Stanford



Lewei Zhao

- Affiliate, Department Funds
- Fellow in Graduate Medical Education

Bio

BIO

Dr.Lewei Zhao is medical physics resident in Department of Radiation Oncology, Stanford University. He graduated from Wuhan University, China, 2014 with a BS in Pure Mathematics. He got his PhD from Wayne State University, 2019 in Computational Mathematics. He was a postdoc in Beaumont Proton Therapy Center, Michigan from 2019 to 2023. During his postdoc, he took a medical physics certificate program from Wayne State University 2021-2022. His research interest is mathematical application s in medical physics.

CLINICAL FOCUS

- Fellow
- radiation therapy
- Physics
- Mathematical Computing
- Mathematical Model

PROFESSIONAL EDUCATION

- BS, School of Mathematics and Statistics, Wuhan University, Pure Mathematics (2014)
- PhD, Department of Mathematics, Wayne State University, Applied and Computational Mathematics (2019)
- CAMPEP Certificate, Department of Radiation Oncology, Wayne State University, Medical Physics (2022)

Research & Scholarship

RESEARCH INTERESTS

Data Sciences

CURRENT RESEARCH AND SCHOLARLY INTERESTS

Mathematical applications in medical physics

Publications

PUBLICATIONS

• First direct machine-specific parameters incorporated in Spot-scanning Proton Arc (SPArc) optimization algorithm. *Medical physics* Liu, G., Fan, Q., Zhao, L., Liu, P., Cong, X., Yan, D., Li, X., Ding, X. 2024

- Development of a standalone delivery sequence model for proton arc therapy. *Medical physics* Liu, G., Zhao, L., Liu, P., Yan, D., Deraniyagala, R., Stevens, C., Li, X., Ding, X. 2023
- The first investigation of spot-scanning proton arc (SPArc) delivery time and accuracy with different delivery tolerance window settings. *Physics in medicine and biology*

Liu, G., Zhao, L., Liu, P., Dao, R., Qian, Y., Cong, X., Janssens, G., Li, X., Ding, X. 2023; 68 (21)

- Introduce a rotational robust optimization framework for spot-scanning proton arc (SPArc) therapy *PHYSICS IN MEDICINE AND BIOLOGY* Chang, S., Liu, G., Zhao, L., Zheng, W., Yan, D., Chen, P., Li, X., Deraniyagala, R., Stevens, C., Grills, I., Chinnaiyan, P., Li, X., Ding, et al 2023; 68 (1)
- Bi-criteria Pareto optimization to balance irradiation time and dosimetric objectives in proton arc therapy *PHYSICS IN MEDICINE AND BIOLOGY* Wuyckens, S., Zhao, L., Saint-Guillain, M., Janssens, G., Sterpin, E., Souris, K., Ding, X., Lee, J. A. 2022; 67 (24)