Stanford

Linxi Shi

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Bio

BIO

I am a medical physicist and imaging scientist with over a decade of experience in CT imaging, algorithm development, and AI-driven reconstruction. I earned my Ph.D. in Medical Physics from the Georgia Institute of Technology, where I developed novel artifact corrections and reconstruction algorithms for cone beam computed tomography, focusing on applications in breast cancer diagnosis and image-guided radiation therapy.

Following my doctoral studies, I completed a postdoctoral fellowship with the Stanford Cancer Imaging Training (SCIT) Program. Currently, I serves as a Senior Research Scientist in the Radiological Sciences Laboratory at Stanford University. My research focuses on developing advanced clinical translational x-ray and CT imaging systems, including algorithm design for tomographic reconstruction, artifact correction, and image processing for various imaging modalities.

HONORS AND AWARDS

- Women in Imaging Award, 15th Fully Three-Dimensional Image Reconstruction in Radiology and Nuclear Medicine (2019)
- Helena Anna Henzl-Gabor Young Women in Science Fellowship, Stanford University (2018)
- NIH T32 Funding Grant (Stanford Cancer Imaging Training), Stanford University (2017)
- Winner of Young Investigator, AAPM North East Chapter (2015)
- Trustee of Award for Outstanding Student, Worcester Polytechnic Institute (2010)

EDUCATION AND CERTIFICATIONS

- Postdoctoral Fellow, Stanford University , Radiology (2020)
- PhD, Georgia Institute of Technology , Medical Physics (2017)
- MS, Georgia Institute of Technology , Medical Physics (2015)
- BS, Beijing University of Technology , Biomedical Engineeting (2010)

LINKS

- Google Scholar: https://scholar.google.com/citations?user=Yj3eIB4AAAAJ&hl=en
- Linkedin: https://www.linkedin.com/in/linxi-shi-204aa228/

Publications

PUBLICATIONS

- **Monitoring of PET-Avid OAR Moving in the Treatment Area During Biology-guided Radiotherapy Delivery**

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  2023
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  SPIE-INT SOC OPTICAL ENGINEERING.2022
- **Single-pass metal artifact reduction using a dual-layer flat panel detector.** *Medical physics*
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- **Characterization of x-ray focal spots using a rotating edge** *JOURNAL OF MEDICAL IMAGING*
  Shi, L., Bennett, N., Wang, A. S.
  2021; 8 (2)
- **Characterization of x-ray focal spots using a rotating edge.** *Journal of medical imaging (Bellingham, Wash.)*
  Shi, L., Bennett, N. R., Wang, A. S.
  2021; 8 (2): 023502
- **Dual energy chest x-ray for improved COVID-19 detection using a dual-layer flat-panel detector: Simulation and phantom studies**
  Shi, L., Bennett, N., Lu, M., Sun, M., Zhang, J., Star-Lack, J., Tsai, E. B., Guo, H., Wang, A. S., Bosmans, H., Zhao, W., Yu, L.
  SPIE-INT SOC OPTICAL ENGINEERING.2021
- **Characterization and Potential Applications of a Dual-Layer Flat-Panel Detector.** *Medical physics*
  Shi, L., Lu, M., Bennett, N. R., Shapiro, E., Zhang, J., Colbeth, R., Star-Lack, J., Wang, A. S.
  2020
- **Dedicated cone-beam breast CT using laterally-shifted detector geometry: Quantitative analysis of feasibility for clinical translation.** *Journal of X-ray science and technology*
  Vedantham, S., Tseng, H., Konate, S., Shi, L., Karellas, A.
  2020
- **Comparative Study of Dual Energy Cone-Beam CT using a Dual-Layer Detector and kVp Switching for Material Decomposition.** *Proceedings of SPIE--the International Society for Optical Engineering*
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- **Toward quantitative short-scan cone beam CT using shift-invariant filtered-backprojection with equal weighting and image domain shading correction**
  Shi, L., Zhu, L., Wang, A., Matej, S., Metzler, S. D.
  SPIE-INT SOC OPTICAL ENGINEERING.2019
- **Fast Intensity Non-Uniformity Correction for MR Images Using Sparse Samples**
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- **Fast Shading Correction of Cone Beam CT in Radiation Therapy Via Tissue Sparsity**
  Shi, L., Zhu, L., Wei, J.
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- **Internal Breast Tumor Heterogeneity On T2-Weighted Imaging: Double Echo Steady State(DESS) Versus 3D Fast Spin Echo (CUBE)**
  Shi, L., Alley, M., Hargreaves, B., Daniel, B., Moran, C.
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- **The Effect of Off-Focus Radiation in Scatter Correction for Cone Beam CT**
  Shi, L., Zhu, L.
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- **The role of off-focus radiation in scatter correction for dedicated cone beam breast CT** *MEDICAL PHYSICS*
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  Shi, L., Vedantham, S., Karellas, A., Zhu, L.
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  Shi, L., Vedantham, S., Karellas, A., Zhu, L., Kontos, D., Flohr, T. G., Lo, J. Y.
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- **Calibration and optimization of 3D digital breast tomosynthesis guided near infrared spectral tomography** *BIOMEDICAL OPTICS EXPRESS*
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- **Dedicated Cone-Beam Breast CT: Design of a 3-D Beam-Shaping Filter**
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- **Dedicated Cone-Beam Breast CT with Laterally-Shifted Detector: Monte Carlo Evaluation of X-Ray Scatter Distribution and Scatter-To-Primary Ratio**

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- **Large-angle x-ray scatter in Talbot-Lau interferometry for breast imaging** *PHYSICS IN MEDICINE AND BIOLOGY*
  Vedantham, S., Shi, L., Karellas, A.
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- **X-Ray Scatter in Differential Phase-Contrast Breast Imaging Using Gratings-Based Interferometer**
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  Vedantham, S., Shi, L., Karellas, A., Michaelsen, K. E., Krishnaswamy, V., Pogue, B. W., Paulsen, K. D., IEEE
  IEEE.2011: 6188–91