



## LIN CHEN

### EDUCATION

*Doctor of Philosophy (2014), Biomedical Engineering, University of California, Davis, CA*

*Master of Science, Biomedical Engineering, University of Florida, Gainesville, FL*

*Bachelor of Science, Electrical Engineering, Peking University, Beijing, P. R. China*

### RESEARCH INTEREST

Image analysis, pattern recognition, and data mining on breast images

- Data management base on large clinic image database
- Program developments with Matlab environment
- Designed training experiments and adapted existing software to be able to be implemented on images from different modalities; performed corresponding validation
- Performed density estimations with clinic images obtained at different dose levels, in order to investigate the impact of acquisition dose on density estimation
- Extracted parenchymal patterns from clinic images obtained by digital breast tomosynthesis and digital mammography, on the purpose of explore the contribution of parenchymal feature analysis in breast cancer risk estimation

Classification and Statistical Analysis of the outcomes

- Design proper experiments, such as case-control study, based on different research purpose
- Performed statistics analysis with various of outcomes obtained from clinic breast images, to estimate the predictive value of imaging features to assess a woman's breast cancer risk

### PUBLICATIONS

1. Chen L, Ray S, Keller B, Pertuz S, McDonald S, Conant E, Kontos D. The Impact of Acquisition Dose on Quantitative Breast Density Estimation with Digital Mammography: Results from ACRIN PA 4006. *Radiology*. 2016, Ahead of Print, <http://dx.doi.org/10.1148/radiol.2016151749>; Published online: March 22, 2016.
2. Chen L, Boone JM, Abbey CK, Hargreaves J, Bateni C, Lindfors KK, et al. Simulated lesion, human observer performance comparison between thin-section dedicated breast CT images versus computed thick-section simulated projection images of the breast. *Physics in medicine and biology*. 2015;60(8):3347.

3. Chen L, Abbey CK, Boone JM. Association between power law coefficients of the anatomical noise power spectrum and lesion detectability in breast imaging modalities. *Physics in Medicine and Biology*. 2013;58(6):1663.  
(\*This publication was chosen as a Featured Article by PMB editors and referees:  
<http://iopscience.iop.org/0031-9155/58/6/1663>).
4. Chen L, Abbey CK, Nosrateih A, Lindfors KK, Boone JM. Anatomical complexity in breast parenchyma and its implications for optimal breast imaging strategies. *Medical Physics*. 2012;39(3):1435-41  
(\*This publication was highlighted in Editor's Picks, and also won the **Sylvia Sorkin Greenfield Award** for the best 2012 paper in Medical Physics).
5. Ray S, Chen L, Keller B, Chen JB, Conant E, Kontos D. Association between Breast Parenchymal Complexity and False-positive Recall from Digital Mammography versus Breast Tomosynthesis: Preliminary Investigation in the ACRIN PA 4006 trial. (Accepted by *Academic Radiology*, *in Press*)
6. Prionas ND, Burkett GW, McKenney SE, Chen L, Stern RL, Boone JM. Development of a patient-specific two-compartment anthropomorphic breast phantom. *Physics in Medicine and Biology*. 2012;57(13):4293.
7. McKenney SE, Nosratieh A, Gelskey D, Yang K, Huang S-y, Chen L, Boone JM. Experimental validation of a method characterizing bow tie filters in CT scanners using a real-time dose probe. *Medical Physics*. 2011;38(3):1406-15
8. Li C, Grobmyer SR, Massol N, Liang X, Zhang Q, Chen L, et al. Noninvasive in vivo tomographic optical imaging of cellular morphology in the breast: Possible convergence of microscopic pathology and macroscopic radiology. *Medical Physics*. 2008;35(6):2493-501.

## **CONFERENCES**

1. Boone J, Chen L, Nosratieh A, et al. Characterization of Anatomical Noise in Mammography, Tomosynthesis and Breast CT. *Medical physics*. 2012;39(6):3914-.
2. Chen L, Boone JM, Nosratieh A, Abbey CK. NPS comparison of anatomical noise characteristics in mammography, tomosynthesis, and breast CT images using power law metrics. 2011: SPIE.
3. Li C, Chen L, Zhang Q, Grobmyer S, Fajardo L, Jiang H. Morphological Imaging of the Breast with Multi-Spectral Diffuse Optical Tomography. 2006: Optical Society of America.

