

Hyperlinks to all publications are provided by this publication list online available at: <https://www.caa.tuwien.ac.at/cvl/staff/roman-pflugfelder/>.

My Publication Strategy

Papers in conference proceedings of major conferences (CVPR, ICCV, ECCV, ICPR) are as valuable as articles in journals. IEEE TPAMI (9.455) and Springer IJCV (11.541) are the top journals in computer vision. Impact factors are from 2017, provided by the respective publishers. I follow a strategy as common in my community, i.e. publish first at open publishing platforms such as arXiv. Important results need then to be published at the major conferences. All other results are published at satellite workshops (ECCVW, ICCVW, CVPRW) or at mid international conferences such as BMVC, GCPR/DAGM, DICTA. Results of applied research are usually published at dedicated top conferences such as AVSS for surveillance and security, ICDS for camera networks, WACV for general vision applications. Project results are published as journal articles, major results in top journals. Papers for peer-reviewed vision conferences and journals are usually assessed by 2-3 peers. A rebuttal phase is usual for the top conferences. The whole review process is here organised by area chairs and on top programme chairs to sustain quality of the conference.

Five Publication Highlights

Work on benchmarking standards for short-term single-object one-shot visual tracking and the VOT Visual Object Tracking challenges: **Nov. 2016** (with Matej Kristan et al.). “A Novel Performance Evaluation Methodology for Single-Target Trackers”. In: *IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)* 38.11, pp. 2137–2155. [Link](#).

Longterm one-shot object tracking method for articulated motion by using initial and adaptive keypoints and their consensus during motion: **June 2015** (with Georg Nebhay). “Clustering of Static-Adaptive Correspondences for Deformable Object Tracking”. In: *Proceedings of the Conference on Computer Vision and Pattern Recognition (CVPR)*. [Link](#).

Parts-based object tracking based on the ideas of independent keypoints and their consensus during motion. Work won the best paper award at the IEEE WACV 2014 conference: **2014** (with Georg Nebhay). “Consensus-based Matching and Tracking of Keypoints for Object Tracking”. In: *Proceedings on the Winter Conference on Applications of Computer Vision (WACV)*. [Link](#).

Work on reconstructing trajectories in 3-D in multiple cameras with disjoint fields of view by formulating the reconstruction problem with the re-projection error under infinity norm as a SOCP problem: **June 2010** (with Branislav Misusik). “Localizing non-overlapping surveillance cameras under the L-Infinity norm”. In: *Proceedings of the Conference on Computer Vision and Pattern Recognition (CVPR)*. [Link](#).

Work on simultaneous object tracking, trajectory reconstruction and camera self-calibration with walking humans and security cameras having disjoint fields of view: **Apr. 2010** (with and Horst Bischof). “Localization and Trajectory Reconstruction in Surveillance Cameras with Nonoverlapping Views”. In: *IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)* 32.4, pp. 709–721. [Link](#).

Peer-Reviewed Journals

- [1] **Nov. 2016** (with Matej Kristan et al.). “A Novel Performance Evaluation Methodology for Single-Target Trackers”. In: *IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)* 38.11, pp. 2137–2155. [Link](#).
- [2] **July 2015** (with Bernhard Rinner et al.). “Self-Aware and Self-Expressive Camera Networks”. In: *IEEE Computer* 48.7, pp. 21–28. [Link](#).
- [3] **Apr. 2010** (with and Horst Bischof). “Localization and Trajectory Reconstruction in Surveillance Cameras with Nonoverlapping Views”. In: *IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)* 32.4, pp. 709–721. [Link](#).
- [4] **Apr. 2004** (with Bernhard Rinner et al.). “Eine intelligente Kamera zur Verkehrsüberwachung”. In: *Bulletin SEV/VSE* 95.11, pp. 19–23. [Link](#).
- [5] **Dec. 2000**. “A comparison of visual feature tracking methods for traffic monitoring”. In: *ÖGAI Journal* 19.4, pp. 15–22. [Link](#).

Peer-Reviewed Books

- [6] **2016** (with Lukas Esterle et al.). “Self-aware Object Tracking in Multi-Camera Networks”. In: *Self-aware Computing Systems: An Engineering Approach*. Ed. by Peter Lewis et al. Springer, pp. 261–277. [Link](#).
- [7] **2012** (with Cristina Picus, and Branislav Micusik). “Auto-calibration of Non-overlapping Multi-camera CCTV Systems”. In: *Video Analytics for Business Intelligence*. Ed. by Caifeng Shan, Fatih Porikli, Tao Xiang, and Shaogang Gong. Vol. 409. Studies in Computational Intelligence. Springer, pp. 43–67. [Link](#).
- [8] **2010** (with and Branislav Micusik). “Self-Calibrating Cameras in Video Surveillance”. In: *Smart Cameras*. Ed. by Ahmed Nabil Belbachir. Springer, pp. 161–179. [Link](#).

Patents

- [9] **Oct. 2012** (with and Branislav Micusik). *EP 12791682 Method for determining the position of cameras*. [Link](#).
- [10] **Dec. 2011** (with Ahmed Nabil Belbachir, and Manfred Mayerhofer). *DE 102011120718.3 Vorrichtung zur Aufnahme von 360° Stereo Panoramabildern*. [Link](#).

- [11] **Oct. 2011** (with and Branislav Micusik). *AT 511968 Verfahren zur Bestimmung der Position von Kameras*. [Link](#).
- [12] **July 2010** (with Ahmed Nabil Belbachir, and Norbert Brändle, and Csaba Beleznai). *AT 507764 Verfahren zur Detektion von Objekten*. [Link](#).
- [13] **Oct. 2009** (with Ahmed Nabil Belbachir). *EP 2182720 Method and device for taking pictures*. [Link](#).
- [14] **Oct. 2008** (with Ahmed Nabil Belbachir). *AT 507543 Verfahren und Vorrichtung zur Aufnahme von Bildern*. [Link](#).
- [15] **Sept. 2005** (with and Horst Bischof). *AT 502356 Verfahren zur automatischen Ermittlung der Kalibrierung und Projektion einer Überwachungs-Kamera*. [Link](#).

Peer-Reviewed Conferences

- [16] **Sept. 2018** (with Matej Kristan et al.). “Proceedings of the European Computer Vision Workshops (ECCVW)”. In: *The Visual Object Tracking VOT2018 Challenge Results*.
- [17] **Oct. 2017** (with Matej Kristan et al.). “The Visual Object Tracking VOT2017 Challenge Results”. In: *Proceedings of the International Conference on Computer Vision Workshops (ICCVW)*. [Link](#).
- [18] **Oct. 2016** (with Michael Felsberg et al.). “The Thermal Infrared Visual Object Tracking VOT-TIR2016 Challenge Results”. In: *Proceedings of the European Computer Vision Workshops (ECCVW)*. [Link](#).
- [19] **Oct. 2016** (with Matej Kristan et al.). “The Visual Object Tracking VOT2016 Challenge Results”. In: *Proceedings of the European Conference on Computer Vision Workshops (ECCVW)*. [Link](#).
- [20] **Sept. 2016** (with Axel Weissenfeld, Andreas Opitz, and Gustavo Fernandez Dominguez). “Architecture for Dynamic Allocation of Computer Vision Tasks”. In: *Proceedings of the International Conference on Distributed Smart Camera (ICDSC)*. [Link](#).
- [21] **Dec. 2015** (with Michael Felsberg et al.). “The Thermal Infrared Visual Object Tracking VOT-TIR2015 Challenge Results”. In: *Proceedings of the International Conference on Computer Vision Workshops (ICCVW)*. [Link](#).
- [22] **Dec. 2015** (with Matej Kristan et al.). “The Visual Object Tracking VOT2015 Challenge Results”. In: *Proceedings of the International Conference on Computer Vision Workshops (ICCVW)*. [Link](#).
- [23] **June 2015** (with Georg Nebhay). “Clustering of Static-Adaptive Correspondences for Deformable Object Tracking”. In: *Proceedings of the Conference on Computer Vision and Pattern Recognition (CVPR)*. [Link](#).
- [24] **Sept. 2014** (with Peter Gemeiner, and Branislav Micusik). “Calibration Methodology for Distant Surveillance Cameras”. In: *Proceedings of the European Conference on Computer Vision Workshops (ECCVW)*. [Link](#).
- [25] **Sept. 2014** (with Matej Kristan et al.). “The Visual Object Tracking VOT2014 Challenge Results”. In: *Proceedings of the European Conference on Computer Vision Workshops (ECCVW)*. [Link](#).
- [26] **Feb. 2014** (with Matej Kristan et al.). “The VOT2013 challenge: overview and additional results”. In: *Proceedings of the Computer Vision Winter Workshop (CVWW)*. [Link](#).

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- [27] **2014** (with Georg Nebehay). “Consensus-based Matching and Tracking of Keypoints for Object Tracking”. In: *Proceedings on the Winter Conference on Applications of Computer Vision (WACV)*. [Link](#).
- [28] **Oct. 2013** (with Bernhard Dieber et al.). “Ella: Middleware for Multi-camera Surveillance in Heterogeneous Visual Sensor Networks”. In: *Proceedings of the International Conference on Distributed Smart Cameras (ICDSC)*. [Link](#).
- [29] **Dec. 2013** (with Matej Kristan et al.). “The Visual Object Tracking VOT2013 Challenge Results”. In: *Proceedings of the International Conference on Computer Vision Workshops (ICCVW)*. [Link](#).
- [30] **Oct. 2013** (with Georg Nebehay). “TLM: Tracking-Learning-Matching of Keypoints”. In: *Proceedings of the International Conference on Distributed Smart Cameras (ICDSC)*. [Link](#).
- [31] **2013** (with Georg Nebehay et al.). “Can Diversity amongst Learners Improve Online Object Tracking”. In: *Proceedings of the International Multiple Classifier Systems Workshop (MCS)*. [Link](#).
- [32] **Sept. 2011** (with Tobias Becker et al.). “Hardware Accelerated object Tracking”. In: *Proceedings of the International Conference on Field Programmable Logic and Applications (FPL) Workshop on Computer Vision on Low-Power Reconfigurable Architectures*. [Link](#).
- [33] **Nov. 2011** (with Cristina Picus, and Branislav Micusik). “Branch and bound global optima search for tracking a single object in a network of non-overlapping cameras”. In: *Proceedings of the International Conference on Computer Vision Workshops (ICCVW)*. [Link](#).
- [34] **Sept. 2010** (with Nabil Belbachir, and Roman Gmeiner). “A Neuromorphic Smart Camera for Real-time 360° Distortion-free Panoramas”. In: *Proceedings of the International Conference on Distributed Smart Cameras (ICDSC)*. [Link](#).
- [35] **June 2010** (with Branislav Micusik). “Localizing non-overlapping surveillance cameras under the L-Infinity norm”. In: *Proceedings of the Conference on Computer Vision and Pattern Recognition (CVPR)*. [Link](#).
- [36] **May 2010** (with, Anton Wlatl, and Bernhard Schalko, and Gustavo Fernandez Dominguez). “Digital Video Surveillance in Road Tunnels”. In: *Proceedings of the International Conference on Tunnel Safety and Ventilation*. [Link](#).
- [37] **Sept. 2010** (with Cristina Picus, and Branislav Micusik). “From Single Cameras to the Camera Network: An Auto-Calibration Framework for Surveillance”. In: *Proceedings of the Annual Symposium of the German Association for Pattern Recognition (DAGM)*. [Link](#).
- [38] **Sept. 2009** (with Georg Nebehay). “A self-calibration method for smart video cameras”. In: *Proceedings of the International Conference on Computer Vision Workshops (ICCVW)*. [Link](#).
- [39] **Dec. 2008** (with and Horst Bischof). “Tracking across non-overlapping views via geometry”. In: *Proceedings of the International Conference on Pattern Recognition (ICPR)*. [Link](#).
- [40] **Sept. 2007** (with and Horst Bischof). “People tracking across two distant self-calibrated cameras”. In: *Proceedings of the International Conference on Advanced Video and Signal Based Surveillance (AVSS)*. [Link](#).

- [41] **Aug. 2006** (with Dietmar Bauer, Norbert Brändle, and Stefan Seer). “Finding Highly Frequent Paths in Video Sequences”. In: *Proceedings of the International Conference on Pattern Recognition (ICPR)*. [Link](#).
- [42] **Feb. 2006** (with and Horst Bischof). “Computation of the epipolar geometry in slightly overlapping views”. In: *Proceedings of the Computer Vision Winter Workshop (CVWW)*. [Link](#).
- [43] **Aug. 2006** (with and Horst Bischof). “Fundamental matrix and slightly overlapping views”. In: *Proceedings of the International Conference on Pattern Recognition (ICPR)*. [Link](#).
- [44] **Dec. 2005** (with and Horst Bischof). “Online Auto-Calibration in Man-Made Worlds”. In: *Proceedings of the International Conference on Digital Image Computing: Techniques and Applications (DICTA)*. [Link](#).
- [45] **Sept. 2005** (with and Horst Bischof, et al.). “Influence of camera properties on image analysis in visual tunnel surveillance”. In: *Proceedings of the Intelligent Transportation Systems Conference (ITSC)*. [Link](#).
- [46] **Nov. 2005** (with Helmut Schwabach et al.). “Video Based Image Analysis for Tunnel Safety - VITUS-1: A Tunnel Video Surveillance and Traffic Control System”. In: *Proceedings of the 12th World Congress on Intelligent Transport Systems*. [Link](#).
- [47] **June 2004** (with and Horst Bischof). “Vanishing points and lorries”. In: *Proceedings of the Workshop of the Austrian Association for Pattern Recognition (AAPR)*. [Link](#).
- [48] **June 2003** (with Michael Bramberger et al.). “A Smart Camera for Traffic Surveillance”. In: *Proceedings of the Workshop on Intelligent Solutions in Embedded Systems (WISES)*. [Link](#).
- [49] **Mar. 2003** (with Michael Bramberger et al.). “Intelligent Traffic Video Sensor: Architecture and Applications”. In: *Proceedings of the Workshop on Telecommunications and Mobile Computing (TCMC)*. [Link](#).
- [50] **Sept. 2002** (with and Horst Bischof). “Learning spatiotemporal traffic behaviour and traffic patterns for unusual event detection”. In: *Proceedings of the Workshop of the Austrian Association for Pattern Recognition (AAPR)*. [Link](#).
- [51] **Feb. 2000** (with and Horst Bischof). “Car tracking in tunnels”. In: *Proceedings of the Computer Vision Winter Workshop (CVWW)*. [Link](#).

Other Publications

- [52] **Aug. 2018** R. Pflugfelder. “An In-Depth Analysis of Visual Tracking with Siamese Neural Networks”. arXiv. [Link](#).
- [53] **July 2017** R. Pflugfelder. “Siamese Learning Visual Tracking: A Survey”. arXiv. [Link](#).
- [54] **Mar. 2011** (with Georg Nebehay, Branislav Micusik, and Cristina Picus). “Evaluation of an online learning approach for robust object tracking”. Technical Report, AIT Austrian Institute of Technology. [Link](#).
- [55] **May 2008**. “Self-calibrating Cameras in Video Surveillance”. Ph.D. thesis, Graz University of Technology. [Link](#).
- [56] **Feb. 2007** (with and Nikolaus Viertl). “Automatic Calibration of the Velocity in Tunnels”. Project Report. [Link](#).

- [57] **Jan. 2002.** “Visual Traffic Surveillance Using Real-time Tracking”. MS.c thesis, Vienna University of Technology. [Link.](#)
- [58] **May 2002.** “Visual Traffic Surveillance Using Real-time Tracking”. Technical Report 71, Vienna University of Technology. [Link.](#)
- [59] **June 2002.** “Visuelle Verkehrsüberwachung in intelligenten Transportsystemen”. Technical Report 73, Vienna University of Technology. [Link.](#)
- [60] **May 2000** (with Remi Megret et al.). “Motion Estimation with combined Mesh/Region Motion Models”. Erasmus Intensive Programme Report INSA Lyon. [Link.](#)
- [61] **Nov. 1999.** “An Introduction to GA Theory”. Seminarwork, Vienna University of Technology Vienna. [Link.](#)