Resonance Imaging: Feasibility Analysis. Tomography 2020 06;6(2):129-138.
5. Paudyal R, Lu Y, Hatzoglou V, Moreira A, Stambuk HE, Oh JH, Cunanan KM, Aramburu Nunez D, Mazaheri Y, Gonen M, Ho A, Fagin JA, Wong RJ, Shaha A, Tuttle RM, Shukla-Dave A. Dynamic contrast-enhanced MRI model selection for predicting tumor aggressiveness in papillary thyroid cancers. NMR Biomed 2020 01;33(1):e4166.
6. David Aramburu Núñez, Yonggang Lu, Ramesh Paudyal, R. Michael Tuttle and Amita Shukla-Dave, Quantitative Non-Gaussian Intravoxel Incoherent Motion Diffusion Weighted Imaging Metrics and Surgical Pathology for Stratifying Tumor Aggressiveness in Papillary Thyroid Carcinomas, Tomography 2019 03;5(1):26-35.
7. Fu Y, Mazur TR, Wu X, Liu S, Chang X, Lu Y, Li HH, Kim H, Roach MC, Henke L, Yang D. A novel MRI segmentation method using CNN-based correction network for MRI-guided adaptive radiotherapy. Med Phys. 2018 Nov;45(11):5129-5137
8. Liang F, Qian P, Su KH, Baydoun A, Leisser A, Van Hedent S, Kuo JW, Zhao K, Parikh P, Lu Y, Traugher BJ, Muzic RF Jr, Abdominal, multi-organ, auto-contouring method for online adaptive magnetic resonance guided radiotherapy: An intelligent, multi-level fusion approach. Artif Intell Med. 2018 Aug;90:34-41.
9. Ramesh Paudyal, Jung Hun Oh, Nadeem Riaz, Praveen Venigalla, Jingao Li, Vaios Hatzoglou, David Aramburu Nunez, Yonggang Lu, Joseph O. Deasy and Nancy Lee, Amita Shukla-Dave. Intravoxel incoherent motion diffusion-weighted MRI during chemoradiation therapy to characterize and monitor treatment response in human papillomavirus head and neck squamous cell carcinoma, JMRI 2017 45(4):1013-1023.
10. Jansen JF, Parra C, Yonggang Lu, Shukla-Dave A. Evaluation of Head and Neck Tumors with Functional MR Imaging. Magn Reson Imaging Clin N Am. 2016 Feb;24(1):123-33.

11. Jansen JF, Yonggang Lu, Gupta G, Lee NY, Stambuk HE, Mazaheri Y, Deasy JO, Shukla-Dave A. Texture analysis on parametric maps derived from dynamic contrast-enhanced magnetic resonance imaging in head and neck cancer. *World J Radiol.* 2016 Jan 28;8(1):90-7
12. Brown AM, Nagala S, McLean MA, Yonggang Lu, Scoffings D, Apte A, Gonen M, Stambuk HE, Shaha AR, Tuttle RM, Deasy JO, Priest AN, Jani P, Shukla-Dave A, Griffiths J. Multi-institutional validation of a novel textural analysis tool for preoperative stratification of suspected thyroid tumors on diffusion-weighted MRI. *Magn Reson Med.* 2016;75(4):1708-16.
13. Yonggang Lu, Vaios Hatzoglou, Suchandrima Banerjee, Hilda E. Stambuk, Mithat Gonen, Ajit Shankaranarayanan, Yousef Mazaheri, Joseph O. Deasy, Ashok R. Shaha, R. Michael Tuttle, and Amita Shukla-Dave. Repeatability investigation of reduced field-of-view diffusion weighted magnetic resonance imaging on thyroid glands. *Journal of Computer Assisted Tomography*, 2015;39(3):334-9
14. Yonggang Lu, Andre Moreira, Vaios Hatzoglou, Hilda E. Stambuk, Mithat Gonen, Yousef Mazaheri, Joseph O. Deasy, Ashok R. Shaha, R. Michael Tuttle and Amita Shukla-Dave, Using diffusion-weighted MRI to predict aggressive histological features in papillary thyroid carcinoma: a novel tool for pre-operative risk stratification in thyroid cancer, *Thyroid.* 2015;25(6):672-80
15. Yonggang Lu, Jacobus Jansen, Hilda E. Stambuk, Nancy Lee, Mithat Gonen, Andre Moreira, Yousef Mazaheri, Snehal G. Patel, Joseph O. Deasy, Jatin P. Shah, and Amita Shukla-Dave. Comparing primary tumors and metastatic nodes in head and neck cancer using intravoxel incoherent motion imaging: a preliminary experience, *Journal of Computer Assisted Tomography*, 2013; 37(3):346-52
16. Yousef Mazaheri, Richard K Do, Amita Shukla-Dave, Oguz Akin, Joseph Deasy, Yonggang Lu, Motion correction of multi-b-value diffusion-weighted imaging in the liver, *Academic Radiology* 2012; 19(12):1573-80
17. Yonggang Lu, Jacobs Jansen, Hilda E. Stambuk, Yousef Tehrani-Mazaheri, Jason Koutcher, Amita Shukla-Dave. Extension of the intravoxel incoherent motion model to non-Gaussian diffusion in head and neck cancer. *Journal of Magnetic Resonance Imaging* 2012;36(5):1088-96.
18. Yousef Mazaheri, Asim Afaq, Daniel B Rowe, Yonggang Lu, Amita Shukla-Dave, Jarrett Grover. Diffusion-weighted MRI of the prostate: Improved robustness with stretched exponential modeling. *Journal of Computer Assisted Tomography* 2012;36(6):695-703.
19. Jacobus Jansen, Diane L. Carlson, Yonggang Lu, Hilda E. Stambuk, Andre L. Moreira, Bhuvanesh Singh, Snehal G. Patel, Dennis H. Kraus, Richard J. Wong, Ashok R. Shaha, Jatin P. Shah, Amita Shukla-Dave. Correlation of a priori DCE-MRI and 1H-MRS data with molecular markers in neck nodal metastases: Initial analysis. *Oral Oncology* 2012; 48:717-722
20. Ting Chen, Feiyun Wu, Yonggang Lu, Bin Qin, Huijuan Tu, Jing Qi, In vivo study of skeletal muscle mitochondria function of impaired glucose tolerance by using dynamic phosphorous magnetic resonance spectroscopy, *Journal of Clinical Radiology*, 2011, 30(7): 1030-1034
21. Bin Qin, Feiyun Wu, Xunhui Liu, Yonggang Lu, Jing Qi, in vivo evaluation of skeletal muscle mitochondrial function using dynamic phosphorus magnetic resonance spectroscopy on clinical 3T MR system, *Journal of Medical Imaging*, 2011, 21 (8): 1280-1283
22. Yonggang Lu, Jianyuan Huang, Hailong Ding, Xinrong Zhao. Study on an Intelligent Finger Vein Image Acquisition and Control System, *Journal of Electronic Measurement and Instrument*, 2010, 24 (2):184-189.
23. Changsun Zhang, Jianyuan, Xinrong Zhao, Yonggang Lu, An All-around Watchdog Feeding Method in Linux Embedded System, *Microcontrollers & Embedded System*, 2009(4): 40-42.
24. Jianyuan Huang, Xinrong Zhao, Changshun Zhang, Hailong Ding, Yonggang Lu, Research on a Finger Vein Image Capturing Method and Its Apparatus based on CMOS Imaging Device, *Infrared Technology*, 2009, 31(1): 51-56.
25. Zhujun Yin, Yonggang Lu, Yongjian Ding, Jian Zhao, Yongchang Lu, Qisheng Yang, Lingling Tian, Fang Xun, Jing Chen, Study on Image Technology for Identifying Plasmodium, *Chinese Journal of Frontier Health and Quarantine*, 2008, 31(4): 241-244.
26. Arabinda Mishra, Yonggang Lu, Ann S. Choe, Akram Aldroubi, John C. Gore, Adam W. Anderson, Zhaohua Ding, An Image-processing Toolset for Diffusion Tensor Tractography. *Magn Reson Imaging*, 2007 (25):365-376.
27. Yonggang Lu, Akram Aldroubi, John C. Gore, Adam W. Anderson, Zhaohua Ding, Improved fiber tractography with Bayesian regularization. *Neuroimage*, 2006 (31):1061-1074
28. Arabinda Mishra, Yonggang Lu, Adam W. Anderson, John C. Gore and Zhaohua Ding, Unified Framework for Anisotropic Interpolation and Smoothing of Diffusion Tensor Images, *Neuroimage*, 2006 (31):1523-1535.

29. Yonggang Lu, Shimin Wang, Zhen Zhu, Irradiance reconstruction for three-dimensional luminous body by means of the focusing emission computed tomography. *Acta Optica Sinica*, 2000, 20(4): 570-572
30. Yonggang Lu, Zhen Zhu, Shimin Wang, Particle trajectory measurement by defocusing technique with a camera. *Optical Technology*, 1999, 4: 91-93.
31. Zhen Zhu, Mao Ye, Yong Lu, Yonggang Lu, Tao Hu, Shimin Wang, High Precise Algorithm of Mie Scattering in the Particle Sizing by Light Scattering, *Journal of Optoelectrics-laser*, 1999, 10(2): 135-138.
32. Shimin Wang, Zhen Zhu, Mao Ye, Yong Lu, Yonggang Lu, Yiqian Xu, Two improved numeric methods for measuring particle size in Mie theory by light scattering, *Acta Metrologica Sinica*, 1999, 20(4):42-48.
33. Jie Zhou, Zhenfu, Xinguo Pu, Kun Wang, Yonggang Lu, Kefa Cen, Study of Zero-crossing Polarity Correlation for Velocity Measurement of High Temperature Flue gas, *Proceedings of the Chinese Society for Electrical Engineering*, 1999, (3): 11-13
34. Yonggang Lu, Shimin Wang, Zhen Zhu, Three-dimensional irradiance imaging with a single camera system. *Journal of Southeast University*, 1998, 14(2): 38-42.
35. Yonggang Lu, Shimin Wang, Changyan Xu, Cross-correlation velocimeter of flue gas based on single chip microcomputer. *Instrumentation Technology* 1998, 4: 24-30.
36. Zhen Zhu, Shimin Wang, Mao Ye, Yonggang Lu, Yong Lu, A correction of forward light scattering extinction measurement in particle sizing, *Laser Journal*, 1998(6):
37. Zhen Zhu, Shimin Wang, Mao Ye, Yonggang Lu, Measurement of particle size distribution and concentration in flue gas by optical counting methods, *Energy reservation and utilization*, 1998,4:24-26
38. Yonggang Lu, Ying Li, Theoretical analysis and application of velocity ratio of solid to gas in pneumatic transportation for wood industry, *China Wood Industry*, 1996, (1): 18-21.

#### **Books, Chapters, and Reviews**

1. 2013 Yonggang Lu, Yousef Tehrani-Mazaheri, Hedvig Hrivak, Amita Shukla-Dave. MS3.22 Clinical Applications of Magnetic Resonance Spectroscopic Imaging, *Comprehensive Medical Physics*, Elsevier Inc, 2013
2. 2014 Gaurang Shah, Zoran Rumboldt, Yonggang Lu. Chapter 79: Perfusion Imaging Using Magnetic Resonance Imaging and Computed Tomography in Head and Neck Cancer. *MR & CT Perfusion Imaging: Clinical Applications and Theoretical Principles*, Elsevier Inc, 2014

#### **Editorials, Letters To Editor, Other**

1. Lu Y, Zhang Z, Liu S, MR-guided focused ultrasound treatment techniques in cancers: from physics to clinics. *Front Oncol* 2023;13:1233833

#### **Abstracts**

1. Yonggang Lu, Max Krucoff, An Automated Trajectory Optimization Algorithm for Laser Induced Thermal Therapy (LITT) for Brain Tumors. 2024 SNO/ASCO CNS Metastases Conference.
2. Yonggang Lu, Steven Yuvan, Dustin Ragan, Troy Crawford, Yu Liu, Max Krucoff, Automated and Optimized Trajectory Planning in Laser Induced Thermal Therapy (LITT) for Brain Tumors. AAPM 2024.
3. Nour Dababo, Dan Bucklan, Yonggang Lu, Jake Mandziuk, Correlation between Ga68-DOTATATE uptake on PET/CT and MIB-1 Immunohistochemistry in Meningioma, SNMMI Annual Meeting 2023
4. Yonggang Lu, Sachin Kumbhar, Yu Liu, Nghia-Jack Vo, Marjorie Baker, Jing Qi, Assessment of Gonadal Dose Irradiated from Urine Contaminated Diapers in Diuretic Renal Scintigraphy for Infant Patients, SNMMI Annual Meeting 2023.
5. Yonggang Lu, Dustin K Ragan, Troy Crawford, Yu Liu, Computational Simulation of MRI Scan Induced Thermal Risk During MRI Guided Prostate Cryoablation, AAPM Annual Meeting 2023.
6. Steven Yuvan, Yonggang Lu, Dustin K Ragan, Troy Crawford, Jon Barrett, Steven Tomasik, Yu Liu, MRI-Guided Prostate Cryoablation: Evaluation of a Simple Localization System, AAPM Annual Meeting 2023.
7. Yonggang Lu, Steven Yuvan, Bret Barnes, Michael Griffin, Dustin Ragan, Troy Crawford, Yu Liu, Andrew Nencka, An anthropomorphic CT/MRI Pelvis Phantom with Implanted Medical Devices, AAPM Annual Meeting 2023.
8. Yonggang Lu, Steven Yuvan, Andrew Davis, Bret Barnes, Dustin Ragan, Michael Griffin, Troy Crawford, Yu Liu, Andrew Nencka, Classification of Metallic Materials with an Optimizable Ensemble Classification Learner based on Dual Energy CT Images, AAPM Annual Meeting 2023.

9. Yonggang Lu, Andrew Davis, Steven Yuwan, Bret Barnes, Dustin Ragan, Michael Griffin, Troy Crawford, Andrew Nencka, Yu Liu, Feasibility Study on Identifying Ferrous Materials by Using Dual Energy CT, AAPM Spring Meeting 2023.
10. Zhongwei Zhang, Yonggang Lu, Bei Zhang, Qi Peng, Radiofrequency Safety in MR Imaging - What are the Concerns? RSNA Annual Conference 2022.
11. Yonggang Lu, Sachin Kumbhar, Yu Liu, Nghia-Jack Vo, Marjorie Baker, Jing Qi, Computation of Gonadal Dose Irradiated from Urine Contaminated Diapers in Pediatric Patients During Renal Scintigraphy Exam, AAPM Annual Meeting 2022.
12. Yonggang Lu, Dustin Ragan, Yu Liu, Thermal risks on Active Implantable Medical Devices Induced by MRI Gradient Field Switching, AAPM Annual Meeting 2022.
13. Hualiang Zhong, Lei Ren, Yonggang Lu, Yu Liu, Experimental validation on the blurry image decomposition algorithm for motion correction of 3D PET images in diagnosis and treatment of SBRT patients, AAPM Annual Meeting 2022.
14. Yonggang Lu, Dustin Ragan, Manav Bhalla, Bret Barnes, Troy Crawford, Yu Liu, Identification of Ferromagnetic Materials of Medical Devices in Patients by Using Dual Energy CT, AAPM Spring Meeting 2022.
15. Yonggang Lu, Bret Barnes, Yu Liu. Feasibility study of direct helical acquisition method for CTDIvol measurement in dual energy CT. AAPM Clinical meeting 2021.
16. Yonggang Lu, Yu Liu, Kevin Koch, Mark Hohenwarter, Steven Censky, Victoria Cruz, Dustin Ragan, Manav Bhalla, Rajeev Mannem, Andrew Nencka. Practice Parameters for Determinants of MRI Safety in Patients with Implantable Medical Devices. RSNA 2020.
17. Yonggang Lu, Dustin K Ragan, Andrew Nencka, Kevin Koch, Yu Liu. Assessment of SAR (Specific Absorption Rate) Profiles of Magnetic Resonance Imaging in Patients with Abandoned Cardiac Implantable Electronic Devices by Using Computational Simulations. RSNA 2020.
18. Sara Principi, Yu Liu, Yonggang Lu, Dustin K Ragan, Adam Wang, Alex Maslowski, Todd Wareing, Taly Gilat Schmidt, Experimental validation of a linear Boltzmann transport equation solver for rapid CT dose map generation. AAPM 2020.
19. M.A. Thomas, Y. Lu, P.J. Parikh, and D. Yang, Evaluation of Surface-Based DIR Accuracy Using Digital Phantom Simulations and a Customized Physical Phantom for MR-Guided RT Plan Adaptation, AAPM 2019.
20. Yonggang Lu, Parag J. Parikh, Lauren E. Henke, Ishita Chen, Austen Curcuru, and Rojano Kashani, Shape context based deformable surface registration for the gastrointestinal tracts, AAPM 2017.
21. Yonggang Lu, Rojano Kashani, Ishita Chen, Hanlin Wan, Nichole M. Maughan, David Muccigrosso, and Parag J. Parikh, Bowel Auto-segmentation in Online Adaptive MRI-guided Radiation Therapy by Using a Multi-region Labeling Algorithm, AAPM 2016.
22. D Muccigrosso, Yonggang Lu, N Maughan, H Schulteijans, R Bera, P Parikh. The relationship between implantation distance and fraction number with fiducial accuracy during lung cancer radiation therapy, ASTRO 2016.
23. D Muccigrosso, Yonggang Lu, N Maughan, H Schulteijans, R Bera, P Parikh, Correlation of Lung Tumor Motion with Tumor Location Using Electromagnetic Tracking, AAPM 2016.
24. Yonggang Lu, Nancy Lee, Vaois Hatzoglou, Yousef Mazaheri, and Amita Shukla-Dave, A pilot study of weekly MRI for assessing early treatment response of radiotherapy in patients with head and neck cancers, Intl. Soc. Mag. Reson. Med. 2015.
25. Yonggang Lu, Yousef Mazaheri, Vaois Hatzoglou, R. Michael Tuttle. and Amita Shukla-Dave, A tracer kinetic model with optimal compartments for assessing intravoxel tumor heterogeneity in papillary thyroid carcinoma, Intl. Soc. Mag. Reson. Med. 2015.
26. Yonggang Lu, Vaios Hatzoglou, Hilda E. Stambuk, Suchandrima Banerjee, Ajit Shankaranarayanan, Yousef Mazaheri, Joseph O. Deasy, and Amita Shukla-Dave, Repeatability investigation and radiologic assessment of reduced field of view DWI on thyroid glands. Intl. Soc. Mag. Reson. Med. 2014: 1392
27. Yonggang Lu, Ashok R. Shaha, Hilda E. Stambuk, Andre Moreira, Yousef Mazaheri, Joseph O. Deasy, R. Michael Tuttle, and Amita Shukla-Dave, Assessment of tumor aggressiveness using intravoxel incoherent motion MRI in patients with papillary thyroid carcinoma. Intl. Soc. Mag. Reson. Med. 2014: 1715.
28. Yonggang Lu, Jacobus F.A. Jansen, Gaorav Gupta, Nancy Lee, Hilda E. Stambuk, Yousef Mazaheri, Joseph O. Deasy, and Amita Shukla-Dave. Prediction of treatment response using texture analysis on pharmacokinetic maps of dynamic contrast enhanced MRI in patients with head and neck cancer. Intl. Soc. Mag. Reson. Med. 2014: 1242.

29. Amita Shukla-Dave, Yonggang Lu, Vaios Hatzoglou, Hilda E. Stambuk, Yousef Mazaheri, Joseph O. Deasy. Repeatability Study of Reduced Field-Of-View Diffusion-Weighted MRI on Human Thyroid Gland, *Medical Physics (AAPM)*, 2014 (41)6: 463-463
30. Yonggang Lu, Jacobus F. Jansen, Hilda E. Stambuk, Nancy Lee, Mithat Gonen, Andre Moreira, Yousef Mazaheri, Snehal G. Patel, Joseph O. Deasy, Jatin P. Shah, and Amita Shukla-Dave. Evaluate the efficacy of intravoxel incoherent motion imaging in predicting treatment outcome in patients with head and neck cancer. *Intl. Soc. Mag. Reson. Med.*, 2013.
31. Yonggang Lu, Jacobus F. Jansen, Hilda E. Stambuk, Yousef Tehrani-Mazaheri, Jason Koutcher, Amita Shukla-Dave. Optical model mapping for characterizing tumor microcirculation with diffusion weighted imaging in head and neck. *Intl. Soc. Mag. Reson. Med.*, 2013.
32. Amita Shukla-Dave, Yonggang Lu, Hilda E. Stambuk, Andre Moreira, Yousef Mazaheri, Joseph O. Deasy, and R. Michael Tuttle, Role of Diffusion weighted magnetic resonance imaging in stratifying tumor aggressiveness in papillary thyroid carcinoma. *Intl. Soc. Mag. Reson. Med.*, 2013.
33. Yonggang Lu, Jacobs F. Jansen, Hilda E. Stambuk, Yousef Tehrani-Mazaheri, Nancy Lee, Jason A. Koutcher, Amita Shukla-Dave, Correlation of Intravoxel Incoherent Motion with Dynamic Contrast Enhanced MRI Derived Parameters in Neck Nodal Metastases, *Intl. Soc. Mag. Reson. Med.*, 2011.
34. Yonggang Lu, Jacobs F. Jansen, Hilda E. Stambuk, Nancy Lee, Jason A. Koutcher, Amita Shukla-Dave, MRI multi-parametric response mapping for assessment of early therapeutic efficacy in head and neck cancer, *Intl. Soc. Mag. Reson. Med.*, 2011.
35. Yonggang Lu, Jacobs F. Jansen, Hilda E. Stambuk, Nancy Lee, Jason A. Koutcher, Amita Shukla-Dave, Comparison of vascularity characteristics between primary tumor and metastatic nodes in head and neck cancer by DCE- and IVIM-MRI, *Intl. Soc. Mag. Reson. Med.*, 2011.
36. Jacobs F. Jansen, H. Schoder, Yonggang Lu, Hilda E. Stambuk, Nancy Lee, S. G. Patel, J. P. Shah, Jason A. Koutcher, Amita Shukla-Dave, Tumor diffusion and metabolism in head and neck cancer: pretreatment multimodality imaging with DW-MRI and 18F-FDG PET, *Intl. Soc. Mag. Reson. Med.*, 2011.
37. Jacobs F. Jansen, Yonggang Lu, Hilda E. Stambuk, Nancy Lee, Jason A. Koutcher, Amita Shukla-Dave, Kurtosis analysis for DWI improves prediction of short-term response in head and neck cancer, *Intl. Soc. Mag. Reson. Med.*, 2011.
38. Jacobs F. Jansen, Yonggang Lu, Hilda E. Stambuk, Nancy Lee, Jason A. Koutcher, Amita Shukla-Dave, Evaluation of pretreatment and early response DCE MRI in head and neck cancer: prediction of short-term outcome, *Intl. Soc. Mag. Reson. Med.*, 2011.
39. Yonggang Lu, Jing Qi, John C. Gore, Adam W. Anderson, Zhaohua Ding. A High Order Accurate and Robust Fiber Tractography with Diffusion Tensor Imaging, *Intl. Soc. Mag. Reson. Med.*, 2007.
40. Jing Qi, Dehang Wang, Yonggang Lu, 1H MRS Detects Bilateral Abnormalities in Hippocampus of Temporal Lobe Epilepsy Patients, *Intl. Soc. Mag. Reson. Med.*, 2007.
41. Yonggang Lu, Jing Qi, Akram Aldroubi, John C. Gore, Adam W. Anderson, Zhaohua Ding. Fiber-Oriented Regularization of Diffusion Tensor Images, *Intl. Soc. Mag. Reson. Med.*, 2006.
42. Yonggang Lu, Zhaohua Ding, John C. Gore, Adam W. Anderson, Probabilistic Connectivity Mapping Using the Asymmetric Uncertainty of Diffusion Tensor Imaging, *Intl. Soc. Mag. Reson. Med.*, 2005.
43. Ha-kyu Jeong, Yonggang Lu, Zhaohua Ding, Adam W. Anderson. Characterize cone of uncertainty in diffusion tensor MRI, *Intl. Soc. Mag. Reson. Med.*, 2005.
44. Yonggang Lu, Zhaohua Ding, John C. Gore, Adam W. Anderson. Adaptive Bayesian Tracking of Neuronal Fiber Pathways from Diffusion Tensor Images, *Intl. Soc. Mag. Reson. Med.*, 2004.
45. Zhaohua Ding, Matthews Eames, Yonggang Lu, Adam W. Anderson. Anisotropic Smoothing of Diffusion Tensor Images. *Intl. Soc. Mag. Reson. Med.*, 2004.

#### **Peer Reviewed Educational Products**

1. Zhongwei Zhang, Yonggang Lu, Bei Zhang, Qi Peng, Radiofrequency Safety in MR Imaging - What are the Concerns? <https://www.imagewisely.org/Educational-Tools/RSNA-Radiation-Dose-Exhibits>.

#### **Database, Video, or Other Research/Clinical Contributions**

1. A CT feature database of ferrous and non-ferrous materials
2. Set up a deep learning software and computer system in medical physics lab
3. Medical physics support for MRI guided cryoablation: protocol optimization and testing for a grid system and related software, 8/2022~present.
4. Fabrication of abdominal ultrasound biopsy phantoms for radiologist practice and resident training, 1/2023~present

**Software, Software Modules**

1. A tool for identifying ferrous materials in medical implants for MRI safety
2. A tool for creating virtual pediatric patients with diapers
3. A software package for quantifying IVIM imaging biomarkers for head/neck cancers
4. A software package for quantifying DCE-MRI imaging biomarkers for head/neck cancers