

Curriculum Vitae

Huijun Xu, Ph.D.
Assistant Professor, Department of Radiation Oncology
University of Maryland School of Medicine

Date Jan 13, 2017

Contact Information:

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Foreign Languages: Chinese (native)

Education

2008 B. S., Applied Physics, Shanghai Jiao Tong University, Shanghai, China
2013 Ph.D., Medical Physics, Virginia Commonwealth University, Richmond, VA
(CAMPEP accredited)
Advisor: Dr. Jeffrey V. Siebers

Post-Graduate Education and Training

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

Certifications

2016 American Board of Radiology on Therapeutic Physics

Employment History

Academic Appointments

2015 - present Assistant Professor, Department of Radiation Oncology, University of Maryland School of Medicine, MD

Other Employment

2007 - 2008 Intern Researcher, Shanghai Institute for Biological Sciences, Chinese Academy of Sciences, Shanghai, China
2008 - 2013 Research Assistant, Department of Radiation Oncology, Virginia Commonwealth University, VA

Professional Society Memberships

2008-present	Member, American Association of Physicists in Medicine (AAPM)
2009-present	Member, The American Association for Women Radiologists (AAWR)
2012-present	Member, Society of Nuclear Medicine and Molecular Imaging (SNMMI)
2013-present	Member, Mid-Atlantic Chapter of the American Association of Physicists in Medicine
2014-present	Member, American College of Radiology (ACR)

Honors and Awards

2008	Outstanding Graduate in Shanghai Jiao Tong University
2013	MAC-AAPM Young Investigators Award (3 rd Place), DC
2014	MAC-AAPM Young Investigators Finalist, DC

Clinical Activities

2013-present	Dosimetry calculation tool development <ul style="list-style-type: none">- TG-71 based electron calculation spreadsheet (used clinically in 2015) Patient specific QA, dose validations and chart checks <ul style="list-style-type: none">- Patient QA and in-vivo dosimetry: MapCheck2, OSLD, Monte Carlo algorithm, Mobius 3D dose- Initial chart check, weekly chart check, End of treatment Machine and equipment calibration and quality assurance (QA) <ul style="list-style-type: none">- Linac, simulator, CT, Gamma knife, Orthovoltage X-ray Unit- Ion chamber, OSLD, Radiochromic film, Mapcheck2, Daily QA3, Profiler2 Brachytherapy <ul style="list-style-type: none">- LDR: Prostate implant, SIRS Y-90- HDR: tandem and ring, tandem of ovoid, cylinder, SAVI, Syed and Freiburg flap. Special procedures <ul style="list-style-type: none">- Gamma knife- Linac based SRS/SBRT- Total body irradiation (TBI) : moving couch system New system commissioning and clinical procedure development: <ul style="list-style-type: none">- RayStation electron treatment planning system- TG 71 electron MU calculation and Mobius 3D- OSLD daily check
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Prone breast IGRT imaging procedure
RTOG protocols

Administrative Service

Institutional Service

2015-present	Member, Quality and Safety Review Committee
2015-present	Member, Community Practice Radiation Safety Committee
2015-present	Member, Medical Physics Residency Program Committee
2015-present	Member, Linac Imaging QA Committee
2015-present	Member, RayStation Deformable Image Registration Subgroup
2015-present	Member, RayStation Multi-Criteria Optimization (MCO) Subgroup

National Service

2014-present	Manuscript reviewer, <i>Journal of Applied Clinical Medical Physics</i>
2015-present	Manuscript reviewer, <i>Medical Physics</i>
2015-present	Editorial Board member, <i>Austin Journal of Medical Oncology</i>
2015-present	Manuscript reviewer, <i>Journal of Medical Physics</i>
2016	Abstract reviewer, AAPM Annual Meeting

Teaching Service

2014-2015	Mentor, Junior physics resident
2014-2014	Mentor, Undergraduate summer student
2013-2015	Physics in-service
2015-present	Medical Physics Rotation Mentor in Treatment Planning I
2016-present	Instructor, Dose calculation algorithm and IMRT optimization
2016-present	Instructor, Treatment delivery

Publications

Peer-Reviewed Journal Articles

1. **H. Xu**, J. Li and H. Li, "Application of Differential Equation to the Evolution of Two Groups," *Zoological Research* 30(1), 11–16, (2009).
2. **H. Xu**, J.J. Gordon, and J.V. Siebers, "Sensitivity of postplanning target and OAR coverage estimates to dosimetric margin distribution sampling parameters," *Medical Physics* 38(2), 1018, (2011).
3. **H. Xu**, D.J. Vile, M. Sharma, J.J. Gordon, and J.V. Siebers, "Coverage-based treatment planning to accommodate deformable organ variations in prostate cancer treatment," *Medical Physics* 41(10), 101705 (2014).

4. **H. Xu**, J.J. Gordon and J.V. Siebers, “Coverage-based treatment planning to accommodate delineation uncertainties in prostate cancer treatment”, *Medical Physics* 42, 5435 (2015).
5. S. Chen, B. Yi, X. Yang, **H. Xu**, K.L. Prado, W. D’Souza, “Optimizing the MLC Model Parameters for IMRT in the RayStation Treatment Planning System”, *Journal of applied clinical medical physics* Vol 16, No 5 (2015).
6. **H. Xu**, M Guerrero, S Chen, X Yang, K Prado, C Schinkel. Clinical implementation of an electron monitor unit dosimetry system based on task group 71 report and a commercial calculation program. *Journal of Medical Physics* 41:214-8. (2016)

Abstracts and Conference Presentations

1. **H. Xu**, J.J. Gordon, and J.V. Siebers, “Sensitivity of postplanning target and OAR coverage estimates to dosimetric margin distribution sampling parameters,” oral presentation at 51th AAPM Annual Meeting, Anaheim, CA – July 2009.
2. **H. Xu** and J.V. Siebers, “Characteristics of Bladder Wall Deformation as a Function of Bladder Filling”, 54th AAPM Annual Meeting, Charlotte, NC – July 2012.
3. W.T. Watkins, J.A. Moore, M. Sharma, Christian Dial, **H. Xu**, G. D. Hugo, J. J. Gordon, and J. V. Siebers, “Multiple anatomy optimization of accumulated dose”, oral presentation at Young investigator final, 54th AAPM Annual Meeting, Charlotte, NC – July 2012
4. **H. Xu**, D.J. Vile, M. Sharma, J.J. Gordon, J.V. Siebers, “Coverage-Based Treatment Planning to Accommodate Deformable Organ Variations in Prostate Cancer Treatment”, oral presentation at 55th AAPM Annual Meeting, Indianapolis, IN – July 2013
5. **H. Xu**, J.J. Gordon, J.V. Siebers, “Coverage-Based Treatment Planning to Accommodate Delineation Uncertainties in Prostate Cancer Treatment”, oral presentation at 2013 MAC-AAPM Young Investigators Award, DC – October, 2013
6. J. Siebers, **H. Xu**, J. Gordon, “Accuracy of Treatment Plan TCP and NTCP Values as Determined Via Treatment Course Delivery Simulations”, oral presentation at 56th AAPM Annual Meeting, Austin, TX – July 2014
7. S. Chen, B. Yi, **H. Xu**, X. Yang, K. Prado, W. D’Souza, “Optimizing the MLC Model Parameters for IMRT in the RayStation Treatment Planning System”, 56th AAPM Annual Meeting, Austin, TX – July 2014
8. **H. Xu**, B. Yi, H. Chung, K. Prado, S. Chen, “Evaluation of Dose Calculation of RayStation Planning Heterogeneous Media”, 56th AAPM Annual Meeting, Austin, TX – July 2014
9. **H. Xu**, B. Yi, K.L. Prado, “A study of a standardized monthly QA program for LINAC output constancy checks”, oral presentation at 2014 MAC-AAPM Young Investigators Award, DC – October, 2014
10. **H. Xu**, M. Guerrero, X. Yang, S. Chen, K. Langen, K. Prado, C. Schinkel, Clinical Implementation of TG71-Based Electron MU Calculation and Comparison with a

- Commercial Secondary Calculation, 57th AAPM Annual Meeting, Anaheim, CA – July 2015
11. **H. Xu**, X. Yang, B. Yi, Is It Essential to QA HDR Applicators Annually in Clinic? 57th AAPM Annual Meeting, Anaheim, CA – July 2015
 12. **H. Xu**, B. Yi, K. Prado, Implementation of a Standardized Monthly Quality Check for Linac Output Management in a Large Multi-Site Clinic, *electronic poster* at 57th AAPM Annual Meeting, Anaheim, CA – July 2015
 13. JW. Snider III, C. Kalavagunta, **H. Xu**, A. Schrum, P. Vadnais, K. Marter, MH Lin, M. Suntharalingam, 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 – October 2015
 14. JW. Snider III, C. Kalavagunta, **H. Xu**, A. Schrum, P. Vadnais, K. Marter, MH Lin, M. Suntharalingam, 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 – October 2015
 15. **H Xu**, M Guerrero , K Prado , B Yi Minimum Data Set of Measurements for TG 71 Based Electron Monitor-Unit Calculations, 58th AAPM Annual Meeting, Washington, DC – July 2016
 16. **H Xu**, S Lee , T Diwanji , P Amin , K Krudys , M Guerrero, Can CBCT Images Be Used for Volume Studies of Prostate Seed Implants for Boost Treatment?, 58th AAPM Annual Meeting, Washington, DC – July 2016
 17. C Kalavagunta, X Yang, **H Xu**, 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, *oral presentation* 58th AAPM Annual Meeting, Washington, DC – July 2016
 18. 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, 58th AAPM Annual Meeting, Washington, DC – July 2016
 19. A Gopal, **H Xu**, S Chen, Comparison of Two Deformable Image Registration Algorithms for CT-To-CT Contour Propagation, 58th AAPM Annual Meeting, Washington, DC – July 2016

National Invited Speeches

1. 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
2. Coverage-based treatment planning to accommodate organ deformable motions and contouring uncertainties: Part II Applications of high-risk prostate patients, Robust and probabilistic radiotherapy planning workshop, Boston, MA 2015