Chris Daft: Patents and publications

Issued patents

1. 8,795,182 Switch for aperture control in medical diagnostic ultrasound imaging
2. 8,647,279 Volume mechanical transducer for medical diagnostic ultrasound
3. 8,641,628 Aperture synthesis using cMUTs
4. 8,465,431 Multi-dimensional CMUT array with integrated beamformation
5. 8,277,380 Piezoelectric and CMUT layered ultrasound transducer array
6. 7,963,919 Ultrasound imaging transducer array for synthetic aperture
7. 7,824,338 Apparatus for two-dimensional transducers used in three-dimensional ultrasonic imaging
8. 7,780,597 Method and apparatus for improving the performance of capacitive acoustic transducers using bias polarity control and multiple firings
9. 7,719,166 Apparatus for two-dimensional transducer used in three-dimensional ultrasonic imaging
10. 7,679,263 Apparatus for two-dimensional transducers used in three-dimensional ultrasonic imaging
11. 7,670,290 Electric circuit for tuning a capacitive electrostatic transducer
12. 7,618,373 Microfabricated ultrasonic transducer array for 3-D imaging and method of operating the same
13. 7,508,113 Apparatus for two-dimensional transducers used in three-dimensional ultrasonic imaging
14. 7,087,023 Microfabricated ultrasonic transducers with bias polarity beam profile control and method of operating the same
15. 7,006,955 System and method for statistical design of ultrasound probe and imaging system
16. 6,931,270 Method and system for conducting medical imaging transactions
17. 6,245,016 Ultrasound imaging system having post-beamformer signal processing using deconvolution algorithm
18. 5,817,023 Ultrasound imaging system with dynamic window function generator
19. 5,769,790 Focused ultrasound surgery system guided by ultrasound imaging
20. 5,445,156 Method for adaptively filtering doppler signals using a complex time domain filter
21. 5,349,524 Color flow imaging system utilizing a time domain adaptive wall filter
22. 5,345,939 Ultrasound imaging system with dynamic window function

Selected Publications (complete list available on request)

All of these can be downloaded from https://riversonicsolutions.com/

(a) Invited papers

- cMUTS and Electronics for 2D and 3D Imaging: Monolithic Integration, In-Handle Chip Sets and System Implications (2005)
- Conformable transducers for large-volume, operator-independent imaging (2010)

(b) Beamforming

- Sigma-Delta Dynamic Receive Beamforming (2008)
- Two Approaches to Electronically Scanned 3D Imaging Using cMUTs (2006)
- Elevation Beam Profile Control with Bias Polarity Patterns Applied to Microfabricated Ultrasound Transducers (2003)
- Windowing of Wideband Ultrasound Transducers (1996)
- Elevation Performance of 1.25D and 1.5D Transducer Arrays (1997)

(c) Integration of transducers and front-end electronics

- A Matrix Transducer Design with Improved Image Quality and Acquisition Rate (2007)
- Microfabricated Ultrasonic Transducers Monolithically Integrated with High Voltage Electronics (2004)

(d) Miscellaneous

- A 1.5D Transducer for Medical Ultrasound (1994)
- Comprehensive Imager Simulation for Improved Acoustic Power Control (1999)
- In-Vivo Fetal Ultrasound Exposimetry (1990)
- A Quantitative Acoustic Microscope with Multiple Detection Modes (1989)
- Wideband Acoustic Microscopy of Tissue (1989)