Curriculum Vitae

Baoshe Zhang, Ph.D., DABR
Associate Professor, Department of Radiation Oncology
University of Maryland School of Medicine

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Contact Information

Business Address:	Department of Radiation Oncology University of Maryland Medical Center 22 South Greene St. Baltimore, MD 21201
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Foreign Languages:	Chinese (native)

Education

1988-1993	B.S., Physics, University of Science and Technology of China
1993-1995	M.S., Physics, University of Science and Technology of China
1997-2003	Ph.D., Physics, Hong Kong University of Science and Technology

Certifications

2018 Diplomate, American Board of Radiology (Speciality: Therapeutic Medical Physics)

Employment History

Academic Appointments

2005-2008	Research Associate, Department of Physics, University of Lethbridge, Alberta, Canada
2008-2011	Instructor, Department of Radiation Oncology, Virginia Commonwealth University School of Medicine
2014-2022	Assistant Professor, Department of Radiation Oncology, University of Maryland School of Medicine (UMSOM)
2022-present	Associate Professor, Department of Radiation Oncology, University of Maryland School of Medicine (UMSOM)

Other Employments

1995 – 1997	Software Engineer, SUN-USTC Institute of Computer Technology Company, China
2003 – 2004	Programmer, Muti & Co Ltd, Canada
2011 – 2014	System Administrator, Department of Radiation Oncology, UMSOM

Professional Society Membership

2010-present Full Member, American Association of Physicists in Medical (AAPM)
2010-present Full Member, Mid-Atlantic Chapter of American Association of Physicists in Medical (MAC-AAPM)

Honors and Awards

2022 Certificate for Top Cited Article 2020-2021, Journal of Applied Clinical Medical Physics

Clinical Activities

Clinical Expertise

Informatics in Radiation Oncology
Clinical Workflow Optimization and Automation
Quality Assurance of Radiation Therapy Machine
Photon/Proton/Electron Radiation Therapy Treatment Planning
LDR/HDR Brachytherapy
Physics chart check for Photon/Proton/Electron external beam and Brachytherapy
Application of Artificial Intelligence (AI) in Radiation Therapy

Major/Lead Roles in Clinical Development Activities

2012 Project Leader, development of radiation oncology change request system. An efficient electronic clinical change management system from change request to change approval to change implementation.
2012 Project Leader, development of radiation oncology document library system. A centralized electronic clinical document library system for clinical document sharing and archiving and education.
2012 Project Leader, development of radiation oncology system monitoring system. A centralized web-based system monitoring system for clinical system failure alerts.
2012 Project Leader, development of pinnacle patient data arching system. Prevents the loss of all patient treatment planning data during an irrecoverable treatment plan system (TPS) failure.
2012 Project Lead, development of automation check system for upgrade of radiation oncology information systems (ROIS v10 to v11.2). Verified patient data during high-risk upgrade of radiation oncology information systems.
2012 Project Lead, development of clinical referring physician survey system.
2012 Project Lead, development of clinical helpdesk system.
2012-2013 Technical Lead, development of Electronic Medical Record (EMR) system. Transitioned all patients paper-based medical record system to electronic medical record system.
2012-2016 Technical Lead, Annual Radiobiology and Physics Review Course.

	Technical support for Annual Radiobiology and Physics Review Courses for online registrations and educational materials sharing and audio-visual online educations.
2013	Project Lead, development of online radiation oncology education system for medical residency program / physics residency program / dosimetry student program.
2013	Project Lead, development of radiation oncology on-call alert system.
2013	Project Lead, patient data integrity check for upgrade of radiation oncology information system (ROIS v11.2 to v11.5). Varian.
2013	Technical Lead, installation/acceptance test/commission of RayStation Treatment Planning System (v3.5).
2014	Lead physicist, development of the VisionRT clinical workflow.
2014	Lead physicist, development of on-treatment-visit (OTV) alert system.
2014	Lead physicist, development of physics weekly chart check distribution system.
2014	Lead physicist, implementation of AAPM TG-142 in Radiation Oncology.
2014-present	Lead physicist, early breast cancer practice guidelines team.
2014	Lead physicist, development of automatic data integrity check for the treatment console upgrade of Varian C-Series Linacs.
2015	Lead Physicist, Mobius3D commissioning and upgrade.
2015	Project Lead, development of weekly/monthly MLC QA clinical workflow.
2015	Project Lead, development of radiation treatment plan comparison tools. Prevents medical mis-administrations caused by patient data transfer from the treatment planning system to the treatment delivery system.
2016	Lead physicist, implementation of breath-hold VisionRT clinical procedure.
2016	Project Lead, patient data integrity check for upgrade of radiation oncology information system (ROIS v11.5 to v13.7).
2018	Project Lead, development of patient data conversion tools between different treatment planning systems.
2019	Project Lead, patient data integrity check for upgrade of radiation oncology information system (ROIS v13.7 to v15.5).
2019	Project Lead, optimization of proton physics workflow for Maryland Proton Treatment Center (MPTC).
2019-2020	Lead physicist, development of automatic patient chart check system
2020	Project Lead, optimization of couch replacement tools for proton radiation therapy for MPTC.
2020	Project Lead, patient data transfer and integrity check for merging Shore Regional Cancer Center with UMMS Radiation Oncology. Saved the department $250,000 in vendor charges for the same service.
2020	Physicist, development of prostate HDR clinical procedure for UMMC.
2020	Lead Physicist, development of emergency patient treatment procedure for UMMC.
2021-2022	Physicist, Development of lateral total-body irradiation (TBI) technique for UMMC to replace translational total-body irradiation.
2021-2022	Lead physicist, Commissioning of Varian's Mobius Mega system for all the photon treatment clinic sites of UMMS.
2022	Lead physicist, Commissioning of VisionRT for UMMC.
2022	Lead physicist, Optimization of Proton Patient-Specific QA procedure using in-house developed tools. The proton PS-QA time was reduced to about half.
2022	Lead physicist, Development of Proton Couch Insert Tool for RayStation TPS to replace the couch replacement tool. The tool significantly simplifies the proton couch replacement procedure and the clinic time for this task is reduced from 10~20 minutes to no more than 1 minute.

Administrative Service

Institutional Services

2013-present	Member, Department RayStation Working Group
2014-present	Member, Radiation Oncology IT Steering
2018-present	Chair, Committee of Departmental Software Development
2019-2022	Representative, SOM Council for the Department of Radiation Oncology
2019-present	Member, Dosimetry Training Program Advisory Committee
2021-present	Member, Steering Committee of Medical Physics Certification Education
2022-present	Chair, the DICOM Committee

Local and National Service

2014-2016	Chair, IT Committee, Mid-Atlantic Chapter of AAPM (MAC-AAPM)
2018-present	*Ad Hoc* Reviewer, Medical Physics (2~3 times/year)
2020-present	*Ad Hoc* Reviewer, Journal of Applied Clinical Medical Physics (6~7 times/year)
2021	Reviewer, 63rd Annual Meeting of AAPM (2021)
2021-present	AAPM Work Group on the Implementation of TG-100 (WG100)
2022	Reviewer, 64th Annual Meeting of AAPM (2022)
2022-present	*Ad Hoc* Reviewer, Phys. Med. Biol.
2022-present	Chair, AAPM Task Group: Radiation Oncology Contingency Plan against Cyberattacks. The task group has been approved by AAPM Scientific Committee.

International Service

2021-present	Associate Editor, Technology in Cancer Research and Treatment (5 times/year)
2023-present	Associate Editor, Journal of Applied Clinical Medical Physics (5 times/year)

Teaching Service

Radiation Dosimetrist Student Teaching

2018-2022 Course Instructor, Computing in Dosimetry
Radiation Oncology, University of Maryland Medical Center
18 students, 2 class hrs/year

Radiation Medical Resident Teaching

2016-2022 Course Instructor, Patient Dosimetry (Monitor Calculation, Linac QA, Physics Patient chart checks), UMMC
9 medical residents, 3 class hrs/per capita

Research Advisor and Mentorships

2017 Research Mentor, final research project
1 medical dosimetry student, 2hrs/week for 4 months

2020 Research Mentor, final research project: Evaluate the setup uncertainties of the shoulder for HN patients receiving the VMAT
1 medical dosimetry student, 2hrs/week for 4 months

2020 Co-Research Mentor, research project: Robust treatment planning to minimize the dose impact due to the shoulder uncertainties
1 medical dosimetry student, 2hrs/week for 4 months

2020 Co-Research Mentor, final research project: Evaluate the dose uncertainties due to the MLC uncertainties for the brain SRS patients receiving the Hyper Arc treatment
1 medical dosimetry student, 2hrs/week for 4 months

2021 Research Mentor, research project: Research Project: Dosimetric impact of MLC leaf positional uncertainty for SRS patient treatments
1 physics resident, 1hr/week for 6 months

2022 Co-Research Mentor, research project: VMAT Lattice Comparison of HDMLC vs MLC
1 medical dosimetry student, 1hr/week

2022 Co-Research Mentor, research project: Lattice Treatment Measurements
1 physics resident, 1hr/week

ABR Mock Examiner for Therapeutic Physics

2018-2020 Prepared examination questions and conducted mock examinations to prepare medical physics residents, junior physics faculty and external physics colleagues for the ABR Therapeutic Physics examinations.
9 examinees, 2.5hrs/yr

2022 Prepared examination questions and conducted mock examinations to prepare a junior physics faculty for the ABR Therapeutic Physics examinations.
7 mock exams, 7hrs/yr

In-Service Educational Teaching

2014 Lecturer, *Patient Data Archiving and Retrieval in Pinnacle Treatment Planning System*
24 medical physicists, 16 dosimetrists, 2 dosimetry students, 1-hr single lecture
Institution: University of Maryland, School of Medicine

2016 Lecturer, *Patient Data Integrity Check during Radiation Oncology Information System Upgrades*
24 medical physicists, 1-hr single lecture
Institution: University of Maryland, School of Medicine

2016 Lecturer, *Auto Treatment Plan Parameter Comparison*
18 medical physicists, 8 dosimetrists, 4 dosimetry students, 1-hr single lecture
Institution: University of Maryland, School of Medicine

2017 Lecturer, *Prediction of Treatment Re-Planning by Cone-beam Computed Tomography (CBCT)*
18 medical physicists, 8 dosimetrists, 4 dosimetry students, 1-hr single lecture
Institution: University of Maryland, School of Medicine

2019 Lecturer, UMMS Breath-Hold VisionRT Procedure: Physics Task Attendees
18 medical physicists, 16 medical dosimetrists, 4 medical dosimetry students, 1-hr single lecture
Institution: University of Maryland, School of Medicine

2020 Lecturer, *Emerging Technology Committee, Practical Solution for Anti-Ransomware in Radiation Oncology*
6 members of Emerging Technology Committee, 0.5-hr single lecture
Institution: University of Maryland, School of Medicine

2020 Lecturer, Emerging Technology Committee, Virtual Physicist Project for Quality Safety Review Committee
6 members of Emerging Technology Committee, 0.5-hr single lecture
Institution: University of Maryland, School of Medicine

2020 Lecturer, Automation of Dosimetry Chart Check
18 medical physicists, 16 medical dosimetrists, 4 medical dosimetry students, 1-hr single lecture
Institution: University of Maryland, School of Medicine

2020 Lecturer, Dosimetry Plan Compliance Chart Check
12 proton medical dosimetrists, 4 medical dosimetry students, 1.0hr single lecture
Institution: University of Maryland, School of Medicine

2022 Lecturer, VisionRT Commissing
25 physicists, 14 medical dosimetrist, 3 medical physics resident, 4 medical dosimetrist students. 1.0hr single lecture
Institution: University of Maryland, School of Medicine

2022 Lecturer, Use of CBCT plus plan robustness for reducing QACT frequency in intensity-modulated proton therapy: Head-and-neck cases
22 physicists, 7 medical dosimetrist, 2 medical physics resident, 2 medical dosimetrist students. 1.0hr single lecture
Institution: University of Maryland, School of Medicine

Grant Support

Completed Grants:

1/6/2005-5/30/2008 (Co-Inv 100%; PI: Dr. David Naylor)
Project Title: the 2nd generation Fourier Transformation System (FTS-2) for Submillimetre Common-User Bolometer Array 2 (Scuba-2) in James Clark Maxwell Telescope (JCMT)
Funding Source: Natural Sciences and Engineering Research Council of Canada (NSERC)
Led efforts in designing/developing/optimizing astronomical data reduction/ analysis/ calibration system for Scuba-2 project (James Clerk Maxwell Telescope) of Joint Astronomy Centre, designing

real-time control system for Scuba-2 and astronomical far-infrared spectroscopy analysis software, designing/developing astronomical data calibration for Herschel-Spire project (Herschel Space Observatory) of European Space Agency.

6/10/2008-10/25/2013 (Co-Inv 100%; Dr. Jeffrey Williamson)
Project Title: Image-Guided Adaptive Radiotherapy
NIH, P01-CA116602-05
Total Direct Cost: US$20,825,598
Led the efforts in designing/developing computing infrastructure (medical image processing, registration and segmentation) for Image-Guided Adaptive Radiation Therapy (IGART).

Patents, Inventions and Copyrights

1. *TumorTrak – Organ Motion Management Software in Radiation Oncology* (**UMB Docket Number: BZ-2018-024**). Inventors: **B. Zhang**, W. D'Souza, K. Campbell. (January, 2018)
2. *Data Conversion tool from the Pinnacle Treatment Planning System to a Vendor-Neutral DICOM Format* (**UMB Docket Number: BZ-2018-025**). Inventors: **B. Zhang**, W. D'Souza (Note: this technology has been licensed to RaySearch Americas, Inc through a Master License Agreement between University of Maryland, Baltimore and RaySearch Americas, Inc.). (January 2018)
3. *Data Conversion Tool from Eclipse to DICOM* (**UMB Docket Number: BZ-2018-067**). Inventors: **B. Zhang**, W. D'Souza (Note: this technology has been licensed to RaySearch Americas, Inc through a Master License Agreement between University of Maryland, Baltimore and RaySearch Americas, Inc.). (January 2018)
4. *Pinnacle Treatment Planning System Patient Data Archival and Retrieval* (**UMB Docket Number: BZ-2018-026**). Inventors: **B. Zhang**, W. D'Souza. (January 2018)
5. *Automated tool for Post-Upgrade Quality Assurance of Aria/Eclipse* (**UMB Docket Number: BZ-2018-083**). Inventors: **B. Zhang**, S. Chen, B. Yi, W. D'Souza. (February 2018)
6. *Contingency plan for radiation oncology against cyberattacks* (**UMB Docket Number: BZ-2020-071**). Inventors: **B. Zhang**, S. Chen, W. D'Souza, B. Yi. (January 2020)

Publications

Peer-reviewed journal articles

1. Y. Wang, **B. Zhang**, F. Li. Dynamic behavior of soliton in optical fibre with arbitrary perturbation of the dielectric constant. **Chinese. J. of Lasers** A25, 453(1998).
2. H. Ma, **B. Zhang**, W.Y. Tam, P. Sheng. Dielectric-constant evaluation from microstructures. **Phys.Rev.B** 61, 962(2000).
3. **B. Zhang**, P. Sheng, H. S. Kwok. Optical measurement of azimuthal anchoring strength in nematic liquid crystals**. Phys.Rev.E** 67, 041713(2003).
4. **B. Zhang**, F. K. Lee, O. K. C. Tsui, P. Sheng. Liquid Crystal Orientation Transition on Microtextured Substrates. **Phys. Rev. Lett.** 91, 215501 (2003).
5. O.K.C. Tsui, F.K. Lee, **B. Zhang**, P. Sheng. First-order liquid crystal orientation transition on inhomogeneous substrates. **Phys.Rev.E** 69, 021704 (2004).

6. F.K. Lee, **B. Zhang**, P. Sheng, H. S. Kwok, O. K. C. Tsui. Continuous Liquid Crystal Pretilt Control through Textured Substrates. **Appl. Phys. Lett.** 85, 5556(2004).
7. M. Fatyga, **B. Zhang**, W.C. Sleeman. Designing and Implementing a Computing Framework for Image-Guided Radiation Therapy Research. **IEEE Computing in Science and Engineering** 14(4), 57 (2012).
8. M. Fatyga, N. Dogan, J. Williamson, E. Weiss, W. Sleeman, W. Lehman, **B. Zhang**, K. Wijesooriya, G. Christensen. A voxel-by-voxel comparison of deformable vector fields obtained by three deformable image registration algorithms applied to 4DCT lung studies. **Front Oncol** 5, 17(2015).
9. J. Zhou, Z. Yan, G. Lasio, J. Huang, **B. Zhang**, N. Sharma, K. Prado, W. D'Souza. Automated compromised right lung segmentation method using a robust atlas-based active volume model with sparse shape composition prior in CT. **Computerized Medical Imaging and Graphics** 46, 47 (2015).
10. **B. Zhang**, S. Lee, S. Chen, J. Zhou, K. Prado, W. D'Souza, B. Yi. Action Levels on Dose and Anatomic Variation for Adaptive Radiation Therapy Using Daily Offline Plan Evaluation: Preliminary Results. **Pract Radiat Oncol.** 9, 49 (2019).
11. **B. Zhang**, S. Chen, W. D'Souza, B. Yi. A systematic quality assurance framework for the upgrade of radiation oncology information systems. **Physica Medica** 69, 28 (2020).
12. **B. Zhang**, S. Chen, W. D'Souza, E. Nichols, B. Yi. A practical contingency plan for radiation oncology. **J Appl Clin Med Phys** 21, 181(2020) (DOI: 10.1002/acm2.12886).
13. C. M. DeCesaris, A. Pollock, **B. Zhang**, Y. Poirier, E. Kowalski, K. Paulosky, M. V. Mishra, E. Nichols. Assessing the Need for Adjusted Organ-at-Risk Planning Goals for Patients Undergoing Adjuvant Radiotherapy for Locally Advanced Breast Cancer with Proton Radiation. **Pract Radiat Oncol.** 11, 108(2021) (DOI: 10.1016/j.prro.2020.09.003).
14. J. W. Snider, J. Molitoris, S. Shyu, T. Diwanji, S. Rice, E. Kowalski, C. Decesaris, J. Remick, B. Yi, **B. Zhang,** A. Hall, CMD, N. Hanna, V. Ng, W. F. Regine. Spatially Fractionated Radiotherapy (GRID) Prior to Standard Neoadjuvant Conventionally Fractionated Radiotherapy for Bulky, High-Risk Soft Tissue and Osteo-Sarcomas: Feasibility, Safety, and Promising Pathologic Response **Rates. Radiat Res.** 194, 707(2020) (DOI: 10.1667/RADE-20-00100.1).
15. D. Yang, G. Lasio, **B. Zhang**, B. Yi, S. Chen, Y. Zhang, T. Macvittie, D. Metaxas, J. Zhou. Automated pulmonary fibrosis segmentation using a 3D multi-scale convolutional encoder-decoder approach in thoracic CT for the Rhesus Macaque with radiation-induced lung damage**. J Sign Process Syst** (2020) (https://doi.org/10.1007/s11265-020-01605-3) **(**DOI: 10.1007/s11265-020-01605-3).
16. H. Xu, **B. Zhang**, M. Guerrero, S. Lee, N. Lamichhane, S. Chen, B. Yi. Toward automation of initial chart check for photon/electron EBRT: the clinical implementation of new AAPM task group reports and automation techniques. **J Appl Clin Med Phys** 22, 234-245 (2021) (DOI: 10.1002/acm2.13200).
17. G. Wang, S. Zhai, G. Lasio, **B. Zhang**, B. Yi, S. Chen, T. J. Macvittie, D. Metaxas, J. Zhou, S. Zhang. Semi-Supervised Segmentation of Radiation-Induced Pulmonary Fibrosis from Lung CT Scans with Multi-Scale Guided Dense Attention. **IEEE Trans Med Imaging 41**, 531(**2022**) (DOI: 10.1109/TMI.2021.3117564)
18. B.Yi, A. Sawant, S. Chen, S. Lee, **B. Zhang**. Readiness for Radiation Treatment Continuity: Survey on Contingency Plans Against Cyberattacks. **Advances in Radiation Oncology** 7, 100990(2020) (DOI: 10.1016/j.adro.2022.100990)
19. C. Kalavagunta, H. Xu, **B. Zhang**, S. Mossahebi, M. MacFarlane, K. Jiang, S. Lee, S. Chen, A. Sawant, A. Gopal, B. Yi. Is a weekly qualitative Picket Fence test sufficient? A proposed alternate EPID based weekly MLC QA program. **J. Appl Clin Med Physics** (DOI: 10.1002/acm2.13699).

20. H. Xu, A. Hall, **B. Zhang**, S. Dudley, S. Cheston, S. Chen. A study of different diamond-shaped light fields used in EBRT setup for prone breast cancer patients. **J. Appl Clin Med Physics**, e13772 (2022) (DOI: 10.1002/acm2.13772).
21. W. Yao, **B. Zhang**, D. Han, J. Polf, S. Vedam, G. Lasio, and B. Yi. Use of CBCT plus plan robustness for reducing QACT frequency in intensity-modulated proton therapy: Head-and-neck cases. **Medical Physics** 49, 6794(2022)(DOI: 10.1002/mp.15915) (Editor's Choice)

Submitted or In-Revision Peer-reviewed journal articles

1. A. Modiri, S. Mossahebi, P. Mohindra, A. Sawant, S. Chen, R. Miller, **B. Zhang**, and Byong Yong Yi. High-efficiency volumetric-modulated proton arc therapy (HEV-PAT): a multi-disease-site concept study. Medical Physics (submitted)
   Role: initiation of a novel computational method and data analysis
2. N. Biswal, **B. Zhang**, E. Nichols, M. E. Witek, W. Regine, B. Yi. Beam Path Length from Isocenter to Skin on Cone-Beam CT Images as an Adaptive Planning Indicator in Proton Therapy for Extremity Tumors. **Pract Radiat Oncol.** (submitted)
   Role: project initiation, method development and data analysis

Books

1. **Baoshe Zhang**, Baofeng Zhang, Yanhui Wang. "Network Programming under Windows" (ISBN 7-312-00887-9), University of Sci. & Tech. of China Press, 1997.
2. **Baoshe Zhang**, Ping Lu, "Network Technology in Linux/Unix" + CDROM (ISBN 7-312-01119-5), University of Sci. & Tech. of China Press, 1999 (1st Ed.) and in 2002 (2nd Ed.).

Published Multimedia

1. **Baoshe Zhang**. ***JFFTPACK:*** a package of Fortran subprograms for the fast Fourier transform of periodic and other symmetric sequences. It includes complex, real, sine, cosine, and quarter-wave transform. Available: https://www.netlib.org/fftpack. (November 2005)
2. **Baoshe Zhang**. ***DICOMPACK:*** An open-source software package for DICOM Image/DICOM RT processing. Available: https://metacpan.org/release/DicomPack. (January 2011)
3. **Baoshe Zhang**. ***iHHOT***: a free hand-hygiene observation tools for iOS. iHHOT records hand-hygiene event with event type, hospital/location, time, role to be observed, patient contact, observer, and additional comments (November 2015)

Major Invited Talks

National

1. **B. Zhang**. University of Maryland Experience of the Anti-Attack Plan. AAPM Spring Clinical Meeting, Minneapolis, MN (2020)
2. **B. Zhang**. Automated proton chart check through RayStation scripting. 9th RayStation User Meeting, Virtual (2020)
3. **B. Zhang**. The Role of Medical Physicists in Quality Assurance of Radiation Oncology Information System (RIOIS) Upgrades. AAPM Spring Clinical Meeting, Virtual (2021)

4. **B. Zhang**. RO Cybersecurity Contingency Plan. The University of Texas MD Anderson Cancer Center, Virtual (2021)
5. **B. Zhang**. Contingency Plan Against Cyberattacks in Radiation Oncology. Kaiser Permanente, Dublin, CA, Virtual (2021)

Proffered Communications

National

1. **B. Zhang**, P. Sheng. Surface Switching Behavior of Liquid Crystal Induced by Micro Comb-like Electrodes. American Physical Society (APS) March Meeting, Seattle, WA, General Poster, 2001
2. **B. Zhang**, F.K. Lee, P. Sheng, O.K.C. Tsui. Liquid crystal orientation transition induced by microtextured substrates. APS March Meeting, Austin, TX, General Poster, 2003
3. D.A. Naylor, B.G. Gom, and **B. Zhang**. Preliminary design of FTS-2: an imaging Fourier transform spectrometer for SCUBA-2. Proc. SPIE 6275 (Millimeter and Submillimeter Detectors and Instrumentation for Astronomy), 62751Z (2006). Society of Photo-Optical Instrumentation Engineers, Orlando, FL, *Full-length Research Paper*, 2006
4. L.D. Spencer, D.A. Naylor, **B. Zhang**, P. Davis-Imhof, T.R. Fulton, J. Baluteau, M.J. Ferlet, T.L. Lim, E.T. Polehampton, B.M. Swinyard. Performance Evaluation of the Herschel/SPIRE Instrument Flight Model Imaging Fourier Transform Spectrometer. Proc. SPIE, Space Telescopes and Instrumentation: Optical, Infrared, and Millimeter, 7010(2008). *Full-length Research Paper*, 2008
5. B.G. Gom, D.A. Naylor, **B. Zhang**. Integration and testing of FTS-2: an imaging Fourier transform spectrometer for SCUBA-2. Proc. SPIE, Millimeter and Submillimeter Detectors and Instrumentation for Astronomy IV, 7020(2008). *Full-length Research Paper*, 2008
6. N. Dogan, W. Sleeman, M. Fatyga, W. Lehman, G. Christenson, J. Wu, E. Weiss, **B. Zhang**, J. Williamson. Verification of a Deformable Image Registration Algorithm for Head and Neck Cancer Therapy. Med. Phys. 37, 3155(2010). AAPM Annual Meeting, Philadelphia, PA, General Poster Discussion, 2010
7. **B. Zhang**, W.C. Sleeman, M. Fatyga, N. Dogan. An Integrated Software Environment for Image Guided Adaptive Radiation Therapy Research. Med. Phys. 37, 3245(2010). AAPM Annual Meeting, Philadelphia, PA, General Poster Discussion, 2010
8. **B. Zhang**. A Free and Open Source DICOM Solution: DicomPack. Med. Phys. 39, 3753(2012). AAPM Annual Meeting, Charlotte, NC, General Poster Discussion, 2012
9. **B. Zhang**. A Patient Data Management System for Philips Pinnacle-3 Treatment Planning System. Med. Phys. 39, 3753(2013). AAPM Annual Meeting, Austin, TX, General Poster Discussion, 2013
10. J. Zhou, Z. Yan, S. Zhang, **B. Zhang,** G. Lasio, K. Prado, W. D'Souza. Automated Lung Segmentation Method Using Atlas-Based Sparse Shape Composition with a Shape Constrained Deformable Mode. AAPM Annual Meeting, Austin, TX, General Poster Discussion, 2014
11. **B. Zhang**, S. Chen, Y. Mutaf, K. Prado, W. D'Souza. Smart Auto-Planning Framework in an EMR Environment (SAFEE). AAPM Annual Meeting, Austin, TX, General Poster Discussion, 2014
12. J. Zhou, G. Lasio, B. Yi, J Huang, S. Chen, **B. Zhang**, K Langen, K Prado, W D'Souza. The CBCT Dose Calculation Using a Patient Specific CBCT Number to Mass Density Conversion Curve Based on a Novel Image Registration and Organ Mapping Method in Head-And-Neck Radiation Therapy. AAPM Annual Meeting, Anaheim, CA, General Poster, 2015

13. K. Langen, M. Guerrero, M. Killefer, H. Xu, J. Zhou, **B. Zhang**, S Chen. Commissioning of a Commercial 3D Dose Calculation Program. AAPM Annual Meeting, Anaheim, CA, General Poster, 2015
14. W. D'Souza, **B. Zhang**, S. Feigenberg, G. D'Souza, K. Prado, W. Regine. Compliance with Evidence-Based Treatment Planning DVH Guidelines in An Academic Multi-Site Radiation Oncology Practice Setting. AAPM Annual Meeting, Anaheim, CA, General Poster, 2015
15. S. Chen, H. Zhang, **B. Zhang**, W. D'Souza. A Logistic Function-Based Model to Predict Organ-At-Risk (OAR) DVH in IMRT Treatment Planning. AAPM Annual Meeting, Anaheim, CA, General Poster, 2015
16. S. Chen, H. Zhang, **B. Zhang**, W. D'Souza. Differences in Treatment Plan Quality and Delivery Between Two Commercial Treatment Planning Systems for Volumetric Arc-Based Radiation Therapy. AAPM Annual Meeting, Anaheim, CA, General Poster, 2015
17. **B. Zhang**, B. Yi, J. Eley, Y. Mutaf, S. Rahman, W. D'Souza. Automated Systematic Quality Assurance Program for Radiation Oncology Information System Upgrades. AAPM Annual Meeting, Anaheim, CA, Oral Presentation, 2015
18. Y. Liu, T. Diwanji, **B. Zhang**, J. Zhuo, R. Gullapalli, R. Morales, W. D'Souza. DCE-MRI Before and During Treatment for Prediction of Concurrent Chemotherapy and Radiation Therapy Response in Head and Neck Cancer. AAPM Annual Meeting, Anaheim, CA, Oral Presentation, 2015
19. Y. Liu, T. Diwanji, **B. Zhang**, J. Zhuo, R. Gullapalli, R. Morales, W. D'Souza. Correlation of Tumor and Node Response to Concurrent Chemoradiation Therapy and Pharmacokinetic Parameters Derived From DCE-MRI in Locally Advanced Head and Neck Cancer. Int. J. Rad. Onco. Bio. Phys, 69(3), S179-S180 (2015). ASTRO Annual Meeting, San Diego, CA, General Poster, 2015
20. **B. Zhang**, S. Lee, S. Chen, J. Zhou, K. Prado, W. D'Souza, B. Yi. A Tool for Automatic Calculation of Delivered Dose Variation for Off-Line Adaptive Therapy Using Cone Beam CT. AAPM Annual Meeting, Washington, D.C., Oral Presentation, 2016
21. S. Chen, M. Guerrero, **B. Zhang**, B. Yi, S. Mossahebi, K. Prado, W. D'Souza, K. Langen. Implementation of a Non-Measurement-Based Patient-Specific IMRT QA Program. AAPM Annual Meeting, Washington, D.C., General Poster, 2016
22. C. Kalavagunta, X. Yang, H. Xu1, **B. Zhang**, S. Mossahebi, A. Sawant, B. Yi. Is Weekly MLC QA Necessary? Two Year EPID-Based Weekly MLC QA Experience at the University of Maryland. Annual Meeting of AAPM, Washington, D.C., Oral Presentation, 2016
23. S. Lee, S. Chen, **B. Zhang**, H. Xu, K. Prado, W. D'Souza, B. Yi. Is Geometry Based Setup Sufficient for All of the Head and Neck Treatment Cases?: A Feasibility Study Towards the Dose Based Setup. AAPM Annual Meeting, Washington, D.C., General Poster, 2016
24. E.M. Nichols, J.W. Snider, **B. Zhang**, A. Hall, S.J. Becker, S.N. Badiyan, Y.D. Mutaf, and S.J. Feigenberg. Dosimetric Comparison of Intensity Modulated Proton Therapy (IMPT) Partial Breast Irradiation (PBI) and a Breast Stereotactic Radiation Therapy (BSRT) Device. Int. J. Radia. Oncology Biology and Physics 96, E677(2016). ASTRO Annual Meeting, Boston, MA, General Poster, 2016 (DOI: 10.1016/j.ijrobp.2016.06.2322)
25. A.M. Chhabra, **B. Zhang**, P. Mohindra, M.D. Chuong, W.F. Regine, and S.J. Feigenberg. Motion Mitigation Appears to Decrease the Risk of Chest Wall Morbidity for Tumors Located <3 cm From the Chest Wall During Liver Stereotactic Body Radiation Therapy. Int. J. Radia. Oncology Biology and Physics 96, E694(2016). ASTRO Annual Meeting, Boston, MA, General Poster, 2016 (DOI: 10.1016/j.ijrobp.2016.06.2367)
26. **B. Zhang**, M. Lee, S. Chen, K. Prado, W. D'Souza, B. Yi. Variable Dose-Rate Conformal Arc Planning for Stereotactic Body Radiotherapy. Oral Presentation. AAPM Annual Meeting, Denver, CO, Oral Presentation, 2017
27. D. Yang, G. Lasio, **B. Zhang** , K. Prado, W. D'Souza, D. Metaxas, T. Macvittie, J. Zhou. Automated Pulmonary Fibrosis Segmentation Using 3D Multi-Scale Convolutional

Encoder-Decoder Approach in Thoracic CT for Rhesus Macaque with Radiation-Induced Lung Damage. AAPM Annual Meeting, Denver, CO, General ePoster, 2017

28. S. Lee, **B. Zhang** , H. Xu, I. Lee, K. Prado, W. D'Souza, B. Yi. Dose-Based Treatment Table Shift by Prescription Dose Volume and Deformable Image Registrations with Daily Cone Beam Computed Tomography (CBCT) of Head and Neck Patients. AAPM Annual Meeting, Denver, CO, General Poster, 2017
29. B. Yi, **B. Zhang**, K. Prado, S. Chen, S. Rahman, W. D'Souza. A Risk Management Plan Against Cyber-Attacks in Radiation Oncology: An Emergency Plan for Continuation of Safe Treatments. Oral Presentation. AAPM Annual Meeting, Denver, CO, Oral Presentation, 2017
30. S. Chen, **B. Zhang**, B. Yi, K. Langen, E. Nichols, U. Langner, A. Gopal, C. Kalavagunta, K. Prado, W. D'Souza. Post-Upgrade Quality Assurance of the Radiation Oncology Information System. AAPM Annual Meeting, Denver, CO, General ePoster, 2017
31. F. Cifter, **B. Zhang**, E. Sajo, N. Lamichhane. Dose Enhancement Using Gold Nanoparticles as a Function of Tumor Size, Depth and Gold Concentration. AAPM Annual Meeting, Denver, CO, General Poster, 2017
32. A. Chhabra, L. Trombetta, A. Turkaj, T. Diwanji, **B. Zhang**, Lamichhane N, Mohindra P, Badiyan SN, Feigenberg SJ, Simone CB II, Amin NP. Safety and effectiveness outcomes of lung stereotactic body radiation therapy (SBRT) in a very elderly population: a single institution experience. ASTRO Annual Meeting, San Diego, CA, General Poster, 2017
33. H. Zhong, J. van Soest, J. Wang, V. Valentini, H. Geng, M. Huang, C. Cheng, M. Garofalo, T.S. Hong, F.A. Lerma, J. Keech, P.R. Anne, F.E. Perera, N.B. Oldenburg, P.J. Parikh, A.S. DeNittis, B. Zaki, A.W. Nowlan, **B. Zhang**, A. Dekker, Z. Zhang, Y. Xiao. External validation of the European rectal cancer prognosis model using RTOG 0822 clinical trial data. Int. J. Rad. Onco. Bio. Phys., 99(2), E206 (2017). ASTRO Annual Meeting, San Diego, CA, General Poster, 2017
34. H. Xu, S. Chen, S. Lee, **B. Zhang**, N Lamichhane, B Yi. Towards the Automation of Initial Chart Check for Photon/electron EBRT: A View of University of Maryland. AAPM Annual Meeting, San Antonio, TX, Oral Presentation, 2019
35. S. Chen, B. Agyepong, Y. Poirier, N. Lamichhane, S. Becker, **B. Zhang**, A. Gopal, E. Nichols, P. Mohindra, B. Yi, J. Molitoris, M. Mishra. Optimization of Image Guidance Clinical Workflow for Frameless Linac-Based Stereotactic Radiosurgery (SRS) Using Three-Dimensional Surface Imaging Monitoring System. AAPM Annual Meeting, San Antonio, TX, General ePoster, 2019
36. **B. Zhang**, S. Lee, J. Zhou, S. Chen, W. D'Souza, B. Yi. Geometric and Dosimetric Trend Analysis of Setup Cone-Beam CT for Head and Neck (HN) Cancer Treatment Replanning. AAPM Annual Meeting, San Antonio, TX, General ePoster with Hosted Discussion, 2019
37. A. Gopal, **B. Zhang**, S. Lee, G. Lasio, S. Chen, B. Yi. A Dosimetric Evaluation of Daily CBCT Imaging for Prostate Radiotherapy. AAPM Annual Meeting, San Antonio, TX, General ePoster, 2019
38. J. Zhou, G. Lasio, A. Gopal, S. Lee, **B. Zhang**, B. Yi. Dosimetric Effects on the Patient Setup Using Daily Vs Weekly CBCT in Treating Advanced Stage Lung Cancer: Preliminary Results. AAPM Annual Meeting, San Antonio, TX, General ePoster, 2019
39. S. Lee, **B. Zhang**, H. Xu, J. Zhou, A. Gopal, S. Chen, B. Yi. Target Dose Enhancement by Anatomy-Based Shift (ABS) with 4-D and 6-D Treatment Couch Movement Using Daily Cone Beam CT with Head and Neck Patients. AAPM Annual Meeting, San Antonio, TX, General ePoster, 2019
40. S. Lee, **B. Zhang**, G. Lasio, H. Xu, A. Gopal, S. Chen, B. Yi. Dosimetric Impact of Alternative Image Guidance Protocols for Radiation Treatment Setup for Head and Neck Cancer Patients: Daily Cone-Beam Computed Tomography (CBCT) Versus Daily 2D KV Imaging. AAPM Annual Meeting, San Antonio, TX, General ePoster, 2019

41. S. Chen, B. Agyepong, Y. Poirier, N. Lamichhane, S. Becker, **B. Zhang**, A. Gopal, B. Yi, P. Mohindra, E. Nichols, J. Molitoris, M. Mishra. Intra-Fraction Motion Analysis for Frameless Linac-Based Stereotactic Radiosurgery with Three-Dimension (3D) Optical Surface Imaging for Intra-Fractional Motion Management. Int. J. Rad. Onco. Bio. Phys, 105(1), E759(2019). ASTRO Annual Meeting, San Antonio, TX, General ePoster, 2019
42. **B. Zhang**, H. Chen, H. Xu, M. Guerrero, M. Zakhary, A. Gopal, S. Chen, B. Yi. In-House Automatic Radiation Oncology Physics Chart Check: Initial Experience. Joint AAPM/COMP Annual Meeting, Virtual, Blue-Ribbon ePoster, 2020
43. S. Lee, **B. Zhang**, G. Lasio, A. Gopal, I. Lee, H. Xu, S. Chen, B. Yi. Off-Line Treatment Monitoring of Head and Neck Radiotherapy Using Daily Cone-Beam Computed Tomography: A Preliminary Study. Joint AAPM/COMP Annual Meeting, Virtual, Blue-Ribbon ePoster, 2020
44. A. Gopal, **B. Zhang**, G. Lasio, S. Lee, B. Yi. Evaluation of a Localized Correlation Based Predictive Metric as a Decision-Making Tool in Online Image Guidance and Offline Adaptive Prostate Radiotherapy. Joint AAPM/COMP Annual Meeting, Virtual, Blue-Ribbon ePoster, 2020
45. M. Guerrero, **B. Zhang**, E. Nichols, S. Becker. Can We Use a Decay Plan for GammaPod APBI Treatments? Joint AAPM/COMP Annual Meeting, Virtual, General ePoster, 2020
46. G. Lasio, **B. Zhang**, S. Lee, A. Gopal, B. Yi. Surveillance of Conventionally Fractionated Lung Radiotherapy Using a CBCT Dose Calculation Framework - a Preliminary Study. Joint AAPM/COMP Annual Meeting, Virtual, General ePoster, 2020
47. **B. Zhang**, P. Sabouri, S. Mossahebi, S. Chen. Dosimetric Impact of Spot Delivery Positional Uncertainties in Intensity Modulated Proton Therapy for the Head and Neck. ASTRO Annual Meeting, Virtual, General ePoster, 2020
48. A. E. Pollock, S. J. Becker, N. Lamichhane, M. Guerrero, S. Samanta, **B. Zhang**, M. Zakhary, S. A. McAvoy, E. M. Nichols. 2643 Accelerated Partial Breast Irradiation (APBI): A Comparison Between a Breast-Specific Radiosurgery Device and Volumetric Modulated Arc Therapy (VMAT). ASTRO Annual Meeting, Virtual, General ePoster, 2020
49. S. Samanta, E. Nichols, M. Zakhary, M. Guerrero, **B. Zhang**, A. E. Pollock, N. Lamichhane, S. Becker. Comparison between a breast specific radiosurgery device and intensity modulated proton therapy for accelerated partial breast irradiation. 2020 San Antonio Breast Cancer Virtual Symposium, American Association of Cancer Research, General Poster, 2020
50. M. MacFarlane, K. Jiang, M. Guerrero, K. Spaeth, K. Marter, **B. Zhang**, B. Yi, J. Snyder, J. Molitoris, S. Chen. Clinical Implementation of Calculation-Base Patient Specific QA for Lattice Radiotherapy Treatments. AAPM Spring Clinical Meeting, Virtual, General ePoster, 2021
51. H. Xu, S. Cheston, A. Gopal, S. Chen, **B. Zhang**, Sung-Woo Lee, Sara Dudley. Comparison of three setup methods of skin marker alignment using diamond-shaped light field for prone breast EBRT. AAPM Annual Meeting, Virtual, General ePoster, 2021
52. S. Mossahebi, P. Sabouri, **B. Zhang**, Evan Makdsay Hana, Jason Williams, Shifeng Chen. Sensitivity of Target Coverage and Patient Specific IMPT QA to Spot Positioning Errors. AAPM Annual Meeting, Virtual, General ePoster, 2021
53. S. Rahman, S. Chen, B. Yi, **B. Zhang** (Senior Author). Radiation oncology community site integration experience - tools and checklist. AAPM Annual Meeting, Virtual, General ePoster, 2021
54. **B. Zhang**, S. Becker, J. Zhou, S. Chen, B. Yi. A decentralized and autonomous blockchain-based medical physics education platform: toward a new paradigm. AAPM Annual Meeting, General ePoster, 2021

55. P. Sabouri, S. Mossahebi, **B. Zhang**, S. Chen. Impact of Spot Position Uncertainties on Intensity Modulated Proton Therapy Plans for Head and Neck Cancers. AAPM Annual Meeting, Virtual, General ePoster, 2021
56. S. Vedam, **B. Zhang**, S. Mossahebi, W. Yao, M. Zakhary, B. Yi. Practical implementation and dosimetric implications of a novel dose painting delivery strategy: Minimal Energy Modification (MEM) during proton therapy of thoracic and abdominal tumors. AAPM Annual Meeting, Virtual, General ePoster, 2021
57. N. Biswal, **B. Zhang**, J. Molitoris, M. Witek, B. Yi. Beam path length from isocenter to skin on cone beam CT images as an adaptive planning indicator of head and neck patients undergoing proton therapy. AAPM Annual Meeting, Virtual, Oral Presentation, 2021
58. J. Cammin, T. Bouton, E. Chacko, **B. Zhang**, S. Chen, J. Molitoris, B. Yi. Planning strategies for whole head-and-neck radiation with robustness against shoulder motion using volumetric-modulated arc therapy. AAPM Annual Meeting, Virtual, General ePoster, 2021
59. A. Gopal, G. Lasio, **B. Zhang**, H. Xu, S. Chen, S. McAvoy, C. Decesaris. Dosimetric Validation of Surface Guided Patient Set-up for Breast Radiotherapy. AAPM Annual Meeting, Virtual, General ePoster, 2021
60. W. Yao, **B. Zhang**, D. Han, J. Polf, S. Vedam, G. Lasio, B. Yi. Use of CBCT for Reducing QACT frequency in Intensity Modulated Proton Therapy: Head and Neck. AAPM Annual Meeting, Virtual, Oral Presentation, 2021
61. J. Xu, E. Chacko, **B. Zhang**, M. MacFarlane, K. Jiang, M. Mishra, M. Guerrero, S. Chen. Impact of MLC Uncertainty in Single Isocenter Multiple-lesions SRS VMAT plans. AAPM Annual Meeting, Virtual, General ePoster, 2021
62. W. Yao, **B. Zhang**, D. Han, J. Polf, S. Vedam, G. Lasio, B. Yi. Use of CBCT and plan robustness for determining the time of adaptive planning in Intensity Modulated Proton Therapy: Head and Neck cases. PTCOG 60, Oral Presentation, 2022
63. J. Zhou, Z. Yan, J. Polf, H. Zhang, **B. Zhang**, M. MacFarlane, D. Han, M. Zakhary, A. Gopal, J. Xu, S. Lee, H. Xu, G. Lasio1, S. Chen. A Semi-Supervised Learning Method Using Soft-Label for Cell Nuclei Segmentation On Immunohistochemistry Images. **AAPM Annual Meeting,** GENERAL ePOSTER **(2022)**
64. B. Yi, A. Sawant, S. Chen, S. Lee, **B. Zhang**. Readiness for Radiation Treatment Continuity: Survey On Contingency Plans Against Cyberattacks. **AAPM Annual Meeting,** INTERACTIVE ePOSTER **(2022)**
65. **B. Zhang**, W. Yao, N. Biswal, J. Zhou, J. Xu, H. Xu, S. Chen, B. Yi. Variation of Bragg Peak Positions in Cone-Beam CT as An Indicator of Adaptive Planning of the Head and Neck IMPT Treatments. **AAPM Annual Meeting,** INTERACTIVE ePOSTER **(2022)**
66. H. Xu, M. MacFarlane, M. Guerrero, A. Gopal, S. Chen, **B. Zhang**. Automated Physics Chart Checking for Brachytherapy. **AAPM Annual Meeting,** GENERAL ePOSTER **(2022)**
67. N. Biswal, **B. Zhang**, E. Nichols, M. Witek, W. Regine, B. Yi. Beam Path Length From Isocenter to Skin On Cone-Beam CT Images as An Adaptive Planning Indicator in Proton Therapy for Extremity Tumors. **AAPM Annual Meeting,** GENERAL ePOSTER **(2022)**
68. A. Modiri, S. Mossahebi, P. Mohindra, A. Sawant, S. Chen, R. Miller, **B. Zhang**, B. Yi. High-Efficiency Volumetric-Modulated Proton Arc Therapy (HEV-PAT): A Multi-Disease-Site Concept Study. **AAPM Annual Meeting,** INTERACTIVE ePOSTER **(2022)**
69. J. Cammin, T. Bouton, E. Chacko, E. Paranada, **B. Zhang**, S. Chen, J. Molitoris, B. Yi. Planning Strategies for Whole Head-And-Neck Radiation with Robustness Against Shoulder Motion Using Volumetric-Modulated Arc Therapy. **AAPM Annual Meeting,** INTERACTIVE ePOSTER **(2022)**
70. S. Lee, J. Cammin, **B. Zhang**, K. Jiang, M. MacFarlane, J. Zhou, B. Yi, S. Chen. Investigation of Smoothing Filter Effects On Beam Scanning Data. **AAPM Annual Meeting,** GENERAL ePOSTER **(2022)**

71. A. Van Slyke, M. Mashayekhi, J. Molitoris, W. Regine, B. Yi, **B. Zhang**, S. Chen. A Simulation of the Effect of Respiration-Induced Motion On the Delivered Dose Distribution in LATTICE Radiation Therapy. **AAPM Annual Meeting,** ORAL PRESENTATION **(2022)**
72. D. Han, N. Biswal, **B. Zhang**, M. Witek, B. Yi. The Pearson Correlation Coefficient of Target and the Beam Path Length Using Cone-Beam CT Images as Adaptive Planning Indicators of Head and Neck Patients Undergoing Proton Therapy. **AAPM Annual Meeting,** GENERAL ePOSTER **(2022)**
73. S. Mossahebi, J. Jatczak, **B. Zhang**, J. Molitoris, P. Mohindra, W. Regine, B. Yi. Proton Lattice Planning Strategy Using Primary and Robust Complimentary Beams. **AAPM Annual Meeting,** GENERAL ePOSTER **(2022)**
74. J. Xu, T. Cosely, T. Bouton, **B. Zhang**, D. Han, J. Zhou, S. Chen. Evaluation of VMAT & IMRT Planning Strategies for Advanced Prostate Cancer Patients with Bilateral Hip Prostheses. **AAPM Annual Meeting,** GENERAL ePOSTER **(2022)**
75. S. Mossahebi, J. Jatczak, **B. Zhang**, J. Molitoris, P. Mohindra, W. Regine, B. Yi. Dosimetric Evaluation and Clinical Implementation of a Robust Proton Lattice Planning Strategy. **Radiosurgery Society Scientific (2023) (submitted)**

International

76. O.K.C. Tsui, F.K. Lee, **B. Zhang**, P. Sheng. Novel Liquid Crystal Orientation Transition on Inhomogeneous Substrates. American Physical Society (APS) March Meeting, Montreal, Canada, Oral Presentation, 2004
77. L.D. Spencer, D.A. Naylor, **B. Zhang**, P. Davis-Imhof, T.R. Fulton, J. Baluteau, M.J. Ferlet, T.L. Lim, E.T. Polehampton, B.M. Swinyard. The Herschel/SPIRE Instrument Flight Model Imaging Fourier Transform Spectrometer Performance Evaluation. Canadian Astronomical Society, May 2008. *Full-length Research Paper*, 2008
78. M. Fatyga, K. Wijesooriya, N. Dogan, W.C. Sleeman, **B. Zhang**, G.E. Christensen. Volume Based Comparison of DIR Algorithms using Spatial Discrepancy Volume Histograms. Med. Phys. 38, 3551(2011). AAPM 53rd Annual Meeting, Vancouver, Canada, General Poster Discussion, 2011
79. **B. Zhang**, W.C. Sleeman, M. Fatyga, N. Dogan. An Integrated IGART Planning Environment. Med. Phys. 38, 3492(2011). AAPM 53rd Annual Meeting, Vancouver, Canada, General Poster Discussion, 2011
80. J. Zhou, G. Lasio, **B. Zhang**, K. Prado, W. D'Souza, Z. Yan, D. Metaxas. Efficient deformable model with sparse shape composition prior on compromised right lung segmentation in CT. The 2014 2nd International Conference on Systems and Informatics (ICSAI 2014), 764-768. Shanghai, China, Oral Presentation, 2014
81. S. Mossahebi, J. Jatczak, **B. Zhang**, J. Molitoris, P. Mohindra, W. Regine, B. Yi. Clinical Implementation of Robust Proton Lattice Planning Strategy. Flash Radiotherapy & Particle Therapy (FRPT) Conference, Barcelona, Spain, 2022