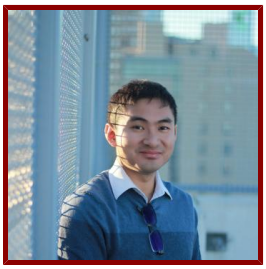
Stanford



Lewei Zhao

- Affiliate, Department Funds
- Fellow in Radiation Oncology

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

- **Particle arc therapy: Status and potential.** *Radiotherapy and oncology : journal of the European Society for Therapeutic Radiology and Oncology*
  Mein, S., Wuyckens, S., Li, X., Both, S., Carabe, A., Vera, M. C., Engwall, E., Francesco, F., Graeff, C., Gu, W., Hong, L., Inaniwa, T., Janssens, et al
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- **A novel fast robust optimization algorithm for intensity-modulated proton therapy with minimum monitor unit constraint.** *Medical physics*
  Fan, Q., Zhao, L., Li, X., Hu, J., Lu, X., Yang, Z., Zhang, S., Yang, K., Ding, X., Liu, G., Dai, S.
  2024
- **The first investigation of the dosimetric perturbations from the spot position errors in spot-scanning arc therapy (SPArc).** *Physics in medicine and biology*
  Liu, P., Zhao, L., Liu, G., Cong, X., Li, X., Ding, X.
  2024
- **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)