REN Ge
Research Assistant Professor

- **QUALIFICATIONS:**

PhD in Medical Physics	The Hong Kong Polytechnic University	*2018 - 2021*
MSc in Medical Physics	Duke University	*2016 - 2018*
MPhil in Fermentation Engineering	Jiangnan University	*2014 - 2016*
BSc in Biological Engineering	Jiangnan University	*2010 - 2014*

- **BRIEF OUTLINE OF EXPERIENCE AND POSTS HELD:**

Research Assistant Professor	The Hong Kong Polytechnic University	*2021.07-now*

- **RESEARCH INTERESTS:**

Development of novel artificial intelligence strategies for disease diagnosis, radiation therapy treatment planning, therapeutic guidance, prognosis, and outcome assessment in the lung region

- **SERVICE TO PROFESSIONAL & SCIENTIFIC BODIES, CONSULTANCY, MEMBERSHIP OF PROFESSIONAL & LEARNED SOCIETIES:**

Associate Editor	Medical Physics	*2021-now*
Member	Hong Kong Association of Medical Physics	*2021-now*
Member	American Association of Physicists in Medicine (AAPM)	*2016-now*

- **AWARDS & PATENTS:**

Semi-finals of the 2021 Global Healthcare Innovation Academy, GHIA	*2021*
Faculty Distinguished Thesis Award, FHSS, PolyU	*2021*
Final List of Young Investigator Award of AAPM|COMP meeting, AAPM	*2020*
HTI Reward of Conference Oral Presentation Awards (3rd and 2nd levels), PolyU	*2019, 2020*
HTI Postgraduate Symposium (3rd place), PolyU	*2020*

- **REPRESENTATIVE PUBLICATIONS:**

JOURNAL ARTICLES

1. **Ren G**, Jiang Z, Li T, Xiao H, Cheung A, Ho W, Qian J, Cai J. Deep Learning-Based Computed Tomography Perfusion Mapping (DL-CTPM) for Pulmonary CT-to-Perfusion Translation. Int J Radiat Oncol Biol Phys. 2021;110(5):1508-1518.
2. **Ren G**, Lam S, Jiang Z, Xiao H, Cheung A, Ho W, Qian J, Cai J. Investigation of a Novel Deep Learning-Based Computed Tomography Perfusion Mapping Framework for Functional Lung Avoidance Radiotherapy. Front Oncol. 2021;11(466).
3. **Ren G**, Xiao H, Lam S, Yang D, Li T, Teng X, Qian J, Cai J. Deep learning-based bone suppression in chest radiographs using CT-derived features: a feasibility study. Quantitative Imaging in Medicine and Surgery. 2021; 20(1230).
4. **Ren G**, Lam S-K, Ni R, Yang D, Qin J and Cai J. The Effectiveness of Data Augmentation for Bone Suppression in Chest Radiograph using Convolutional Neural Network. Austin J Cancer Clin Res. 2021; 8(2): 1095.
5. **Ren G**, Ho W, Qian J, Cai J. Deriving Lung Perfusion Directly from CT Image Using Deep Convolutional Neural Network: A Preliminary Study. Springer International Publishing. Nguyen D, Xing L, Jiang S (Eds.), Artificial Intelligence in Radiation Therapy. 2019; pp. 102-109.
6. **Ren G**, Zhang Y, Ren L. Assessing the feasibility of using deformable registration for onboard multimodality-based target localization in radiation therapy. Cancer Transl Med. 2018;4:143-52.
7. **Ren G**, Wang Z, Li Y, Hu X, Wang W. Effects of lipopolysaccharide core sugar deficiency on Colanic Acid biosynthesis in Escherichia coli. Journal of Bacteriology. 2016;198(11):1576-1584.
8. Li T, Cui D, **Ren G**, Hui E, Cai J. Investigation of the Effect of Acquisition Schemes on Time-Resolved Magnetic Resonance Fingerprinting. Physics in Medicine and Biology. 2021; 66(9).
9. Tang X, Shen Y, Meng Y, Hou L, Zhou C, Yu C, Jia H, Wang W, **Ren G**, Cai J, Li X, Yang H, Kong F. Radiation-induced lung damage in patients treated with stereotactic body radiotherapy after EGFR-TKIs: Is there any difference from stereotactic body radiotherapy alone. Annals of Palliative Medicine. 2021;20(1116).
10. Xiao H, **Ren G**, Cai J. A review on 3D deformable image registration and its application in dose warping. Radiation Medicine and Protection. 2020;1(4):171-178.
11. Chen S, Zhou Q, Tan X, Li Y, **Ren G**, Wang X. The Global Response of Cronobacter sakazakii Cells to Amino Acid Deficiency. Frontiers in Microbiology. 2018;9(1875).
12. Wang Z, J Wang, **Ren G**, Wang W. Effect of core oligosaccharide structural transformation on autoaggregation in Escherichia coli, Journal of Food Science and Biotechnology. 2017;36(6):569-575.
13. Wang Z, Wang J, **Ren G**, Li Y, Wang X. Deletion of the genes waaC, waaF, or waaG in Escherichia coli W3110 disables the flagella biosynthesis. J Basic Microbiol. 2016;56(9):1021-35.
14. Wang Z, Wang J, **Ren G**, Li Y, Wang X. Influence of core oligosaccharide of lipopolysaccharide to outer membrane behavior of Escherichia coli. Marine Drugs. 2015;13(6):3325-3339.

CONFERENCE PRESENTATIONS

1. **Ren G**, Li B, Lu Y, Mao R, Ge H, Kong F, Ho W, Cai J. Evaluation of deep learning based CT to Perfusion mapping method with MAA SPECT in lung cancer patients. Lung Function Imaging Workshop, 2021. (Oral)
2. **Ren G**, Li B, Lu Y, Mao R, Ge H, Kong F, Ho W, Cai J. Evaluation of CT-derived Lung Perfusion with

Deep Learning in Radiotherapy Patients. American Association of Physicists in Medicine (AAPM) Annual Meeting, 2021. (Oral)

3. **Ren G**, Ho W, Xiao H, Cheung A, Qin J, Cai J. Evaluation of Deep Learning Based CT Perfusion Imaging (DLCT-PI) for Functional Lung Avoidance Radiation Therapy (FLART). The 23rd Annual Meeting of Chinese Society of Clinical Oncology (CSCO), 2020. Beijing, China. (Oral)
4. **Ren G**, Ho W, Xiao H, Cheung A, Qin J, Cai J. CT-based Lung Perfusion Mapping Using Attention Residual Neural Network for Functional Avoidance Radiation Therapy. Final List of J.R. Cunningham Young Investigator Symposium in Joint AAPM | COMP, 2020. (Oral)
5. **Ren G**, Ho W, Qin J, Cai J. Deriving Lung Perfusion Directly from CT Image Using Deep Convolutional Neural Network: A Preliminary Study. International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI), 2019. Shenzhen, China. (Oral)
6. **Ren G**, Zhang Y, Yin F, Ren L. Enhancing on-board image contrast using prior images and deformable registration for target localization: a feasibility study. AAPM Annual meeting, 2019. Nashville, TN, United State. (Abstract)
7. **Ren G**, Cai J. Assessing the Feasibility of Using Deformable Image Registration for On-board Multi-Modality Based Target Localization in Radiation Therapy. AAPM Seminar, 2018, Shanghai, China. (Abstract)
8. **Ren G**, Qin J, Ho W, Cai J. 基于深度卷积神经网络的肺功能图像合成. The 16th National Congress of Radiation Oncology (NSRO), 2019. Shenzhen, China. (Abstract)
9. **Ren G**, Qin J, Ho W, Cai J. 基于深度卷积神经网络的肺通气显像. Chinese Society of Medical Physics (CSMP), 2019. Zhengzhou, China. (Abstract)