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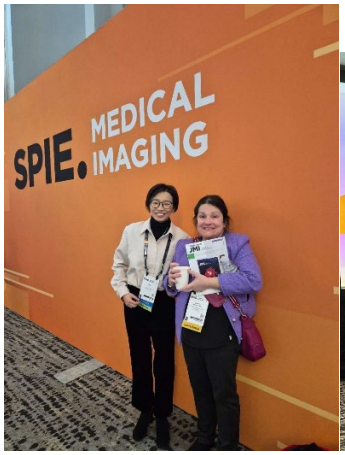
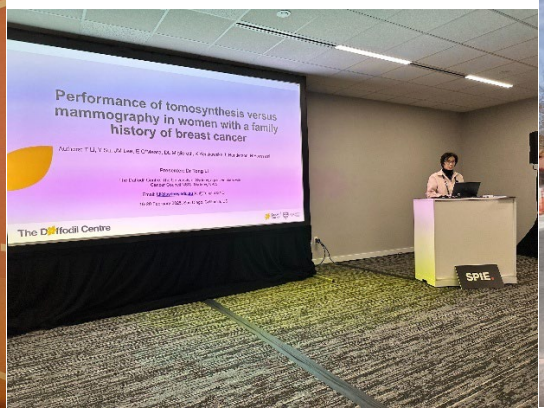
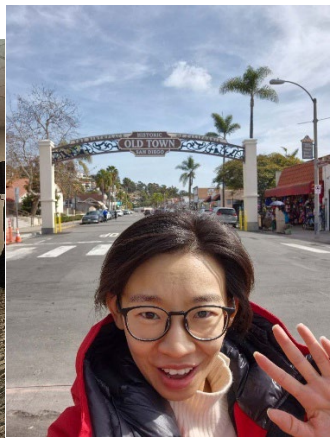
Full Reference: **Tong Li**, Yu-Ru Su, Janie M. Lee, Ellen O'Meara, Diana Miglioretti, Karla Kerlikowske, Louise Henderson, Nehmat Houssami. *Performance of tomosynthesis vs mammography in women with a family history of breast cancer*
Conference/Meeting Name: SPIE Medical Imaging 2025
Location: San Diego, California, US
Dates: 16 - 20 February 2025
Presentation Type: 20-minute oral presentation







Left: Me and Prof. Claudia Mello-Thomas (Professor of Radiology, University of Iowa), who chaired my presentation session at the conference
Middle: Me presenting at SPIE Medical Imaging 2025, in Breast Session under Theme "Imaging Perception, Observer Performance, and Technology Assessment"
Right: Me visiting the "Old Town" - a historic site in San Diego

I attended the SPIE Medical Imaging 2025 Conference, which was built on 9 themes, including Physics of medical imaging, Imaging processing, Computer-aided diagnosis, Image-guided procedures, robotic interventions and modelling, Imaging perception, observer performance, and technology assessment, Clinical and biomedical imaging, Imaging informatics, Ultrasonic imaging and tomography, and Digital and Computational pathology. This prestigious event brought together over 1,000 delegates across the world, including researchers, clinicians, and experts from a range of fields such as radiology, image processing, computer-aided diagnosis, and medical imaging technologies. The conference provided a platform for exploring cutting-edge advancements in medical imaging.

The discussions centred on the development and application of 3D imaging technologies and artificial intelligence (AI) in medical practices, with particular attention to improving clinical imaging through these innovations. Two key sessions included the Plenary talk on 3D ultrasound-based imaging interventions by Professor Aaron Fenster from Western University, Canada, and the Keynote presentation on individualised eye-tracking models by Professor Elizabeth Krupinski from Emory University.

I had the opportunity to present a 20-minute oral session, sharing my research within the broader context of medical imaging and technology assessment.

One of the most inspiring talks I attended was by A/Professor Md Belayat Houssain from the University of Pittsburgh, who presented on the development of a breast dense tissue segmentation algorithm for tomosynthesis (i.e. 3D mammography). Most existing algorithms have focused on measuring breast density using conventional mammography (i.e. 2D mammography), but this new approach opened up exciting possibilities for researchers like myself, whose work is centred around 3D mammography. The presentation highlighted future research opportunities, providing new avenues for innovation in this field.

A valuable takeaway from the conference also came from Dr Craig Abbey, a researcher from the University of California, who attended my presentation. He suggested that following my current longitudinal study, a clinical trial could be conducted to further validate my study findings. This insightful feedback broadened my perspective and inspired new opportunity for my research.

The knowledge and insights I gained from the conference will significantly benefit my ongoing research. The development of advanced algorithms for 3D mammography, as well as the idea of expanding my study into a clinical trial, will shape how I approach future research. These ideas will not only enhance the scope and depth of my work but also help me explore new technologies and methodologies, ultimately contributing to improving diagnostic practices in breast imaging.

The knowledge gained from this conference is relevant to Sydney Cancer Partners, particularly in the areas of cancer research and patient care. The development of advanced 3D mammography techniques and breast tissue segmentation could help improve breast cancer detection, offering potential benefits for early diagnosis. Additionally, the integration of AI in clinical imaging, as discussed at the conference, may support more accurate decision-making in cancer care, improving overall diagnostic processes.

A personal highlight was reconnecting with Professor Claudia Mello-Thomas, who chaired my presentation session and provided valuable feedback on my talk. Claudia was my secondary supervisor during my PhD at the University of Sydney, and we hadn't seen each other in years after I graduated and she subsequently returned to the United States. It was a wonderful reunion to meet her again in San Diego and catch up after all this time.