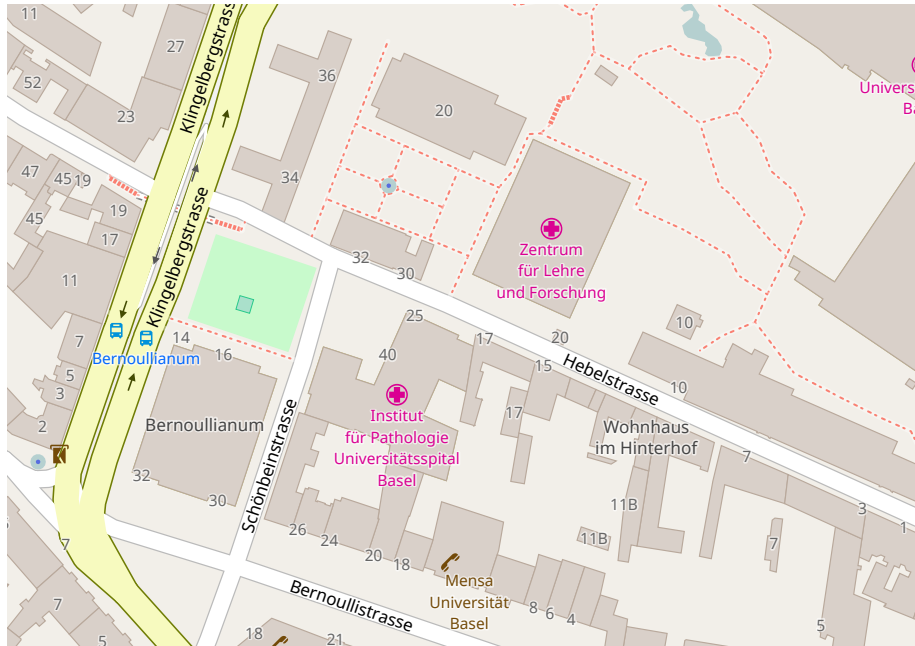


GCPR 2017 in Basel, Tue Sep 12 - Fri Sep 15

If not specified otherwise, all events will take place at the University Hospital Basel, *Zentrum für Lehre und Forschung (ZLF)*, Hebelstrasse 20, 4031 Basel.



Tuesday, Sep 12: Workshop and Tutorials

09:00-17:30 Tutorials

Session 1: 09:00-12:30 Interpretable Machine Learning.

Wojciech Samek, Fraunhofer Institute for Telecommunications, Berlin
and *Klaus-R. Müller*, TU Berlin, Germany.

Session 2: 14:00-17:30 Medical Image Analysis.

14:00-15:30 *Thomas Fuchs*, Memorial Sloan Kettering Cancer Center, New York.

16:00-17:30 *Marcel Lüthi*, University of Basel, Switzerland

09:00-18:00 Workshop: New Challenges in Neural Computation (NC²).

Workshop of the GI-Fachgruppe Neuronale Netze and the German Neural Networks Society.

Location: Bernoullianum, Hörsaal 223, Bernoullistrasse 30 (a three-minute walk from *ZLF*).

Coffee for workshop/tutorial participants will be served 10:30-11:00 and 15:30-16:00 in the entrance hall of the *ZLF* building.

18:00 Welcome Reception. Restaurant *Centrino*, next to the *ZLF* building.

Wednesday, Sep 13

09:00-09:25 Opening/Awards.

09:25-10:20 German Pattern Recognition Award.

10:20-10:45 Oral session 1. Motion and Segmentation:

10:20 Scalable Full Flow with Learned Binary Descriptors. *G. Munda, A. Shekhovtsov, P. Knöbelreiter, T. Pock.*

10:45-11:15 Coffee.

11:15-12:30 Oral session 2.

Machine Learning and Pattern Recognition:

11:15 End-to-End Learning of Video Super-Resolution with Motion Compensation. *Osama Makansi, Eddy Ilg, Thomas Brox.*

11:40 A Primal Dual Network for Low-Level Vision Problems. *Christoph Vogel, Thomas Pock.*

Biomedical Image Processing:

12:05 A Quantitative Assessment of Image Normalization for Classifying Histopathological Tissue of the Kidney. *Michael Gadermayr, Sean Cooper, Barbara Klinkhammer, Peter Boor, Dorit Merhof.*

12:30-14:00 Lunch break.

14:00-15:15 Oral session 3

Classification and Detection:

14:00 Deep Learning for Vanishing Point Detection Using an Inverse Gnomonic Projection. *Florian Kluger, Hanno Ackermann, Michael Ying Yang, Bodo Rosenhahn.*

14:25 Learning Dilation Factors for Semantic Segmentation of Street Scenes. *Yang He, Margret Keuper, Bernt Schiele, Mario Fritz.*

Image and Video Processing:

14:50 Recurrent Residual Learning for Action Recognition. *Ahsan Iqbal, Alexander Richard, Hilde Kuehne, Juergen Gall.*

15:15-15:45 Coffee.

15:45-17:30 Poster Session 1.

Regular Conference Posters

P1 Gradient Flows on a Riemannian Submanifold for Discrete Tomography. *Matthias Zisler, Fabrizio Savarino, Petra Stefanía, Christoph Schnörr.*

P2 Improving Facial Landmark Detection via a Super-Resolution Inception Network. *Martin Knoche, Daniel Merget, Gerhard Rigoll.*

- P3** Convolutional Neural Networks for Movement Prediction in Videos. *Alexander Warnecke, Timo Lüddecke, Florentin Wörgötter.*
- P4** Neuron Pruning for Compressing Deep Networks using Maxout Architectures. *Fernando Moya Rueda, Rene Grzeszick, Gernot Fink.*
- P5** Semantic Segmentation of Outdoor Areas using 3D Moment Invariants and Contextual Cues. *Sven Sickert, Joachim Denzler.*
- P6** Trainable Regularization For Multi-Frame Superresolution. *Teresa Klatzer, Daniel Soukup, Erich Kobler, Kerstin Hammernik, Thomas Pock.*
- P7** A Local Spatio-Temporal Approach to Plane Wave Ultrasound Particle Image Velocimetry. *Ecaterina Bodnariuc, Petra Stefania, Christoph Schnörr, Jason Voorneveld.*
- P8** Combined precise extraction and topology of points, lines and curves in man-made environments. *Dominik Wolters, Reinhard Koch.*

Nectar-track Posters

- N1** Global Consistency Priors for Joint Part-based Object Tracking and Image Segmentation. *Oliver Müller, Bodo Rosenhahn.*
- N2** Clustering Signed Networks with the Geometric Mean of Laplacians. *Pedro Mercado, Francesco Tudisco, Matthias Hein.*
- N3** CliqueCNN: Deep Unsupervised Exemplar Learning. *Miguel A. Bautista, Artsiom Sanakoyeu, Ekaterina Sutter, Björn Ommer.*
- N4** Globally Optimal Training of Generalized Polynomial Neural Networks with Nonlinear Spectral Methods. *Antoine Gautier, Quynh N. Nguyen, Matthias Hein.*
- N5** FlowNet 2.0: Evolution of Optical Flow Estimation with Deep Networks. *Eddy Ilg, Nikolaus Mayer, Tonmoy Saikia, Margret Keuper, Alexey Dosovitskiy, Thomas Brox.*
- N6** Analysis and Optimization of Graph Decompositions by Lifted Multicuts. *Andrea Hornakova, Jan-Hendrik Lange, Bjoern Andres.*
- N7** Sparse Inertial Poser: Automatic 3D Human Pose Estimation from Sparse IMUs. *Timo von Marcard, Bodo Rosenhahn, Michael Black, Gerard Pons-Mol.*
- N8** Weakly Supervised Affordance Detection. *Johann Sawatzky, Abhilash Srikantha, Juergen Gall.*
- N9** A Convolutional Network for Semantic Facade Segmentation and Interpretation. *Matthias Schmitz, Helmut Mayer.*
- N10** Wide-Baseline Image Matching with Projective View Synthesis and Calibrated Geometric Verification. *Lukas Roth, Andreas Kuhn, Helmut Mayer*
- N11** Probabilistic Morphable Models. *Marcel Lüthi, Andreas Morel-Forster, Bernhard Egger, Sandro Schönborn, Thomas Vetter.*

Thursday, Sep 14

09:00-09:55 Keynote: *Kilian Q. Weinberger*, Cornell University.

09:55-10:45 Oral session 4. Computational Photography:

09:55 Robust Multi-Image HDR Reconstruction for the Modulo Camera.
Florian Lang, Tobias Plötz, Stefan Roth.

10:20 Motion Deblurring in the Wild. *Mehdi Noroozi, Paramanand Chandramouli, Paolo Favaro.*

10:45-11:15 Coffee.

11:15-12:30 Oral session 5. Reconstruction and Depth:

11:15 Multi-View Continuous Structured Light Scanning. *Fabian Groh, Benjamin Resch, Hendrik P.A. Lensch.*

11:40 Down to Earth: Using Semantics for Robust Hypothesis Selection for the Five-Point Algorithm. *Andreas Kuhn, True Price, Jan-Michael Frahm, Helmut Mayer.*

12:05 An Efficient Octree Design for Local Variational Range Image Fusion. *Nico Marniok, Ole Johannsen, Bastian Goldluecke.*

12:30-14:00 Lunch break.

14:00-14:55 Keynote: *Marcello Pelillo*, Ca' Foscari University of Venice.

14:55-15:30 Coffee.

15:30-17:10 Oral session 6. Mathematical Foundations and Statistical Models:

15:30 Adaptive Regularization in Convex Composite Optimization for Variational Imaging Problem. *Byung-Woo Hong, Ja-Keoung Koo, Hendrik Dirks, Martin Burger.*

15:55 Variational Networks: Connecting Variational Methods and Deep Learning. *Erich Kobler, Teresa Klatzer, Kerstin Hammernik, Thomas Pock.*

16:20 Diverse M -Best Solutions by Dynamic Programming. *Carsten Haubold, Virginie Uhlmann, Michael Unser, Fred A. Hamprecht.*

16:45 Model Selection for Gaussian Process Regression. *Nico S. Gorbach, Andrew An Bian, Benjamin Fischer, Stefan Bauer, Joachim M. Buhmann.*

18:00 Conference Dinner: Restaurant *Safran Zunft*, Gerbergasse 11.

Friday, Sep 15

09:00-09:55 Keynote: *Pietro Perona*, California Institute of Technology.

09:55-12:00 Poster Session 2.

Regular Conference Posters

- P9** Learning Where to Drive by Watching Others. *Miguel A. Bautista, Patrick Fuchs, Björn Ommer.*
- P10** Learning to Filter Object Detections. *Sergey Prokudin, Daniel Kappler, Sebastian Nowozin, Peter Gehler.*
- P11** Object Boundary Detection and Classification with Image-level Labels. *Jing Yu Koh, Wojciech Samek, Klaus-Robert Müller, Alexander Binder.*
- P12** Finding the Unknown: Novelty Detection with Extreme Value Signatures of Deep Neural Activations. *Alexander Schultheiss, Christoph Käding, Alexander Freytag, Joachim Denzler.*
- P13** A Comparative Study of Local Search Algorithms for Correlation Clustering. *Evgeny Levinkov, Alexander Kirillov, Bjoern Andres.*
- P14** Optical Flow-based 3D Human Motion Estimation from Monocular Video. *Thiemo Alldieck, Marc Kassubeck, Bastian Wandt, Bodo Rosenhahn, Marcus Magnor.*
- P15** On the Diffusion Process for Heart Rate Estimation from Face Videos under Realistic Conditions. *Christian S. Pilz, Jarek Krajewski, Vladimir Blazek.*
- P16** Edge Adaptive Seeding for Superpixel Segmentation. *Christian Wilms, Simone Frintrop.*
- P17** Measuring the Accuracy of Object Detectors and Trackers. *Tobias Böttger, Patrick Follmann, Michael Fauser.*

Nectar-track Posters

- N12** Generalized orderless pooling performs implicit salient matching. *Marcel Simon, Yang Gao, Trevor Darrell, Joachim Denzler, Erik Rodner.*
- N13** Representation learning by learning to count. *Mehdi Noroozi, Hamed Pirsiavash, Paolo Favaro.*
- N14** DeMoN: Depth and Motion Network for Learning Monocular Stereo. *Benjamin Ummenhofer, Huizhong Zhou, Jonas Uhrig, Nikolaus Mayer, Eddy Ilg, Alexey Dosovitskiy, Thomas Brox.*
- N15** MirrorFlow: Exploiting Symmetries in Joint Optical Flow and Occlusion Estimation. *Junhwa Hur, Stefan Roth.*
- N16** Benchmarking Denoising Algorithms With Real Photographs. *Tobias Plötz, Stefan Roth.*
- N17** Weakly Supervised Action Learning With RNN Based Fine-To-Coarse Modeling. *Alexander Richard, Hilde Kuehne, Juergen Gall.*
- N18** Reflectance Adaptive Filtering Improves Intrinsic Image Estimation. *Thomas Nestmeyer, Peter V. Gehler.*

N19 Combining Kernel and Model-based Learning for HIV Therapy Selection. *Sonali Parbhoo, Jasmina Bogojeska, Maurizio Zazzi, Volker Roth, Finale Doshi Velez.*

N20 Bayesian Markov Blanket Estimation. *Dinu Kaufmann, Sonali Parbhoo, Aleksander Wieczorek, Sebastian Keller, David Adamez, Volker Roth.*

N21 Probabilistic Compositional Active Basis Models for Robust Pattern Recognition. *Adam Kortylewski, Thomas Vetter.*

12:00-12:20 Awards and Closing.