Keywords: Medical Imaging—biology—biomedical

2018
Publications at Conferences and Workshops

[C1] V. Golkov, A. Vasilev, F. Pasa, I. Lipp, W. Boubaker, E. Sgarlata, F. Pfeiffer, V. Tomassini, D. K. Jones and D. Cremers,
q-Space Novelty Detection in Short Diffusion MRI Scans of Multiple Sclerosis, 2018.


[C3] B. T. Do, V. Golkov, G. E. Gürel and D. Cremers,
Precursor microRNA Identification Using Deep Convolutional Neural Networks,

[C4] A. Vasilev, V. Golkov, I. Lipp, E. Sgarlata, V. Tomassini, D. K. Jones and D. Cremers,
q-Space Novelty Detection with Variational Autoencoders,

2017
Journal Publications

Genetic defects in s-spectrin and tau sensitize C. elegans axons to movement-induced damage via torque-tension coupling,

Tau Like Proteins Reduce Torque Generation in Microtubule Bundles,

Publications at Conferences and Workshops

Establishment of an interdisciplinary workflow of machine learning-based Radiomics in sarcoma patients,

[C2] V. Golkov, M. J. Skwark, A. Mirchev, G. Dikov, A. R. Geanes, J. Mendenhall, J. Meiler and D. Cremers,
3D Deep Learning for Biological Function Prediction from Physical Fields,
Keywords: Medical Imaging—biology—biomedical

List of Publications

2016

Journal Publications


Publications at Conferences and Workshops


2015

Journal Publications


Book Chapters


Publications at Conferences and Workshops


Keywords: Medical Imaging—biology—biomed

List of Publications

[C4] A. Menini, V. Golkov and F. Wiesinger,
Free-Breathing, Self-Navigated RUFIS Lung Imaging with Motion Compensated Image Reconstruction,
2015.

P. A. Gomez, A. Haase, T. Brox and D. Cremers,
q-Space Deep Learning for Twelve-Fold Shorter and Model-Free Diffusion MRI Scans,
Munich, Germany, October 2015.

2014

Book Chapters

Joint Super-Resolution Using Only One Anisotropic Low-Resolution Image per q-Space Coordinate,
Computational Diffusion MRI, Springer, 2014, Book Chapter, and Oral Presentation at MICCAI 2014 Workshop on Computational Diffusion MRI.

Publications at Conferences and Workshops

Novel Acquisition Scheme for Diffusion Kurtosis Imaging Based on Compressed-Sensing Accelerated DSI Yielding Superior Image Quality,
2014.

Total Variation-Regularized Compressed Sensing Reconstruction for Multi-Shell Diffusion Kurtosis Imaging,
2014.

Direct Reconstruction of the Average Diffusion Propagator with Simultaneous Compressed-Sensing-Accelerated Diffusion Spectrum Imaging and Image Denoising by Means of Total Generalized Variation Regularization,
2014.

Semi-Joint Reconstruction for Diffusion MRI Denoising Imposing Similarity of Edges in Similar Diffusion-Weighted Images,
2014.

Improved Diffusion Kurtosis Imaging and Direct Propagator Estimation Using 6-D Compressed Sensing,
2014.
2013

Journal Publications

[J1] C. Nieuwenhuis and D. Cremers,
Spatially Varying Color Distributions for Interactive Multi-Label Segmentation,

Book Chapters

[BC1] M. Klodt, F. Steinbruecker and D. Cremers,
Moment Constraints in Convex Optimization for Segmentation and Tracking,

Publications at Conferences and Workshops

[C1] V. Golkov, T. Sprenger, A. Menini, M.I. Menzel, D. Cremers and J.I. Sperl,
Effects of Low-Rank Constraints, Line-Process Denoising, and q-Space Compressed Sensing on Diffusion MR Image Reconstruction and Kurtosis Tensor Estimation,
2013, Oral Presentation.

[C2] V. Golkov, T. Sprenger, M.I. Menzel, D. Cremers and J.I. Sperl,
Line-Process-Based Joint SENSE Reconstruction of Diffusion Images with Intensity Inhomogeneity Correction and Noise Non-Stationarity Correction,
2013, Certificate of Merit Award.

[C3] V. Golkov, M.I. Menzel, T. Sprenger, A. Menini, D. Cremers and J.I. Sperl,
Reconstruction, Regularization, and Quality in Diffusion MRI Using the Example of Accelerated Diffusion Spectrum Imaging,
16th Annual Meeting of the German Chapter of the ISMRM, 2013, Oral Presentation.

Corrected Joint SENSE Reconstruction, Low-Rank Constraints, and Compressed-Sensing-Accelerated Diffusion Spectrum Imaging in Denoising and Kurtosis Tensor Estimation,
ISMRM Workshop on Diffusion as a Probe of Neural Tissue Microstructure, 2013.

SNR-dependent Quality Assessment of Compressed-Sensing-Accelerated Diffusion Spectrum Imaging Using a Fiber Crossing Phantom,
2013.

Phase Sensitive Reconstruction in Diffusion Spectrum Imaging Enabling Velocity Encoding and Unbiased Noise Distribution,
2013.

Noise Reduction in Accelerated Diffusion Spectrum Imaging through Integration of SENSE Reconstruction into Joint Reconstruction in Combination with q-Space Compressed Sensing,
2013.
Keywords: Medical Imaging—biology—biom

List of Publications

[C8] J. Stühmer, P. Schröder and D. Cremers,
Tree Shape Priors with Connectivity Constraints using Convex Relaxation on General Graphs,
Sydney, Australia, December 2013, Oral Presentation.

Technical Reports

[R1] M. Souiai, E. Strekalovskiy, C. Nieuwenhuis and D. Cremers,
Label Configuration Priors for Continuous Multi-Label Optimization,

2012

Journal Publications

[J1] S. Chen, D. Cremers and R. J. Radke,
Image segmentation with one shape prior - A template-based formulation,

An image classification approach to analyze the suppression of plant immunity by the human pathogen Salmonella Typhimurium,

Publications at Conferences and Workshops

Evaluation of DSI Imaging with Compressed Sensing under the Presence of Different Noise Levels on a Diffusion Phantom,
2012.

Comparison of Diffusion Kurtosis Tensor Estimation Methods in an Advanced Quality Assessment Framework,
2012.

2011

Journal Publications

A Variational Approach to Vesicle Membrane Reconstruction from Fluorescence Imaging,
Pattern Recognition, 44: 2944-2958, 2011.

Publications at Conferences and Workshops

[C1] M. Klodt and D. Cremers,
A Convex Framework for Image Segmentation with Moment Constraints,
2011.
Keywords: Medical Imaging—biology—biomedical

List of Publications

Pixel-based Classification Method for Detecting Unhealthy Regions in Leaf Images,
6th IEEE ISIF Workshop on Sensor Data Fusion: Trends, Solutions, Applications (SDF), Berlin, Germany, September 2011.

2010
Publications at Conferences and Workshops

[C1] M. Schikora, A. Schikora, K.-H. Kogel, W. Koch and D. Cremers,
Probabilistic Classification of Disease Symptoms caused by Salmonella on Arabidopsis Plants,
5th IEEE ISIF Workshop on Sensor Data Fusion: Trends, Solutions, Applications (SDF), Leipzig, Germany, September 2010.

2009
Publications at Conferences and Workshops

[C1] T. Pock, A. Chambolle, H. Bischof and D. Cremers,
A Convex Relaxation Approach for Computing Minimal Partitions,

2008
Publications at Conferences and Workshops

[C1] T. Pock, M. Unger, D. Cremers and H. Bischof,
Fast and Exact Solution of Total Variation Models on the GPU,
CVPR Workshop on Visual Computer Vision on GPU’s, June 2008.

2007
Journal Publications

[J1] D. Cremers, M. Rousson and R. Deriche,
A review of statistical approaches to level set segmentation: integrating color, texture, motion and shape,

Book Chapters

[BC1] D. Cremers and M. Rousson,
Efficient kernel density estimation of shape and intensity priors for level set segmentation,

Publications at Conferences and Workshops

[C1] D. Cremers, O. Fluck, M. Rousson and S. Aharon,
A probabilistic level set formulation for interactive organ segmentation,
Keywords: Medical Imaging—biology—biomedical

2006
Journal Publications

[J1] D. Cremers, S. J. Osher and S. Soatto,
Kernel density estimation and intrinsic alignment for shape priors in level set segmentation,

Publications at Conferences and Workshops

[C1] D. Cremers, C. Guetter and C. Xu,
Nonparametric priors on the space of joint intensity distributions for non-rigid multi-modal image registration,

[C2] T. Kohlberger, D. Cremers, M. Rousson and R. Ramaraj,
4D shape priors for level set segmentation of the left myocardium in SPECT sequences,
Vol. 4190, 92-100, October 2006.

2005
Publications at Conferences and Workshops

[C1] M. Rousson and D. Cremers,
Efficient kernel density estimation of shape and intensity priors for level set segmentation,

2002
Journal Publications

[J1] D. Cremers and A. V. M. Herz,
Travelling waves of excitation in neural field models: Equivalence of rate descriptions and integrate-and-fire dynamics,