

Abstract:

Research in non-invasive surgery using focused ultrasound has been ongoing since the 1940s. InSightec has combined focused ultrasound with magnetic resonance imaging (MRI) to provide Magnetic Resonance Guided Focused Ultrasound Surgery (MRgFUS). The MRI allows for a closed loop therapy in which the MR imaging is used for treatment targeting and guidance, real-time thermal feedback, and treatment evaluation. In October 2004, the ExAblate® 2000 was approved by the FDA for commercial treatments of uterine fibroids, a common benign tumor in women. Over 3500 non-invasive uterine fibroid treatments have been performed worldwide. A significant reduction in uterine fibroid related symptom severity has been clinically demonstrated to be durable for at least 24 months post-treatment. In addition, research and clinical work is ongoing for future oncology applications including palliation of bone metastases, and breast, prostate, and brain tumors.

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Jonathan received the B.S. degree from the University of California, Berkeley and the M.S. degree from the University of Washington in bioengineering. For his Masters degree, Jonathan studied the effects of focused ultrasound in tissue-mimicking phantoms. He joined InSightec in January 2005 after evaluating focused ultrasound instruments for an ultrasound test equipment manufacturer and performing research for a major medical device manufacturer. At InSightec, he is currently leading the bone metastases application in North America along with supporting uterine fibroid treatments. Other responsibilities include the development of training manuals and presentations.