Yongqian Zhang, Ph.D.

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EDUCATION

Dates attended	*Name and location*	*Degree received and Year*	*Major Subject*
Sep 2000	Nankai University, China	Bachelor 2004	Physics
Sep 2004	Peking Union Medical College Beijing, China	Ph.D. 2009	Med. Phys.

POSTGRADUATE

Aug 2012	UPMC Hillman Cancer Center Pittsburgh, PA	Resident 2014	Med. Phys.

APPOINTMENTS and POSITIONS

Aug 2014~ present Clinical Assistant Professor
Department of Radiation Oncology, UPMC Hillman Cancer Center,
Pittsburgh, PA

Sept 2009 ~ Aug 2012 Clinical Medical Physicist
Department of Radiation oncology, Chinese Academy of Medical Sciences,
Beijing, China

BOARD CERTIFICATION

American Board of Radiology, Therapeutic Physics, 2019

MEMBERSHIP in PROFESSIONAL and SCIENTIFIC SOCIETIES

Member of American Association of Physicists in Medicine (AAPM)
Member of AAPM Penn-Ohio-West Virginia Chapter
Reviewer for international journals: Medical Physics, Physics in Medicine & Biology, Journal of Applied Clinical Medical Physics, Journal of Radiation Research and Applied Sciences

HONORS

AAPM annual meeting travel grant, 2014

The Chinese Medical Science and Technology Award, 2011

PEER REVIEWED PUBLICATIONS

1. ***Y. Zhang***, W. Fu, E. Brandner, S. Percinsky, M. Moran, M. Saiful Huq, "Minimizing normal tissue low dose bath for left breast Volumetric Modulated Arc Therapy (VMAT) using jaw offset", JACMP, 14365, 2024
2. W. Fu, ***Y. Zhang***, K. Mehta, A. Chen, H. Bindu Musunuru, P, Pucci, J. Kubis, M. Saiful Huq, "Evaluating intra-fractional tumor motion in lung stereotactic radiotherapy with deep inspiration breath-hold", JACMP, 14414, 2024
3. ***Y. Zhang,*** E. Brandner, C. Ozhasoglu, R. Lalonde, D. E. Heron and M. Saiful. Huq, "A three-dimensional correction method for predicting the readings of a PinPoint chamber on the CyberKnife® M6™ machine", Phys. Med. Biol. 63, 045010, 2018
4. ***Y. Zhang***, Y. Yang, W. Fu, X. Li, T. Li, D. Heron, M. Saiful. Huq, "4D VMAT planning and verification technique for dynamic tracking using a direct aperture deformation (DAD) method", J Appl Clin Med Phys: 18:2:50-61, 2017
5. K. Quan, K. Xu, ***Y. Zhang***, D. Clump, J. Flickinger, R. Lalonde, S. Burton and D. Heron, "Toxicities Following Stereotactic Ablative Radiotherapy Treatment of Locally-Recurrent and Previously Irradiated Head and Neck Squamous Cell Carcinoma", Seminars in Radiation Oncology, 26(2), 112-119, 2016
6. C. Riley, Y. Yang, T. Li, ***Y. Zhang***, D. E. Heron, and M. Saiful Huq, "Dosimetric evaluation of the interplay effect in respiratory gated RapidArc radiation therapy". Med. Phys, 011715-1—011715-9, 2014
7. T. Li, X. Li, Y. Yang, ***Yongqian. Zhang***, D. E. Heron and M. Saiful Huq, "Simultaneous reduction of

radiation dose and scatter for CBCT by using collimators", Med. Phys, 121913-1--121913-10, 2013

8. ***Y. Zhang***, Y. Hu, L. Ma, J. Dai, "dynamic delivery of IMRT using independent jaws: A model study". Phys. Med. Biol., 2527-39, 2009.
9. Y. Xu, J. Dai, G. Fu, ***Y. Zhang***, K. Zhang, W. Cui, D. Zhang, B. Jiang, "Data analysis of dose map verification for IMRT". Nuclear Science and Techniques 20, 297-301, 2009
10. ***Y. Zhang***, J. Dai, "effect of motion on the dose distribution", Chinese journal of Radiological medicine and protection, 206-209, 2007.
11. G. Fu, J. Dai, Y. Xu, Y. Song, K. Zhang, ***Y. Zhang***, "Dosimetric Commissioning of treatment planning system for intensity modulated radiation therapy", Chinese Journal of Radiation Oncology, 16, 455-460, 2007.

PEER-REVIEWED ABSTRACTS AND PROCEEDINGS

1. Weihua Fu, ***Yongqian Zhang***, Kiran Mehta, Hima Bindu Musunuru, Pietro Pucci, Jason Kubis and M. Saiful Huq, Comparison of intrafraction tumor motion using two immobilization systems in lung stereotactic radiotherapy, AAPM Spring Clinical Meeting, 2024
2. ***Y. Zhang***, W. Fu, E. Brandner, S. Percinsky, M. Moran, M. Saiful Huq, "Minimizing normal tissue low dose bath for left breast volumetric modulated arc therapy (VMAT) using jaw offset", AAPM Annual Meeting, 2023
3. W. Fu, ***Y. Zhang***, K. Mehta, A. Chen, P. Pucci, and M. Saiful Huq, Evaluating the reproducibility of lung lesion stereotactic radiotherapy with deep inspiration breath-hold, AAPM Spring Meeting, 2023
4. ***Y. Zhang***, E. Brandner, C. Ozhasoglu, R. Lalonde, D. E. Heron and M. Saiful Huq, "SRS point dose verification on the CyberKnife® M6™ machine". AAPM annual meeting 2018
5. ***Y. Zhang,*** E. Brandner, Cihat Ozhasoglu, Ron Lalonde, Dwight E. Heron and M. Saiful. Huq, "A three-dimensional correction method for predicting the readings of a PinPoint chamber on the CyberKnife® M6™ machine", Phys. Med. Biol. 63 (2018) 045010
6. M. Saiful Huq, ***Y. Zhang***, O. Cihat, S. Jang, D. Heron, R. Lalonde. Small field dosimetry: output factors for fixed cones, Iris collimator and MLC fields for the CyberKnife M6 system with the newly released InCise Multileaf Collimator. Med. Phys., 42, 3499, 2015
7. ***Y. Zhang,*** T. Li, D. E. Heron and M. Saiful Huq. Correction matrix for PinPoint ionization chamber for dosimetric measurements in the newly released Incise™ Multileaf Collimator shaped small field for CyberKnife® M6™ machine. Med. Phys., 42, 3384, 2015
8. ***Y. Zhang***, D. Heron, Saiful Huq, D. Clump, S. Burton, T. Li, X. Li, C. Ozhasoglu, J. Flickinger. Impact of different prescription Isodose lines on plan quality for brain metastases using Multiplan system.

AAPM 2014

9. T. Li, D. Heron, M. Saiful Huq, X. Li, ***Y. Zhang***. A mathematical model for PinPoint chamber correction in measuring small fields. AAPM, 2014.
10. X. Li, D. Heron, M. Saiful Huq, D. Clump, S. Burton, T. Li, B. Karlovits***, Y. Zhang.*** Gated CBCT imaging for positioning moving lung tumor in Lung SBRT treatment. AAPM, 2014.
11. T. Li, X. Li, Y. Yang, ***Y. Zhang***, D. E. Heron and M. Saiful Huq, "Simultaneous reduction of radiation dose and scatter for CBCT by using collimators", Med. Phys, 121913-1--121913-10, 2013
12. ***Y. Zhang,*** Y. Yang, X. Li, T. Li, D. Heron and M. Saiful Huq. A probability density function-based dose calculation for gated volumetric modulated arc therapy in lung stereotactic body radiotherapy. AAPM, 2013
13. Y. Yang, ***Y. Zhang***, T. Li, X. Li, D.E. Heron and M. Saiful. Huq. Dosimetric influence of setup error on Rapid Arc-based SRS for multiple intracranial targets. 40, 298, 2013
14. X. Li, T. Li, Y. Yang, ***Y. Zhang***, D. E. Heron and M. S. Huq. Prediction of the characteristics of moving lung tumor in CBCT imaging using virtual CBCT image simulated from 4D CT dataset. AAPM, 2013
15. ***Y. Zhang***, J. Xiao, J. DAI, Y. Zhang, Comparison of VMAT and IMRT for Stereotactic Body Radiation Therapy (SBRT) of the Adrenal Metastases, AAPM, 2011
16. ***Y. Zhang***, Y. Hu, L. Ma and J. Dai, "Dynamic delivery of IMRT using independent jaws", AAPM, 2008

PROFESSIONAL ACTIVITIES

Medical Residents Teaching:

Dates	Title of teaching sessions	type of learner	number of learners	sessions/year
2019	Prostate ultrasound guided HDR procedure	Residents	1	2
2020	Prostate ultrasound guided HDR procedure	Residents	2	3
2021	Prostate ultrasound guided HDR procedure	Residents	2	3

Medical Dosimetry Students Teaching:

Dates	Title of teaching sessions	type of learner	number of learners	sessions/year
2018	TLD calibration procedure	Dosimetrist student	1	1
2019	Medical dosimetry	Dosimetrist student	1	5
2020	Medical dosimetry	Dosimetrist student	1	5

2022	Medical dosimetry	Dosimetrist student	1	1
2023	SBRT planning	Dosimetrist student	2	1
2024	SBRT planning	Dosimetrist student	1	2

Mentoring:

Dates	Title of teaching sessions	type of learner	number of learners	sessions/year
Jul 2021	Linac monthly QA	Medical physicist	1	2
Aug 2021	CT QA	Medical physicist	1	1
Jan 2023	Linac QA	Medical physicist	1	4
Jan 2023	Weekly chart check	Medical physicist	1	2
Jan 2023	CT QA	Medical physicist	1	1
Feb 2023	physics 2nd chart check	Medical physicist	1	4
Jun 2023	SBRT treatment planning	Medical dosimetrist	1	2
Jun 2023	MU hand calc	Therapists	4	1
Feb 2024	SBRT treatment planning	Medical dosimetrist	2	2

Current Research Interests

I Led the Continuous Quality Improvement (CQI) program at UPMC Palmer, including “Patient education for DIBH simulation and treatment (2021)” and “Improving the setup accuracy for Head-and-Neck treatments (2022)”.

My research focuses on several key areas within medical physics and radiation oncology. These include image-guided radiation therapy (IGRT), optimization algorithms for Intensity Modulated Radiation Therapy (IMRT) and Volumetric Modulated Arc Therapy (VMAT), SBRT and SRS treatment planning, small field dosimetry and the management of respiratory motion effects in LINAC-based lung stereotactic body radiation therapy (SBRT).

I have contributed significantly to the field with peer-reviewed articles and abstracts. Additionally, I have served as a reviewer for several prestigious journals. This experience has allowed me to play an active role in shaping and advancing research in my areas of expertise.

Services

I am working as a clinical medical physicist at UPMC Passavant. I Provided clinical medical physics coverage for UPMC Hillman Cancer Center at Palmer Pavilion (2014-2023) and UPMC Hillman Cancer Center Passavant (2023-present). In the past several years, I also provided multiple sites coverage if needed, including UPMC East, Indiana and Murtha.

I provide clinical medical physics services such as initial and weekly patient treatment chart review, monthly/annual consistency check of treatment machines and CT simulator, medical physics consultation, SBRT/SRS treatment planning and coverage of brachytherapy. I keep working closely with our radiation oncology team to improve cancer patient health care in our department.