David P Bradway

david.bradway@gmail.com
Birthplace: Canton, Ohio
Birthdate: 1 February 1982

OBJECTIVE

Career in research, visualization, data acquisition, and signal processing
Engineering, research and development role in academia or industry, Autumn 2014

WORK EXPERIENCE

Technical University of Denmark (Kongens Lyngby, Denmark)

Postdoctoral Researcher, 2013 - present

- Developed OpenCL software for processing 3-D Doppler ultrasound data on the GPU
- Conference presentaion, poster, abstracts, and proceedings accepted
- Pursuing pre-clinical feasibility study and peer-reviewed article

Duke University (Durham, NC, USA)

Graduate Research and Teaching Assistant, 2005 - 2013

- PhD project using ultrasound to noninvasively measure the heart's mechanical properties
- Reviewed scientific literature, formulated and carried out research plan
- Organized and conducted out pre-clinical trials at Duke University Medical Center
- Presented results at conferences, published proceedings and co-authored articles

Siemens Healthcare (Issaquah, WA, USA)

Graduate Student Research Intern, 2008

- Worked within a research team in a multinational corporation
- Developed feature for research mode of Acuson S2000 ultrasound scanner
- Learned version control and automated build systems

EDUCATION

Duke University (Durham, NC, USA)

Ph.D. in Biomedical Engineering, May 2013.

The Ohio State University (Columbus, OH, USA)

B.S. in Electrical and Computer Engineering, June 2005.

RELEVANT COURSE WORK

Digital Signal Processing, Circuits and Instrumentation, Image Processing and Analysis, Systems and Signals, Statistical Signal Processing, C/C++ Programming

HONORS AND ACTIVITIES

Whitaker International Program Scholar (2013)
National Science Foundation Graduate Research Fellow (2005 - 2008)
Goldwater Research Scholar (2004 - 2005)
Founded engineering community service group at Ohi State; Organized engineering design and build trip to Honduran orphanage (2004)

SKILLS

Fluent in several languages and technologies: C/C++, OpenCL, Matlab, MS Office
Used several more on projects: PHP, Ruby, Rails, Perl, Python, LabVIEW, flavors of SQL, HTML
Ability to teach self: for cover letter project learned Javascript (CanvasJS) and RWD CSS
Focus on problem solving, signal and image processing, scientific programming and computing, simulation, experimental design, and statistical analysis
Self-motivated execution of a high-level plan with nominal oversight
Strong written and verbal communication, and data visualization display skills
Has successfully written fellowships, scholarships, and grant applications

INTERESTS

Tracking Energy efficiency: TED5000 owner, Plotwatt user, Neurio backer, MS Hohm & Google Power-Meter ex-user
Creating tools to close feedback loops: measure data, effect change, and automate it
Personal 'hacking' in mobile/embedded systems: Arduino, Raspberry Pi, Android
Machine learning: computers can help us make better informed decisions
Influencing and understanding behavior: Economics, the Nudge Unit, Dan Ariely's work

REFEREED PUBLICATIONS

1. BJ Fahey, RC Nelson, DP Bradway, SJ Hsu, DM Dumont, GE Trahey. In vivo visualization of abdominal malignancies with acoustic radiation force elastography. Phys Med Biol. 2008 Jan; 53(1):279-93.
2. BJ Fahey, RC Nelson, SJ Hsu, DP Bradway, DM Dumont, GE Trahey. In vivo guidance and assessment of liver radio-frequency ablation with acoustic radiation force elastography. Ultrasound Med Biol. 2008 Oct; 34(10):1590-1603.
3. KR Nightingale, ML Palmeri, L Zhai, KD Frinkley, M Wang, JJ Dahl, BJ Fahey, SJ Hsu, DP Bradway, GE Trahey. Impulsive acoustic radiation force: imaging approaches and clinical applications. The Journal of the Acoustical Society of America, 2008. vol. 123, issue 5, p. 3792
4. KR Nightingale, ML Palmeri, JJ Dahl, DP Bradway, SJ Hsu, RR Bouchard, SJ Rosenzweig, V Rotemberg, M Wang, L Zhai. Elasticity Imaging with Acoustic Radiation Force: Methods and Clinical Applications. Japanese journal of medical ultrasonics. 36. 116, 2009
5. PD Wolf, SA Eyerly, DP Bradway, DM Dumont, TD Bahnson, KR Nightingale, and GE Trahey. Near real time evaluation of cardiac radiofrequency ablation lesions with intracardiac echocardiography based acoustic radiation force impulse imaging. J. Acoust. Soc. Am. Volume 129, Issue 4, pp. 2438-2438, 2011
6. SA Eyerly, TD Bahnson, JI Koontz, DP Bradway, DM Dumont, GE Trahey, PD Wolf. Intracardiac Acoustic Radiation Force Impulse Imaging: A Novel Imaging Method for Intraprocedural Evaluation of Radiofrequency Ablation Lesions. Heart rhythm: the official journal of the Heart Rhythm Society. 1 November 2012, volume 9 issue 11 Pages 1855-1862
7. PJ Hollender, DP Bradway, PD Wolf, R Goswami, GE Trahey. "Intracardiac Acoustic Radiation Force Impulse (ARFI) and Shear Wave Imaging in Pigs with Focal Infarctions". Transactions on Ultrasonics, Ferroelectrics, and Frequency Control. August, 2013
8. V Patel, JJ Dahl, DP Bradway, JR Doherty, S Smith. Acoustic Radiation Force Impulse Imaging (ARFI) on an IVUS Circular Array. Ultrasonic Imaging

NON-REFEREED PROCEEDINGS

2. DP Bradway, SJ Hsu, BJ Fahey, JJ Dahl, TC Nichols, GE Trahey. Transthoracic Cardiac Acoustic Radiation Force Impulse Imaging: A Feasibility Study. IEEE Ultrasonics Symposium (IUS), 2007
3. BJ Fahey, RC Nelson, SJ Hsu, DP Bradway, DM Dumont, GE Trahey. In Vivo Acoustic Radiation Force Impulse Imaging of Abdominal Lesions. IEEE Ultrasonics Symposium (IUS), 2007
4. DP Bradway, BJ Fahey, RC Nelson, GE Trahey. ARFI imaging of abdominal ablation and liver lesion biopsy. International Symposium on Ultrasonic Imaging and Tissue Characterization, 2009

5. DB Husarik, RC Nelson, DP Bradway, BJ Fahey, KR Nightingale, GE Trahey. First Clinical Experience with Sonographic Elastography of the Liver Using Acoustic Radiation Force Impulse (ARFI) Imaging. RSNA 2009
6. RC Nelson, DP Bradway, BJ Fahey, GE Trahey. Future Application of Ultrasound: Acoustic Radiation Force Impulse (ARFI) Imaging. AIUM 2009
7. DP Bradway, BJ Fahey, RC Nelson, GE Trahey. Recent Clinical Results of Acoustic Radiation Force Impulse Imaging of Abdominal Ablation. International Tissue Elasticity Conference 2009
8. SJ Hsu, DP Bradway, RR Bouchard, PJ Hollender, PD Wolf, GE Trahey. Parametric pressure-volume analysis and acoustic radiation force impulse imaging of left ventricular function. IEEE Ultrasonics Symposium (IUS), 2010
9. DP Bradway, SJ Hsu, PD Wolf, GE Trahey. Acoustic Radiation Force Impulse Imaging of Acute Myocardial Ischemia and Infarct. International Symposium on Ultrasonic Imaging and Tissue Characterization, 2010
10. DP Bradway, SJ Hsu, PD Wolf, GE Trahey. Transthoracic Acoustic Radiation Force Impulse Imaging of Cardiac Function. International Tissue Elasticity Conference 2010
11. PJ Hollender, RR Bouchard, SJ Hsu, DP Bradway, PD Wolf, GE Trahey. Intracardiac measurements of elasticity using Acoustic Radiation Force Impulse (ARFI) methods: Temporal and spatial stability of shear wave velocimetry. IEEE Ultrasonics Symposium (IUS), 2010
12. DP Bradway, SJ Rosenzweig, JR Doherty, D Hyun, GE Trahey. Recent Results and Advances in Transthoracic Cardiac Acoustic Radiation Force Impulse Imaging. International Symposium on Ultrasonic Imaging and Tissue Characterization, 2011
13. BC Byram, DM Gianantonio, DP Bradway, D Hyun, M Jakovljevic, AL Crowley, HW Kim, M Parker, R Kim, R Judd, GE Trahey. Direct in vivo Myocardial Infarct Visualization Using 3D Ultrasound and Passive Strain Contrast. International Tissue Elasticity Conference 2011
14. BC Byram, DP Bradway, M Jakovljevic, D Gianantonio, D Hyun, AL Crowley, H Kim, L Van Assche, M Parker, R Kim, R Judd, G Trahey. Direct In Vivo Myocardial Infarct Visualization Using 3D Ultrasound and Passive Strain Contrast. IEEE Ultrasonics Symp. 2011
15. DP Bradway, PJ Hollender, R Goswami, PD Wolf, GE Trahey. Transthoracic Cardiac Acoustic Radiation Force Impulse Imaging: in vivo Feasibility, Methods, and Initial Results. International Symposium on Ultrasonic Imaging and Tissue Characterization, 2012
16. PJ Hollender, DP Bradway, R Goswami, PD Wolf, GE Trahey. Acoustic radiation force techniques for imaging cardiac infarct in vivo: methods and initial results, International Symposium on Ultrasonic Imaging and Tissue Characterization, 2012
17. DP Bradway, PJ Hollender, R Goswami, PD Wolf, GE Trahey. Feasibility and Safety of Transthoracic Cardiac Acoustic Radiation Force Impulse Imaging Methods. 2012 IEEE Ultrasonics Symposium.
18. SA Eyerly, T Bahnson, J Koontz, DP Bradway, DM Dumont, GE Trahey, PD Wolf. Confirmation of Cardiac Radiofrequency Ablation Treatment Using Intra-Procedure Acoustic Radiation Force Impulse Imaging, 2012 IEEE Ultrasonics Symposium
19. PJ Hollender, DP Bradway, PD Wolf, Robi Goswami, Gregg Trahey. Intracardiac ARF-driven Shear Wave Velocimetry to Estimate Regional Myocardial Stiffness and Contractility in Pigs with Focal Infarctions. 2012 IEEE Ultrasonics Symposium
20. R Goswami, DP Bradway, J Kisslo, GE Trahey. Novel Application of Acoustic Radiation Force Impulse Imaging in Transthoracic Echocardiography. 2013 American College of Cardiology 62nd Annual Scientific Session
21. V Patel, JJ Dahl, DP Bradway, JR Doherty, S Smith. Acoustic Radiation Force Impulse Imaging (ARFI) on an IVUS Circular Array. 2013 IEEE UFFC Symposium
22. DP Bradway, MJ Pihl, A Krebs, BG Tomov, CS Kjaer, SI Nikolov, JA Jensen. Real-time GPU implementation of transverse oscillation vector velocity flow imaging. 2014 SPIE Medical Imaging