

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,
Scientific Reports, 9(1): 6268, 2019.
- [J2] J. Schuchardt, V. Golkov and D. Cremers,
Learning to Evolve,
arXiv preprint arXiv:1905.03389, 2019.
- [J3] L. Della Libera, V. Golkov, Y. Zhu, A. Mielke and D. Cremers,
Deep Learning for 2D and 3D Rotatable Data: An Overview of Methods,
arXiv preprint arXiv:1910.14594, 2019.

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,
MICCAI 2019 International Workshop on Computational Diffusion MRI, 2019, **Oral Presentation.**
- [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**Journal Articles**

- [J1] E. Aljalbout, V. Golkov, Y. Siddiqui, M. Strobel and D. Cremers,
Clustering with Deep Learning: Taxonomy and New Methods,
arXiv preprint arXiv:1801.07648, 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.
- [C2] V. Golkov, P. Swazinna, M. M. Schmitt, Q. A. Khan, C. M. W. Tax, M. Serahlazau, F. Pasa, F. Pfeiffer, G. J. Biessels, A. Leemans and D. Cremers,
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.

- [C4] P. Haeusser, J. Plapp, V. Golkov, E. Aljalbout and D. Cremers,
Associative Deep Clustering - Training a Classification Network with no Labels,
Proc. of the German Conference on Pattern Recognition (GCPR), October 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,
arXiv preprint arXiv:1704.04039, 2017.
- [J2] J. Kukacka, V. Golkov and D. Cremers,
Regularization for Deep Learning: A Taxonomy,
arXiv preprint arXiv:1710.10686, 2017.

Conference and Workshop Papers

- [C1] J.C. Peeken, C. Knie, V. Golkov, K. Kessel, F. Pasa, Q. Khan, M. Seroglazov, J. Kukacka, T. Goldberg, L. Richter, J. Reeb, B. Rost, F. Pfeiffer, D. Cremers, F. Nüsslin and S.E. Combs,
Establishment of an interdisciplinary workflow of machine learning-based Radiomics in sarcoma patients,
23. Jahrestagung der Deutschen Gesellschaft für Radioonkologie (DEGRO), 2017.

2016

Journal Articles

- [J1] T. Sprenger, J. I. Sperl, B. Fernandez, V. Golkov, I. Eidner, P. G. Sämann, M. Czisch, E. T. Tan, C. J. Hardy, L. Marinelli, A. Haase and M. I. Menzel,
Bias and Precision Analysis of Diffusional Kurtosis Imaging for Different Acquisition Schemes,
2016.
- [J2] 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 Convolutional Networks for Graph-Valued Images,
Barcelona, Spain, December 2016.

2015**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] P.A. Gomez, T. Sprenger, A.A. Lopez, J.I. Sperl, B. Fernandez, M. Molina-Romero, X. Liu, V. Golkov, M. Czisch, P. Saemann, M.I. Menzel and B.H. Menze,
Using Diffusion and Structural MRI for the Automated Segmentation of Multiple Sclerosis Lesions,
2015.
- [C2] M.I. Menzel, T. Sprenger, E.T. Tan, V. Golkov, C.J. Hardy, L. Marinelli and J.I. Sperl,
Robustness of Phase Sensitive Reconstruction in Diffusion Spectrum Imaging,
2015.
- [C3] A. Menini, V. Golkov and F. Wiesinger,
Free-Breathing, Self-Navigated RUFIS Lung Imaging with Motion Compensated Image Reconstruction,
2015.
- [C4] V. Golkov, A. Dosovitskiy, P. Sämann, J. I. Sperl, T. Sprenger, M. Czisch, M. I. Menzel, 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.
- [C5] A. Dosovitskiy, P. Fischer, E. Ilg, P. Haeusser, C. Hazirbas, V. Golkov, P. van der Smagt, D. Cremers and T. Brox,
FlowNet: Learning Optical Flow with Convolutional Networks,
December 2015.

2014**Book Chapters**

- [BC1] V. Golkov, J.I. Sperl, M.I. Menzel, T. Sprenger, E.T. Tan, L. Marinelli, C.J. Hardy, A. Haase and D. Cremers,
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

- [C1] T. Sprenger, J.I. Sperl, B. Fernandez, V. Golkov, E.T. Tan, C.J. Hardy, L. Marinelli, M. Czisch, P. Sämann, A. Haase and M.I. Menzel,
Novel Acquisition Scheme for Diffusion Kurtosis Imaging Based on Compressed-Sensing Accelerated DSI Yielding Superior Image Quality,
2014.

- [C2] J.I. Sperl, T. Sprenger, E.T. Tan, V. Golkov, M.I. Menzel, C.J. Hardy and L. Marinelli, **Total Variation-Regularized Compressed Sensing Reconstruction for Multi-Shell Diffusion Kurtosis Imaging**, 2014.
- [C3] V. Golkov, M.I. Menzel, T. Sprenger, M. Souiai, A. Haase, D. Cremers and J.I. Sperl, **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.
- [C4] V. Golkov, M.I. Menzel, T. Sprenger, A. Haase, D. Cremers and J.I. Sperl, **Semi-Joint Reconstruction for Diffusion MRI Denoising Imposing Similarity of Edges in Similar Diffusion-Weighted Images**, 2014.
- [C5] V. Golkov, M.I. Menzel, T. Sprenger, M. Souiai, A. Haase, D. Cremers and J.I. Sperl, **Improved Diffusion Kurtosis Imaging and Direct Propagator Estimation Using 6-D Compressed Sensing**, 2014.

2013

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**.
- [C4] V. Golkov, M.I. Menzel, T. Sprenger, A. Menini, D. Cremers and J.I. Sperl, **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.
- [C5] T. Sprenger, B. Fernandez, J.I. Sperl, V. Golkov, M. Bach, E.T. Tan, K.F. King, C.J. Hardy, L. Marinelli, M. Czisch, P. Sämann, A. Haase and M.I. Menzel, **SNR-dependent Quality Assessment of Compressed-Sensing-Accelerated Diffusion Spectrum Imaging Using a Fiber Crossing Phantom**, 2013.

- [C6] J.I. Sperl, E.T. Tan, T. Sprenger, V. Golkov, K.F. King, C.J. Hardy, L. Marinelli and M.I. Menzel,
Phase Sensitive Reconstruction in Diffusion Spectrum Imaging Enabling Velocity Encoding and Unbiased Noise Distribution,
2013.
- [C7] V. Golkov, T. Sprenger, M.I. Menzel, E.T. Tan, K.F. King, C.J. Hardy, L. Marinelli, D. Cremers and J.I. Sperl,
Noise Reduction in Accelerated Diffusion Spectrum Imaging through Integration of SENSE Reconstruction into Joint Reconstruction in Combination with q-Space Compressed Sensing,
2013.

2012

Conference and Workshop Papers

- [C1] T. Sprenger, B. Fernandez, M. Bach, J.I. Sperl, V. Golkov, E.T. Tan, L. Marinelli, K.F. King, C.J. Hardy, Q. Zhu, M. Czisch, P. Sämann, A. Haase and M.I. Menzel,
Evaluation of DSI Imaging with Compressed Sensing under the Presence of Different Noise Levels on a Diffusion Phantom,
2012.
- [C2] V. Golkov, J.I. Sperl, T. Sprenger, H.-J. Bungartz, M. Sedlacek, E.T. Tan, L. Marinelli, C.J. Hardy, K.F. King and M.I. Menzel,
Comparison of Diffusion Kurtosis Tensor Estimation Methods in an Advanced Quality Assessment Framework,
2012.