Keywords: Medical Imaging—biology—biomedical

2019

Journal Articles

[J1] F. Pasa, V. Golkov, F. Pfeiffer, D. Cremers and D. Pfeiffer,
Efficient Deep Network Architectures for Fast Chest X-Ray Tuberculosis Screening and Visualization,

A Non-invasive 3D Body Scanner and Software Tool towards Analysis of Scoliosis,

Conference and Workshop Papers

[C1] A. Vasilev, V. Golkov, M. Meissner, I. Lipp, E. Sgarlata, V. Tomassini, D. K. Jones and D. Cremers,
q-Space Novelty Detection with Variational Autoencoders,

[C2] P. Swazinna, V. Golkov, I. Lipp, E. Sgarlata, V. Tomassini, D. K. Jones and D. Cremers,
Negative-Unlabeled Learning for Diffusion MRI,
2019.

2018

Conference and Workshop Papers

[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.

q-Space Deep Learning for Alzheimer’s Disease Diagnosis: Global Prediction and Weakly-Supervised Localization,
2018.

[C3] B. T. Do, V. Golkov, G. E. Gürel and D. Cremers,
Precursor microRNA Identification Using Deep Convolutional Neural Networks,
2018.

2017

Journal Articles

[J1] 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

[2017]

Krieg, Michael, Stühmer, Jan, Cueva, Juan G, Fetter, Richard, Spilker, Kerri, Cremers, Daniel, Shen, Kang, Dunn, Alexander R, Goodman and Miriam B,

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


Krieg, Michael, Stühmer, Jan, Cueva, Juan G, Fetter, Richard, Spilker, Kerri, Cremers, Daniel, Shen, Kang, Dunn, Alex R, Goodman and Miriam B,

Tau Like Proteins Reduce Torque Generation in Microtubule Bundles,


Conference and Workshop Papers


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


2016

Journal Articles

[J1] V. Golkov, A. Dosovitskiy, J. I. Sperl, M. I. Menzel, M. Czisch, P. Sämann, T. Brox and D. Cremers,

q-Space Deep Learning: Twelve-Fold Shorter and Model-Free Diffusion MRI Scans,

35: 2016, Special Issue on Deep Learning.

Conference and Workshop Papers

[C1] V. Golkov, T. Sprenger, J. I. Sperl, M. I. Menzel, M. Czisch, P. Sämann and D. Cremers,

Model-Free Novelty-Based Diffusion MRI,

Prague, Czech Republic, April 2016.

[C2] V. Golkov, M. J. Skwark, A. Golkov, A. Dosovitskiy, T. Brox, J. Meiler and D. Cremers,

Protein Contact Prediction from Amino Acid Co-Evolution Using Convoluational Networks for Graph-Valued Images,

Barcelona, Spain, December 2016.

2015

Journal Articles

[J1] M. Klodt, K. Herzog, R. Töpfer and D. Cremers,

Field phenotyping of grapevine growth using dense stereo reconstruction,


Book Chapters

[BC1] V. Golkov, J. M. Portegies, A. Golkov, R. Duits and D. Cremers,

Holistic Image Reconstruction for Diffusion MRI,

*Computational Diffusion MRI*, Munich, Germany, Springer, October 2015, Book Chapter, and Oral Presentation at MICCAI 2015 Workshop on Computational Diffusion MRI.
Conference and Workshop Papers

[C1] J. Stühmer and D. Cremers,  
A Fast Projection Method for Connectivity Constraints in Image Segmentation,  
X.-C. Tai, E. Bae, T. F. Chan and M. Lysaker(Eds.), , 2015.

Using Diffusion and Structural MRI for the Automated Segmentation of Multiple Sclerosis Lesions,  
2015.

Robustness of Phase Sensitive Reconstruction in Diffusion Spectrum Imaging,  
2015.

[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.

Conference and Workshop Papers

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.
Keywords: Medical Imaging—biology—biomedical

List of Publications

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 Articles

[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,

Conference and Workshop Papers

[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.

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Keywords: Medical Imaging—biology—biomedical

List of Publications

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.

[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 Articles

[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,

Conference and Workshop Papers

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.
Keywords: Medical Imaging—biology—biomed

List of Publications

2011

Journal Articles

A Variational Approach to Vesicle Membrane Reconstruction from Fluorescence Imaging,

Conference and Workshop Papers

[C1] M. Klodt and D. Cremers,

[C2] S. Madhogaria, M. Schikora, W. Koch and D. Cremers,
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

Conference and Workshop Papers

[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

Conference and Workshop Papers

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

2007

Journal Articles

[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,
Keywords: Medical Imaging—biology—biomedical

List of Publications

Conference and Workshop Papers

[C1] D. Cremers, O. Fluck, M. Rousson and S. Aharon,  
A probabilistic level set formulation for interactive organ segmentation,  

2006

Journal Articles

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

Conference and Workshop Papers

[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

Conference and Workshop Papers

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

2002

Journal Articles

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