

Curriculum Vitae

Huijun Xu, Ph.D.

Assistant Professor, Department of Radiation Oncology
University of Maryland School of Medicine

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Contact Information

Business Address: Department of Radiation Oncology
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Foreign Languages: Chinese (native)

Education

2004 – 2008 B.S., Applied Physics, Shanghai Jiao Tong University

2008 – 2013 Ph.D., Medical Physics, Virginia Commonwealth University (VCU), CAMPEP
accredited graduate program, Advisor: Dr. Jeffrey V. Siebers, Thesis: “A study of
coverage optimized planning incorporating models of geometric uncertainties for prostate
cancer”

Post Graduate Education and Training

2013 - 2015 Medical Physics Resident, Department of Radiation Oncology, University of Maryland,
Baltimore, MD (CAMPEP accredited residency program)

Certifications

2016 Diplomate, American Board of Radiology in Therapeutic Physics

Medical Licensures

2016 Maryland, Radiological Health Program Radioactive Material License (Active)

Employment History

Academic Appointments

2015-present Assistant Professor, Department of Radiation Oncology, UMSOM

Other Employment (*paid* employment)

2008-2015 Research Assistant, Medical Physics, VCU, Richmond, VA

Honors And Awards

- 2008 Outstanding Graduate Award, Shanghai Jiao Tong University, awarded for exceptional performance in academic achievements, and contributions during undergraduate studies.
- 2013 Young Investigators Award (3rd Place), Mid-Atlantic Chapter (MAC) of the American Association of Physicists in Medicine (AAPM)
- 2014 Young Investigators Finalist, MAC AAPM
- 2017 Prostate Brachytherapy Workshop scholarship, American Brachytherapy Society (ABS), awarded to qualified healthcare professionals for high-dose-rate (HDR) and low-dose-rate (LDR) brachytherapy techniques in Radiation Oncology, \$1000
- 2019 AAPM summer school scholarship, American Association of Physicists in Medicine, awarded to early-career professionals to enhance practical image analysis in medical physics, \$1,300
- 2023 Hero Award, Department of Radiation Oncology at the University of Maryland
- 2023 Variance Reporting Initiative winner, Department of Radiation Oncology at the University of Maryland, awarded for dedicated contributions to improve the departmental clinical practice by reporting variances

Clinical Activities

Clinical Expertise

ABR board-certified medical physicist in therapeutic physics
Authorized medical physicist for prostate LDR implant, Xofigo, and Pluvicto
Maryland state regulation compliance
VisionRT surface tracking
Scripting and automation tool development

Scope of Clinical Practice

- 2013-2015 Medical Physics Resident, University of Maryland Medical Center (UMMC)
~700 patients per year
Clinical duty: >4000 hours
- 2015-2023 Medical Physicist, Central Maryland Radiation Oncology (CRMO)
~400 patients per year
Clinical duty: >16,000 hours
- 2023-present Lead Medical Physicist, University of Maryland Capital Region Medical Center (UMCRMC), opened to patients 4/10/2024
leadership/administrative role
40% FTE
Clinical duty: >1,200 hours

Development of Clinical Programs

- 2015 Led electron dosimetry and therapy for Radiation Oncology department, benefiting > 600 electron patients
Lead physicist responsible for dosimetry updates
Commissioned Varian Clinac machines, facilitating electron QA, planning, and second checks department-wide
Contributed to the development of an electron secondary calculation tool, integrated into Aria via Citrix
- 2015 RayStation electron Monte Carlo algorithm commissioning, benefiting >600 electron patients department-wide
Verified that beam data in RayStation matches our machine data
Recommended and implemented 125k history setting to achieve enhanced planning efficiency.
- 2015-2023 RayStation treatment planning system upgrades v 4.5 through 11B
Supervised dosimetry in evaluating the transition of RayStation software function from old to new versions
Tested new RayStation for CMRO in terms of dose calculation, data printing, and DICOM import/export
- 2016, 2021 Led VariSeed commissioning and upgrade (V. 9 and V. 9.0.3), which has been applied to >500 prostate implant LDR patients at CMRO, UMMS, MidTown, and St. Agnes hospitals
Pioneered introduction of an inverse planning tool, streamlining LDR planning with optimization objectives consistent with prescription
Established and shared Variseed software settings across all department sites
Implemented electronic tools and reduced the reliance on traditional printers.
- 2017 Led optimization of image guidance (IGRT) for prone breast external beam radiotherapy patients, benefiting >250 prone breast patients department-wide.
Replaced conventional daily MV imaging with daily kV imaging for better imaging quality and less dose to the patient (used department-wide since 2017)
- 2017, 2024 Practice guideline for Breast Advanced Stage for Radiation Oncology - updated the advanced-state breast practice guideline from simulation, and treatment planning to treatment
- 2020 Chesapeake Urology PSI program -configured the PSI software/hardware with a new IP address of ultrasound (benefited >200 prostate patients)
Main physicist to perform OR procedure.
- 2020 Xofigo treatment launch at CMRO, benefiting >10 patients
Assisted workflow design, state license application, and state inspector visit
Participated in Xofigo training and dry run/end-to-end testing
Performed Xofigo source calibration and maintenance in compliance with state regulations
Contributed to Xofigo patient treatment and safety survey

- 2020-2022 Led optimization of prone breast diamond field setup, benefiting >100 patients department-wide
Analyzed three different diamond field setups in our department for dosimetric benefits and setup time standardization
Enhanced workflow efficiency with less patient setup time on the couch
- 2020-2023 Led initial chart check automation: A benefit and future direction study
Assessed physics chart check efficiency using different levels of automation in checklists for both external beam radiation therapy and LDR brachytherapy
- 2021 Clinical implementation of DIBH treatment with compression belt at CMRO
Integration of the first compression belt owned by CMRO with the clinical workflow of the radiation therapy process.
- 2022 Vision RT acceptance and commissioning/QA for free-breathing treatment at CMRO, which has benefited >100 patients
Conducted acceptance, commissioning, QA tests, and network setup
Developed/ implemented workflows for free-breathing patients: chart check and volume contouring for Vision patients at CMRO
- 2022 Vision RT acceptance and commissioning/QA for DIBH treatment at CMRO, which has benefited > 80 patients
Conducted acceptance, commissioning, QA tests, and network setup
Developed/ implemented workflows for DIBH patients: chart check and volume contouring for Vision patients at CMRO
- 2023 Led CT scanner replacement at CMRO
Leading role in coordinating CT replacement process with the project team, and key connection between CMRO, hospital building, contractors, and more
Monitor room and facility evaluation, and shielding calculation
Drove acceptance and commissioning after CT installation
Set up clinical scanning protocol
Calibrated Varian RPM camera
Organized staff training
Machine maintenance and troubleshooting
- 2023 PSI program at St. Agnes Hospital -developed procedures for PSI seed assay, transport, and radiation safety-related practice
Site visit to communicate with Chesapeake Urology about the supply and support we needed, to plan for resources needed in the hot lab, and to clarify details related to logistics
- 2023-present Pacemaker policy update -developing a new policy to identify areas that require modification to better align with our department's goals and values.
- 2023-present Pluvicto at CMRO -as a multidisciplinary team member, contribute to policy and regulatory compliance at CMRO, develop standard operating procedures and documentation in EMR, participate in training and education
- 2023-present Leading physicist for the opening of radiation oncology center at Capital Region Medical Center (CRMC), a new hospital facility
Acceptance and commissioning of TreuBeam, CT scanner, RGSC, VisionRT, RayStation,

Aria, an HDR program
 Ensure State regulation compliance for all machines/devices/practices
 Build workflows and procedures, ensuring seamless integration into medical processes for imaging and treatment
 Build up a new in vivo dosimetry protocol
 Manage MD Anderson IROC measurements to start 5 new clinical trials (NRG GU007, NRG GU008, NRG GU009, NRG GU 010, and NRG GU013)

Professional Society Membership

2008-present Member, American Association of Physicists in Medicine (AAPM)
 2009-present Member, The American Association for Women Radiologists (AAWR)
 2013-present Member, Mid-Atlantic Chapter of AAPM
 2017-present Member, American Brachytherapy Society (ABS)
 2023- 2024 Member, American Association of Medical Dosimetrists (AAMD)

Administrative Service

Institutional Service

UMSOM/UMMS

2015-present Member, Medical Physics Residency Program Committee
 2015-2019 Member, Quality and Safety Review (QSRC) Committee
 2015-present Member, Community Practice Radiation Safety Committee
 2015-2018 Member, Linac Imaging QA Committee
 2015-2020 Member, RayStation Deformable Image Registration Subgroup
 2015-2023 Member, RayStation Multi-Criteria Optimization (MCO) Subgroup
 2017-2023 Examiner, Physics ABR mock oral exam
 2017-present Interviewer, Medical Physics Residency recruitment
 2018-2018 Interviewer, Dosimetry student recruitment
 2023-present Course director, Physics course lectures at Radiation Oncology
 2024-present Assist Radiation Safety Officer (RSO) at Capital Region Medical Center
 2024-present Alternate Department of Radiation Oncology SOM Council representative

Local Service

2019-2021 Treasurer, Mid-Atlantic chapter of AAPM (MAC-AAPM)
 2017- 2023 Examiner, MAC-AAPM

National Service

2014-present Ad hoc reviewer, *Medical Physics* (1x/yr), *Journal of Applied Clinical Medical Physics* (2x/yr), *Journal of Medical Physics* (2x/yr)
 2015-present Editorial Board member, *Austin Journal of Medical Oncology*
 2016-present AAPM Annual meeting abstract reviewer, (12-20x/yr), *Medical Physics*
 2021-present Member, AAPM Task Group No. 263U1 - Update to Report No. 263 - Standardizing Nomenclatures in Radiation Oncology (TG263U1)
 2023-present Member, Analysis and Evaluation Subcommittee for AAPM

Diversity, Equity, Inclusion (DEI) and Antiracism Awareness

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| 2015-present | Annual Title IX and Non-Discrimination Training (UMB) |
| 2019 | Unconscious Bias Training Workshops (SOM) |
| 2022-present | Allyship at Work Training Sessions (Radiation Oncology) |
| 2021 | AAPM Virtual 63rd Annual Meeting - Session: Building and Mentoring Diverse Teams to Achieve Equity, Diversity, Inclusion and Greater Success: Strategies for Equity, Diversity, and Inclusion in the Medical Physics Residency Recruitment Process (Speaker Dr. Titania Juang) |
| 2021 | AAPM Virtual 63rd Annual Meeting - Strategies for Mentoring and Retaining Underrepresented Minorities in Medical Physics Practice Environments – (speaker Amirh Johnson) |
| 2021 | AAPM Virtual 63rd Annual Meeting - Representation Matters: Our Responsibility in Cultivating Inclusion and Belonging in Radiation Oncology (Speaker Dr. Siker Malika) |
| 2022 | MAC-AAPM Annual Meeting – The standard of care who is the standard patient in conventional breast cancer screening programs, and who is left out? (Speaker Linda Ikejimba) |
| 2022 | AAPM 64 th Annual Meeting - Advancing EDI at Every Level of Med Phys Part 1&2: For Trainees, the Workplace and Beyond (Speakers, Dr. Castillo, Paradis, Ainsworth, Molineu, L Warner, Aldosary) |
| 2022 | AAPM 64 th Annual Meeting - Eliminating Health Disparities in Clinical Trials: How Can Physicists Contribute? (Speakers, Dr. Castillo, Paradis, Ainsworth, Molineu, L Warner, Aldosary) |
| 2023 | AAPM spring meeting - Presidential Symposium: Our Place in the Oncoverse (Medical Physics in Oncology) (Speakers: Drs. Samei, Ryckman, Kota) |
| 2023 | Participate in DEI Committee Survey |
| 2023 | Strategies in Implementing Racial Equality in Radiation Oncology, RadOnc Seminar (speaker Dr. Karen Winkfield) |
| 2023 | DEI Town Hall, hosted by the DEI Committee |
| 2018-2023 | Everyday Bias for Healthcare Professionals workshop (SOM) |
| 2024 | Faculty of Color Network Event (UMB) |
| 2024 | EDI Committee Invited Speaker Series: Dr. Julianne Pollard-Larkin: Improving Equity in Medical Physics: The State of EDI in AAPM |
| 2024 | EDI Committee: Allyship At Work Weekly Workshop |

Teaching Service

Undergraduate Student Teaching/Mentoring/Advising

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| 2014 | Instructor, Linac QA 1 undergraduate summer student, 24 contact hours/year. |
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Graduate Teaching/Mentoring/Advising

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| 2018-2020 | Co-advisor, Thesis “Geometrical Limits of External Beam Radiation Therapy.” 1 PhD student, 288 contact hours/year. |
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Resident and Fellow Teaching/Mentoring/Advising

- 2015-2019 Mentor, Treatment planning I Rotation: 2D, 3D, electron,
4, 1st year medical physics residents, 3-months per resident, 448 contact hours/year
- 2016-2023 Lecturer, Photon and Electron Dose Algorithm
8-10 medical and physics residents, dosimetry students, 1 contact hour/year
- 2016-2023 Lecturer, IMRT delivery and optimization
8-10 residents and students, 1 contact hour/year
- 2018 Lecturer, Boot Camp: Brachytherapy
7 residents, and 4 dosimetry students, 1 contact hour/ year
- 2018 Lecturer, Special Treatment Procedures: SRS, SBRT & TBI, 15th Annual Dr. Karl Prado
Radiobiology and Physics Review Course
>50 national physicians, physicists, medical and physics residents, 1 hour/year
- 2018, 2020 Mentor, Treatment Planning II Rotation: IMRT, VMAT, SBRT
2 first year physics residents, 3 months per resident, 224 contact hours/year
- 2018-2023 Instructor, Treatment planning including 2D/3D planning, IMRT/VMAT, SRS/SBRT and
Electron dosimetry
12 PGY-3 medical residents, 2 lecture hours/year for each resident
- 2019 Lecturer, Classical Treatment Planning and Simulation, 16th Annual Dr. Karl Prado
Radiobiology and Physics Review Course
>50 national physicians, physicists, medical and physics residents, 1 hour/year
- 2019 Lecturer, Special Treatment Procedures: SRS, SBRT & TBI, 16th Annual Dr. Karl Prado
Radiobiology and Physics Review Course
>50 national physicians, physicists, medical and physics residents, 1 hour/year
- 2021-present Mentor, Plan Verification Rotation
6, first year medical physics residents, 3-months per resident, 428 contact hours /year
- 2023-2024 Advisor, Guided research on the impact of phantom electron density variations on HU
measurements in CT and CBCT imaging. Abstract submitted to AAPM 2024
1, second year physics resident, 160 contact hours/year
- 2023-present Lecturer, Dose Ratio and Monitor Unit Calculation
8-10 residents and dosimetry students - 1 lecture hour/year
- 2023-present **Course Director**, Physics Course Lectures Program
Led and overseen a team of 17 physics faculty members in the Department of Radiation
Oncology, expertly guiding the delivery of physics lectures to an audience comprising 15
medical residents, physics residents, and dosimetry students, 10 management hours/year
- 2024-present Lecturer, Midterm Q&A
8-10 residents and dosimetry students, 1 lecture hour/year
- 2024-present Lecturer, Final Q&A
8-10 residents and dosimetry students, 1 lecture hour/year

Research Activities

Primary focus on improving the accuracy and efficiency of radiation therapy through innovative treatment planning and automation techniques. Key areas include mathematical, coverage-based robust planning and evaluation, clinical implementation and QA, Advanced planning strategies, optimized image guidance techniques, scripting and automation in chart checks for radiation oncology.

Publications

Peer-reviewed journal articles

1. **Xu H**, Li J, Li H. Application of Differential Equation to the Evolution of Two Groups, *Zoological Research* 2009 30(1):11–16.
2. **Xu H**, Gordon JJ, Siebers JV. Sensitivity of postplanning target and OAR coverage estimates to dosimetric margin distribution sampling parameters, *Med Phys*. 2011 Feb;38(2):1018-27.
3. **Xu H**, Vile DJ, Sharma M, Gordon JJ, Siebers JV. Coverage-based treatment planning to accommodate deformable organ variations in prostate cancer treatment, *Med Phys*. 2014 Oct;41(10):101705.
4. **Xu H**, Gordon JJ, Siebers JV. Coverage-based treatment planning to accommodate delineation uncertainties in prostate cancer treatment, *Med Phys*. 2015 Sep;42(9):5435-43.
5. Chen S, Yi B, Yang X, **Xu H**, Prado KL, D'Souza W. Optimizing the MLC Model Parameters for IMRT in the RayStation Treatment Planning System. *J Appl Clin Med Phys*. 2015 Sep 8;15(5):322-332.
6. **Xu H**, Guerrero M, Chen S, Yang X, Prado KL, Schinkel C. Clinical implementation of an electron monitor unit dosimetry system based on task group 71 report and a commercial calculation program, *J Med Phys*. 2016 Oct-Dec;41:214-8.
7. Chung H, Mossahebi S, Gopal A, Lasio G, **Xu H**, Polf J. Evaluation of CT scanners for feasibility of using averaged HU-to-SPR calibration curve, *Int J Part Ther*. 2018 Fall;5(2):28-37.
8. Unkelbach J, Alber M, Bangert M, Bokrantz R, Chan T, Deasy J, Fredriksson A, Gorissen B, van Herk M, Liu W, Mahmoudzadeh H, Nohadani O, Siebers JV, Witte M, **Xu H**. Robust radiotherapy planning, *Phys Med Biol*. 2018 Nov 12;63(22):22TR02.
9. **Xu H**, Lee S, Guerrero M, Yi B, Chen S, Stewart BJ, Chung H, Cheston SB. Dosimetric effects of the kV based image-guided radiation therapy of prone breast external beam radiation: towards the optimized imaging frequency, *J Appl Clin Med Phys*. 2019 Jan;20(1):212-219.
10. Yu S, **Xu H**, Sinclair A, Zhang X, Langner U, Mak K. Dosimetric and planning efficiency comparison for lung SBRT: CyberKnife vs. VMAT vs. knowledge-based VMAT, *Med Dosim*. 2020;45(4):346-351 doi:10.1016/j.meddos.2020.04.004.
11. Kopchick B, **Xu H**, Niu Y, Becker S, Qiu X, Yu C. Dosimetric feasibility of lattice radiotherapy for breast cancer using GammaPod, *Med Phys*. 2020 Sep;47(9):3928-3934.
12. Yu S, **Xu H**, Sinclair A, Zhang Y, Zhang X, Dyer MA, Hirsch AE, Truong MT, Zhen H. Knowledge-based planning in robotic intracranial stereotactic radiosurgery treatments, *J Appl Clin Med Phys*. 2021 Mar;22(3):48-54.
13. **Xu H**, Zhang B, Guerrero M, Lee S, Lamichhane N, Chen S, Yi B. Toward automation of initial chart check for photon/electron EBRT for the clinical implementation of new AAPM task group reports and automation techniques, *J Appl Clin Med Phys*. 2021 Mar;22(3):234-245.
14. Kalavagunta C, **Xu H**, Zhang B, Mossahebi S, MacFarlane M, Jiang K, Lee S, Chen S, Sawant A, Gopal A, Yi B. Is a weekly qualitative Picket Fence test sufficient? A proposed alternate EPID based weekly MLC QA program, *J Appl Clin Med Phys*. 2022 Aug;23(8):e13699. doi: 10.1002/acm2.13699.
15. **Xu H**, Cheston S, Gopal A, Zhang B, Chen S, Yu S, Hall A, Dudley S. A study of skin marker alignment using different diamond-shaped light fields for prone breast EBRT. *J Appl Clin Med Phys*. 2022 Nov;23(11):e13772. doi: 10.1002/acm2.13772.
16. Xu J, Zhang B, Guerrero M, Kalavagunta C, Chen S, **Xu H**. Technical note: An automated document verification tool in radiation oncology EMR: Application for LDR prostate brachytherapy. *J Appl Clin Med Phys*. 2024;e14466.
17. Zhou J, Gopal A, Zhang B, **Xu H**, Chen S, Yi B, Lasio G, A novel Optimization of Cone Beam CT frequency for Lung Radiation therapy based on an image-guided radiation therapy protocol and patient classification method, *Transl Lung Cancer Res*, 2025;14(1):81

Major Invited Speeches

Local

1. **Xu H**, RayStation Scripting 101, UMSOM, 2018
2. **Xu H**, Modulator, MAC-AAPM Annual Meeting, Baltimore, MD, 2020
3. **Xu H**, Optimized setup for prone breast EBRT in UMMS: Diamond field and kV IGRT, UMSOM, 2022
4. **Xu H**, Debrief on 2023 AAPM Spring Meeting IGRT, UMSOM, 2023
5. **Xu H**, Achieving Readiness at Capital Region Medical Center: Machine Acceptance, Commissioning and Beyond, UMSOM, 2024
6. **Xu H**, What I learned from 2024 AAPM Summer School? Optimization of Clinical workflow, UMSOM, 2024

National

7. **Xu H**, Sensitivity of postplanning target and OAR coverage estimates to dosimetric margin distribution sampling parameters, 51st AAPM Annual Meeting, Anaheim, CA, Oral, 2009
8. **Xu H**, Characteristics of Bladder Wall Deformation as a Function of Bladder Filling, 54th AAPM Annual Meeting, Charlotte, NC, 2012
9. **Xu H**, Multiple anatomy optimization of accumulated dose, Young Investigator Final, 54th AAPM Annual Meeting, Charlotte, NC, Oral, 2012
10. **Xu H**, Coverage-Based Treatment Planning to Accommodate Deformable Organ Variations in Prostate Cancer Treatment, 55th AAPM Annual Meeting, Indianapolis, IN, Oral, 2013
11. **Xu H**, Coverage-Based Treatment Planning to Accommodate Delineation Uncertainties in Prostate Cancer Treatment, 2013 MAC-AAPM Young Investigators Award, Washington, DC, Oral, 2013
12. **Xu H**, Accuracy of Treatment Plan TCP and NTCP Values as Determined Via Treatment Course Delivery Simulations, 56th AAPM Annual Meeting, Austin, TX, Oral, 2014
13. **Xu H**, Optimizing the MLC Model Parameters for IMRT in the RayStation Treatment Planning System, 56th AAPM Annual Meeting, Austin, TX, 2014
14. **Xu H**, Evaluation of Dose Calculation of RayStation Planning Heterogeneous Media, 56th AAPM Annual Meeting, Austin, TX, 2014
15. **Xu H**, A study of a standardized monthly QA program for LINAC output constancy checks, 2014 MAC-AAPM Young Investigators Award, Washington, DC, Oral, 2014
16. **Xu H**, Coverage-based treatment planning to accommodate organ deformable motions and contouring uncertainties for prostate treatment, AAPM Therapy Scientific Session of New Methods in Ensuring Target Coverage. AAPM Annual Meeting. Anaheim, CA 2015
17. **Xu H**, Clinical Implementation of TG71-Based Electron MU Calculation and Comparison with a Commercial Secondary Calculation, 57th AAPM Annual Meeting, Anaheim, CA, 2015
18. **Xu H**, Is It Essential to QA HDR Applicators Annually in Clinic?, 57th AAPM Annual Meeting, Anaheim, CA, 2015
19. **Xu H**, Implementation of a Standardized Monthly Quality Check for Linac Output Management in a Large Multi-Site Clinic, 57th AAPM Annual Meeting, Anaheim, CA, ePoster, 2015
20. **Xu H**, Improved skin sparing with volumetric modulated arc therapy (VMAT) in head and neck irradiation utilizing skin-avoidance optimization, 57th ASTRO Annual Meeting, San Antonio, Tx, 2015
21. **Xu H**, Bolus effect of immobilization masks in head and neck radiotherapy mitigated by mask alteration and dosimetric optimization for skin avoidance, 57th ASTRO Annual Meeting, San Antonio, Tx, 2015

22. **Xu H**, Minimum Data Set of Measurements for TG 71 Based Electron Monitor-Unit Calculations, 58th AAPM Annual Meeting, Washington, DC, 2016
23. **Xu H**, Can CBCT Images Be Used for Volume Studies of Prostate Seed Implants for Boost Treatment?, 58th AAPM Annual Meeting, Washington, DC, 2016
24. **Xu H**, Is Weekly MLC QA Necessary? Two Year EPID-Based Weekly MLC QA Experience at the University of Maryland, 58th AAPM Annual Meeting, Washington, DC, Oral, 2016
25. **Xu H**, Is Geometry Based Setup Sufficient for All of the Head and Neck Treatment Cases?: A Feasibility Study Towards the Dose Based Setup, 58th AAPM Annual Meeting, Washington, DC, 2016
26. **Xu H**, Comparison of Two Deformable Image Registration Algorithms for CT-To-CT Contour Propagation, 58th AAPM Annual Meeting, Washington, DC, 2016
27. **Xu H**, An Effective Methodology To Reduce TG-71 Based Electron Data Set Measurement For Different Varian Machines, 59th AAPM Annual Meeting, Portland, Oregon, 2017
28. **Xu H**, Feasibility Studies of the Use of An Averaged HU-To-SPR Calibration Curve of Multiple CT Scanners for Dose Calculations in Proton Radiotherapy, 59th AAPM Annual Meeting, Portland, Oregon, 2017
29. **Xu H**, 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, 59th AAPM Annual Meeting, Portland, Oregon, ePoster, 2017
30. **Xu H**, 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, 59th AAPM Annual Meeting, Portland, Oregon, 2017
31. **Xu H**, Feasibility of Using Monte-Carlo Based Treatment Planning System to Calculate Output Factors for Patients Receiving Electron Radiation Therapy, 59th AAPM Annual Meeting, Portland, Oregon, 2017
32. **Xu H**, Accuracy of Step-Function Based CBCT-Density Calibration and Dose Calculation in a Raystation Treatment Planning System, 59th AAPM Annual Meeting, Portland, Oregon, Oral, 2017
33. **Xu H**, Dosimetric effects of field space coverage in multi-source stereotactic radiotherapy, 2017 MAC-AAPM Young Investigators Award, Baltimore, MD, Oral, 2017
34. **Xu H**, Utilization of KV IGRT for Prone Breast External Beam Radiation Treatment: A Comparison of Imaging Frequency, 60th AAPM Annual Meeting, Nashville, TN, 2018
35. **Xu H**, Dosimetric Feasibility of Delivering Grid Therapy for Breast Cancer Using GammaPod, 60th AAPM Annual Meeting, Nashville, TN, 2018
36. **Xu H**, Dosimetric Dependence On the Single-Shot Conformity in Stereotactic Radiotherapy, 60th AAPM Annual Meeting, Nashville, TN, 2018
37. **Xu H**, Optimization of KV IGRT Frequency for Prone Breast EBRT: A Study on Patient Anatomy Data and First Three-Day Couch Shift Correction, 60th AAPM Annual Meeting, Nashville, TN, 2018
38. **Xu H**, Future High Precision Stereotactic Treatment Delivery: Is Penumbra a Concern?, 61th AAPM Annual Meeting, San Antonio, TX, Oral, 2019
39. **Xu H**, 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, 61th AAPM Annual Meeting, San Antonio, TX, ePoster, 2019
40. **Xu H**, 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, 61th AAPM Annual Meeting, San Antonio, TX, ePoster, 2019
41. **Xu H**, Towards the Automation of Initial Chart Check for Photon/electron EBRT: A View of University of Maryland, 61st AAPM Annual Meeting, San Antonio, TX, Oral, 2019
42. **Xu H**, Off-Line Treatment Monitoring of Head and Neck Radiotherapy Using Daily Cone-Beam Computed Tomography: A Preliminary Study, 62nd AAPM Annual Meeting, Virtual Meeting, ePoster, 2020

43. **Xu H**, In-House Automatic Radiation Oncology Physics Chart Check: Initial Experience, 62nd AAPM Annual Meeting Virtual Meeting, ePoster, 2020
44. **Xu H**, Automated physics chart checking for brachytherapy, AAPM Annual Meeting, Washington, DC, ePoster, 2022
45. **Xu H**, 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 Washington, DC, ePoster, 2022
46. **Xu H**, Evaluation of Surface Guided Radiation Therapy (SGRT) for Prone Breast Cancer External Beam Radiation Therapy, AAPM Annual Meeting, Washington, DC, ePoster, 2022
47. **Xu H**, A Semi-Supervised Learning Method Using Soft-Label for Cell Nuclei Segmentation On Immunohistochemistry Images AAPM Annual Meeting, Washington, DC, ePoster, 2022
48. **Xu H**, Clinical Robustness of Multi-Isocentric Volumetric Modulated Arc Based Craniospinal Irradiation, AAPM Annual Meeting, Houston, TX, ePoster, 2023
49. **Xu H**, Dosimetric Evaluation of Critical Organ Doses in Breast Radiotherapy Based on Patient Positioning and Treatment Modality: Photon (Supine and Prone) Vs. Proton Supine, AAPM Annual Meeting, Houston, TX, ePoster, 2023
50. **Xu H**, Robustness Analysis of Hyperarc VMAT Plans for Stereotactic Radiosurgery Patients with Multiple Brain Metastases, AAPM Annual Meeting, Houston, TX, ePoster, 2023
51. **Xu H**, Decoding Mysteries: How Electron Density Phantom Choice Impacts CT and CBCT HU Measurements, AAPM Annual Meeting, Los Angeles, CA, Poster, 2024
52. **Xu H**, Evaluation of Patient Setup Differences between AlignRt and Fiducial Matching on KV-KV Orthogonal Pair in Accelerated Partial Breast Irradiation, AAPM Annual Meeting Los Angeles, CA, Poster, 2024
53. **Xu H**, Feasibility of using CBCT as a dosimetric monitoring tool for IMPT, AAPM Annual Meeting, Los Angeles, CA, February 2024

Proffered Communications

1. **Xu H**, Toward automation of initial chart check for photon/electron EBRT, Research talk for Mid-Atlantic Chapter of AAPM Annual Meeting, Annapolis, MD, 2022