2021

Journal Articles

[J1] P. Müller, V. Golkov, V. Tomassini and D. Cremers,
Rotation-Equivariant Deep Learning for Diffusion MRI,

Conference and Workshop Papers

[C1] T. Frerix, D. Kochkov, J. Smith, D. Cremers, M. Brenner and S. Hoyer,
Variational Data Assimilation with a Learned Inverse Observation Operator,

[C2] F. Wimbauer, N. Yang, L. von Stumberg, N. Zeller and D Cremers,
MonoRec: Semi-Supervised Dense Reconstruction in Dynamic Environments
from a Single Moving Camera,

[C3] T Yenamandra, A Tewari, F Bernard, HP Seidel, M Elgharib, D Cremers and C Theobalt,
i3DMM: Deep Implicit 3D Morphable Model of Human Heads,
Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition
(CVPR), June 2021, Oral Presentation.

[C4] M Gao, Z Lähner, J Thunberg, D Cremers and F Bernard,
Isometric Multi-Shape Matching,
IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2021, Oral Pre-
sentation.

[C5] M Naeyaert, V Golkov, D Cremers, J Sijbers and M Verhoye,
Faster and better HARDI using FSE and holistic reconstruction,
International Society for Magnetic Resonance in Medicine (ISMRM) Annual Meeting,
2021.

[C6] P. Müller, V. Golkov, V. Tomassini and D. Cremers,
Rotation-Equivariant Deep Learning for Diffusion MRI (short version),
International Society for Magnetic Resonance in Medicine (ISMRM) Annual Meeting,
2021.

[C7] Q. Khan, P. Wenzel and D. Cremers,
Self-Supervised Steering Angle Prediction for Vehicle Control Using Visual
Odometry,
International Conference on Artificial Intelligence and Statistics (AISTATS), 2021.

[C8] M. Gladkova, R. Wang, N. Zeller and D. Cremers,
Tight Integration of Feature-based Relocalization in Monocular Direct Visual
Odometry,

[C9] Y. Xia, Y. Xu, S. Li, R. Wang, J. Du, D. Cremers and U. Stilla,
SOE-Net: A Self-Attention and Orientation Encoding Network for Point Cloud
based Place Recognition,
IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2021, Oral Pre-
sentation.


2020

Journal Articles


[J6] C. Sommer, Y. Sun, L. J. Guibas, D. Cremers and T. Birdal,
From Planes to Corners: Multi-Purpose Primitive Detection in Unorganized 3D Point Clouds,

Accelerating in vivo fast spin echo high angular resolution diffusion imaging with an isotropic resolution in mice through compressed sensing,

[J8] G Fabbro, V Golkov, T Kemp and D Cremers,
Speech Synthesis and Control Using Differentiable DSP,

[J9] I Chiotellis and D Cremers,
Neural Online Graph Exploration,

Conference and Workshop Papers

[C1] 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,

[C2] L. Sang, B. Haefner and D. Cremers,
Inferring Super-Resolution Depth from a Moving Light-Source Enhanced RGB-D Sensor: A Variational Approach,
*IEEE Winter Conference on Applications of Computer Vision (WACV)*, Colorado, USA, March 2020, Spotlight Presentation.

[C3] T Frerix, M Niesner and D Cremers,
Homogeneous Linear Inequality Constraints for Neural Network Activations,

[C4] R. Wang, N. Yang, J. Stueckler and D. Cremers,
DirectShape: Photometric Alignment of Shape Priors for Visual Vehicle Pose and Shape Estimation,

[C5] M. Eisenberger, Z. Lähner and D. Cremers,
Smooth Shells: Multi-Scale Shape Registration with Functional Maps,
*IEEE International Conference on Computer Vision and Pattern Recognition (CVPR)*, 2020, Oral Presentation.

[C6] M. Eisenberger and D. Cremers,
Hamiltonian Dynamics for Real-World Shape Interpolation,
*European Conference on Computer Vision (ECCV)*, 2020, Spotlight Presentation.
[C7] M. Eisenberger, A. Toker, L. Leal-Taixe and D. Cremers,
Deep Shells: Unsupervised Shape Correspondence with Optimal Transport,

[C8] S. Weiss, R. Maier, D. Cremers, R. Westermann and N. Thuerey,
Correspondence-Free Material Reconstruction using Sparse Surface Constraints,

[C9] C. Sommer, V. Usenko, D. Schubert, N. Demmel and D. Cremers,
Efficient Derivative Computation for Cumulative B-Splines on Lie Groups,

[C10] N. Yang, L. von Stumberg, R. Wang and D. Cremers,
D3VO: Deep Depth, Deep Pose and Deep Uncertainty for Monocular Visual Odometry,

[C11] Z. Ye, T. Möllenhoff, T. Wu and D. Cremers,
Optimization of Graph Total Variation via Active-Set-based Combinatorial Reconditioning,
International Conference on Artificial Intelligence and Statistics (AISTATS), 2020.

[C12] J Liu, I Chiotellis, R Triebel and D Cremers,
Effective Version Space Reduction for Convolutional Neural Networks,
European Conference on Machine Learning and Data Mining (ECML-PKDD), 2020.

[C13] J. Du, R. Wang and D. Cremers,
DH3D: Deep Hierarchical 3D Descriptors for Robust Large-Scale 6DoF Relocalization,
European Conference on Computer Vision (ECCV), 2020, Spotlight Presentation.

[C14] C. Sommer, Y. Sun, E. Bylow and D. Cremers,
PrimiTect: Fast Continuous Hough Voting for Primitive Detection,

[C15] L. Koestler, N. Yang, R. Wang and D. Cremers,
Learning Monocular 3D Vehicle Detection without 3D Bounding Box Labels,

[C16] B Holzschuh, Z Lähner and D Cremers,
Simulated Annealing for 3D Shape Correspondence,

[C17] M Aygün, Z Lähner and D Cremers,
Unsupervised Dense Shape Correspondence using Heat Kernels,

[C18] N Demmel, M Gao, E Laude, T Wu and D Cremers,
Distributed Photometric Bundle Adjustment,
Author: Cremers

List of Publications

[C19] L. von Stumberg, P. Wenzel, N. Yang and D. Cremers,
LM-Reloc: Levenberg-Marquardt Based Direct Visual Relocalization,

Cremers,
4Seasons: A Cross-Season Dataset for Multi-Weather SLAM in Autonomous
Driving,

2019

Journal Articles

Video Object Segmentation without Temporal Information,

[J2] H Tjaden, U Schwanecke, E Schömer and D Cremers,
A Region-based Gauss-Newton Approach to Real-Time Monocular Multiple
Object Tracking,

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

[J4] F. Pasa, V. Golkov, F. Pfeiffer, D. Cremers and D. Pfeiffer,
Efficient Deep Network Architectures for Fast Chest X-Ray Tuberculosis
Screening and Visualization,

[J5] J. Schuchardt, V. Golkov and D. Cremers,
Learning to Evolve,

[J6] L. Della Libera, V. Golkov, Y. Zhu, A. Mielke and D. Cremers,
Deep Learning for 2D and 3D Rotatable Data: An Overview of Methods,

Conference and Workshop Papers

Lähner, K. Li, O. Litany, T. Remez, E. Rodola, B. C. Russell, Y. Sahillioglu, R. Slossberg,
G. K. L. Tam, M. Vestner, Z. Wu and J. Yang,
Shape Correspondence with Isometric and Non-Isometric Deformations,
Silvia Biasotti, Guillaume Lavoué and Remco C. Veltkamp(Eds.), 12th Eurographics Work-
shop on 3D Object Retrieval, 3DOR@Eurographics 2019, Genoa, Italy, May 5-6, 2019,
[C2] B. Haefner, Y. Queau and D. Cremers,
Photometric Segmentation: Simultaneous Photometric Stereo and Masking,
*International Conference on 3D Vision (3DV)*, Quebec City, Canada, September 2019, Spotlight Presentation.

[C3] B. Haefner, Z. Ye, M. Gao, T. Wu, Y. Queau and D. Cremers,
Variational Uncalibrated Photometric Stereo under General Lighting,
*International Conference on Computer Vision (ICCV)*, Seoul, South Korea, October 2019.

[C4] 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.

[C5] P. Swazinna, V. Golkov, I. Lipp, E. Sgarlata, V. Tomassini, D. K. Jones and D. Cremers,
Negative-Unlabeled Learning for Diffusion MRI,

[C6] D. Schubert, N. Demmel, L. von Stumberg, V. Usenko and D. Cremers,
Rolling-Shutter Modelling for Visual-Inertial Odometry,

[C7] M. Eisenberger, Z. Lähner and D. Cremers,
Divergence-Free Shape Correspondence by Deformation,

[C8] E. Laude, T. Wu and D. Cremers,
Optimization of Inf-Convolution Regularized Nonconvex Composite Problems,
*International Conference on Artificial Intelligence and Statistics (AISTATS)*, 2019.

[C9] T. Möllenhoff and D. Cremers,
Lifting Vectorial Variational Problems: A Natural Formulation based on Geometric Measure Theory and Discrete Exterior Calculus,
*IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2019, Oral Presentation.

[C10] T. Möllenhoff and D. Cremers,
Flat Metric Minimization with Applications in Generative Modeling,

[C11] Q. Khan, P. Wenzel, D. Cremers and L. Leal-Taixe,
Towards Generalizing Sensorimotor Control Across Weather Conditions,

[C12] M. Moeller, T. Möllenhoff and D. Cremers,
Controlling Neural Networks via Energy Dissipation,
*International Conference on Computer Vision (ICCV)*, Seoul, South Korea, 10 2019.

[C13] E. Jung, N. Yang and D. Cremers,
Multi-Frame GAN: Image Enhancement for Stereo Visual Odometry in Low Light,
*Conference on Robot Learning (CoRL)*, 2019, Full Oral Presentation.
[C14] S. Weiss, R. Maier, R. Westermann, D. Cremers and N. Thuerey,
Sparse Surface Constraints for Combining Physics-based Elasticity Simulation
and Correspondence-Free Object Reconstruction,

[C15] P. Brechet, T. Wu, T. Möllenhoff and D. Cremers,
Informative GANs via Structured Regularization of Optimal Transport,

2018

Journal Articles

[J1] J. Engel, V. Koltun and D. Cremers,
Direct Sparse Odometry,

[J2] N. Yang, R. Wang, X. Gao and D. Cremers,
Challenges in Monocular Visual Odometry: Photometric Calibration, Motion
Bias and Rolling Shutter Effect,
In IEEE Robotics and Automation Letters (RA-L) 38; Int. Conference on Intelligent Ro-

[J3] Y. Queau, B. Durix, T. Wu, D. Cremers, F. Lauze and J.-D. Durou,
LED-based Photometric Stereo: Modeling, Calibration and Numerical Soluti-
on,

[J4] B Bringmann, D Cremers and F Krahmer,
The homotopy method revisited: Computing solution paths of L1-regularized
problems,

[J5] J. Melou, Y. Queau, J.-D. Durou, F. Castan and D. Cremers,
Variational Reflectance Estimation from Multi-view Images,

[J6] P. Bergmann, R. Wang and D. Cremers,
Online Photometric Calibration of Auto Exposure Video for Realtime Visual
Odometry and SLAM,
IEEE Robotics and Automation Letters (RA-L), 3: 627-634, April 2018, ICRA’18 Best
Vision Paper Award - Finalist.

[J7] E. Aljalbout, V. Golkov, Y. Siddiqui, M. Strobel and D. Cremers,
Clustering with Deep Learning: Taxonomy and New Methods,

[J8] N Mayer, E Ilg, P Fischer, C Hazirbas, D Cremers, A Dosovitskiy and T Brox,
What Makes Good Synthetic Training Data for Learning Disparity and Optical
Flow Estimation?,

Omnidirectional DSO: Direct Sparse Odometry with Fisheye Cameras,
IEEE Robotics and Automation Letters 38; Int. Conference on Intelligent Robots and
Author: Cremers

List of Publications

[J10] L. Ma, J. Stueckler, T. Wu and D. Cremers,
Detailed Dense Inference with Convolutional Neural Networks via Discrete Wavelet Transform,
Aug 2018.

Conference and Workshop Papers

[C1] R. Henschel, L. Leal-Taixe, D. Cremers and B. Rosenhahn,
Fusion of Head and Full-Body Detectors for Multi-Object Tracking,

[C2] C. Sommer and D. Cremers,
Joint Representation of Primitive and Non-primitive Objects for 3D Vision,

[C3] C. Hazirbas, S. G. Soyer, M. C. Staab, L. Leal-Taixe and D. Cremers,
Deep Depth From Focus,
Asian Conference on Computer Vision (ACCV), December 2018.

[C4] B. Haefner, Y. Queau, T. Möllenhoff and D. Cremers,
Fight ill-posedness with ill-posedness: Single-shot variational depth super-resolution from shading,

Discrete-Continuous ADMM for Transductive Inference in Higher-Order MRFs,

[C6] C Domokos, FR. Schmidt and D Cremers,
MRF Optimization with Separable Convex Prior on Partially Ordered Labels,

[C7] E. Laude, T. Wu and D. Cremers,
A Nonconvex Proximal Splitting Algorithm under Moreau-Yosida Regularization,
International Conference on Artificial Intelligence and Statistics (AISTATS), 2018.

[C8] T. Möllenhoff, Z. Ye, T. Wu and D. Cremers,
Combinatorial Preconditioners for Proximal Algorithms on Graphs,
International Conference on Artificial Intelligence and Statistics (AISTATS), 2018.

[C9] R Scona, M Jaimez, YR. Petillot, M Fallon and D Cremers,
StaticFusion: Background Reconstruction for Dense RGB-D SLAM in Dynamic Environments,
q-Space Novelty Detection in Short Diffusion MRI Scans of Multiple Sclerosis, 

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

[C12] B. T. Do, V. Golkov, G. E. Gürel and D. Cremers, 
Precursor microRNA Identification Using Deep Convolutional Neural Networks, 

[C13] 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.

[C14] T. Frerix, T. Möllenhoff, M. Moeller and D. Cremers, 
Proximal Backpropagation, 

[C15] L. von Stumberg, V. Usenko and D. Cremers, 
Direct Sparse Visual-Inertial Odometry using Dynamic Marginalization, 

[C16] D. Schubert, T. Goll, N. Demmel, V. Usenko, J. Stueckler and D. Cremers, 
The TUM VI Benchmark for Evaluating Visual-Inertial Odometry, 

[C17] X. Gao, R. Wang, N. Demmel and D. Cremers, 
LDSO: Direct Sparse Odometry with Loop Closure, 

[C18] Z. Lähner, D. Cremers and T. Tung, 
DeepWrinkles: Accurate and Realistic Clothing Modeling, 

[C19] N. Yang, R. Wang, J. Stueckler and D. Cremers, 
Deep Virtual Stereo Odometry: Leveraging Deep Depth Prediction for Monocular Direct Sparse Odometry, 

[C20] D. Schubert, N. Demmel, V. Usenko, J. Stueckler and D. Cremers, 
Direct Sparse Odometry With Rolling Shutter, 
Author: Cremers

List of Publications

[C21] V. Usenko, N. Demmel and D. Cremers,
**The Double Sphere Camera Model,**

[C22] I. Chiotellis, F. Zimmermann, D. Cremers and R. Triebel,
**Incremental Semi-Supervised Learning from Streams for Object Classification,**

[C23] V. Estellers, F. Schmidt and D. Cremers,
**Robust Fitting of Subdivision Surfaces for Smooth Shape Analysis,**
*Proc. of the Int. Conference on 3D Vision (3DV)*, September 2018, Received the Best Paper Award at 3DV 2018.

[C24] P. Wenzel, Q. Khan, D. Cremers and L. Leal-Taixe,
**Modular Vehicle Control for Transferring Semantic Information Between Weather Conditions Using GANs,**
*Conference on Robot Learning (CoRL)*, 2018.

2017 Journal Articles

[J1] G. Kuschk, P. d’Angelo, D. Gaudrie, P. Reinartz and D. Cremers,
**Spatially Regularized Fusion of Multiresolution Digital Surface Models,**

[J2] D. Cremers, L. Leal-Taixe and R. Vidal,
**Deep Learning for Computer Vision (Dagstuhl Seminar 17391),**

[J3] Y. Kee, Y. Lee, M. Souiai, D. Cremers and J. Kim,
**Sequential Convex Programming for Computing Information-Theoretic Minimal Partitions: Nonconvex Nonsmooth Optimization,**

[J4] D Cremers,
**Computer Vision für 3-D-Rekonstruktion - Vom Nischenthema zum Mainstream,**

[J5] E. Rodola, L. Cosmo, M. M. Bronstein, A. Torsello and D. Cremers,
**Partial Functional Correspondence,**

[J6] L. Cosmo, E. Rodola, A. Albarelli, F. Memoli and D. Cremers,
**Consistent Partial Matching of Shape Collections via Sparse Modeling,**

**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**, 

[J9] E Rodola, M Möller and D Cremers,
**Regularized Pointwise Map Recovery from Functional Correspondence**, 

[J10] J. Kukacka, V. Golkov and D. Cremers,
**Regularization for Deep Learning: A Taxonomy**, 

Conference and Workshop Papers

[C1] M. Benning, M. Möller, R. Z. Nossek, M. Burger, D. Cremers and G. Gilboa,
**Nonlinear Spectral Image Fusion**, 

[C2] D. Bender, W. Koch and D. Cremers,
**Map-based drone homing using shortcuts**, 

[C3] G. Kuschk, A. Bozic and D. Cremers,
**Real-time variational stereo reconstruction with applications to large-scale dense SLAM**, 

[C4] M. Jaimez, C. Kerl, J. Gonzalez-Jimenez and D. Cremers,
**Fast Odometry and Scene Flow from RGB-D Cameras based on Geometric Clustering**, 
*Proc. of the IEEE Int. Conf. on Robotics and Automation (ICRA)*, 2017.

[C5] M. Jaimez, T. J. Cashman, A. Fitzgibbon, J. Gonzalez-Jimenez and D. Cremers,
**An Efficient Background Term for 3D Reconstruction and Tracking with Smooth Subdivision Surface Models**, 

[C6] L. Ma, J. Stueckler, C. Kerl and D. Cremers,
**Multi-View Deep Learning for Consistent Semantic Mapping with RGB-D Cameras**, 

[C7] M. Vestner, R. Litman, E. Rodola, A. Bronstein and D. Cremers,
**Product Manifold Filter: Non-Rigid Shape Correspondence via Kernel Density Estimation in the Product Space**, 
[C8] M. Dzitsiuk, J. Sturm, R. Maier, L. Ma and D. Cremers,  
*De-noising, Stabilizing and Completing 3D Reconstructions On-the-go using Plane Priors*,  

[C9] L. von Stumberg, V. Usenko, J. Engel, J. Stueckler and D. Cremers,  
*From Monocular SLAM to Autonomous Drone Exploration*,  

[C10] F. Walch, C. Hazirbas, L. Leal-Taixe, T. Sattler, S. Hilsenbeck and D. Cremers,  
*Image-based localization using LSTMs for structured feature correlation*,  

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*,  

[C12] Y. Queau, M. Pizenberg, J.-D. Durou and D. Cremers,  
*Microgeometry capture and RGB albedo estimation by photometric stereo without demosaicing*,  

[C13] P. Haeusser, A. Mordvintsev and D. Cremers,  
*Learning by Association - A versatile semi-supervised training method for neural networks*,  

[C14] M. Slavcheva, M. Baust, D. Cremers and S. Ilic,  
*KillingFusion: Non-rigid 3D Reconstruction without Correspondences*,  

[C15] V. Usenko, L. von Stumberg, A. Pangercic and D. Cremers,  
*Real-Time Trajectory Replanning for MAVs using Uniform B-splines and a 3D Circular Buffer*,  
*International Conference on Intelligent Robots and Systems (IROS)*, Vancouver, Canada, Sep 2017, *Best Paper Award - Finalist* ()

[C16] Y. Queau, T. Wu, F. Lauze, J.-D. Durou and D. Cremers,  
*A Non-Convex Variational Approach to Photometric Stereo under Inaccurate Lighting*,  
*IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, Honolulu, USA, 2017.

[C17] T. Meinhardt, M. Moeller, C. Hazirbas and D. Cremers,  
*Learning Proximal Operators: Using Denoising Networks for Regularizing Inverse Imaging Problems*,  

*One-Shot Video Object Segmentation*,  
*IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, Honolulu, USA, 2017.
Author: Cremers

List of Publications

[C19] Y. Queau, J. Melou, J.-D. Durou and D. Cremers, 
Dense Multi-view 3D-reconstruction Without Dense Correspondences, 

[C20] P. Haeusser, T. Frerix, A. Mordvintsev and D. Cremers, 
Associative Domain Adaptation, 

[C21] Y. Queau, M. Pizenberg, D. Cremers and J.-D. Durou, 
Stereophotométrie microscopique sans demosaïquage, 
GRETSI, Juan-les-Pins, USA, 2017.

Efficient Deformable Shape Correspondence via Kernel Matching, 
International Conference on 3D Vision (3DV), Qingdao, China, October 2017, Oral Presentation.

[C23] R. Maier, R. Schaller and D. Cremers, 
Efficient Online Surface Correction for Real-time Large-Scale 3D Reconstruction, 
British Machine Vision Conference (BMVC), London, United Kingdom, September 2017.

[C24] J. Geiping, H. Dirks and D. Cremers, 
Multiframe Motion Coupling for Video Super Resolution, 

[C25] R. Maier, K. Kim, D. Cremers, J. Kautz and M. Niessner, 
Intrinsic3D: High-Quality 3D Reconstruction by Joint Appearance and Geometry Optimization with Spatially-Varying Lighting, 
International Conference on Computer Vision (ICCV), Venice, Italy, October 2017.

[C26] S. Peng, B. Haefner, Y. Queau and D. Cremers, 
Depth Super-Resolution Meets Uncalibrated Photometric Stereo, 
International Conference on Computer Vision Workshops (ICCVW), 2017, Oral Presentation at ICCV Workshop on Color and Photometry in Computer Vision.

[C27] R. Wang, M. Schwörer and D. Cremers, 
Stereo DSO: Large-Scale Direct Sparse Visual Odometry with Stereo Cameras, 
International Conference on Computer Vision (ICCV), Venice, Italy, October 2017.

[C28] T. Möllenhoff and D. Cremers, 
Sublabel-Accurate Discretization of Nonconvex Free-Discontinuity Problems, 
International Conference on Computer Vision (ICCV), Venice, Italy, October 2017.

[C29] Y. Queau, J. Melou, F. Castan, D. Cremers and J.-D. Durou, 
A Variational Approach to Shape-from-shading Under Natural Illumination, 
F. Bernard, F. R. Schmidt, J. Thunberg and D. Cremers,  
**A Combinatorial Solution to Non-Rigid 3D Shape-to-Image Matching**,  

**2016**

**Journal Articles**

[J1] J. Diebold, C. Nieuwenhuis and D. Cremers,  
**Midrange Geometric Interactions for Semantic Segmentation**,  

[J2] J. Duran, M. Möller, C. Sbert and D. Cremers,  
**Collaborative Total Variation: A General Framework for Vectorial TV Models**,  

[J3] M. Burger, G. Gilboa, M. Möller, L. Eckardt and D. Cremers,  
**Spectral Decompositions Using One-Homogeneous Functionals**,  

**Anisotropic Diffusion Descriptors**,  

[J5] 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**,  

[J6] O. Litany, E. Rodola, A. M. Bronstein, M. M. Bronstein and D. Cremers,  
**Non-Rigid Puzzles**,  

[J7] M. Vestner, R. Litman, A. Bronstein, E. Rodola and D. Cremers,  
**Bayesian Inference of Bijective Non-Rigid Shape Correspondence**,  

**Book Chapters**

[BC1] M. Vestner, E. Rodola, T. Windheuser, RBS. Bulo and D. Cremers,  
**Applying Random Forests to the Problem of Dense Non-rigid Shape Correspondence**,  

**Conference and Workshop Papers**

[C1] L. Cosmo, A. Albarelli, F. Bergamasco, A. Torsello, E. Rodola and D. Cremers,  
**A game-theoretical approach for joint matching of multiple feature throughout unordered images**,  
[C2] N. Mayer, E. Ilg, P. Häusser, P. Fischer, D. Cremers, A. Dosovitskiy and T. Brox,
A Large Dataset to Train Convolutional Networks for Disparity, Optical Flow, and Scene Flow Estimation,

[C3] V. Golkov, T. Sprenger, J. I. Sperl, M. I. Menzel, M. Czisch, P. Sämann and D. Cremers,
Model-Free Novelty-Based Diffusion MRI,
IEEE International Symposium on Biomedical Imaging (ISBI), Prague, Czech Republic, apr 2016.

[C4] 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,
Annual Conference on Neural Information Processing Systems (NIPS), Barcelona, Spain, dec 2016, Oral Presentation (acceptance rate: under 2%).

[C5] Z. Lahner, E. Rodola, F. R. Schmidt, M. M. Bronstein and D. Cremers,
Efficient Globally Optimal 2D-to-3D Deformable Shape Matching,
IEEE Conference on Computer Vision and Pattern Recognition (CVPR), May 2016.

[C6] V. Usenko, J. Engel, J. Stueckler and D. Cremers,
Direct Visual-Inertial Odometry with Stereo Cameras,
International Conference on Robotics and Automation (ICRA), May 2016.

[C7] A. Narr, R. Triebel and D. Cremers,
Stream-based Active Learning for Efficient and Adaptive Classification of 3D Objects,
International Conference on Robotics and Automation (ICRA), May 2016.

SHREC’16: Matching of Deformable Shapes with Topological Noise,
Proc. of Eurographics Workshop on 3D Object Retrieval (3DOR), May 2016.

SHREC’16: Partial Matching of Deformable Shapes,
Proc. of Eurographics Workshop on 3D Object Retrieval (3DOR), May 2016.

[C10] T. Möllenhoff, E. Laude, M. Moeller, J. Lellmann and D. Cremers,
Sublabel-Accurate Relaxation of Nonconvex Energies,
IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2016, Oral Presentation, Received the Best Paper Honorable Mention Award at CVPR 2016.

[C11] L. Ma, C. Kerl, J. Stueckler and D. Cremers,
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[BC1] D. Cremers, T. Pock, K. Kolev and A. Chambolle,
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[J1] T. Brox and D. Cremers,
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[J3] K. Kolev, M. Klodt, T. Brox and D. Cremers,
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[C9] T. Pock, D. Cremers, H. Bischof and A. Chambolle,
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[J2] D. Cremers, 
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[J3] H. Jin, D. Cremers, D. Wang, A. Yezzi, E. Prados and S. Soatto, 
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[C2] T. Pock, T. Schoenemann, G. Graber, H. Bischof and D. Cremers, 
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[C8] A. Wedel, T. Schoenemann, T. Brox and D. Cremers, 
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[J3] D. Cremers, N. Sochen and C. Schnörr,
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