

**Multi-Frequency Microwave-Induced Thermoacoustic Imaging  
for Breast Cancer Detection****Jian Li**

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**Research/Technology Overview:**

Recent studies have shown that imaging the human breast for cancer detection with microwave-induced thermoacoustic waves is a viable technology. This new technology has many desirable properties of an ideal early breast cancer screener including being noninvasive, safe, comfortable, inexpensive, sensitive (to tumors), and specific (to cancers). Indeed, microwave-induced thermoacoustic imaging (TAI) combines the merits of both microwave stimulation, which provides excellent contrast between cancerous and normal breast tissue, and acoustic imaging, which has the advantage of very fine millimeter range spatial resolution.

**Target Industry Overview:**

Medical equipment industry.

**Commercial Applications:**

An alternative to X-ray mammography for breast cancer screening.

**Stage of Technology Development and Commercialization:**

Phase I STTR funding from NIH.

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**Education**

- Ph.D., Electrical Engineering, Ohio State University, 1991
- M.Sc., Electrical Engineering, Ohio State University, 1987

**Professional Experience**

- Professor, Department of Electrical and Computer Engineering, University of Florida, Gainesville, since 2000.
- Assistant/Associate Professor, Department of Electrical and Computer Engineering, University of Florida, Gainesville, 1993-2000.
- Assistant Professor, Department of Electrical Engineering, University of Kentucky, Lexington, 1991-1993.

**Professional Awards and Honors**

- NSF Presidential Young Investigator Award, 1994.
- ONR Young Investigator Award, 1996
- UFRF Professorship Award, 2003.