Claire Hong (née Lin)

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Education

Ph.D., Applied and Interdisciplinary Mathematics, University of Michigan, 2016 - 2021.
Advisors: Jeffrey A. Fessler and Anna C. Gilbert. Thesis: *Efficient Model-Based Reconstruction for Dynamic MRI*.

B.S., Applied Mathematics (*summa cum laude*), Emory University, 2012 - 2016.
Advisor: Lars Ruthotto. Thesis: *Line-to-Point Registration with Applications in Geometric Reconstruction of Coronary Stents*.

Research Interests

Inverse problems, optimization algorithms, computational models and simulations, image and signal processing, machine learning.

Research Positions

Algorithm Engineer on *Optics Model and Machine Learning Based Photomask Defect Detection*,
Reticle and Photomask Inspection Division, KLA, August 2021 – present

Research Fellow on *Deep Learning Based Low-dose Computed Tomography Denoising*,
Center for Devices and Radiological Health, FDA, Silver Spring, MD, Summer 2019

Undergraduate Research Fellow on *Mathematical Modeling of Renal Physiology*,
National Institute for Mathematical and Biological Synthesis, Knoxville, TN, Summer 2015

Journal Publications

R. Zeng, C. Y. Lin, Q. Li, L. Jiang, M. Skopec, J. A. Fessler, and K. J. Myers, **Performance of a Deep Learning-based CT Image Denoising Method: Generalizability over Dose, Reconstruction Kernel, and Slice Thickness**, *Medical Physics*, 49.2 (2021), 836–853.

C. Y. Lin and J. A. Fessler, **Efficient Regularized Field Map Estimation in 3D Parallel MRI**, *IEEE Transactions on Computational Imaging*, 6 (2020), 1451–1458.

C. Y. Lin and J. A. Fessler, **Efficient Dynamic Parallel MRI Reconstruction for the Low-Rank Plus Sparse Model**, *IEEE Transactions on Computational Imaging*, 5.1 (2019), 17–26.

C. Y. Lin, A. Veneziani, and L. Ruthotto, **Numerical Methods for Polyline-to-Point-Cloud Registration with Applications to Patient-Specific Stent Reconstruction**, *International Journal for Numerical Methods in Biomedical Engineering*, 34.3 (2018).

M. Bedell, C. Y. Lin, E. Roman-Melendez, and I. Sgouralis, **Global Sensitivity Analysis in a Mathematical Model of the Renal Interstitium**, *Involve, a Journal of Mathematics*, 10.4 (2017), 625–649.

Teaching Positions

Teaching Assistant, EECS 505 *Computational Data Science and Machine Learning*, EECS, University of Michigan (Fall 2019)

Instructor, Math 115 *Calculus I*, Department of Mathematics, University of Michigan (Winter 2017, Fall 2017, Fall 2018)

Honors

Michigan Institute for Computational Discovery and Engineering Fellow, University of Michigan, 2016 - 2017

Trevor Evans Award in *Mathematics and Computer Science*, Emory University, 2016

Programming Skills

C/C++, Python, MATLAB, Julia, Java, R, HTML