Publications:

A comparative study of methods for automatic detection of rapid eye movement abnormal muscular activity in narcolepsy
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

Design of a Deep Learning Based Algorithm For automatic Detection of Leg Movements During Sleep
Publication: Research - peer-review › Conference abstract in journal – 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

Towards an automated multimodal clinical decision support system at the post anesthesia care unit
Publication: Research - peer-review › Journal article – Annual report year: 2018

Acute dosing of vortioxetine strengthens event-related brain activity associated with engagement of attention and cognitive functioning in rats
Publication: Research - peer-review › Journal article – Annual report year: 2017

Adapted wavelet transform improves time-frequency representations: a study of auditory elicited P300-like event-related potentials in rats.
Adaptive heart rate-based epileptic seizure detection using real-time user feedback
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

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

Diagnostic value of sleep stage dissociation as visualized on a 2-dimensional sleep state space in human narcolepsy
Publication: Research - peer-review › Journal article – Annual report year: 2017

Electrophysiological dynamics of covert and overt visual attention.
Publication: Research › Ph.D. thesis – Annual report year: 2017

Flexible Method for the Automated Offline-Detection of Artifacts in Multi-Channel Electroencephalogram Recordings
Publication: Research - peer-review › Article in proceedings – Annual report year: 2018

Helbredstjek af dansk sundhedsteknologi: Sektorudviklingsrapport
Publication: Commissioned › Report – 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

Sleep Apnea Breathing Disturbances are Associated With Objective Sleepiness Independent of Hypoxia
Publication: Research - peer-review › Conference abstract in journal – Annual report year: 2018

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

A Noise-Assisted Data Analysis Method for Automatic EOG-Based Sleep Stage Classification Using Ensemble Learning
Publication: Research - peer-review › Article in proceedings – Annual report year: 2016

Application of a New Robust ECG T-Wave Delineation Algorithm for the Evaluation of the Autonomic Innervation of the Myocardium
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

Portable Prescreening System for Sleep Apnea
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

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

Sleep Spindles as Biomarker for Early Detection of Neurodegenerative Disorders
Publication: Research › Patent – Annual report year: 2015

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

Automatic Real-Time Embedded QRS Complex Detection for a Novel Patch-Type Electrocardiogram Recorder
Publication: Research - peer-review › Journal article – Annual report year: 2015

Characterization of early and mature electrophysiological biomarkers of patients with Parkinson's disease
Publication: Research › Ph.D. thesis – 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

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

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

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

Sleep spindle alterations in patients with Parkinson's disease
Publication: Research - peer-review › Journal article – Annual report year: 2015

Sleep spindle alterations in patients with Parkinson's disease
Publication: Research › Book chapter – Annual report year: 2015

Sleep-stage transitions during polysomnographic recordings as diagnostic features of type 1 narcolepsy
Publication: Research - peer-review › Journal article – Annual report year: 2015
Method for detection of an abnormal sleep pattern in a person
Publication: Research › Patent – Annual report year: 2014

Novel method for detection of Sleep Apnoea using respiration signals
Publication: Research - peer-review › Article in proceedings – Annual report year: 2014

Rapid eye movement sleep behavior disorder as an outlier detection problem
Publication: Research - peer-review › Journal article – Annual report year: 2014

Sleep-spindle detection: crowdsourcing and evaluating performance of experts, non-experts and automated methods
Publication: Research - peer-review › Journal article – Annual report year: 2014

Sleep spindle scoring: performance of humans versus machines
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2014

Sources of the brain activation in visual attention: a novel feature for electroencephalography-based brain computer interface
Publication: Research - peer-review › Conference abstract for conference – Annual report year: 2015

SSVEP-modulation by covert and overt attention: Novel features for BCI in attention neuro-rehabilitation
Publication: Research - peer-review › Article in proceedings – Annual report year: 2014

Video surveillance of epilepsy patients using color image processing
Publication: Research - peer-review › Article in proceedings – Annual report year: 2014

Attenuated Heart Rate Response is Associated with Hypocretin Deficiency in Patients with Narcolepsy.
Publication: Research - peer-review › Journal article – Annual report year: 2014

Automatic characterization of dynamics in Absence Epilepsy
Publication: Research - peer-review › Article in proceedings – Annual report year: 2013

Automatic SLEEP staging: From young adulsits to elderly patients using multi-class support vector machine
Publication: Research - peer-review › Article in proceedings – Annual report year: 2013

BCI using imaginary movements: The simulator
Publication: Research - peer-review › Journal article – Annual report year: 2013

Classification of iRBD and Parkinson's disease patients based on eye movements during sleep
Publication: Research - peer-review › Article in proceedings – Annual report year: 2013

Classification of iRBD and Parkinson's patients using a general data-driven sleep staging model built on EEG
Publication: Research - peer-review › Article in proceedings – Annual report year: 2013

Detection and Prediction of Epileptic Seizures
Publication: Research › Ph.D. thesis – Annual report year: 2013

Detection of a sleep disorder predicting Parkinson's disease
Publication: Research - peer-review › Article in proceedings – Annual report year: 2013

Detection of Epileptic Seizures with Multi-modal Signal Processing
Publication: Research › Ph.D. thesis – Annual report year: 2013
DTU BCI speller: An SSVEP-based spelling system with dictionary support
Publication: Research - peer-review › Article in proceedings – Annual report year: 2013

Heart rhythm analysis using ECG recorded with a novel sternum based patch technology
Publication: Research - peer-review › Article in proceedings – Annual report year: 2013

Semi-supervised adaptation in ssvep-based brain-computer interface using tri-training
Publication: Research - peer-review › Article in proceedings – Annual report year: 2013

SLEEP phenomena as an early biomarker for Parkinsonism
Publication: Research - peer-review › Article in proceedings – Annual report year: 2013

Subdural to subgaleal EEG signal transmission: The role of distance, leakage and insulating affectors
Publication: Research - peer-review › Journal article – Annual report year: 2013

Support system and method for detecting neurodegenerative disorder
Publication: Research › Patent – Annual report year: 2013

Tidlig Diagnosticering af Neurodegenerative Sygdomme
Publication: Research › Ph.D. thesis – Annual report year: 2013

A computerized algorithm for arousal detection in healthy adults and patients with Parkinson disease
Publication: Research - peer-review › Journal article – Annual report year: 2012

Attenuated heart rate response in REM sleep behavior disorder and Parkinson's disease
Publication: Research - peer-review › Journal article – Annual report year: 2012

Automated Algorithm for Generalized Tonic–Clonic Epileptic Seizure Onset Detection Based on sEMG Zero-Crossing Rate
Publication: Research - peer-review › Journal article – Annual report year: 2012

Automatic Detection of Childhood Absence Epilepsy Seizures: Toward a Monitoring Device
Publication: Research - peer-review › Journal article – Annual report year: 2012

Automatic detection of REM sleep in subjects without atonia
Publication: Research - peer-review › Article in proceedings – Annual report year: 2012

Automatic multi-modal intelligent seizure acquisition (MISA) system for detection of motor seizures from electromyographic data and motion data
Publication: Research - peer-review › Journal article – Annual report year: 2012

Automatic QRS complex detection algorithm designed for a novel wearable, wireless electrocardiogram recording device
Publication: Research - peer-review › Book chapter – Annual report year: 2012

Channel selection for automatic seizure detection
Publication: Research - peer-review › Journal article – Annual report year: 2011

Correlation between intra- and extracranial background EEG
Publication: Research - peer-review › Article in proceedings – Annual report year: 2012
Decreased sleep spindle density in patients with idiopathic REM sleep behaviour disorder and patients with Parkinson's disease
Publication: Research - peer-review › Conference abstract in journal – Annual report year: 2012

Evaluation of novel algorithm embedded in a wearable sEMG device for seizure detection
Publication: Research - peer-review › Article in proceedings – Annual report year: 2012

Publication: Research - peer-review › Book – Annual report year: 2012

Separation of Parkinson's patients in early and mature stages from control subjects using one EOG channel
Publication: Research - peer-review › Article in proceedings – Annual report year: 2012

Validation of a novel automatic sleep spindle detector with high performance during sleep in middle aged subjects
Publication: Research - peer-review › Book chapter – Annual report year: 2012

An Auditory Go/No-Go Study of Event-Related Potentials in Children with Fetal Alcohol Spectrum Disorders
Publication: Research - peer-review › Article in proceedings – Annual report year: 2011

Automatic REM Sleep Detection Associated with Idiopathic REM Sleep Behavior Disorder
Publication: Research - peer-review › Article in proceedings – Annual report year: 2011

Detection of arousals in Parkinson's disease patients
Publication: Research - peer-review › Article in proceedings – Annual report year: 2011

Generic Single-Channel Detection of Absence Seizures
Publication: Research - peer-review › Article in proceedings – Annual report year: 2011

Pathophysiology of Tonic Muscle Activation During Epileptic Seizures: Abstract of paper SC223
Publication: Research - peer-review › Conference article – Annual report year: 2011

Patterns of muscle activation during generalized tonic and tonic-clonic epileptic seizures
Publication: Research - peer-review › Journal article – Annual report year: 2011

Seizure Onset Detection based on one sEMG channel
Publication: Research - peer-review › Article in proceedings – Annual report year: 2011

Special Edition on Neurodegenerative Diseases
Publication: Research › Journal article – Annual report year: 2011

Automatic Sleep Scoring in Normals and in Individuals with Neurodegenerative Disorders According to New International Sleep Scoring Criteria
Publication: Research - peer-review › Journal article – Annual report year: 2010

A comparative study between a simplified Kalman filter and Sliding Window Averaging for single trial dynamical estimation of event-related potentials
Publication: Research - peer-review › Journal article – Annual report year: 2010

Automatic Epileptic Seizure Onset Detection Using Matching Pursuit: A case Study
Publication: Research - peer-review › Article in proceedings – Annual report year: 2010
Automatic seizure detection: going from sEEG to iEEG
Publication: Research - peer-review › Article in proceedings – Annual report year: 2010

Automatic sleep scoring in normals and in individuals with neurodegenerative disorders according to new international sleep scoring criteria
Publication: Research - peer-review › Conference abstract in journal – Annual report year: 2010

Extended seizure detection algorithm for intracranial EEG recordings
Publication: Research - peer-review › Conference article – Annual report year: 2010

REM Behaviour Disorder Detection Associated with Neurodegenerative Diseases
Publication: Research - peer-review › Article in proceedings – Annual report year: 2010

Seizure Onset Detection based on a Uni- or Multi-modal Intelligent Seizure Acquisition (UISA/MISA) System
Publication: Research - peer-review › Article in proceedings – Annual report year: 2010

Feasibility of Seizure Prediction from intracranial EEG Recordings
Publication: Research - peer-review › Conference abstract in journal – Annual report year: 2009

Multi-modal Intelligent Seizure Acquisition (MISA) system - A new approach towards seizure detection based on full body motion measures
Publication: Research - peer-review › Article in proceedings – Annual report year: 2009

Patient-specific Methodologically Rigorous Test of the Mean Phase Coherence for Seizure Prediction
Publication: Research - peer-review › Article in proceedings – Annual report year: 2009

Automatic sleep scoring in normals and in individuals with neurodegenerative disorders according to new international sleep scoring criteria
Publication: Research › Report – Annual report year: 2008

Publication: Research › Ph.D. thesis – Annual report year: 2007

Video Surveillance of Epilepsy Patients using Color Image Processing
Publication: Research - peer-review › Report – Annual report year: 2007

A comparative and combined study of EMIS and GPR detectors by the use of Independent Component Analysis
Publication: Research - peer-review › Article in proceedings – Annual report year: 2005

Automatic video surveillance of outdoor scenes using track before detect
Publication: Research - peer-review › Article in proceedings – Annual report year: 2005

Optical identification of sea-mines - Gated viewing three-dimensional laser radar
Publication: Research › Ph.D. thesis – Annual report year: 2005

Simulation of Sector Scan Sonar Images
Publication: Research - peer-review › Article in proceedings – Annual report year: 2004

GPR Detection of Buried Symmetrically Shaped Mine-like Objects using Selective Independent Component Analysis
Publication: Research - peer-review › Article in proceedings – Annual report year: 2003
Sidescan Sonar Image Matching Using Cross Correlation
Publication: Research - peer-review › Article in proceedings – Annual report year: 2003

Independent Component Analysis for Clutter Reduction in Ground Penetrating Radar Data
Publication: Research - peer-review › Article in proceedings – Annual report year: 2002

Statistical Signal Processing in Humanitarian Mine Clearance Systems
Publication: Research › Journal article – Annual report year: 2002

Statistisk Signalbehandling i Humanitære Minerydningssystemer
Publication: Research - peer-review › Journal article – Annual report year: 2002

Comparison of PCA and ICA based clutter reduction in GPR systems for anti-personal landmine detection
Publication: Research - peer-review › Article in proceedings – Annual report year: 2001

Mine detection using SF-GPR: A signal processing approach for resolution enhancement and clutter reduction
Publication: Research - peer-review › Article in proceedings – Annual report year: 2001

Antenna characteristics and air-ground interface deembedding methods for stepped-frequency ground-penetrating radar measurements
Publication: Research - peer-review › Journal article – Annual report year: 2000

Resolution requirements for thermal detection of buried land mines
Publication: Research - peer-review › Journal article – Annual report year: 2000

Sonar Image Enhancements for Improved Detection of Sea Mines
Publication: Research › Article in proceedings – Annual report year: 1999

Identification of Mine-Shaped Objects based on an Efficient Phase Stepped-Frequency Radar Approach
Publication: Research - peer-review › Article in proceedings – Annual report year: 1997

Stepped-Frequency Ground-Penetrating Radar for Detection of Small Non-metallic Buried Objects
Publication: Research - peer-review › Journal article – Annual report year: 1997

Feasibility studie over minesøger til humanitær minerydning
Publication: Research - peer-review › Report – Annual report year: 1996

Jordradar, GPR-Radar (Ground Penetrating Radar)
Publication: Research - peer-review › Book chapter – Annual report year: 1996

Termografi
Publication: Research - peer-review › Book chapter – Annual report year: 1996

Discriminative training of self-structuring hidden control neural models
Publication: Research - peer-review › Article in proceedings – Annual report year: 1995

Hybrid model decomposition of speech and noise in a radial basis function neural model framework
Publication: Research - peer-review › Article in proceedings – Annual report year: 1994

Pi-sigma and hidden control based self-structuring models for text-independent speaker recognition
Publication: Research - peer-review › Article in proceedings – Annual report year: 1993
Robust Speaker-independent Recognition using a Two-Stage Noise Reduction Technique
Publication: Research - peer-review › Article in proceedings – Annual report year: 1993

Context-dependent and -Independent Self-structuring Hidden Control Models for Speech Recognition
Publication: Research - peer-review › Article in proceedings – Annual report year: 1992

Self-structuring hidden control neural model for speech recognition
Publication: Research - peer-review › Article in proceedings – Annual report year: 1992

Self-structuring hidden control neural models
Publication: Research - peer-review › Article in proceedings – Annual report year: 1992

Speech recognition in noise using a self-structuring noise reduction model and hidden control models
Publication: Research - peer-review › Article in proceedings – Annual report year: 1992

A cepstral noise reduction multi-layer neural network
Publication: Research - peer-review › Article in proceedings – Annual report year: 1991

Determination of Acoustic-Phonetic Segment Boundaries in Continuous Speech Signals
Publication: Research › Ph.D. thesis – Annual report year: 1991

Noise-robust speech recognition using a cepstral noise reduction neural network architecture
Publication: Research - peer-review › Article in proceedings – Annual report year: 1991

A self-structuring neural noise reduction model
Publication: Research - peer-review › Article in proceedings – Annual report year: 1991

Real-time signal processing in speech recognition and its potential use within the development of hearing aids.
Publication: Research - peer-review › Journal article – Annual report year: 1990

Multi-level Segmentation of Natural Continuous Speech Using Different Auditory Front-ends
Publication: Research - peer-review › Article in proceedings – Annual report year: 1989

Comparison of Two Frequency Domain Pitch Detectors Based on Phonetic Performance Evaluation
Publication: Research - peer-review › Article in proceedings – Annual report year: 1987

Projects:

Development of continuous non-invasive monitoring system for early detection and prevention of serious morbidity and mortality after abdominal cancer-surgery
Project: PhD

Design of pervasive systems for chronic sleep/brain disorders
Project: PhD

Biomedical Signal Processing for Improved Diagnosis of Sleep Disorders and Brain Diseases
Project: PhD

Design of Knowledge-Driven and Data-Driven Algorithms for Neurodegenerative Diseases
Project: PhD
Interpretation of Brain Connectivity in CNS Diseases for Improvement of Drug Development
Project: PhD

Early Warning of Acute Diseases from Portable Vital Signs Monitoring and Interpretation
Project: PhD

Characterization of early and mature electrophysiological biomarkers for Alzheimer's and Parkinson's patients
Project: PhD

Optimal low power microelectronic implementation for single-use ECG arrhythmia detection device
Project: PhD

Characterization of early and mature electrophysiological biomarkers for Alzheimer's and Parkinson's patients
Project: PhD

Characterization of Early and Mature Electrophysiological Markers for Alzheimer's and Parkinson's Patients
Project

Optimal Low power Implementation for Single Use ECG Arrhythmia Detection Device
Project

Tidlig Diagnosticering af Neurodegenerative Sygdomme
Project: PhD

Early Diagnosis of Neurodegenerative Diseases
Project

Detektion og prædiktion af epileptiske anfald
Project: PhD

Detection and Prediction of Epileptic Seizures
Project

Detection of Epileptic Seizures with Multimodal Signal Processing
Project: PhD

Detection of Epileptic Seizures with Multimodal Signal Processing
Project

Adaptiv Fokusering i Medicinsk Ultralyd
Project: PhD

Seizure Prediction
Project: PhD

Synthetic Aperture Vector Flow Imaging
Project: PhD

Ultrasound flow imaging using coded signals
Project: PhD
Akustisk Identifikation af Søminer
Project: PhD

Optisk Identifikation af søminer
Project: PhD

Design and Implementation of Algorithms for Improving Synthetic Aperture Ultrasound Images
Project: PhD

Signal Processing in Humanitarian Demining
Project

Statistical signal processing in humanitarian demining systems
Project: PhD

Integrated circuits in medical ultrasound
Project: PhD

Multichannel adaptive analysis of rotating systems
Project: PhD

Adaptive tools for shared virtual environments
Project: PhD

Signalbehandling i Delfinens Sonarsystem
Project: PhD

Detection of landmines for humanitarian demining - a feasibility study
Project

Rekonstruktion og segmentering af PET-scan data
Project: PhD

Condition Monitoring And Fault Diagnosis In Marine Diesel Engines
Project: PhD

Skjulte Markovmodeller og Neutrale Netværk
Project: PhD

Signalbehandling med feedback netværk
Project: PhD

Multiplikatorfrie, digitale filterstrukturer
Project: PhD

Digital kodning af talesignaler ved 600 bit/sek
Project: PhD