

CURRICULUM VITAE



Ken Kang-Hsin Wang, PhD, DABR

Oct. 17th, 2023

DEMOGRAPHIC AND PERSONAL INFORMATION

Current Appointments

2020-present Associate Professor, Division of Medical Physics and Engineering, Department of Radiation Oncology, University of Texas Southwestern Medical Center

Personal Data

Office Address: University of Texas Southwestern Medical Center
Department of Radiation Oncology
Seay Biomedical Building NC8.308E
Dallas, Texas 75235

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Education and Training

Undergraduate

1997-2001 B.Sc., Mentor: Dr. Zhen Ye, Department of Physics, National Central University, Chung-Li, Taiwan

Doctoral

2003-2008 Ph.D., Mentor: Dr. Thomas H. Foster, Department of Physics, University of Rochester, Rochester, NY

Postdoctoral

2008-2010 Postdoctoral Fellow, Mentor: Dr. Timothy C. Zhu, Radiation Physics Division, Department of Radiation Oncology, University of Pennsylvania, Philadelphia, PA

2010-2011 Resident, Radiation Physics Division, Department of Radiation Oncology, University of Pennsylvania, Philadelphia, PA

2011-2012 Chief Resident, Mentor: Dr. Stefan Both, Radiation Physics Division, Department of Radiation Oncology, University of Pennsylvania, Philadelphia, PA

Professional Experience

2001-2002 Second Lieutenant, Republic of China Army Units, Taiwan

2012-2020 Senior Clinical Physicist, Department of Radiation Oncology and Molecular Radiation Sciences, Johns Hopkins University School of Medicine, Baltimore, MD

2013 Lead Physicist, Commissioning Elekta VersaHD linear accelerator, Department of Radiation Oncology and Molecular Radiation Sciences, Johns Hopkins University School of Medicine, Baltimore, MD

2015-2016 Lead Physicist, Stereotactic Radiation Therapy Service, Department of Radiation Oncology and Molecular Radiation Sciences, Johns Hopkins University School of Medicine, Baltimore, MD

2016-2017 Regional Lead Physicist, Sibley Memorial Hospital and Suburban Hospital, National Capitol Region, Department of Radiation Oncology and Molecular Radiation Sciences, Johns Hopkins University School of Medicine, Baltimore, MD

2017-2020 Lead Clinical Physicist, Johns Hopkins Bayview Medical Center, Department of Radiation Oncology and Molecular Radiation Sciences, Johns Hopkins University School of Medicine, Baltimore, MD

2018-present	Dosimetry Supervisor, Radiation Service Core, School of Medicine, Johns Hopkins University, Baltimore, MD
2019-2020	Cancer Center Member, Cancer Molecular & Functional Imaging Program, Johns Hopkins University Kimmel Cancer Center, Baltimore, MD
2020	Lead Physicist, Commissioning Elekta VersaHD linear accelerator with ExacTrac, Department of Radiation Oncology and Molecular Radiation Sciences, Johns Hopkins University School of Medicine, Baltimore, MD
2015-2020	Assistant Professor, Department of Radiation Oncology and Molecular Radiation Sciences, Johns Hopkins University School of Medicine
2020	Assistant Professor, Department of Oncology, Johns Hopkins University School of Medicine
2020-present	Associate Professor, Department of Radiation Oncology, University of Texas Southwestern Medical Center
2020-present	Associate Professor, Biomedical Engineering Program, Graduate School of Biomedical Sciences, University of Texas Southwestern Medical Center
2021-present	Cancer Center Member, Experimental Therapeutics Scientific Program, University of Texas Southwestern Medical Center Harold C. Simmons Comprehensive Cancer Center

PUBLICATIONS:

[Original Research \[OR\]](#) (The trainee under my supervision is underlined.)

1. Z. Ye, and **K. K-H (K-X) Wang**. Localize energy in random media: A new phase state. Chin. J. Phys. 2000; 38, L1003-1007.
2. **K. K-H (K-X) Wang**, and Z. Ye. Acoustic pulse propagation and wave localization in bubbly water. Phys. Rev. E. 2001; 64, 056607-1-9, PMID: 11736116.
3. **K. K-H (K-X) Wang**, and Z. Ye. Collective behavior in electrical dipolar systems. J. Phys.: Condens. Matter, 2001; 13, 8031-8038.
4. C.H. Kuo, **K. K-H Wang**, and Z. Ye. Fluctuation and localization of acoustic waves in bubbly water. Appl. Phys. Lett. 2003; 83, 4247-4249.
5. **K. K-H Wang**, and Z. Ye. Simulation study of localization electromagnetic waves in a two-dimensional random dipolar system. Phys. Rev. E., 2003, 68, 066609-1-6, PMID: 14754338.
6. **K. K-H Wang**, and Z. Ye. Diffusive and localization behavior of electromagnetic waves in a two-dimensional random dipolar system. Phys. Rev. E., 2003, 68, 046608-1-10, PMID: 14683066.
7. **K. K-H Wang**, S. Mitra, and T.H. Foster. A comprehensive mathematical model of microscopic dose deposition in photodynamic therapy. Med. Phys., 2007, 34, 282-293, PMID: 17278514, [Erratum: Med. Phys. 35. 4278-4280 (2008)], (Selected to be published in Virtual Journal of Biological Physics Research)
8. **K. K-H Wang**, J.D. Wilson, M.E. Kenney, S. Mitra, and T.H. Foster. Irradiation-induced enhancement of Pc 4 fluorescence and changes in light scattering are potential dosimeters for Pc 4-PDT. Photochem. Photobiol., 2007, 83, 1056-1062, PMID: 17880500.
9. **K. K-H Wang**, S. Mitra, and T.H. Foster. Photodynamic dose does not correlate with long-term tumor response to mTHPC-PDT performed at several drug-light intervals. Med. Phys. 2008, 35, 3518-3526, PMID: 18777912, PMCID: PMC2562246, (Selected to be published in Virtual Journal of Biological Physics Research)

10. **K. K-H Wang**, W.J. Cottrell, S. Mitra, A.R. Oseroff, and T.H. Foster. Simulations of measured photobleaching kinetics in human basal cell carcinomas suggest blood flow changes during ALA-PDT. *Lasers. Surg. Med.*, 2009, 41, 686 - 696, PMID: 19802891, PMCID: PMC2805271.
11. T.M. Busch, X. Xing, G. Yu, A. Yodh, E. P. Wileyto, H.-W. Wang, T. Durduran, T.C. Zhu, and **K. K.-H. Wang**. Fluence rate-dependent intratumor heterogeneity in physiologic and cytotoxic responses to Photofrin-PDT. *Photochem. Photobiol. Sci.* 2009, 8, 1683-1693, PMID: 20024165, PMCID: PMC2834171.
12. **K. K-H Wang** and T. C. Zhu. Reconstruction of *in-vivo* optical properties for human prostate using interstitial diffuse optical tomography. *Opt. Exp.* 2009, 17, 11665-11672, PMID: 19582081, PMCID: PMC3276880.
13. **K. K-H Wang**, J. C. Finlay, T. M. Busch, S. M. Hahn, and T. C. Zhu. Explicit dosimetry for photodynamic therapy: macroscopic singlet oxygen modeling. *J. Biophotonics*. 2010, 3, 304-318, PMID: 20222102, PMCID: PMC3071971.
14. **K. K-H Wang**, and T. C. Zhu. Modeling scatter-to-primary dose ratio for megavoltage photons. *Med. Phys.* 2010; 37, 5270-5278, PMID: 21089761.
15. S. Both, **K. K-H Wang**, J. Plastaras, C. Deville, V. Bar Ad, Z. Tochner, and N. Vapiwala. Real-time study of prostate intrafraction motion during external beam radiotherapy with daily endorectal balloon. *Int. J. Radiat. Oncol. Biol. Phys.* 2011; 81, 1302-1309, PMID: 21035952
16. S. Both, C. Deville, V. Bui, **K. K-H Wang**, and N. Vapiwala Emerging evidence for the role of an endorectal balloon in prostate radiation therapy. *Transl. Cancer Res.* 2012; 1, 227-235.
17. **K. K-H Wang**⁺, N. Vapiwala, C. Deville J. Plastaras, R. Scheuermann, H. Lin, V. Bar Ad, Z. Tochner, and S. Both. A study to quantify the effectiveness of daily endorectal balloon (ERB) for prostate intrafraction motion management. *Int. J. Radiat. Oncol. Biol. Phys.* 2012; 83,1055-1063, PMID: 22115790. +: corresponding author
18. S Tang, C. Deville, J McDonough, Z Tochner, and **K. K-H Wang**, N. Vapiwala, S. Both. Effect of intrafraction prostate motion on proton pencil beam scanning delivery: A quantitative assessment. *Int. J. Radiat. Oncol. Biol. Phys.* 2013; 87, 375-382, PMID: 23958148.
19. X. Liang, **K. K-H Wang**, and T. C. Zhu. Feasibility of interstitial diffuse optical tomography using cylindrical diffusing fiber. *Phys. Med. Biol.* 2013; 58, 10, 3461-3480, PMID: 23629149, PMCID: PMC3759155.
20. **K. K-H Wang**⁺, N. Vapiwala, Viet B, C. Deville, J. Plastaras, V. Bar Ad, Z. Tochner, and S. Both. The impact of stool and gas volume on intrafraction prostate motion in patients undergoing radiotherapy with daily endorectal balloon. *Radiother. Oncol.* 2014; 112, 89-94, +: corresponding author.
21. S Tang, C. Deville, Z Tochner, **K. K-H Wang**, J McDonough, N. Vapiwala, and S. Both. Impact of intrafraction and residual interfraction effect on prostate proton pencil beam scanning. *Int. J. Radiat. Oncol. Biol. Phys.* 2014; 90, 1186-1194.
22. Y. Yang*, **K. K-H Wang***, S. Eslami, I. Iordachita, M. Naser, M. S. Patterson, and J. W. Wong. Systematic calibration of an integrated x-ray and optical tomography system for preclinical radiation research. *Med. Phys.* 2015, 42, 1710-1720, Y. Yang was the medical physics resident under my supervision *These authors contribute equally.
23. Y. Yang*, M. Armour, **K. K-H Wang**, N. Gandhi, I. Iordachita, J. Siewerdsen, and J. W. Wong. Evaluation of a cone beam computed tomography geometry for image guided small animal irradiation. *Phys. Med. Biol.* 2015 60, 5163-5177.
24. C. Yang, D.-H. Lee, A. Mangraviti, L. Su, K. Zhang, Y. Zhang, B. Zhang, W. Li, B. Tyler, J. Wong, **K. K.-H. Wang**, E. Velarde, J. Zhou, and K. Ding. Quantitative correlational study of microbubble-enhanced ultrasound Imaging and magnetic resonance imaging of glioma and response to radiotherapy in a rat model. *Med. Phys.* 2015, 42, 4762-4772

25. Y. Zhang, K. Ding, G. Cowan, E. Tryggestad, E. Armour, and **K. K-H Wang**⁺ “Alignment of multi-radiation isocenters for megavoltage photon beam.” *J. Appl. Clin. Med. Phys.*, 2015, 16, 314-324, Y. Zhang was the medical physics resident under my supervision. +corresponding author. [QI]
26. B. Zhang^{*}, **K. K-H Wang**^{*,+}, J. Yu, S. Eslami, J. Reyes, R. Malek, P. Tran, I. Iordachita, M. S. Patterson, and J. W. Wong, “Bioluminescence tomography-guided radiation therapy for preclinical research” *Int. J. Radiat. Oncol. Biol. Phys.*, 2016, 94, 5, 1144-1153, B. Zhang was the postdoctoral fellow under my supervision. *These authors contribute equally,+corresponding author.
27. J. Yu, B. Zhang, I. Iordachita, J. Reyes, Z. Lu, M. Brock, M. S. Patterson, J. W. Wong, and **K. K-H Wang**⁺, “Systematic study of target localization for bioluminescence tomography guided radiation therapy” *Med. Phys.*, 2016, 43, 2619-2629, DOI: 10.1118/1.4947481, J. Yu was the visiting scholar and B. Zhang was the postdoctoral fellow under my supervision. +corresponding author.
28. M. W. Ladra, **K. K-H Wang**, and S. A. Terezakis “Pencil-beam scanning for pediatric rhabdomyosarcoma: Promise and precautions”, *Pediatr Blood Cancer*, 2016, 63, 1698-1699, DOI: 10.1002/pbc.26103
29. B. Zhang, J. W. Wong, I. Iordachita, J. Reyes, K. Nugent, P. Tran, S. W. Tuttle, C. Koumenis, and **K. K-H Wang**⁺, “Evaluation of on- and offline bioluminescence tomography system for focal irradiation guidance” *Radiat. Res.*, 2016; 186: 592-601, DOI: 10.1667/RR14423.1, B. Zhang was the postdoctoral fellow under my supervision, +corresponding author.
30. H. Dehghani, J.A. Guggenheim, S.L. Taylor, X. Xu, and **K. K-H Wang**, “Quantitative bioluminescence tomography using spectral derivative data.” *Biomed Opt Express*. 2018; 9: 4163-4174, X. Xu was the postdoctoral fellow under my supervision.
31. K. Taparra, H. Wang, R. Malek, A. Lafargue, M. A. Barbhuiya, X. Wang, B. W. Simons, M. Ballew, K. Nugent, J. A. Groves, R. Williams, T. Shiraishi, J. E. Verdone, G. Yildirim, R. Henry, B. Zhang, J. Wong, **K. K-H Wang**, B. D. Nelkin, K. J. Pienta, D. Felsher, N. E. Zachara, and P. Tran, “O-GlcNAcylation is required for mutant KRAS-induced lung tumorigenesis” *J. Clin. Investig.* 2018; 128: 4924-4937, B. Zhang was the postdoctoral fellow under my supervision
32. S. Z. Hazell, R. K. Hales, W. T. Hrinivich, **K. K.-H. Wang**, T. R. McNutt, P. Han, L. Anderson, A. C. Ferro, J. Moore, and K. R. Voong, “Applying non-homogeneous dose optimization to improve conventionally-fractionated radiation plan quality in patients with non-small cell lung cancer” *Prac. Radiat. Oncol.* 2019; 9: e591-598, DOI: <https://doi.org/10.1016/j.prro.2019.06.010>
33. W. T. Hrinivich, R. Phillips, A. J. Da Silva, N. Radwan, M. A. Gorin, S. P. Rowe, K. J. Pienta, M. G. Pomper, J. Wong, P. T. Tran, and **K. K.-H. Wang**, “Online PSMA-PET-guided radiotherapy for oligometastatic prostate cancer”. *Adv. Radiat. Oncol.* 2019; 5: 260-268, DOI: <https://doi.org/10.1016/j.adro.2019.10.006>, W. T. Hrinivich was the medical physics resident under my supervision.
34. Z. Deng, X. Xu, T. Garzon-Muvdi, A. Luksik, R. Maxwell, J. Yu, I. Iordachita, M. Lim, J. W. Wong and **K. K.-H. Wang**⁺, “In vivo bioluminescence tomography center of mass-guided conformal irradiation”. *Int. J. Radiat. Oncol. Biol. Phys.* 2020; 106, 612-620, DOI: <https://doi.org/10.1016/j.ijrobp.2019.11.003>, Z. Deng and X. Xu are the postdoctoral fellows under my supervision, +corresponding author.
35. Z. Liu, J. Zou, S. Li, M. J. Topper, Y. Tao, H. Zhang, X. Jiao, W. Xie, X. Kong, M. Vaz, H. Li, Y. Cai, L. Xia, P. Huang, K. Rodgers, B. Lee, J. B. Riemer, C.-P. Day, R.-W. C. Yen, Y. Cui, Y. Wang, Y. Wang, W. Zhang, H. Easwaran, A. Hulbert, K.B. Kim, R. A. Juergens, S. C. Yang, R. J. Battafarano, E. L. Bush, S. R. Broderick, S. M. Cattaneo, J. R. Brahmer, C. M. Rudin, J. Wrangle, Y. Mei, Y. J. Kim, B. Zhang, **K. K.-H. Wang**, P. M. Forde, J. B. Margolick, B. D. Nelkin, C. A. Zahnow, D. M. Pardoll, F. Housseau, S. B. Baylin, L. Shen and M. V. Brock, “Epigenetic therapy inhibits metastases by disrupting premetastatic niches.”, *Nature* 2020; 579, 284-290 DOI: <https://doi.org/10.1038/s41586-020-2054-x>, B. Zhang was the postdoctoral fellow under my supervision
36. A. Martin-Gomez, C. Hill, H.Y. Lin, J. Fotouhi, S. Han-Oh, **K. K.-H. Wang**, N. Navab, and A. K. Narang, “Towards Exploring the benefits of augmented reality for patient support during radiation oncology interventions”, *Computer Methods in Biomechanics and Biomedical Engineering: Imaging & Visualization* 2020; DOI: [10.1080/21681163.2020.1835547](https://doi.org/10.1080/21681163.2020.1835547)

37. S. Han-Oh, C. Hill, **K. K.-H. Wang**, K. Ding, J. L. Wright, S. Alcorn, J. Meyer, J. Herman, and A. K. Narang, “Geometric reproducibility of fiducial markers and efficacy of a patient-specific margin design using deep inspiration breath hold for stereotactic body radiotherapy for pancreatic cancer”, *Adv. Radiat. Oncol.* 2021; 6(2), 100655 DOI: <https://doi.org/10.1016/j.adro.2021.100655>.
38. C. Hill, S. Han-Oh, Z. Cheng, **K. K.-H. Wang**, J. Meyer, J. Herman, and A. K. Narang, “Fiducial-based image-guided SBRT for pancreatic adenocarcinoma: does inter- and intra-fraction treatment variation warrant adaptive therapy”, *Radiat. Oncol.* 2021; 16:53
39. X. Xu, Z. Deng, H. Dehghani, I. Iordachita, M. Lim, J. W. Wong, and **K. K.-H. Wang**⁺, “Quantitative bioluminescence tomography-guided conformal irradiation for pre-clinical radiation research”, *Int. J. Radiat. Oncol. Biol. Phys.* 2021; 111, 1310-1321, DOI: <https://doi.org/10.1016/j.ijrobp.2021.08.010>, +corresponding author.
40. N. Shah, J. Squire, M. Guirguis, D. Saha, K. Hoyt, **K. K.-H. Wang**, V. Agarwal and G. Obaid, “Deep-tissue activation of photonanomedicines: An update and clinical perspectives”, *Cancers* 2022, 14, 2004. <https://10.3390/cancers14082004>
41. A. Bentley, X Xu, Z Deng, JE Rowe, **K. K.-H. Wang**⁺, and H. Dehghani⁺, “Quantitative molecular bioluminescence tomography”, *J. Biomed. Opt* 2022, 27(6), 066004, doi: 10.1117/1.JBO.27.6.066004., +corresponding author
42. Z. Deng, X. Xu, I. Iordachita, H. Dehghani, B. Zhang, M. Lim, J. W. Wong, and **K. K.-H. Wang**⁺, “Mobile bioluminescence tomography-guided system for pre-clinical radiotherapy research”, *Biomed. Opt. Express* 2022, 13(9), 4970-4989, +corresponding author
43. S. Feng, C. L. Brouwer, E. W. Korevaar, N. Vapiwala, **K. K.-H. Wang**, C. Deville, J. A. Langendijk, S. Both, and S. Aluwini, “Dose evaluation of inter- and intra-fraction prostate motion in extremely hypofractionated intensity-modulated proton therapy for prostate cancer”, *Phys. Imaging Radiat. Oncol.* 2023, 27, 100474.
44. X. Xu, Z. Deng, D. Sforza, Z. Tong, Y. Tseng, C. Newman, M. Reinhart, P. Tsouchlos, T. Devling, H. Dehghani, I. Iordachita, J. W. Wong, and **K. K.-H. Wang**⁺, “Characterization of a commercial bioluminescence tomography-guided system for pre-clinical radiation research”, *Med. Phys.* 2023; 50:6433-6453, Editor’s choice in emerging imaging and therapy modalities, +corresponding author.

Book Chapters, Monographs [BC] (The trainee under my supervision is underlined.)

1. T. C. Zhu, and **K. K.-H. Wang**, Linear accelerator in *Encyclopedia of Radiation Oncology*, Eds. L. Brady and T. Yaeger, Springer – Verlag Berlin Heidelberg, 2012.
2. D. Mah, M. Moyers, **K. K.-H. Wang**, E. Diffenderfer, J. Cuaron, and M. Pankuch, Physics essentials of particle therapy in *Treatment volume delineation and treatment planning for particle therapy: A practical guide*, Eds. N. Y. Lee, J. E. Leeman, O. Cahlon, K. Sine, G. Jiang, J. J. Lu, and S. Both, Springer – International Publishing AG, 2018.
3. Z. Deng, X. Xu, H. Dehghani, D. M. Sforza, I. Iordachita, M. Lim, J. W. Wong and **K. K.-H. Wang**, “Quantitative bioluminescence tomography for in vivo volumetric-guided radiotherapy”. In: Ossandon M.R., Baker H., Rasooly A. (eds) *Biomedical Engineering Technologies. Methods in Molecular Biology*, vol 2393. Humana, New York, NY. 2022, https://doi.org/10.1007/978-1-0716-1803-5_38, Z. Deng, X. Xu, and D. M. Sforza were the postdoctoral fellows under my supervision.

Proceedings Reports [PR] (The trainee under my supervision is underlined.)

1. **K. K-H Wang**, J. C. Finlay, and T. C. Zhu. Reconstruction of optical properties using a diffusion model for interstitial diffuse optical tomography. *Proc. of SPIE* 2009; 7164, 71640P-71640P-9.
2. **K. K-H Wang**, T. M. Busch, J. C. Finlay, and T. C. Zhu. Optimization of physiological parameter for macroscopic modeling of reacted singlet oxygen concentration in an in vivo model. *Proc. of SPIE* 2009; 7164, 71640O-71640O-12.

3. T. C. Zhu, M. D. Altschuler, Y. Hu, **K. K.-H. Wang**^s, A. Dimofte, K. Cengel, S. M. Hahn. A heterogeneous optimization algorithm for the optimization of reacted singlet oxygen for interstitial PDT. Proc. of SPIE, 2010; 7751, 75510E-75510E-9.
4. X. Liang, **K. K-H Wang**, and T. C. Zhu. Singlet oxygen dosimetry modeling for photodynamic therapy. Proc. of SPIE 2012; 8210, 82100T-82100T-6.
5. X. Liang, **K. K-H Wang**, and T. C. Zhu. Characterization of tissue optical properties for prostate PDT using interstitial diffuse optical tomography. Proc. of SPIE 2012; 8210, 82100C-82100C-8.
6. M. Li, X. He, S. Eslami, **K. K-H. Wang**, **B. Zhang**, J. Wong, and I. Iordachita. A dual-use imaging system for preclinical small animal radiation research. Proc. 37th Annu. Int. Conf. of the IEEE Engineering in Medicine and Biology Society (EMBS), Milano, Italy, 2015, 6904-6907. B. Zhang was the postdoctoral fellow under my supervision
7. **B. Zhang**, I. Iordachita, J. Wong, and **K. K-H. Wang**. Multi-projection bioluminescence tomography guided system for small animal radiation research platform (SARRP). Proc. of SPIE 2016; 97010J, doi:10.1117/12.2211869, B. Zhang was the postdoctoral fellow under my supervision
8. **L. Hardy**, **D. Sforza**, I. Iordachita, X. Xu, J. W. Wong, and **K. K-H. Wang**, Development of a Mobile Fluorescence Tomography-guided System for Pre-clinical Radiotherapy Research, in Biophotonics Congress: Biomedical Optics 2020 (Translational, Microscopy, OCT, OTS, BRAIN), OSA Technical Digest (Optical Society of America, 2020), SW1D.6. L. Hardy and D. Sforza were the postdoctoral fellow under my supervision
9. **Z. Deng**, **X. Xun**, H. Dehghani, J. Reyes, L. Zheng, A. D. Klose, J. W. Wong, P. T. Tran, and **K. K-H Wang**, In vivo bioluminescence tomography-guided radiation research platform for pancreatic cancer: an initial study using subcutaneous and orthotopic pancreatic tumor model. Proc. of SPIE 2020; 1122409, <https://doi.org/10.1117/12.2546503> Z. Deng, X. Xun are the postdoctoral fellows under my supervision
10. A. Bentley, **X. Xu**, **Z. Deng**, J. E. Rowe, **K. K-H. Wang**, and H. Dehghani, "Simultaneous Diffuse Optical and Bioluminescence Tomography to Improve Source Localization," in European Conferences on Biomedical Optics 2021 (ECBO), OSA Technical Digest (Optica Publishing Group, 2021), paper EM3C.6., Z. Deng, X. Xun are the postdoctoral fellows under my supervision.
11. **Z. Deng**, **X. Xu**, I. Iordachita, H. Dehghani, B. Zhang, J. W. Wong, and **K. K.-H. Wang**, Bioluminescence tomography system for in vivo irradiation guidance, in Biophotonics Congress: Biomedical Optics 2022 (Translational, Microscopy, OCT, OTS, BRAIN), Technical Digest Series (Optica Publishing Group, 2022), paper OTu2D.3. Z. Deng, X. Xun are the instructor and postdoctoral fellow under my supervision.
12. **Z. Tong**, **Z. Deng**, and **K. K.-H. Wang**, Ultra-sensitive single pixel bioluminescence tomography for in vivo cell tracking, in Biophotonics Congress: Biomedical Optics 2022 (Translational, Microscopy, OCT, OTS, BRAIN), Technical Digest Series (Optica Publishing Group, 2022), paper JTu3A.45., Z. Tong, Z. Deng are the postdoctoral fellow and instructor under my supervision.
13. **K. K.-H. Wang**, **X. Xu**, **Z. Deng**, **Z. Tong**, **Y. Tseng**, I. Iordachita, H. Dehghani, and J. W. Wong, "Optical tomography-guided system for pre-clinical radiotherapy research", Optica Imaging Congress 2023 (3D, COSI, DH, IS, PcAOP, FlatOptics), Optica Publishing Group, 2023, paper HM2E.3

Media Releases or Interviews [MR]

1. **K. K-H Wang**, BLT lines up for soft-tissue targeting. medicalphysicsweb, Research and innovation news, Feb 25th 2016; <http://medicalphysicsweb.org/cws/article/research/64139>
2. Muriglo, Molecular optical tomography preclinical imaging system, Xstrahl Ltd., Academic-industrial partnership; <http://www.xstrahl.com/life-sciences/pre-clinical-systems/molecular-imaging/muriglo.aspx>, Note: My research has led Xstrahl Ltd commercialize the optical tomography system for preclinical radiation research.

3. Xstrahl in action: Quantitative bioluminescence tomography using spectral derivative data, Xstrahl Ltd., Aug 2018, <https://xstrahl.com/us/xstrahl-in-action-quantitative-bioluminescence-tomography-using-spectral-derivative-data/>
4. Special presentation from 5th conference on small animal precision image-guided radiotherapy, 2020 <https://xstrahl.com/us/publication/special-presentation-from-5th-conference-on-small-animal-precision-image-guided-radiotherapy/>

FUNDING

EXTRAMURAL FUNDING

Research Extramural Funding

Current

- | | |
|-----------------|---|
| 8/1/19-5/31/24 | Quantitative bioluminescence tomography for pre-clinical radiotherapy research
R01CA240811 Bioengineering research grants
NIH-NCI, PAR-18-206
\$1,416,868, scored at 1%
Role: Principal investigator |
| 4/1/19- 6/30/25 | X-ray/optical tomographic guidance and assessment system for pre-clinical radiation research
R37/R01 CA230341 Academic-industrial partnership, MERIT award
NIH-NCI, PAR-18-009
\$1,861,131, scored at 6%
Role: Principal investigator |
| 8/31/20-8/30/25 | Recruitment of rising star
RR200042
CPRIT
\$4,000,000
Role: Principal investigator |

Previous

- | | |
|------------------|--|
| 8/31/22-8/30/23 | Ultra-sensitive single-pixel bioluminescence tomography for in vivo cell tracking
AAPM
\$25,000
Role: Co-investigator |
| 6/15/18-5/31/22 | A pre-clinical x-ray/optical tomography-guided radiation research platform for pancreatic cancer
R21 CA223403
NIH-NCI
\$391,745, scored at 7%
Role: Principal investigator |
| 8/9/12 - 4/30/22 | Regional Oncology Research Center, Johns Hopkins University
P30 CA006973
NCI
\$4,465,727
PI: William G. Nelson
Role: Radiation Dosimetry Supervisor, 3.67% |

11/1/17 - 10/31/19	Treatment planning comparison of DCFPyL PET-CT targeted oligometastatic prostate cancer RefleXion Medical Ltd. \$106,020 PI: Phuoc T. Tran Role: Co-investigator, 3%
3/1/16 - 4/30/19	Develop and refine methods and apparatus for irradiation experiments with Xstrahl's small animal radiation research platform (SARRP)-Continuation 90043185 Xstrahl Medical Ltd. \$388,279 PI: John W. Wong Role: Multiple-Principal investigator, 5%
1/1/15 - 12/31/17	Bioluminescence imaging guided radiation therapy: innovative 3D reconstruction algorithm and preclinical evaluation 61401264 National Natural Science Foundation of China \$50,000 PI: Jingjing Yu Role: Co-investigator, 1%
4/1/10 - 2/28/16	Develop and refine methods and apparatus for irradiation experiments with Xstrahl's small animal radiation research platform (SARRP)-Continuation 90043185 Xstrahl Medical Ltd. \$456,000 PI: John W. Wong Role: Research Scientist, 5%
7/1/11 - 12/31/15	An integrated x-ray/optical tomography system for preclinical radiation research R01 CA158100 NIH-NCI, PAR-10-169 \$1,108,000 PI: John W. Wong Role: Co-investigator, 10%

Educational Extramural Funding

Previous

3/1/15 – 2/28/20	Optimizing advanced image guidance and treatment solutions for radiation therapy in China Elekta Instrument (Shanghai) Ltd 90062387 \$300,000 PI: John W. Wong Role: Co-investigator, 3%
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CLINICAL ACTIVITIES

Clinical Focus

My clinic focus is in the field of quality insurance for medical linear accelerator, imaging guided radiation therapy, stereotactic treatment, and biology-guided irradiation. I had led linear accelerator commissioning, medical physics service for stereotactic radiosurgery (SRS) and stereotactic body radiation therapy (SBRT), and thoracic radiation therapy.

Boards, other specialty certification

2012 American Board of Radiology in Therapeutic Medical Physics, P5513

Clinical (Service) Responsibilities

Department of Radiation Oncology and Molecular Sciences, Johns Hopkins Hospital

11/14-1/15 Secondary physicist for Elekta VersaHD linear accelerator commissioning, 40%
2012-2015 Physicist of the day for general clinical coverage, 10%
2012-2015 Elekta linear accelerator physicist, 30%
2014-2015 Clinical physicist for image-guided radiation therapy, 4%
2015-2016 Cyberknife physicist, 10%
7/15-2/16 Supporting physicist for Elekta VersaHD stereotactic cone commissioning, 6%
2012-2016 Clinical physicist for stereotactic treatment, 30%
2013-present Clinical physicist for weekend emergency treatment, 4 times/year
2016 Elekta linear accelerator physicist, 20%
6/16-08/16 Supervisor for Elekta VersaHD linear accelerator commissioning in Sibley hospital, 50%
2017-2020 Senior clinical physicist for Johns Hopkins Bayview Medical Center, 50%
2020 Senior clinical physicist for Johns Hopkins Hospital, 50%

Department of Radiation Oncology, University of Texas Southwestern Medical Center

2020-present Senior clinical physicist for University of Texas Southwestern Medical Center, 25%

Clinical Program Building / Leadership

Department of Radiation Oncology and Molecular Sciences, Johns Hopkins Hospital

7/13-11/13 Lead physicist, Commissioning Elekta VersaHD linear accelerator, 100%
2015-2016 Lead physicist, Stereotactic radiation therapy service, 20%
2016-2017 Lead physicist, Sibley Memorial Hospital and Suburban Hospital, National Capitol Region, 50%
3/20-7/20 Lead physicist, Commissioning Elekta VersaHD linear accelerator with ExacTrac, 100%

EDUCATIONAL ACTIVITIES

Educational Focus

My educational focus is mentoring postdoctoral fellows, residents, and students to be an independent thinker for scientific discovery. I enjoy sharing my grant writing and research experience with trainee or junior faculty. My goal is on preparing young fellow to be the leader in the field of cancer research.

Classroom instruction

Department of Radiation Oncology and Molecular Sciences, Johns Hopkins Hospital

2014 Lecturer, Radiation oncology resident and postdoctoral fellow, “Medical linear accelerator commissioning”, Radiotherapy physics lecture series
2013-2019 Lecturer, Radiation oncology resident and postdoctoral fellow, “Proton therapy”, Radiotherapy physics lecture series

- 2014-2019 Lecturer, Radiation oncology resident and postdoctoral fellow, “Radiation measurement quantities”, Radiotherapy physics lecture series
- 2017-2020 Lecturer, Radiation oncology resident and postdoctoral fellow, “Radiation detection and measurement”, Radiotherapy physics lecture series

Workshops/ Seminars

JHMI/seminars

- 2014 Speaker, Audience: postdoctoral fellow, graduate student, and faculties, Advanced image guided irradiation methods with SARRP, Molecular Radiation Sciences Seminar, Department of Radiation Oncology and Molecular Radiation Sciences, Johns Hopkins Hospital

National

- 2018 Speaker, Audience: principle investigators, and SARRP users, Technology progress in quantitative bioluminescence tomography, 1st MuriGlo Consortium, Radiation Research Society Annual Meeting 2018, Chicago.

International

- 2019 Speaker, Audience: principle investigators, and SARRP users, Quantitative optical tomography for pre-clinical radiation research, SARRP user workshop, ICRR 2019 meeting, Manchester, UK

Mentoring

Junior Faculty Research program

- 2021 – present Zijian Ding, Ph.D., present position: Instructor, Department of Radiation Oncology, University of Texas Southwestern Medical Center, Research topic: Validate bioluminescence tomography-guided small animal irradiator for in vivo glioblastoma model and develop bioluminescence tomography for pancreatic cancer research, Shared publications: [OR] 34, 39 [PR]8 [BC]3

Visiting Scholar Research Program

- 2013 – 2014 Jingjing Yu, Ph.D., present position: Associate professor, School of Physics and Information Technology, Shaanxi Normal University, Shaanxi, China. Research topic in Hopkins: Systematic study of target localization for bioluminescence tomography guided radiation therapy. Grant received: Bioluminescence imaging guided radiation therapy: innovative 3D reconstruction algorithm and preclinical evaluation, ID: 61401264, National Natural Science Foundation of China: [OR] 27

Resident and Postdoctoral Fellow Research Program

- 2012 – 2013 Yidong Yang, Ph.D., present position: Assistant professor, Department of Radiation Oncology, University of Miami, Miami, FL. Medical physics resident research year, Research topic in Hopkins: Integrated X-ray CBCT and bioluminescence tomography for preclinical radiation research. (Co-Mentor with Dr. John Wong). Shared publications: [OR] 22, 23
- 2013 – 2015 Yin Zhang, Ph.D., present position: Assistant professor, Department of Radiation Oncology, Rutgers University, Medical physics resident research, Research topic in Hopkins: Alignment of multi-radiation isocenters for megavoltage photon beam, Shared publications: [OR] 25
- 2014 – 2016 Bin Zhang, Ph.D., present position: Associate professor, Department of Biomedical Engineering, Dalian University of Technology, Dalian, China, Postdoctoral fellow, Research topic in Hopkins: Integrated X-ray CBCT and optical tomography for preclinical radiation research, Shared publications: [OR] 24, 26, 27, 31, 35 [PR] 5, 6
- 2018 – 2019 William T. Hrinovich, Ph.D., present position: Medical Physics, Department of Radiation Oncology, Johns Hopkins University, Topics: Treatment planning comparison of DCFPyL PET-CT targeted oligometastatic prostate cancer, Shared publications: [OR] 33
- 2019 – 2020 Luke A. Hardy, Ph.D., present position: R&D Manager, Sensory Analytics, Topics: Fluorescence tomography for pre-clinical radiation research Shared publications: [PR]7

- 2019 – 2020 Daniel Sforza, Ph.D., present position: Research manager, Department of Radiation Oncology, Johns Hopkins University, Topics: Quantitative bioluminescence tomography for pre-clinical radiation research
Shared publications: [BC]3
- 2016 – 2021 Zijian Ding, Ph.D., present position: Instructor, Department of Radiation Oncology, University of Texas Southwestern Medical Center, Research topic: Validate bioluminescence tomography-guided small animal irradiator for in vivo glioblastoma model and develop bioluminescence tomography for pancreatic cancer research, Shared publications: [OR] 34, 39 [PR]8 [BC]3
- 2021 – 2023 Yupei Tseng, Ph.D., present position: Postdoctoral fellow, Department of Radiation Oncology, University of Texas Southwestern Medical Center, Topics: Fluorescence and diffusive tomography for pre-clinical radiation research
- 2016 – present Xiangkun Xu, Ph.D., present position: Postdoctoral fellow, Department of Radiation Oncology, Johns Hopkins University, and Department of Radiation Oncology, University of Texas Southwestern Medical Center, Research topic: Develop advanced quantitative optical tomography to quantify tumor volume and assess radiation-induced response, Shared publications: [OR] 30, 34, 39 [PR]8 [BC]3
- 2022 – present Zhishen Tong, Ph.D., present position: Postdoctoral fellow, Department of Radiation Oncology, University of Texas Southwestern Medical Center, Topics: Quantitative bioluminescence tomography for pre-clinical radiation research and single-pixel imaging for ultra-sensitive detection.

Resident and Fellow Clinical Rotation

- 2013 – 2015 Yin Zhang, Ph.D., present position: Assistant professor, Department of Radiation Oncology, Rutgers University, Topics: Medical linear accelerator commissioning and quality assurance.
- 2016 Lin Su, Ph.D., c present position: Medical physicist, Department of Radiation Oncology, Johns Hopkins University, Topics: Medical linear accelerator commissioning and quality assurance.
- 2020 William T. Hrinovich, Ph.D., present position: Medical physics resident, Department of Radiation Oncology, Johns Hopkins University, Topics: Medical linear accelerator commissioning and quality assurance.
- 2020 Dong Han, Ph.D., present position: Assistant professor, Department of Radiation Oncology, University of Maryland, Topics: Medical linear accelerator commissioning and quality assurance.

Graduate Student Research Program

- 2021 – present Lixiang Guo, Ph.D., present position: graduate student, Department of Radiation Oncology, University of Texas Southwestern Medical Center, Topics: Oxygen modeling and development of linear accelerator for FLASH therapy
- 2021 – present Banghao Zhou, present position: graduate student, Department of Radiation Oncology, University of Texas Southwestern Medical Center, Topics: Monte Carlo-based treatment planning system and mobile cone beam CT system for FLASH therapy

RESEARCH ACTIVITIES

Research Focus

My research interest is in the field of biomedical technologies that bridge the basic physics/engineering research and radiobiology/clinical application in radiation therapy (RT). At this moment, our group has three ongoing research directions (1). developing 3D optical-guided system for pre-clinical RT research, specifically, the development of a quantitative fluorescence, bioluminescence, and diffuse optical tomography (FT/BLT/DOT) system. The optical tomography system is expected to localize tumor in vivo, guide irradiation, and quantify treatment response; (2). advance the BLT system integrated with high-resolution anatomical imaging for in vivo cell tracking and assessment, and (3). establish molecular imaging-guided ultra-high dose rate FLASH platform for pre-clinical RT research.

Research Program Building / Leadership

- 2012-present Lead scientist, Integrated x-ray/optical tomography system for preclinical radiation application, Lead a multidisciplinary team in the area of medical physics, biomedical optics, mechanical engineering and

radiobiology to develop an integrated x-ray CBCT/bioluminescence tomography/fluorescence tomography for small animal radiation research platform (SARRP)

Research Demonstration Activities

- 2014 Dual-use bioluminescence tomography system for small animal radiation research platform, Annual meeting for Radiation Research Society, Las Vegas, United States, Demonstrate the operation of the optical system, with Xstrahl Ltd, to the meeting participants.
- 2015 Standalone bioluminescence tomography system for small animal radiation research platform, Dr. Costas Koumenis group, Department of Radiation Oncology, University of Pennsylvania, Deliver the optical system to end-user group, train the users, and perform off-campus research.

Inventions, Patents, Copyrights

- 2015 JW Wong, **K. K.-H. Wang**, I. Iordachita, A dual-use optical tomographic imaging system for preclinical research as an independent instrument or on-board other instrument, Johns Hopkins University, Reference number: C13068, Publication Number: WO2015065121 A1
- 2016 JW Wong, Kai Ding, **K. K.-H. Wang**, A method to reconstruct the 3D map of radiation treatment isocenter of a medical accelerator, Johns Hopkins University, Reference number: C14160
- 2019 **K. K.-H. Wang**, I. Iordachita, A multiple mirror systems to conduct multiple-projection fluorescence imaging and tomography for pre-clinical research, patent pending, Johns Hopkins University
- 2019 **K. K.-H. Wang**, I. Iordachita, A universal optical imaging and tomography system to guide irradiation for small animal irradiators, patent pending, Johns Hopkins University

Technology Transfer Activities

- 2016-present Principle investigator, Bioluminescence tomography(BLT)-guided system for small animal radiation research platform (SARRP), help the company Xstrahl Ltd to commercialize the BLT for SARRP by transferring our software and hardware technology, <https://xstrahl.com/life-science-systems/muriglo-2/>

SYSTEM INNOVATION AND QUALITY IMPROVEMENT ACTIVITIES

System Innovation Focus

My interest is to improve clinic efficiency and the accuracy of radiation delivery.

System Innovation and Quality Improvement efforts within JHMI:

Department of Radiation Oncology and Molecular Sciences, Johns Hopkins Hospital

- 2013 Clinical Physicist, Custom-built a software to unify the monthly quality assurance procedures for beam profile measurement for medical linear accelerator following American Association of Physicist in Medicine (AAPM) Task Group 142.
- 2014 Clinical Physicist, Improve the accuracy of the monthly output measure procedure for medical linear accelerator; reduce systematic output uncertainty for low energy electron beam by as much as 1.2%.
- 2014 Clinical Physicist, Invent and implement the measurement of multiple radiation isocenters for different photon beam energies; improve the radiation delivery accuracy of stereotactic treatment
- 2015 Clinical Physicist, Implement absolute film dosimetry for stereotactic treatment; improve the patient specific quality assurance for stereotactic treatment
- 2016 Clinical Physicist, Implement small field dosimetry for Cyberknife treatment; improve the dosimetry accuracy for small radiation field for field size less than 1 cm diameter field
- 2017 Clinical Physicist, Commissioning/Implement total body irradiation (TBI) procedure for the Department of Radiation Oncology and Molecular Radiation Sciences in Sibley Memorial Hospital
- 2018-2019 Clinical Physicist, Implement Active Breath Control (ABC) dailyQA procedure

ORGANIZATIONAL ACTIVITIES

Institutional Administrative Appointments

2011	Member, Search committee for medical physics resident, Radiation Physics Division, Department of Radiation Oncology, University of Pennsylvania, Philadelphia, PA
2016-2017	Member, Search committee for photon chief physicist, Department of Radiation Oncology and Molecular Radiation Sciences, Johns Hopkins University School of Medicine, Baltimore, MD
2012-present	Member, Search committee for medical physics resident, Department of Radiation Oncology and Molecular Radiation Sciences, Johns Hopkins University School of Medicine, Baltimore, MD
2015-present	Member, Search committee for clinical physicist, Department of Radiation Oncology and Molecular Radiation Sciences, Johns Hopkins University School of Medicine, Baltimore, MD
2017-2018	Member, Search committee for proton chief physicist, Department of Radiation Oncology and Molecular Radiation Sciences, Johns Hopkins University School of Medicine, Baltimore, MD

Editorial Activities

Journal peer review activities

2009-2011	Photochemistry and Photobiology
2009-2010	Optics Express
2012-2021	Medical Physics
2013	Technology in Cancer Research and Treatment
2015	Radiation Oncology
2015	Oncotarget
2017	World Journal of Gastroenterology
2018	Biomedical Optics Express
2018	Optica
2022	Scientific Reports
2023	International Journal of Radiation Oncology, Biology, Physics

Advisory Committees, Review Groups/Study Sections

2016	Reviewer for scientific abstracts, Annual meeting of American Association of Physicists in Medicine
2017	Reviewer for scientific abstracts, Annual meeting of American Association of Physicists in Medicine
2020	Ad-Hoc reviewer for Annual meeting of American Association of Physicists in Medicine Task Group 274
2021	Reviewer for scientific abstracts, Annual meeting of American Association of Physicists in Medicine
2021	Ad-hoc reviewer for radiation therapeutics and biology study section (RTB), Center for Scientific Review, National Institute of Health
2021	Ad-hoc reviewer for career and translational team-gastrointestinal cancer peer-review panel (CIT-GIC), Peer Reviewed Cancer Research Program, Department of Defense
2021	Ad-hoc reviewer for faculty promotion, Department of Physics, University of Rhode Island
2023	Reviewer for scientific abstracts, Annual meeting of American Association of Physicists in Medicine

Professional Societies

2008-2010	International Photodynamic Association (IPA), Member
2009-2012	American Association of Physicist in Medicine (AAPM), Resident Member
2010-2012	American Society for Radiation Oncology (ASTRO), Resident Member
2011-2012	European Society for Radiotherapy and Oncology (ESTRO), Resident Member
2008-present	International Society for Optics and Photonics (SPIE), Member
2013-present	American Association of Physicist in Medicine (AAPM), Member
2019-present	The Optical Society (OSA), Member
2019-present	Radiation Research Society (RRS), Early career investigator full member

Session Chair

- 2014 Physics session chair, Annual Research Retreat, Department of Radiation Oncology and Molecular Radiation Sciences, Johns Hopkins University School of Medicine, Baltimore, MD
- 2019 Session chair for Radiobiology and Radioimmunology, Therapy scientific section, Annual meeting of American Association of Physicists in Medicine
- 2023 Session chair for RadIT: Imaging for Medicine, Optica Imaging Congress, Boston.

Conference Organizer

- 2022 Session organizer and chair, Scientific session, From pre-clinical to vet-clinical imaging and therapy: pathways to clinical translation, Annual meeting of American Association of Physicists in Medicine

Consultantships

- 2022 Medical physics consultancy, Quintanilla Medical Physics, Inc, Orlando Veterans Affairs Medical Center

RECOGNITION

Awards, Honors

- 2005 Frederick Urbach memorial travel award by American Society for Photobiology
- 2013 Research work selected for presentation in Science Council Session, American Association of Physicist in Medicine (AAPM) Annual Meeting, Indianapolis, IN, USA.
- 2015 Research work selected for presentation in ESTRO Young Scientists Poster Session, European Society for Therapeutic Radiation and Oncology (ESTRO) Annual Meeting, Barcelona, Spain
- 2016 Best young investigator talk, 3rd place, Small Animal Precision Image-Guided RadioTherapy, Ghent, Belgium
- 2018 Senior author and mentor for Dr. Xinagkun Xu whose abstract “A novel multi-projection bioluminescence tomography” was accepted as the finalist of the John R. Cameron Young Investigator Symposium, American Association of Physicist in Medicine (AAPM) Annual Meeting, Nashville, TN, USA.
- 2020 Cancer Prevention and Research Institute of Texas (CPRIT) Scholar in Caner Research, Texas, USA

Invited Talks

Regional

- 2019 Novel image-guided system for pre-clinical radiation research: Quantitative optical tomography, Knowledge sharing session, Radiological physics division, Department of Radiology, Johns Hopkins Hospital.
- 2019 Novel image-guided system for pre-clinical radiation research: Quantitative optical tomography, Department of Pathology, Johns Hopkins Hospital.
- 2021 Quantitative optical tomography for pre-clinical radiation research and FLASH radiotherapy, University of Texas Southwestern Medical Center Harold C. Simmons Comprehensive Cancer Center, Texas

National

- 2008 Photodynamic therapy: theoretical and experimental approaches to dosimetry, Department of Radiation Oncology, University of Pennsylvania
- 2016 3D optical tomography guided system for pre-clinical radiation research, Department of Radiation Oncology, The University of Texas Southwestern Medical Center, Texas
- 2019 Quantitative optical tomography for pre-clinical radiation research, Department of Radiation Oncology, The University of Texas Southwestern Medical Center, Texas

- 2021 Quantitative optical tomography for pre-clinical radiotherapy research, Department of Physics, University of Texas Alington, Texas
- 2021 Tips on grant writing, Annual Symposium, Texas Taiwanese Biotechnology Association
- 2022 Quantitative optical tomography for pre-clinical radiation research and FLASH radiotherapy, Translational Engineering in Cancer seminar, Dartmouth College, New Hampshire
- 2022 Quantitative bioluminescence tomography-guided system for conformal irradiation in vivo, Symposium 1 Image guidance RT, 68th Annual International Meeting of Radiation Research Society
- 2023 Bioluminescence tomography-guided system for preclinical cancer research, Optica Imaging Congress, Boston

International

- 2013 Multimodality optical tomography for small animal radiation research platform (SARRP), Medical Physicist Chapter Meeting, Taipei Veterans General Hospital. Taiwan
- 2018 Next generation of image platform for pre-clinical radiation research: Quantitative bioluminescence tomography, Department of Radiation Oncology, National Taiwan University Hospital, Taiwan
- 2022 Quantitative optical tomography for pre-clinical radiation research and FLASH radiotherapy, Graduate Institute of Biomedical Electronics and Bioinformatics, National Taiwan University, Taiwan
- 2022 Quantitative optical tomography for pre-clinical radiation research and FLASH radiotherapy, Department of Biomedical Sciences and Engineering, National Central University, Taiwan

Visiting Professorships

- 10/7/2019 University of Groningen, Department of Radiation Oncology – Netherlands, “Novel optical tomography-guided system for pre-clinical radiotherapy research”