Biomedical Engineering - DTU Orbit (11/08/2018)

Biomedical Engineering
Department of Electrical Engineering
Organisational unit: Section

Publications:

Accuracy and Precision of a Plane Wave Vector Flow Imaging Method in the Healthy Carotid Artery
Publication: Research - peer-review › Journal article – Annual report year: 2018

A comparative study of methods for automatic detection of rapid eye movement abnormal muscular activity in narcolepsy
Olesen, A. N., Cesari, M., Christensen, J. A. E., Sørensen, H. B. D., Mignot, E. & Jennum, P. 2018 In : Sleep Medicine. 44, p. 97-105
Publication: Research - peer-review › Journal article – Annual report year: 2018

A Comparison Study of Vector Velocity, Spectral Doppler and Magnetic Resonance of Blood Flow in the Common Carotid Artery
Publication: Research - peer-review › Journal article – Annual report year: 2018

Automatic Detection of Cortical Arousals in Sleep using Bi-direction LSTM Networks
Publication: Research - peer-review › Conference abstract in journal – Annual report year: 2018

Automatic Detection of Respiratory Events During Sleep Using Bidirectional LSTM Networks
Publication: Research - peer-review › Conference abstract in journal – Annual report year: 2018

Automatic, ECG-based detection of autonomic arousals and their association with cortical arousals, leg movements, and respiratory events in sleep
Publication: Research - peer-review › Journal article – Annual report year: 2018

Comparison of computerized methods for rapid eye movement sleep without atonia detection
Publication: Research - peer-review › Journal article – Annual report year: 2018

Continuous vital sign monitoring after major abdominal surgery-Quantification of micro events
Publication: Research - peer-review › Journal article – Annual report year: 2018

Curvilinear 3-D Imaging Using Row–Column Addressed 2-D Arrays with a Diverging Lens: Phantom Study
Publication: Research - peer-review › Journal article – Annual report year: 2018
End-to-End Deep Learning Model For Automatic Sleep Staging Using Raw PSG Waveforms
Publication: Research - peer-review › Conference abstract in journal – Annual report year: 2018

Increasing the field-of-view of row–column-addressed ultrasound transducers: implementation of a diverging compound lens
Engholm, M., Beers, C., Bouzari, H., Jensen, J. A. & Thomsen, E. V. 2018 In : Ultrasonics. 88, p. 97–105
Publication: Research - peer-review › Journal article – Annual report year: 2018

Modelling of ciprofloxacin killing enhanced by hyperbaric oxygen treatment in Pseudomonas aeruginosa PAO1 biofilms
Publication: Research - peer-review › Journal article – Annual report year: 2018

Non-invasive Estimation of Pressure Changes using 2-D Vector Velocity Ultrasound: An Experimental Study with In-Vivo Examples
Publication: Research - peer-review › Journal article – Annual report year: 2018

Peer review i et obligatorisk bachelorkursus for civilingeniørstudere i medikoteknik
Publication: Communication › Journal article – Annual report year: 2018

Probe development of CMUT and PZT row-column-addressed 2-D arrays
Publication: Research - peer-review › Journal article – Annual report year: 2018

Real-time 2-D Phased Array Vector Flow Imaging
Publication: Research - peer-review › Journal article – Annual report year: 2018

Reconstructing Dynamic Promoter Activity Profiles from Reporter Gene Data
Publication: Research - peer-review › Journal article – Annual report year: 2018

Resolving Ultrasound Contrast Microbubbles using Minimum Variance Beamforming
Publication: Research - peer-review › Journal article – Annual report year: 2018

Respiratory variability of peak velocities in the common femoral vein estimated with vector flow imaging and Doppler ultrasound
Publication: Research - peer-review › Journal article – Annual report year: 2018

Ultrasound Open Platforms for Next-Generation Imaging Technique Development
Publication: Research - peer-review › Journal article – Annual report year: 2018
A New Wavelet-Based ECG Delineator for the Evaluation of the Ventricular Innervation
Publication: Research - peer-review › Journal article – Annual report year: 2017

Aortic Valve Stenosis Increases Helical Flow and Flow Complexity: A Study of Intra-operative Cardiac Vector Flow Imaging
Publication: Research - peer-review › Journal article – Annual report year: 2017

Automatic Atrial Fibrillation Detection: A Novel Approach Using Discrete Wavelet Transform and Heart Rate Variability
Publication: Research - peer-review › Article in proceedings – Annual report year: 2017

Automatic minimization of ocular artifacts from electroencephalogram: A novel approach by combining CompleteEEMD with Adaptive Noise and Renyi's Entropy
Guarascio, M. & Puthusserypady, S. 2017 In : Biomedical Signal Processing and Control. 36, p. 63–75
Publication: Research - peer-review › Journal article – Annual report year: 2017

Automatic Segmentation of Vessels in In-Vivo Ultrasound Scans
Publication: Research - peer-review › Article in proceedings – Annual report year: 2017

A Vector Flow Imaging Method for Portable Ultrasound Using Synthetic Aperture Sequential Beamforming
Publication: Research - peer-review › Journal article – Annual report year: 2017

BCB polymer based row-column addressed CMUT
Publication: Research - peer-review › Article in proceedings – Annual report year: 2017

Breathing disturbances without hypoxia are associated with objective sleepiness in sleep apnea
Publication: Research - peer-review › Journal article – Annual report year: 2017

Common Carotid Artery Flow Measured by 3-D Ultrasonic Vector Flow Imaging and Validated with Magnetic Resonance Imaging
Publication: Research - peer-review › Journal article – Annual report year: 2017

Curvilinear 3-D Imaging Using Row–Column-Addressed 2-D Arrays with a Diverging Lens: Feasibility Study
Publication: Research - peer-review › Journal article – Annual report year: 2017

Detection of Paroxysms in Long-Term, Single Channel EEG-Monitoring of Patients with Typical Absence Seizures.
Helbredstjek af dansk sundhedsteknologi: Sektorudviklingsrapport
Publication: Commissioned › Report – Annual report year: 2017

High-frame-rate Imaging of a Carotid Bifurcation using a Low-complexity Velocity Estimation Approach
Publication: Research - peer-review › Article in proceedings – Annual report year: 2017

How fast is a collective bacterial state established?
Sørensen, M. L., Dahl, P. & Sams, T. 2017 In : P L o S One. 12, 6, 10 p., e0180199
Publication: Research - peer-review › Journal article – Annual report year: 2017

Hyperbaric oxygen sensitizes anoxic Pseudomonas aeruginosa biofilm to ciprofloxacin
Publication: Research - peer-review › Journal article – Annual report year: 2018

Improved Focusing Method for 3-D Imaging using Row–Column-Addressed 2-D Arrays
Publication: Research - peer-review › Article in proceedings – Annual report year: 2017

Investigation of echogenic surface enhancements for improved needle visualization in ultrasonography: A PRISMA systematic review.
Hovgesen, C. H., Wilhjelm, J. E. & Vilmann, P. 2017
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2018

Myoendothelial coupling through Cx40 contributes to EDH-induced vasodilation in murine renal arteries: evidence from experiments and modelling
Brasen, J. C., de Wit, C. A. & Sorensen, C. M. 2017 In : Acta Physiologica. 222, 1, e12906
Publication: Research - peer-review › Journal article – Annual report year: 2018

Novel Approach for Automatic Detection of Atrial Fibrillation Based on Inter Beat Intervals and Support Vector Machine
Publication: Research - peer-review › Article in proceedings – Annual report year: 2017

Output Pressure and Pulse-Echo Characteristics of CMUTs as Function of Plate Dimensions
Publication: Research - peer-review › Article in proceedings – Annual report year: 2017

Portable Ultrasound Imaging
Publication: Research › Ph.D. thesis – Annual report year: 2017

Prediction of Motion Induced Image Degradation Using a Markerless Motion Tracker
Olsen, R. M., Johannesen, H. H., Henriksen, O. M., Marner, L. & Olesen, O. V. 2017
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2017
Queue-based modelling and detection of parameters involved in stroke outcome
Publication: Research - peer-review › Article in proceedings – Annual report year: 2017

Real-time Implementation of Synthetic Aperture Vector Flow Imaging on a Consumer-level Tablet
Publication: Research - peer-review › Article in proceedings – Annual report year: 2017

Revision of the qualification framework at the Technical University of Denmark Part 1: Concepts
Publication: Research - peer-review › Article in proceedings – Annual report year: 2018

Revision of the qualification framework at the Technical University of Denmark Part 2: Applications
Publication: Research - peer-review › Article in proceedings – Annual report year: 2018

Simulating CMUT Arrays Using Time Domain FEA
Publication: Research - peer-review › Article in proceedings – Annual report year: 2017

Spatial Filter Feature Extraction Methods for P300 BCI Speller: A Comparison
Publication: Research - peer-review › Article in proceedings – Annual report year: 2017

Stenosis of the superficial femoral artery evaluated in-vivo with vector concentration - a novel ultrasound vector velocity derived flow parameter for measurement of flow complexity
Publication: Research - peer-review › Conference abstract in journal – Annual report year: 2017

Studenterinvolvering via ressourcemæssig effektiv peer review i et obligatorisk kursus i fysikken i medicinsk billeddannelse
Wilhjelm, J. E. & Prag, S-M. W. 2017
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2018

Super-resolution Axial Localization of Ultrasound Scatter Using Multi-focal Imaging
Publication: Research - peer-review › Journal article – Annual report year: 2018

Synthetic Aperture Sequential Beamforming using Spatial Matched Filtering
Publication: Research - peer-review › Article in proceedings – Annual report year: 2017

Technological aided assessment of the acutely ill patient - The case of postoperative complications
Publication: Research - peer-review › Journal article – Annual report year: 2017
Transmitting Performance Evaluation of ASICs for CMUT-Based Portable Ultrasound Scanners
Publication: Research - peer-review › Article in proceedings – Annual report year: 2017

Ultrasonic 3-D Vector Flow Method for Quantitative In Vivo Peak Velocity and Flow Rate Estimation
Publication: Research - peer-review › Journal article – Annual report year: 2017

Vector and Doppler Ultrasound Velocities Evaluated in a Flow Phantom and the Femoropopliteal Vein
Publication: Research - peer-review › Journal article – Annual report year: 2017

Vector Flow Imaging Compared with Conventional Doppler Ultrasound and Thermodilution for Estimation of Blood Flow in the Ascending Aorta
Publication: Research - peer-review › Journal article – Annual report year: 2015

Vector velocity estimation of blood flow – A new application in medical ultrasound
Publication: Research - peer-review › Journal article – Annual report year: 2017

Velocity Estimation in Medical Ultrasound
Publication: Research - peer-review › Journal article – Annual report year: 2017

Vital Signs Monitoring and Interpretation for Critically Ill Patients
Publication: Research › Ph.D. thesis – Annual report year: 2017

Volumetric 3-D Vector Flow Measurements using a 62+62 Row-Column Addressed Array
Publication: Research - peer-review › Article in proceedings – Annual report year: 2018

3-D Imaging using Row--Column-Addressed 2-D Arrays with a Diverging Lens
Publication: Research - peer-review › Article in proceedings – Annual report year: 2016

3-D Vector Flow Estimation With Row--Column-Addressed Arrays
Publication: Research - peer-review › Journal article – Annual report year: 2016

3-D Vector Flow Imaging
Publication: Research › Ph.D. thesis – Annual report year: 2016

3-D Vector Flow Using a Row-Column Addressed CMUT Array
Blood flow velocity in the Popliteal Vein using Transverse Oscillation Ultrasound.
Publication: Research - peer-review › Article in proceedings – Annual report year: 2016

Capacitive Substrate Coupling of Row–Column-Addressed 2-D CMUT Arrays
Publication: Research - peer-review › Article in proceedings – Annual report year: 2016

Contribution of K+ channels to endothelium-derived hypolarization-induced renal vasodilation in rats in vivo and in vitro.
Publication: Research - peer-review › Journal article – Annual report year: 2016

Diffusion Retardation by Binding of Tobramycin in an Alginate Biofilm Model.
Publication: Research - peer-review › Journal article – Annual report year: 2016

Elimination of Second-Harmonics in CMUTs using Square Pulse Excitation
Publication: Research - peer-review › Article in proceedings – Annual report year: 2016

Endothelial derived hyperpolarization in vivo in hypertensive rats
Brasen, J. C., Stannov, S. U., Salomonsson, M. & Sorensen, C. M. 2016 In : Faseb Journal. 30
Publication: Research - peer-review › Conference abstract in journal – Annual report year: 2017

Evaluation of healthy muscle tissue by strain and shear wave elastography – Dependency on depth and ROI position in relation to underlying bone
Publication: Research - peer-review › Journal article – Annual report year: 2016

Experimental 3-D Vector Velocity Estimation with Row-Column Addressed Arrays
Publication: Research - peer-review › Article in proceedings – Annual report year: 2016

Fabrication of Capacitive Micromachined Ultrasonic Transducers Using a Boron Etch-Stop Method
Publication: Research - peer-review › Article in proceedings – Annual report year: 2016

High Frame Rate Synthetic Aperture 3D Vector Flow Imaging
Publication: Research - peer-review › Article in proceedings – Annual report year: 2016

High frame rate synthetic aperture vector flow imaging for transthoracic echocardiography.
Publication: Research - peer-review › Article in proceedings – Annual report year: 2016
High-resolution kinetics and modeling of hydrogen peroxide degradation in live cells
Publication: Research - peer-review › Journal article – Annual report year: 2016

Hybrid Segmentation of Vessels and Automated Flow Measures in In-Vivo Ultrasound Imaging
Publication: Research - peer-review › Article in proceedings – Annual report year: 2016

Hyperpolarized 13C Urea Relaxation Mechanism Reveals Renal Changes in Diabetic Nephropathy
Publication: Research - peer-review › Journal article – Annual report year: 2015

Imaging of In-Vivo Pressure using Ultrasound
Olesen, J. B., Jensen, J. A. & Traberg, M. S. 2016 Technical University of Denmark, Department of Electrical Engineering. 206 p.
Publication: Research › Ph.D. thesis – Annual report year: 2016

Intra-operative Vector Flow Imaging Using Ultrasound of the Ascending Aorta among 40 Patients with Normal, Stenotic and Replaced Aortic Valves
Publication: Research - peer-review › Journal article – Annual report year: 2016

In Vivo High Frame Rate Vector Flow Imaging Using Plane Waves and Directional Beamforming
Publication: Research - peer-review › Article in proceedings – Annual report year: 2016

Neurofeedback Therapy for Enhancing Visual Attention: State-of-the-Art and Challenges
Publication: Research - peer-review › Journal article – Annual report year: 2016

Novel Automatic Detection of Pleura and B-lines (Comet-Tail Artifacts) on In-Vivo Lung Ultrasound Scans.
Publication: Research - peer-review › Article in proceedings – Annual report year: 2016

Optimization of Synthetic Aperture Image Quality
Publication: Research - peer-review › Article in proceedings – Annual report year: 2016

Optimized Plane Wave Imaging for Fast and High-Quality Ultrasound Imaging
Publication: Research - peer-review › Journal article – Annual report year: 2016
Plane-Wave Imaging Challenge in Medical Ultrasound
Publication: Research - peer-review › Article in proceedings – Annual report year: 2016

Portable Prescreening System for Sleep Apnea
Publication: Research - peer-review › Article in proceedings – Annual report year: 2016

Preliminary investigation of an ultrasound method for estimating pressure changes in deep-positioned vessels.
Publication: Research - peer-review › Article in proceedings – Annual report year: 2016

Quantitative Measurements using Ultrasound Vector Flow Imaging
Publication: Research - peer-review › Article in proceedings – Annual report year: 2016

Reinforcement of the bactericidal effect of ciprofloxacin on Pseudomonas aeruginosa biofilm by hyperbaric oxygen treatment
Publication: Research - peer-review › Journal article – Annual report year: 2016

Robust microbubble tracking for super resolution imaging in ultrasound
Publication: Research - peer-review › Article in proceedings – Annual report year: 2016

Sleep stability and transitions in patients with idiopathic REM sleep behavior disorder and patients with Parkinson's disease
Publication: Research - peer-review › Journal article – Annual report year: 2015

Steady State Visual Evoked Potential Based Brain-Computer Interface for Cognitive Assessment
Publication: Research - peer-review › Article in proceedings – Annual report year: 2016

Studielederudfordringer ved tvaerfaglige uddannelser
Wilhjelm, J. E., Henneberg, K-Å. & Eriksen, T. A. 2016
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2016
Surveillance for hemodialysis access stenosis: usefulness of ultrasound vector volume flow
Publication: Research - peer-review › Journal article – Annual report year: 2016

Synthetic aperture ultrasound Fourier beamformation using virtual sources
Publication: Research - peer-review › Journal article – Annual report year: 2016

Synthetic Aperture Vector Flow Imaging
Publication: Research › Ph.D. thesis – Annual report year: 2016

System-Level Design of an Integrated Receiver Front End for a Wireless Ultrasound Probe
Publication: Research - peer-review › Journal article – Annual report year: 2016

Ultralydskanning er førstevalg ved mistanke om kronisk venesygdom i underekstremiteterne
Publication: Research - peer-review › Journal article – Annual report year: 2016

Ultrasound Vector Flow Imaging: Part II: Parallel Systems
Publication: Research - peer-review › Journal article – Annual report year: 2016

Ultrasound Vector Flow Imaging: Part I: Sequential Systems
Publication: Research - peer-review › Journal article – Annual report year: 2016

Vector Velocity Estimation for Portable Ultrasound using Directional Transverse Oscillation and Synthetic Aperture Sequential Beamforming
Publication: Research - peer-review › Article in proceedings – Annual report year: 2016

Vector velocity volume flow estimation: Sources of error and corrections applied for arteriovenous fistulas
Publication: Research - peer-review › Journal article – Annual report year: 2016

Visualizing Patient Journals by Combining Vital Signs Monitoring and Natural Language Processing
Publication: Research - peer-review › Article in proceedings – Annual report year: 2016

Volumetric Synthetic Aperture Imaging with a Piezoelectric 2-D Row-Column Probe.
Sleep Spindles as Biomarker for Early Detection of Neurodegenerative Disorders
Publication: Research › Article in proceedings – Annual report year: 2015

3-D Imaging Using Row-Column-Addressed Arrays With Integrated Apodization: Part II: Transducer Fabrication and Experimental Results
Publication: Research - peer-review › Journal article – Annual report year: 2015

Publication: Research - peer-review › Journal article – Annual report year: 2015

3-D Vector Velocity Estimation with Row-Column Addressed Arrays
Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

A 3D Learning Playground for Potential Attention Training in ADHD
Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

Acoustical cross-talk in row-column addressed 2-D transducer arrays for ultrasound imaging
Publication: Research - peer-review › Journal article – Annual report year: 2015

Advanced automated gain adjustments for in-vivo ultrasound imaging
Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

A hand-held row-column addressed CMUT probe with integrated electronics for volumetric imaging
Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

Assessment of flatness of assumed planar surfaces for ultrasound investigation of elastic surfaces
Publication: Research - peer-review › Conference article – Annual report year: 2015

Automated Hierarchical Time Gain Compensation for In Vivo Ultrasound Imaging
Automatic Real-Time Embedded QRS Complex Detection for a Novel Patch-Type Electrocardiogram Recorder
Publication: Research - peer-review › Journal article – Annual report year: 2015

BCI inside a virtual reality classroom: a potential training tool for attention
Publication: Research - peer-review › Journal article – Annual report year: 2015

Bringing transcranial mapping into shape: Sulcus-aligned mapping captures motor somatotopy in human primary motor hand area
Raffin, E., Pellegrino, G., Di Lazzaro, V., Thielscher, A. & Siebner, H. R. 2015 In : Neuroimage. 120, p. 164-175
Publication: Research - peer-review › Journal article – Annual report year: 2015

Characterization of early and mature electrophysiological biomarkers of patients with Parkinson’s disease
Christensen, J. A. E., Sørensen, H. B. D., Jennum, P., Rahn Christensen, S. & Arvastson, L. 2015 Technical University of Denmark, Department of Electrical Engineering. 185 p.
Publication: Research › Ph.D. thesis – Annual report year: 2015

Clinical evaluation of synthetic aperture harmonic imaging for scanning focal malignant liver lesions
Publication: Research - peer-review › Journal article – Annual report year: 2015

Comparing twelve-lead electrocardiography with close-to-heart patch based electrocardiography
Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

Compressive sensing of full wave field data for structural health monitoring applications
Publication: Research - peer-review › Journal article – Annual report year: 2015

Concurrent TMS-fMRI Reveals Interactions between Dorsal and Ventral Attentional Systems
Publication: Research - peer-review › Journal article – Annual report year: 2015

Convex Array Vector Velocity Imaging Using Transverse Oscillation and Its Optimization
Publication: Research - peer-review › Journal article – Annual report year: 2015

Design of Low Power Algorithms for Automatic Embedded Analysis of Patch ECG Signals
Publication: Research › Ph.D. thesis – Annual report year: 2015

Publication: Research - peer-review › Article in proceedings – Annual report year: 2015
EEG recordings as a source for the detection of IRBD

Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

Electrostatic and Small-Signal Analysis of CMUTs With Circular and Square Anisotropic Plates

Publication: Research - peer-review › Journal article – Annual report year: 2015

Endothelial derived hyperpolarization in renal interlobar arteries.

Publication: Research - peer-review › Conference abstract in journal – Annual report year: 2015

Facing and Overcoming Sensitivity Challenges in Biomolecular NMR Spectroscopy

Publication: Research - peer-review › Journal article – Annual report year: 2015

First Clinical Investigations of New Ultrasound Techniques in Three Patient Groups: Patients with Liver Tumors, Arteriovenous Fistulas, and Arteriosclerotic Femoral Arteries
Hansen, P. M., Jensen, J. A. & Bachmann Nielsen, M. 2015 Technical University of Denmark, Department of Electrical Engineering. 91 p.

Publication: Research › Ph.D. thesis – Annual report year: 2014

Fourier beamformation of multistatic synthetic aperture ultrasound imaging

Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

High Frame Rate Vector Velocity Estimation using Plane Waves and Transverse Oscillation

Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

High Resolution Depth-Resolved Imaging From Multi-Focal Images for Medical Ultrasound

Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

Image Quality Degradation from Transmit Delay Profile Quantization

Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

Implementation of real-time duplex synthetic aperture ultrasonography

Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

Improved Vector Velocity Estimation using Directional Transverse Oscillation

Publication: Research - peer-review › Article in proceedings – Annual report year: 2015
Increased Frame Rate for Plane Wave Imaging Without Loss of Image Quality
Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

Influence of K+-channels and gap junctions on endothelium derived hyperpolarization-induced renal vasodilation in rats
Publication: Research - peer-review › Conference abstract in journal – Annual report year: 2015

Inter-expert and intra-expert reliability in sleep spindle scoring
Publication: Research - peer-review › Journal article – Annual report year: 2015

Investigation of the Minimum Conditions for Reliable Estimation of Clinically Relevant HRV Measures: Introducing a Novel Approach to the Validation of HRV Measurement Systems
Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

In Vivo 3-D Vector Velocity Estimation with Continuous Data
Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

In Vivo Real Time Dynamic Range Vector Flow Imaging
Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

KV 7.4 channels participate in the control of rodent renal vascular resting tone.
Publication: Research - peer-review › Journal article – Annual report year: 2015

Microbial Biofilm as a Smart Material
Publication: Research - peer-review › Journal article – Annual report year: 2015

Micromachined Ultrasonic Transducers for 3-D Imaging
Publication: Research › Ph.D. thesis – Annual report year: 2015

Modeling the effects of noninvasive transcranial brain stimulation at the biophysical, network, and cognitive Level
Publication: Research - peer-review › Journal article – Annual report year: 2015

Monitoring mammary tumor progression and effect of tamoxifen treatment in MMTV-PymT using MRI and magnetic resonance spectroscopy with hyperpolarized [1-13C]pyruvate
MR principles, Imaging and contrast: Diagnostic imaging techniques Ph.D. course
Hanson, L. G. 2015
Publication: Research › Sound/Visual production (digital) – Annual report year: 2015

Neue Ansätze zur Empfindlichkeitssteigerung in der biomolekularen NMR-Spektroskopie
Publication: Research - peer-review › Journal article – Annual report year: 2015

Output pressure and harmonic characteristics of a CMUT as function of bias and excitation voltage
Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

Placement of field probes for stabilization of breathing-induced B0-fluctuations in the brain
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2015

Prostate displacement during transabdominal ultrasound image-guided radiotherapy assessed by real-time four-dimensional transperineal monitoring
Baker, M. & Behrens, C. F. 2015 In : Acta Oncologica. 54, 9, p. 1508-1514
Publication: Research - peer-review › Journal article – Annual report year: 2015

Quantification of muscle activity during sleep for patients with neurodegenerative diseases
Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

Real-time brain computer interface using imaginary movements
Publication: Research - peer-review › Journal article – Annual report year: 2015

Real-time cardiac metabolism assessed with hyperpolarized [1-13C]acetate in a large-animal model
Publication: Research - peer-review › Journal article – Annual report year: 2015

Representation of steady-state visual evoked potentials in sensorimotor cortical areas of a nonhuman primate.
Simultaneous Hyperpolarized 13C-Pyruvate MRI and 18F-FDG PET (HyperPET) in 10 Dogs with Cancer

Sleep spindle alterations in patients with Parkinson's disease
Christensen, J. A. E., Nikolic, M., Warby, S. C., Koch, H., Zoetmulder, M., Frandsen, R., Moghadam, K. K., Sørensen, H. B. D., Mignot, E. & Jennum, P. J. 2015 In : Frontiers in Human Neuroscience. 9, Article No.: 233

Sleep spindle alterations in patients with Parkinson's disease

Sleep-stage transitions during polysomnographic recordings as diagnostic features of type 1 narcolepsy
Christensen, J. A. E., Carrillo, O., Leary, E. B., Peppard, P. E., Young, T., Sørensen, H. B. D., Jennum, P. & Mignot, E. 2015 In : Sleep Medicine. 16, p. 1558–1566

The diagnostic value of power spectra analysis of the sleep electroencephalography in narcoleptic patients

The effects of the CXCR2 antagonist, MK-7123, on bone marrow functions in healthy subjects

The Pseudomonas Quinolone Signal (PQS)

The Ups and Downs of Classical and Quantum Formulations of Magnetic Resonance

The use of dynamic nuclear polarization (13)C-pyruvate MRS in cancer

Towards Quasi-continuous Heart Rate Variability Estimation using a Patch Type Electrocardiogram Recorder
Transverse oscillation vector flow imaging for transthoracic echocardiography

Ultrasound Velocity Imaging

Utilizing 3-D and 4-D ultrasound systems to improve radiation treatment of cervix and prostate cancer patients.

Vector flow imaging of the ascending aorta. Are systolic backflow and atherosclerosis related?

Velocity Estimation of the Main Portal Vein with Transverse Oscillation.

Visualisation of basic NMR: Quantum and Classical aspects
Hanson, L. G. 2015

Volumetric Ultrasound Imaging with Row-Column Addressed 2-D Arrays Using Spatial Matched Filter Beamforming

Angle independent velocity spectrum determination.
Jensen, J. A. 5 Jun 2014

Ultrasound imaging probe with sigma-delta beamformer and apodization therein

2-D Tissue Motion Compensation of Synthetic Transmit Aperture Images

3-D Velocity Estimation for Two Planes in vivo
Accuracy and Sources of Error for an Angle Independent Volume Flow Estimator
Publication: Research - peer-review › Article in proceedings – Annual report year: 2014

A comparison between temporal and subband minimum variance adaptive beamforming
Publication: Research - peer-review › Article in proceedings – Annual report year: 2014

Adaptive Multi-Lag for Synthetic Aperture Vector Flow Imaging
Publication: Research - peer-review › Article in proceedings – Annual report year: 2014

Advanced 3-D Ultrasound Imaging: 3-D Synthetic Aperture Imaging and Row-column Addressing of 2-D Transducer Arrays
Publication: Research › Ph.D. thesis – Annual report year: 2014

A graphical simulator for active learning of MRI basics
Publication: Research - peer-review › Article in proceedings – Annual report year: 2014

Altered Biomechanics of a Perthes' Hip Investigated by Contact Modeling
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2014

A Multi-threaded Version of Field II
Publication: Research - peer-review › Article in proceedings – Annual report year: 2014

A new RF tagging pulse based on the Frank poly-phase perfect sequence
Publication: Research - peer-review › Journal article – Annual report year: 2014

A phantom study on temporal and subband Minimum Variance adaptive beamforming
Publication: Research - peer-review › Article in proceedings – Annual report year: 2014

Apparent rate constant mapping using hyperpolarized [1-(13) C]pyruvate.
Publication: Research - peer-review › Journal article – Annual report year: 2014

A Transverse Oscillation Approach for Estimation of Three-Dimensional Velocity Vectors, Part I: Concept and Simulation Study
Publication: Research - peer-review › Journal article – Annual report year: 2014

A Transverse Oscillation Approach for Estimation of Three-Dimensional Velocity Vectors, Part II: Experimental Validation
Publication: Research - peer-review › Journal article – Annual report year: 2014

Automatic detection and classification of artifacts in single-channel EEG
Publication: Research - peer-review › Article in proceedings – Annual report year: 2014

Automatic quality classification of entire electrocardiographic recordings obtained with a novel patch type recorder
Publication: Research - peer-review › Article in proceedings – Annual report year: 2014

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Projects:

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07/04/2014 → 16/06/2014
Project

Activities:

Evaluation of respiratory motion correction in PET/CT using a 3D printed phantom
Vilsbøll, J. H. (Speaker), Hasler S. W. Hasler (Guest lecturer), L. D. L. Duchstein (Guest lecturer), Wilhjelm, J. E. (Guest lecturer), M. N. Lonsdale (Guest lecturer)
22 Oct 2017
Activity: Talks and presentations › Conference presentations

Investigation of echogenic surface enhancements for improved needle visualization in ultrasonography: A PRISMA systematic review
Caroline Harder Hovgesen (Speaker), Wilhjelm, J. E. (Guest lecturer), Peter Vilmann (Guest lecturer), Evangelos Kalaitzakis (Guest lecturer)
11 Oct 2017
Studentinvolvering via ressourcemæssig effektiv peer review i et obligatorisk kursus i fysikken i medicinsk billeddannelse
Wilhjelm, J. E. (Speaker), Prag, S. W. (Guest lecturer)
30 May 2017

Danish Cardiovascular Research Academy
Brasen, J. C. (Organizer)
26 May 2016 → 28 May 2016

Endothelial derived hyperpolarization in renal interlobar arteries
Brasen, J. C. (Speaker)
15 Sep 2015

Meeting on Endothelium-Dependent Hyperpolarizations in Health and Disease
Brasen, J. C. (Participant)
14 Sep 2015 → 17 Sep 2015

MRI simulation for sequence development, protocol optimisation, and education
Hanson, L. G. (Organizer)
29 Jun 2015 → 1 Jul 2015

Biosimulation
Brasen, J. C. (External examiner)
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Visualisation of basic NMR: Quantum and classical aspects
Hanson, L. G. (Lecturer)
25 Feb 2015

MR principles, Imaging and contrast
Hanson, L. G. (Lecturer)
3 Feb 2015

The Scandinavian Physiological Society - The Special Interest Group (SIG) within Vascular Physiology
Brasen, J. C. (Participant)
28 Jan 2015

Secretary-Elect, ISMRM study group on Detection & Correction of Motion in MRI & MRS (External organisation)
Hanson, L. G. (Secretary)
2014 → 2015
Activity: Membership › Membership of research networks or expert groups

**Mathematical Biosciences (Journal)**  
Brasen, J. C. (Reviewer)  
23 Oct 2014 → …  
Activity: Research › Peer review of manuscripts

**Rhythms in complex networks**  
Brasen, J. C. (Participant)  
1 Sep 2014 → 3 Sep 2014  
Activity: Attending an event › Participating in or organising workshops, courses, seminars etc.

**Proceedings of the National Academy of Sciences, Physical Sciences (NASA) (Journal)**  
Brasen, J. C. (Reviewer)  
2 Jul 2014 → …  
Activity: Research › Peer review of manuscripts

**Mathematical models of (spatial and) temporal dynamics in biological and physiological systems**  
Brasen, J. C. (Invited speaker)  
22 May 2014  
Activity: Talks and presentations › Conference presentations

**Kinetik**  
Brasen, J. C. (Guest lecturer)  
18 Feb 2014  
Activity: Talks and presentations › Guest lectures, external teaching and course activities at other universities

**DSMMR Course on MRI Methodology**  
Hanson, L. G. (Organizer)  
20 Jan 2014 → 21 Jan 2014  
Activity: Attending an event › Participating in or organising workshops, courses, seminars etc.

**MRI simulation for sequence development, protocol optimisation and education**  
Hanson, L. G. (Organizer)  
2 Dec 2013 → 4 Dec 2013  
Activity: Attending an event › Participating in or organising a conference

**BioDynamics 2013**  
Brasen, J. C. (Participant)  
11 Sep 2013 → 13 Sep 2013  
Activity: Attending an event › Participating in or organising workshops, courses, seminars etc.

**14th International Conference on Systems Biology**  
Brasen, J. C. (Organizer)  
30 Aug 2013 → 3 Sep 2013  
Activity: Attending an event › Participating in or organising a conference

**14th International Conference on Systems Biology**  
Brasen, J. C. (Organizer)  
30 Aug 2013 → 4 Sep 2013  
Activity: Attending an event › Participating in or organising a conference

**4th International Symposium on Dynamic Nuclear Polarization**  
Hanson, L. G. (Organizer)  
28 Aug 2013 → 31 Aug 2013  
Activity: Attending an event › Participating in or organising a conference
Acquisition Strategies for Hyperpolarised Spin Systems
Hanson, L. G. (Organizer)
25 Aug 2013 → 27 Aug 2013
Activity: Attending an event › Participating in or organising a conference

Basic MRI Physics: A visual introduction for laymen
Hanson, L. G. (Lecturer)
Activity: Talks and presentations › Conference presentations

P L o S One (Journal)
Brasen, J. C. (Reviewer)
22 Aug 2011 → …
Activity: Research › Peer review of manuscripts

Journal of Medical Ultrasonics (External organisation)
Wilhjelm, J. E. (Participant)
1 Jan 2010 → …
Activity: Membership › Membership of committees, commissions, boards, councils, associations, organisations, or similar

Ultragarsas (External organisation)
Wilhjelm, J. E. (Participant)
1 Jan 2010 → …
Activity: Membership › Membership of committees, commissions, boards, councils, associations, organisations, or similar

International Congress of Ultrasonics (External organisation)
Wilhjelm, J. E. (Participant)
1 Jan 2009 → …
Activity: Membership › Membership of committees, commissions, boards, councils, associations, organisations, or similar

Prizes:

New Investigator Award for Basic Science
Tommaso di Ianni (Recipient), Mar 2017
Prize: Prizes, scholarships, distinctions