Curriculum Vitae

Bernhard Rinner

October 29, 2019

Bernhard Rinner is full professor and chair of pervasive computing at Klagenfurt University (Austria).

He received both his PhD and MSc in Telematics from Graz University of Technology in 1996 and 1993, respectively. Before joining Klagenfurt University in 2007, he was affiliated with Graz University of Technology and held research positions at the Department of Computer Sciences at the University of Texas at Austin in 1995 and 1998/99. He was invited as visiting researcher at Princeton University in July 2006 and the University at Central Florida in May 2009, respectively. His current research interests include pervasive computing, sensor networks and multi-camera networks, embedded computing as well as multi-robot systems. He has authored and co-authored more than 230 papers for journals, conferences and workshops, has led many research projects and has served as reviewer, program committee member, program chair and editor-in-chief.

Prof. Rinner has been co-founder and general chair of the ACM/IEEE International Conference on Distributed Smart Cameras and has served as chief editor of a special issue on this topic in the Proceedings of the IEEE and IEEE Computer. He is Associate Editor of the EURASIP Journal on Embedded Systems and Ad Hoc Networks and has served as Guest Editor for special issues in the IEEE Journal on Selected Topics in Signal Processing, the Elektrotechnik&Informationstechnik Journal and the EURASIP Journal on Embedded Systems. Together with partners from four European universities he has jointly initiated the Erasmus Mundus Joint Doctorate Program on Interactive and Cognitive Environments (ICE). Prof. Rinner has been co-chairing the IEEE International Conference on Advanced Video and Signal-Based Surveillance (AVSS) in 2011 and is a member of the AVSS steering committee since then. He is chair of the doctoral advisory board of the Faculty of Technical Sciences, an elected member of the Senate of Klagenfurt University and member of the board of the Austrian Science Fund. He is member of the IEEE, IFIP and TIV (Telematik Ingenieurverband).

1 Personal

Date and place of birth: December 7, 1967; Graz, Austria
Citizenship: Austrian
Marital status: married
Military service: October 1987 – May 1988 (service completed)

Office address:
    Klagenfurt University
    Institute of Networked and Embedded Systems
    Lakeside B02
    A-9020 Klagenfurt
    AUSTRIA
    Tel: +43 463 2700-3671
    Fax: +43 463 2700-3679
    Email: bernhard.rinner@aau.at
    WWW: http://pervasive.aau.at

Home address:
    Lindenweg 28 j
    A-8061 St. Radegund
    AUSTRIA
    Tel.: +43 +3132 21507
    Email: b.rinner@computer.org
    WWW: http://www.bernhardrinner.com

2 Education

Habilitation January 2002
    Graz University of Technology, Austria

- graduated on January 28, 2002
- subject: "Rechnerarchitekturen und eingebettete Systeme" (computer architecture and embedded systems)
- habilitation thesis: "Monitoring and Diagnosis of Technical Systems"

Ph.D. in Telematics December 1993 – June 1996
    Graz University of Technology, Austria

- graduated on June 13, 1996 with highest honors
- advisor: Professor Reinhold Weiss
- dissertation title: "Design, Prototype Implementation and Experimental Evaluation of a Scalable Multiprocessor Architecture for Qualitative Simulation"

Master of Telematics October 1988 – November 1993
    Graz University of Technology, Austria

- graduated on November 25, 1993
- Telematics combines Electronics, Communications Engineering and Computer Science, lasts 5 years and leads to the degree "Dipl.-Ing."
- specialized in embedded parallel and distributed systems
- thesis title: "Konzepte zur Parallelisierung des qualitativen Simulators QSIM" (thesis in German)

High School Diploma September 1982 – June 1987
    HTBL u. VA Graz-Gösting, Austria (Technical High School)

- graduated on June 23, 1987 with highest honors
- high school with emphasis on Communications Engineering and Electronics

3 Professional Experience

Vice Dean of the Faculty of Technical Sciences January 2008 – December 2011
    Klagenfurt University, Austria

Full Professor and Chair of Pervasive Computing ("Universitätsprofessor") March 2007 – present
    Klagenfurt University, Austria

Associate Professor ("Außerordentlicher Universitätsprofessor") March 2002 – February 2007
    Graz University of Technology, Austria

Research and Teaching Staff Member ("Universitäts-Assistent") March 1997 – February 2002
    Institute for Technical Informatics, Graz University of Technology, Austria

Visiting Researcher May 1998 – April 1999
    Department of Computer Sciences, University of Texas at Austin, USA

Research Assistant December 1993 – February 1997
    Institute for Technical Informatics, Graz University of Technology, Austria

Visiting Research Scholar July 1995 – August 1995
    Department of Computer Sciences, University of Texas at Austin, USA

Internships summers 1991-92, March 1993 – August 1993
    AVL List GmbH – Medical Instruments, Graz, Austria

Internships summers 1989-90
    EBEWE GmbH Graz, Austria

Internships summers 1985-86
    ORF, Austrian Broadcasting Company

Internships summers 1983-84
    Kabel TV Graz, (cable television company), Austria

3.1 Professional Training

Didaktik 1 *Teaching at universities 1*; 18 hours; Graz University of Technology, Feb 2002

Didaktik 2 *Teaching at universities 2*; 18 hours; Graz University of Technology, June 2002

Didaktik 3 *Teaching at universities 3*; 18 hours; Graz University of Technology, Feb 2003

Strategie- und Unternehmenskultur an der Fakultät für Technische Wissenschaften *Development of strategy and business culture at the Faculty of Technical Sciences*; 72 hours; Klagenfurt University, 03/2007-09/2009

Gender-Kompetenz für universitäre Führungskräfte *Gender Competence for university leadership*; 6 hours; Klagenfurt University, Feb 2009

Kommunikation und Feedback-Kultur *Communication and Feedback*; 16 hours; Klagenfurt University, Feb 2010

3.2 Invited Research Visits

Princeton University, Department of Electrical Engineering. *joint research on distributed smart cameras*; invited by Prof. Wayne Wolf; July 2 – July 13, 2006

University of Central Florida, Department of Electrical Engineering and Computer Science. *joint research on UAV-based surveillance*; invited by Prof. Mubarak Shah; May 14 – May 24, 2009

National University of Singapore, Department of Computer Science. *joint research on security and privacy protection in sensor networks*; invited by Prof. Mohan Kankanhalli; April 11 – April 23, 2012

University of California at Riverside, Department of Electrical Engineering. *joint research on smart camera networks*; invited by Prof. Bir Bhanu; July 10 – July 24, 2012

4 Research Projects

4.1 International Doctoral School

ICE *Erasmus Mundus initiative; co-initiator & executive steering committee member; 2010 - 2019.* `www.icephd.org`

Five European universities have recently established an international doctoral school on **Interactive and Cognitive Environments (ICE)** within the Erasmus Mundus initiative of the European Commission. The ICE-consortium is comprised of the University of Genova (coordinator), UPC Barcelona, TU Eindhoven, Queen Mary University of London and Klagenfurt University. The Erasmus Mundus proposal has been accepted for funding in a highly competitive selection procedure. Among the currently funded 22 doctoral schools, ICE is the only program within the ICT field in Europe, and Klagenfurt is the only Austrian University participating in an Erasmus Mundus Joint Doctorate.

The ICE doctoral school has started in fall 2010 and is expected to run for at least seven years. The five universities deliver a joint PhD title. The European Commission funds 10 to 15 PhD positions each year—a fifth of these positions will be assigned to Klagenfurt. Each researcher obtains a three-year employment contract.

4.2 Ongoing Research Projects

Project activities include problem analysis, design, prototype implementation and evaluation as well as writing of proposals, organizing and leading project teams. The following research projects are funded by regional, national and European research grants, respectively.

Doctoral school: Decision Making in Digital Environments (DECIDE) *Alpen-Adria-Universität Klagenfurt; 10/2019 - 9/2022; funding KLU: k€900*

The doctoral school "Decision-making in a digital environment" (DECIDE) is dedicated to interconnecting the ongoing digitalization and its effect on (human) decision-making. The distinctive feature of this graduate school is its interdisciplinary nature: The involved faculty members have a strong background in either social sciences and economics, computer science, engineering or psychology, perform research in their dedicated fields, and foster interdisciplinarity. The research projects to be carried out in the context of this graduate school address the current challenges of digitalization and decision-making from multiple perspectives, thereby exploiting the interdisciplinary setting of the graduate school. The core faculty is comprised of Stephan Leitner (speaker), Dietmar Jannach (co-speaker), Wilfried Elmenreich, Bartosz Gula, Nina Hampl, Gernot Mödritscher, Gerhard Leitner, Alexandra Rausch and Bernhard Rinner.

Science Kolleg: Networked Autonomous Aerial Vehicles *Alpen-Adria-Universität Klagenfurt; 10/2017 - 9/2020; funding KLU: k€520*

The Karl Popper Kolleg (KPK) is a research and doctoral institute founded by Alpen-Adria-Universität Klagenfurt in 2014 fostering and strengthening international competitive research areas of AAU. For the college cycle 2017-2020 *Networked Autonomous Aerial Vehicles* has been selected as KPK's research area will receive funding for 4 PhD students and support for a post-doc and a guest professorship. The core faculty is comprised of Stephan Weiss (speaker), Christian Bettstetter, Hermann Hellwagner and Bernhard Rinner.

The KPK will significantly strengthen the university's recently defined area of excellence Networked and Autonomous Systems and also fits well into the multi-disciplinary research cluster Self-Organizing Systems. It bundles and leverages the research activities of the involved AAU groups and establishes—in combination with several researchers funded by other sources—a doctoral school of at least 12 students.

ComVis *Graz University of Technology, Austrian Institute of Technology, Federal Ministry of Science, Research and Economy; project partner; 7/2014 - 6/2019; funding KLU: k€ 200*

The focus of this strategic collaboration lies on computer vision within mobile scenarios, focusing on hardware-optimized techniques. In this way, complex computer vision and machine learning algorithms will be implemented in mobile devices such as smart phones, smart cameras, tablet PCs and similar hardware. These techniques will be used in camera networks for decentralized image processing. By focusing efforts in this way it will be possible both to pool existing expertise and to pursue a targeted course of development within a promising research area.

This strategic project is joint work with Graz University of Technology (TUG) and the Austrian Institute of Technology (AIT) and is supported by the Federal Ministry of Science, Research and Economy.

4.3 Completed Research Projects

ProSecCo *Austrian Research Promotion Agency; project leader; 7/2014 - 7/2017; overall budget k€ 220; funding KLU: k€ 200*

ProSecCo explores the design of a secure, embedded surveillance camera architecture that advances the current state of the art in several ways. First, it provides confidentiality and non-repudiation as inherent features of the camera system. Second, it achieves secure intercamera cooperation with minimal involvement of centralized entities. Third, it uses modern, hybrid ARM/FPGA system on chip solutions to provide security and high speed image analysis functions.

This project is joint work with SLR Engineering GmbH (Graz) and the Multimedia Signal Processing group (EPFL) and is supported by the Austrian Research Promotion Fund (grant 842432).

CROSMOS *Lakeside Labs; project leader; 1/2014 - 6/2015; overall budget k€ 364; funding KLU: k€ 285*

The CROSMOS project explores cooperative, multi-user apps and investigates methods for self-organization in technical and social environments. A key goal is to model, predict and influence the social interaction which is important on the one hand to improve our understanding of the social behavior in mixed-reality environments and on the other hand to improve the design and resource utilization of mobile apps.

This project is joint work with the Institute of Information Technology and the Institute of Media and Communication (all Klagenfurt University). It is supported by Lakeside Labs GmbH and funded by the European Regional Development Fund and the Carinthian Economic Promotion Fund (grant 20214/25557/37319).

SINUS *Lakeside Labs; project leader; 1/2013 - 6/2015; overall budget k€ 880; funding KLU: k€ 770*

The design of a self-organizing system of multiple, autonomous UAVs is founded on key building blocks for sensing, communication & networking and coordination. The SINUS project focuses on the integration of these blocks and their interaction to e ectively close the sensing-networking-acting loop within the multi-UAV system. Such a tight integration is necessary for deploying self-organizing UAVs in dynamic and partly unknown environments.

This project is joint work with the Mobile Systems group and the Multimedia Communications group (all Klagenfurt University). It is supported by Lakeside Labs GmbH and funded by the European Regional Development Fund and the Carinthian Economic Promotion Fund (grant 20214/24272/36084).

TrustEYE *KWF/Austrian Science Fund; PI; 8/2012 - 7/2015; overall budget: k€ 388; funding KLU: k€ 314*

The TrustEYE project aims at establishing trust in resource-limited visual sensor networks by making security and privacy protection inherent properties of the image sensor unit. The key idea is to protect access to the sensor by a trustworthy sensing unit. The trust at the sensor level is expanded to the camera node and network level.

This project is performed in collaboration with the National University of Singapore.

ICE Booster *Lakeside Labs; PI; 1/2011 - 12/2014; overall budget: k€ 723; funding KLU: k€ 661*

The ICE Booster increases the momentum of the Eramus Mundus doctoral school on "Interactive and Cognitive Environments (ICE)" especially in its starting phase by funding four additional PhD positions.

EPiCS *FP7 FET-IP (no. 257906); WP leader; 9/2010 - 8/2014; overall budget: M€ 6.67; funding KLU: k€ 497*

The EPiCS project aims at laying the foundation for engineering the novel class of proprioceptive computing systems. Proprioceptive computing systems collect and maintain information about their state and progress, which enables self-awareness by reasoning about their behavior, and self-expression by effectively and autonomously adapt their behavior to changing conditions. The Pervasive Computing group contributes research in the self-organization of visual sensor networks.

This project is joint work of eight partners—Univ. Paderborn (coordinator), Imperial College London, Univ. Oslo, Univ. Birmingham, EADS Munich, ETH Zurich, AIT Vienna and Klagenfurt University—and funded by the FP7-ICT Future Emerging Technologies (FET).

MobiTrick *FFG (no. 825840); co-PI; 7/2010 - 8/2013; overall budget: k€ 656; funding KLU: k€ 192*

The focus of the MobiTrick project is outdoor mobile computer vision with all of its challenges. Mobile systems need to be compact and energy efficient and are frequently changing locations. Therefore they must be autonomous and perform processing locally. A number of challenges arise from these requirements for which the project aims to provide solutions: Being compact, there is not much space for a large number of sensors such as laser scanners, radar antennas and the like. The work in this project will focus on stereo vision but with two different types of cameras. Thus, the system must be designed to be very energy efficient. New approaches for dynamic power management will be explored in the project. To put the work into context, several applications from the area of traffic surveillance/toll enforcement will be implemented and tested in an application oriented setting.

This project is joint work with Graz University of Technology and EFKON AG Graz and is supported by Austrian Research Promotion Agency (FFG) via the FIT-IT [visual computing] program. The MobiTrick project received the award (3rd place) for the **best research proposal in the FIT-IT [visual computing] program line**.

cDrones *Lakeside Labs; project leader; 4/2008 - 12/2012; overall budget M€ 2.05; funding KLU: M€ 1.21*

This "Collaborative Microdrones (cDrones)" project develops a system for aerial sensing based on cooperating, wireless networked unmanned aerial vehicles (microdrones). Several microdrones fly in formation over the area of interest in a selforganizing manner and deliver high-quality sensor data such as images or videos. These images are fused on the ground, analyzed in real-time, and delivered to the user. The project performs original research in the areas (1) flight formation, (2) mission planning and control, and (3) sensor data interpretation, and it demonstrates a collaborative microdrone system for first response operations.

This project is joint work with three research groups at Klagenfurt University and the University of Central Florida. It is supported by Lakeside Labs GmbH and funded by the European Regional Development Fund and the Carinthian Economic Promotion Fund (grant 20214/17095/24772).

SRSnet *Lakeside Labs & EC Interreg 4; co-PI; 9/2009 - 8/2012; overall budget: k€ 850; funding KLU: k€ 387*

The SRSnet project focuses on the design of a smart resource-aware multi-sensor network capable of autonomously detecting and localizing various events such as screams, animal noise, tracks of persons and more complex human behaviors. The project's research areas include (i) collaborative audio and video analysis, (ii) complex event detection and (iii) network reconfiguration. The SRSnet will be demonstrated in an environmental case study at the Hohe Tauern National Park.

This project is joint work with the Institute of Smart Systems Technologies at Klagenfurt University, the University of Udine and Lakeside Labs. It is funded by the European Interreg 4 Fund and the Carinthian Economic Promotion Fund.

SOMA *Lakeside Labs; co-PI; 1/2009 - 12/2011; overall budget: M€ 1.02; funding KLU: k€ 779*

The project "Self-organizing Multimedia Architecture (SOMA)" aims to capture the whole life-cycle of multimedia content in a single architecture for large distributed multimedia information systems. A network of smart sensors reports events to a distribution network captured in multimedia data units. In the distribution network events are analyzed, processed, stored, and prepared for delivery. Events and related continuous data are either pushed to users on a subscription basis or consumed by users based on pull mechanisms.

This project is joint work with the Institute of Information Technology at Klagenfurt University and ASFiNAG Mautservice, Austria. It is supported by Lakeside Labs GmbH and funded by the European Regional Development Fund and the Carinthian Economic Promotion Fund (grant 20214/17095/24774).

CLIC *FFG (no. 819482); co-PI; 1/2009 - 12/2010; overall budget: k€ 720; funding KLU: k€ 120*

The objective of the CLIC (Closed-Loop Integration of Cognition, Communication and Control) project is to integrate real-time image analysis, adaptive motion control, and synchronous communication between the imaging and control subsystems. This integration is demonstrated on optimizing the trajectory control of a crane additionally equipped with distributed smart cameras observing the crane's environment.

This project is joint work with Vienna University of Technology and TTTech AG Vienna and is supported by Austrian Research Promotion Agency (FFG) via the FIT-IT [embedded system] program. The CLIC project has been awarded as the **best research proposal in the FIT-IT [embedded system] program line** and received the award from the federal minister of transportation, innovation and technology Mrs. Doris Bures.

EVis *FFG (no. 813399); consortium speaker; 4/2007 - 6/2010; overall budget: k€ 508; funding KLU: k€ 220*

This project deals with the evaluation and prototype development of a distributed embedded platform for online data fusion. This multi-sensor fusion architecture is targeted at various applications such as smart embedded systems, remote sensing, pervasive computing and monitoring.

This project is joint work with Graz University of Technology and EFKON AG Graz and is supported by Austrian Research Promotion Agency (FFG) via the FIT-IT [visual computing] program.

McDAV (principle investigator; 2008 - 2009): Smart cameras perform image analysis onboard and deliver the abstracted data. By combining data delivered from multiple cameras observing the same scene we can further increase the usefulness of smart camera networks. An important goal for such multi-camera systems is to resolve object occlusions by aggregating views from different angles. The aim of this research is to develop a data aggregation and visualization system which is able to combine the high-level output of smart cameras to form a three-dimensional model of a scene.

This research is conducted in cooperation with the Austrian Institute of Technology, Vienna.

I-SENSE (project leader; 2006 - 2008): This project deals with the evaluation and prototype development of a distributed embedded platform for online data fusion. This multi-sensor fusion architecture is targeted at various applications such as smart embedded systems, remote sensing, pervasive computing and monitoring.

This project is joint work with EVK Graz and is supported by Austrian Research Promotion Agency (grant no. 812204).

SmartSURV (project leader; 2005 - 2007): This project deals with the evaluation and development of middleware-services for distributed embedded systems. These services focus on dynamic reconfiguration which enables a modification of tasks during operation and a migration of tasks onto different embedded computing nodes. The dynamic reconfiguration methods are demonstrated in a novel traffic surveillance system.

This project is joint work with the Austrian Research Centers Seibersdorf (ARCS) and is supported by Austrian Research Promotion Agency (grant no. 81072).

SmartCam (project leader; 2002 - 2007): The goal of this project is to evaluate and develop an embedded smart camera targeted for various surveillance applications such as traffic control. This camera is realized as an embedded system with tight power restrictions and combines video sensing, video processing and communication within a single device. It captures a video stream, computes high-level traffic information such as stationary vehicle detection and motion analysis, and transfers the compressed video stream and traffic information to a network node. The smart camera is realized using a CMOS sensor, high-performance signal processors and dedicated hardware.

This project is joint work with the Austrian Research Centers Seibersdorf (ARCS) and the Institute for Computer Graphics and Vision at TU Graz. This project is supported by Texas Instruments.

Intelligent Multi-Sensor System (project leader; 2003 - 2007): This project deals with the design, evaluation and development of an infrastructure for combining/connecting various intelligent (video) sensors. This infrastructure provides mechanisms for transferring multimedia data from the sensors as well as for configuring/migrating computational and communication tasks depending on the context of the sensors. The intelligent sensors are based on SmartCams; the infrastructure is deployed in traffic surveillance applications.

Performance Modeling and Prediction in Automation Systems (project leader; 2001 - 2004): This project deals with modeling and predicting the performance of the PUMA Open automation system. This complex automation system

is targeted for the design and test of engines, transmissions and power trains and exhibits real-time and non real-time processing at the same platform. An important goal of this project is to introduce performance modeling into the design process in order to reduce the development time of new configurations of the automation system.

This project is joint work with AVL Graz GmbH.

Monitoring and Diagnosis of Technical Systems (principle investigator; 2000 - 2005): The goal of this project is to investigate and develop a model-based monitoring and diagnosis system (MDS) for online operation. The MDS has been implemented using process control computers and PCs and has been demonstrated on monitoring and diagnosing a complex heating system.

This project is supported by the Austrian Science Fund under grant number P14233-INF.

PEPSY - Prototyping Environment for multi-DSP Systems (project leader with Martin Schmid; 1999 - 2003): This project aims at automating the design and implementation of multi-processor applications subject to various design constraints. The prototyping tool PEPSY maps a dataflow-oriented application onto a multi-processor system, generates a static schedule for all processor and synthesizes the complete source code. PEPSY has been completely implemented and tested on various applications in the area of signal processing and power-aware computing.

Self-calibrating Monitoring (principal investigator; 1998 - 1999): The goal of this project was to develop a model-based monitoring system that exploits the measurements from the supervised system in order to refine its initial system's model. This self-calibrating monitoring system has been implemented using qualitative reasoning techniques.

This project was performed at the Department of Computer Sciences at the University of Texas and was supported by the Austrian Science Fund under grant number J1429-MAT.

Best Signal Selection (project leader: 1997 - 1998): The goal of this project was to evaluate various techniques that determine the quality of different transmission channels. A prototype has been developed which online select the channel with the highest speech quality as output. The prototype has been implemented on a standard PC equipped with signal processor and audio boards.

This project was joint work with Frequentis Nachrichtentechnik GmbH Wien.

Distributed Computer Architecture for Qualitative Simulation (project member: 1994 - 1997): The goal of this project was to develop a specialized computer architecture for the AI-application "qualitative simulation". The performance of this application has been improved by two orders of magnitude by parallelization and software/hardware migration. The prototype architecture has been implemented using digital signal processors and FPGAs.

This project was supported by the Austrian Science Fund under grant number P10441-MAT.

Research projects at the master's level have been conducted in cooperation with the following partners:

- Austrian Research Centers Seibersdorf

- AVL List GmbH, Graz

- BearingPoint, Graz-Unterpremstätten (formerly "Infonova GmbH")

- Carinthian Tech Research, Villach

- c.c.com, Graz Grambach

- DaimlerChrysler AG, Graz

- Ebewe Pharma, Unterach

- EVK, Graz Raaba

- Frequentis GmbH, Wien

- Infineon Technologies Austria AG, Villach

- Infineon Technologies Microelectronic Design Centers Austria, Graz

- KAI – Kompetenzzentrum für Industrieelektronik, Villach

- MagnaSteyr Engineering, Graz

- Space Research Institute, Austrian Academy of Sciences, Graz

- Siemens Corporate Research, Princeton, USA

- Texas Instruments, Freising, Germany

5 Publications

5.1 Journal Papers

[52] Omair Sarwar, Bernhard Rinner and Andrea Cavallaro. A privacy-preserving filter for oblique face images based on adaptive hopping Gaussian mixtures. *IEEE Access*, 7:142623-142639, 2019.

[52] Sara Perez-Carabaza, Jürgen Scherer, Bernhard Rinner, Jose A. Lopez-Orozco and Eva Besada-Portas. UAV Trajectory Optimization for Minimum Time Search with Communication Constraints and Collision Avoidance. *Engineering Applications of Artificial Intelligence*, 85:357-371, 2019.

[51] Bernhard Rinner. Can we trust smart cameras. *Computer*, 52(5):67-70, 2019.

[50] Jennifer Simonjan and Bernhard Rinner. Decentralized and Resource-efficient Self-Calibration of Visual Sensor Networks. *Ad Hoc Networks*, 88:112-128, 2019.

[49] Subhan Ullah, Lucio Marcenaro and Bernhard Rinner. Secure Smart Cameras by Aggregate-Signcryption with Decryption Fairness for Multi-Receiver IoT Applications. *Sensors*, 19(2):327, 2019.

[48] Sharath Chandra Akkaladevi, Matthias Plasch, Sriniwas Maddukuri, Christian Eitzinger, Andreas Pichler and Bernhard Rinner. Toward an Interactive Reinforcement Based Learning Framework for Human Robot Collaborative Assembly Processes. *Frontiers in Robotics and AI*, 5:1-15, 2018.

[47] Evsen Yanmaz, Saeed Yahyanejad, Bernhard Rinner, Hermann Hellwagner and Christian Bettstetter. Drone Networks: Communications, Coordination, and Sensing. *Ad Hoc Networks*, Elsevier, 68:1-15, 2018

[46] Adam Erdelyi, Thomas Winkler and Bernhard Rinner. Privacy Protection vs. Utility in Visual Data: An Objective Evaluation Framework. *Multimedia Tools and Applications*, Springer 7(2):2285-2312, 2018.

[45] Asif Khan, Bernhard Rinner and Andrea Cavallaro. Cooperative Robots to Observe Moving Targets: A Review. *IEEE Transactions on Cybernetics*, 48(1):187-198, 2018.

[44] Venkata Pathuri Bhuvana, Melanie Schranz, Carlo S. Regazzoni, Bernhard Rinner, Andrea M. Tonello and Mario Huemer. Multi-Camera Object Tracking using Surprisal Observations in Visual Sensor Networks. *EURASIP Journal on Advances in Signal Processing*, 2016:50 2016.

[43] Muhammad Imran, Bernhard Rinner, Sajjad Zandi Zand and Mattias O'Nils. Exploration of Pre-Processing Architectures for FPGA Based Thermal-Visual Smart Camera. *Journal of Electronic Imaging*, 25(4), 041006, 2016.

[42] Claudio Piciarelli, Lukas Esterle, Asif Khan, Bernhard Rinner, Gian Luca Foresti. Dynamic Reconfiguration in Camera Networks: a short Survey. *IEEE Transactions on Circuits and Systems for Video Technology*, 26(5):965-977, May 2016.

[41] Melanie Schranz and Bernhard Rinner. Resource-Aware Dynamic Clustering Utilizing State Estimation in Visual Sensor Networks. *Sensors & Transducers*, 129(8):28-39, August 2015.

[40] Michael Hofbaur, Andreas Müller, Justus Piater, Bernhard Rinner, Gerald Steinbauer, Markus Vincze, Christian Wögerer. Making Better Robots – Beiträge Österreichs zur Europäischen Robotics Research Roadmap. *e&i Elektrotechnik und Informationstechnik*, 132(4):237-248, August 2015.

[39] Daniel Wischounig-Strucl, Bernhard Rinner. Resource Aware and Incremental Mosaics of Wide Areas from Small-Scale UAVs. *Machine Vision and Applications*, 26(7):885-904, 2015.

[38] Bernhard Rinner, Lukas Esterle, Jennifer Simonjan, Georg Nebehay, Roman Pflugfelder, Peter R. Lewis, Gustavo Fernandez Dominguez. Self-aware and Self-expressive Camera Networks. IEEE Computer, 48(7):21-28, July 2015.

[37] Peter R. Lewis, Lukas Esterle, Arjun Chandra, Bernhard Rinner, Jim Torresen, Xin Yao. Static, Dynamic and Adaptive Heterogeneity in Distributed Smart Camera Networks. *ACM Transactions on Autonomous and Adaptive Systems*, 10(2) pages 30, 2015.

[36] Asif Khan, Evsen Yanmaz and Bernhard Rinner. Information Exchange and Decision Making in Micro Aerial Vehicle Networks for Cooperative Search. *IEEE Transactions on Control of Networked Systems*, 2(4):335-347, 2015.

[35] Muhidul Khan and Bernhard Rinner. Performance Analysis of Resource-Aware Task Scheduling Methods in Wireless Sensor Networks. *International Journal of Distributed Sensor Networks*, pages 11, 2014.

[34] Saeed Yahyanejad and Bernhard Rinner. A fast and mobile system for registration of low-altitude visual and thermal aerial images using multiple small-scale UAVs. *ISPRS Journal of Photogrammetry and Remote Sensing*, 104:189-202, June 2015.

[33] Thomas Winkler and Bernhard Rinner. Security and Privacy Protection in Visual Sensor Networks: A Survey. *ACM Computing Surveys*, 47(1):pages 38, May 2014.

[32] Martin Reisslein, Bernhard Rinner, Amit Roy-Chowdhury. Smart Camera Networks (Guest Editors' Introduction). *Computer*, 47(5):26-28, May 2014.

[31] Umair Ali Khan and Bernhard Rinner. Online Learning of Timeout Policies for Dynamic Power Management. *ACM Transactions on Embedded Computing Systems*, 13(4), pages 25, 2014.

[30] Lukas Esterle, Peter R. Lewis, Xin Yao and Bernhard Rinner. Socio-Economic Vision Graph Generation and Handover in Distributed Smart Camera Networks. *ACM Transactions on Sensor Networks*, ACM, 10(2), pages 24, 2014.

[29] Fatih Porikli, Francois Bremond, Shiloh L. Dockstader, James Ferryman, Anthony Hoogs, Brian C. Lovell, Sharath Pankanti, Bernhard Rinner, Peter Tu, and Peter L. Venetianer. Video Surveillance: Past, Present, and Now the Future. *IEEE Signal Processing Magazine*, 30(3):190-198, May 2013.

[28] Thomas Winkler and Bernhard Rinner. User Centric Privacy Awareness in Video Surveillance. *Springer Multimedia Systems Journal*, 18(2), pages 99-121, 2012.

[27] Bernhard Dieber, Christian Micheloni and Bernhard Rinner. Resource-Aware Coverage and Task Assignment in Visual Sensor Networks. *IEEE Transactions on Circuits and Systems for Video Technology*, 21(10), pages 1424-1437, October 2011.

[26] Thomas Winkler and Bernhard Rinner. Securing Embedded Smart Cameras with Trusted Computing. *EURASIP Journal on Wireless Communications and Networking*, Article ID 530354, 20 pages, 2011.

[25] Christian Micheloni, Bernhard Rinner and Gian Luca Foresti. Video Analysis in PTZ Camera Networks - From master-slave to cooperative smart cameras. *IEEE Signal Processing Magazine*, 27(5), pages 78-90, 2010.

[24] Horst Bischof, Martin Godec, Christian Leistner, Andreas Starzacher and Bernhard Rinner. Autonomous Audio-Supported Learning of Visual Classifiers for Traffic Monitoring. *IEEE Intelligent Systems*, 25(3) pages 15-23, May/June 2010.

[23] Markus Quaritsch, Karin Kruggl, Daniel Wischounig-Strucl, Subhabrata Bhattacharya, Mubarak Shah and Bernhard Rinner. Networked UAVs as Aerial Sensor Network for Disaster Management Applications. *e&i Elektrotechnik und Informationstechnik*, 127(3) pages 56-63, 2010 Springer.

[22] Andreas Doblander, Andreas Zoufal and Bernhard Rinner. A Novel Software Framework for Embedded Multiprocessor Smart Cameras. *ACM Transactions on Embedded Computing Systems*, 8(3) article 24, 30 pages, April 2009.

[21] Bernhard Rinner and Wayne Wolf. A Bright Future for Distributed Smart Cameras - scanning the issue. *Proceedings of the IEEE*, 96(10) pages 1562-1564, October 2008.

[20] Bernhard Rinner and Wayne Wolf. Introduction to Distributed Smart Cameras. *Proceedings of the IEEE*. 96(10) pages 1565-1575, October 2008.

[19] Andreas Klausner, Allan Tengg and Bernhard Rinner. Distributed multi-level Data Fusion for Networked Embedded Systems. *IEEE Journal on Selected Topics in Signal Processing*. 2(3) pages 538-555, August 2008.

[18] Markus Quaritsch, Markus Kreuzthaler, Bernhard Rinner, Horst Bischof and Bernhard Strobl. Autonomous Multi-Camera Tracking on Embedded Smart Cameras. *EURASIP Journal on Embedded Systems*. 10 pages, Jan. 2007.

[17] Milan Jovanovic, Andreas Klausner, Markus Quaritsch, Bernhard Rinner, and Allan Tengg. Smart Cameras for Embedded Vision. *Telematik*. 12(3) pages 14-19, 12(3), December 2006.

[16] Andreas Doblander, Bernhard Rinner, Norbert Trenkwalder and Andreas Zoufal. A Middleware Framework for Dynamic Reconfiguration and Component Composition in Embedded Smart Cameras. *WSEAS Transaction on Computers*. 5(3) pages 574-581, WSEAS Press, March 2006.

[15] Michael Bramberger, Andreas Doblander, Arnold Maier, Bernhard Rinner and Helmut Schwabach. Distributed Embedded Smart Cameras for Surveillance Applications. *Computer*. 39(2), pages 68-75, February 2006. IEEE.

[14] Andreas Doblander, Dietmar Gösseringer, Bernhard Rinner and Helmut Schwabach. An Evaluation of Model-Based Software Synthesis from Simulink Models for embedded Video Applications. *International Journal of Software Engineering and Knowledge Engineering*. 15(2), pages 343-348, 2005.

[13] Arnold Maier, Bernhard Rinner, Helmut Schwabach and Thomas Trathnigg. Combined Dynamic Power- and QoS-Management in Embedded Video Surveillance Systems. *Telematik*. 10(3-4), pages 22-26, December 2004.

[12] Andreas Doblander, Dietmar Gösseringer, Bernhard Rinner and Helmut Schwabach. Synthesis of Embedded Image Processing Applications from SIMULINK Models. *Telematik*. 10(3-4), pages 10-15, December 2004.

[11] Bernhard Rinner and Ulrich Weiss. Online Monitoring by Dynamically Refining Imprecise Models. *IEEE Transactions on Systems, Man and Cybernetics (Part B)*. 34(4), pages 1811-1822, August 2004.

[10] Bernhard Rinner, Horst Bischof, Michael Bramberger, Andreas Doblander, Arnold Maier, Roman Pflugfelder and Horst Schwabach. Eine intelligente Kamera zur Verkehrsüberwachung. *Bulletin SEV/VSE*. 95(11) pages 19-23, electrosuisse. 2004

[9] Bernhard Rinner, Martin Schmid and Reinhold Weiss. A Rapid Prototyping System for Multi-DSP Systems based on Accurate Performance Prediction. *Journal of Universal Computer Science*. 10(2), pages 120-144, Springer. February 2004.

[8] Bernhard Rinner and Ulrich Weiss. The model-based online monitoring system MOSES. *ÖGAI Journal*. 21(3), pages 5-12, October 2002.

[7] Bernhard Rinner. Detecting and Diagnosing Faults. (Guest Editor's introduction) *Telematik*. 8(2), pages 6-8, June 2002.

[6] Herbert Kay, Bernhard Rinner and Benjamin Kuipers. Semi-Quantitative System Identification. *Artificial Intelligence*. 119(1-2), pages 103-140, May 2000.

[5] Marco Platzner, Bernhard Rinner and Reinhold Weiss. Towards Embedded Qualitative Simulation - A Specialized Computer Architecture for QSIM. *IEEE Intelligent Systems*. 15(2), pages 62-68, March/April 2000.

[4] Marco Platzner and Bernhard Rinner. Design and Implementation of a Parallel Constraint Satisfaction Algorithm. *International Journal of Computers and Their Application*. 5(2), pages 106-116, June 1998.

[3] Marco Platzner, Bernhard Rinner and Reinhold Weiss. Parallel Qualitative Simulation. *Simulation Practice and Theory*, 5(7-8), pages 623-638 1997. Elsevier.

[2] Marco Platzner, Bernhard Rinner and Reinhold Weiss. A Computer Architecture to Support Qualitative Simulation in Industrial Applications. *e&i Elektrotechnik und Informationstechnik*, ÖVE Verbandszeitschrift, 114(1), pages 13-18, January 1997.

[1] Marco Platzner, Bernhard Rinner and Reinhold Weiss. Exploiting Parallelism in Constraint Satisfaction for Qualitative Simulation. *J.UCS The Journal of Universal Computer Science*. 1(12):811-820, December 1995.

5.2   Books, Book Chapters and Edited Journals

[16] Lukas Esterle, Jennifer Simonjan, Georg Nebehay, Roman Pflugfelder, Gustavo Fernandez Dominguez, Bernhard Rinner. Self-aware Object Tracking in Multi-Camera Networks. In *Self-aware Computing Systems – An Engineering Approach.* Peter Lewis, Marco Platzner, Bernhard Rinner, Jim Toressen and Xin Yao (Editors). Springer 2016.

[15] Jennifer Simonjan, Bernhard Dieber, Bernhard Rinner. Middleware Support for Self-aware Computing Systems. In *Self-aware Computing Systems – An Engineering Approach.* Peter Lewis, Marco Platzner, Bernhard Rinner, Jim Toressen and Xin Yao (Editors). Springer 2016.

[14] Bernhard Rinner, Peter Lewis, Marco Platzner, Jim Torresen and Xin Yao (Editors). *Self-aware Computing Systems – An Engineering Approach.* Springer, pages 324, July 2016.

[13] Martin Reisslein, Bernhard Rinner and Amit Roy-Chowdhury (Editors). Special Issue on Smart Camera Networks. *IEEE Computer.* 47(5), May 2014.

[12] Adam Krzyzak, Krystian Mikolajczyk and Bernhard Rinner. Proceedings of the 10th IEEE International Conference on Advanced Video and Signal based Surveillance. 487 pp, Springer 2013.

[11] Thomas Winkler and Bernhard Rinner. Privacy and Security in Video Surveillance. In Intelligent Multimedia Surveillance, P. Atrey, M. Kankanhalli and A. Cavallaro (Editors), 31 pp, IEEE 2013.

[10] Bernhard Rinner and Markus Quaritsch. Embedded Middleware for Smart Camera Networks and Sensor Fusion. In *Multi-Camera Networks* Hamid Aghajan and Andrea Cavallaro (Editors). pages 483-496. Elsevier 2009

[9] Bernhard Rinner and Wayne Wolf. Toward Pervasive Smart Camera Networks. In *Multi-Camera Networks* Hamid Aghajan and Andrea Cavallaro (Editors). pages 483-496. Elsevier 2009

[8] Bernhard Rinner, Wilfried Elmenreich, Ralf Seepold, Volker Turau and Markus Kucera (Editors). Special Issue on Challenges on Complexity and Connectivity in Embedded Systems *EURASIP Journal on Embedded Systems.* February 2009.

[7] Christian Bettstetter, Mario Huemer and Bernhard Rinner (Editors). Special Issue on Networked Embedded Systems. *e&i Elektrotechnik und Informationstechnik.* 125(10), October 2008. Springer

[6] Bernhard Rinner and Wayne Wolf (Editors). Special Issue on Distributed Smart Cameras. *Proceedings of the IEEE.* 96(10), October 2008.

[5] Bernhard Rinner and Wayne Wolf (Editors). *Proceedings of the International Workshop on Embedded Middleware for Smart Camera and Visual Sensor Networks (EMCAM 2008).* Stanford, USA, September 2008.

[4] Hamid Aghajan, Richard Kleihorst, Bernhard Rinner, Wayne Wolf (Editors). Special Issue on Distributed Processing in Vision Networks. *IEEE Journal on Selected Topics in Signal Processing.* 2(3), August 2008.

[3] Bernhard Rinner and Wayne Wolf (Editors). *Working Notes of the International Workshop on Distributed Smart Cameras (DSC 2006).* Boulder, USA, October 2006.

[2] Bernhard Rinner, Michael Hofbaur and Franz Wotawa (Editors). *Proceedings of the 19th International Workshop on Qualitative Reasoning (QR 2005).* 216 pages, ISBN 3-9502019-0-4. Graz, Austria, May 2005.

[1] Bernhard Rinner and Wilfried Elmenreich (Editors). *Proceedings of the 2nd Workshop on Intelligent Solutions in Embedded Systems (WISES 2004).* 203 pages, ISBN 3-902463-00-7. Graz, Austria, June 2004.

5.3   Conference Proceedings

[174] Petra Mazdin and Bernhard Rinner. Coordination of Mobile Agents for Simultaneous Coverage. In *Proceedings of the 22nd International Conference on Principles and Practice of Multi-Agent Systems (PRIMA)*, Torino, Italy. October 2019.

[173] Chris Torkar, Saeed Yahyanejad, Horst Pichler, Michael Hofbaur and Bernhard Rinner. RNN-based Human Pose Prediction for Human-Robot Interaction. In *Proceedings of the Austrian Robotics Workshop*, Steyr, Austria. May 2019.

[172] Jennifer Simonjan, Bernhard Dieber and Bernhard Rinner. Resilient Self-Calibration in Distributed Visual Sensor Networks. In *Proceedings of the IEEE International Conference on International Conference on Distributed Computing in Sensor Systems (DCOSS) Workshops*, Santorini, Greece. May 2019.

[171] Petra Mazdin and Bernhard Rinner. Efficient and QoS-aware Drone Coordination for Simultaneous Environment Coverage. In *Proceedings of the IEEE International Conference on Multimedia Information Processing and Retrieval (MIPR 2019)*, San Jose, USA. March 2019.

[170] Omair Sarwar, Andrea Cavallaro and Bernhard Rinner. Temporally smooth privacy protected airborne videos. In *Proceedings of the IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS 2018)*, Madrid, Spain. October 2018.

[169] Sharath Chandra Akkaladevi, Matthias Plasch, Christian Eitzinger, Andreas Pichler and Bernhard Rinner. Towards a Context Enhanced Framework for Multi Object Tracking in Human Robot Collaboration. In *Proceedings of the IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS 2018)*, Madrid, Spain. October 2018.

[168] Jennifer Simonjan, Josep Miquel Jornet, Ian Akyildiz and Bernhard Rinner. Nano-Cameras: A Key Enabling Technology for the Internet of Multimedia Nano-Things. In *Proceedings of the 5th ACM/IEEE International Conference on Nanoscale Computing and Communication*, Reykjavik, Iceland. September 2018.

[167] Matthias Weyrer and Bernhard Rinner. UAV Motion Planning and Control for Multi-Coverage of 3D Environments. In *Proceedings of the 2018 International Conference on Unmanned Aircraft Systems (ICUAS'18)*, Dallas, TX, USA. June 2018.

[166] Subhan Ullah, Lucio Marcenaro and Bernhard Rinner. Aggregate-Signcryption for Securing Smart Camera IoT Applications. In *Proceedings of the Global IoT Summit*, Bilbao, Spain. June 2018.

[165] Lukas Esterle and Bernhard Rinner. An Architecture for Self-aware IoT Applications. In *Proceedings of the IEEE International Conference on Acoustics, Speech and Signal Processing*, Calgary, Canada. April 2018.

[164] Ihtesham Haider and Bernhard Rinner. Private Space Monitoring with SoC-based Smart Cameras. In *Proceedings of the IEEE International Conference on Mobile Ad-hoc and Sensor Systems (MASS 2017)*, Olando, FL, USA. October 2017.

[163] Jürgen Scherer and Bernhard Rinner. Short and Full Horizon Motion Planning for Persistent multi-UAV Surveillance with Energy and Communication Constraints. In *Proceedings of the IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS 2017)*, Vancouver, Canada. September 2017.

[162] Jennifer Simonjan, Melanie Schranz and Bernhard Rinner. Self-calibration and Cooperative State Estimation in a Resource-aware Visual Sensor Network. In *Proceedings of the International Conference on Distributed Smart Cameras (ICDSC 2017)*, Stanford, USA. September 2017.

[161] Zakarya Guettatfi, Philipp Hübner, Marco Platzner and Bernhard Rinner. Computational Self-Awareness as Design Approach for Visual Sensor Nodes. In *Proceedings of the International Symposium on Reconfigurable Communication-centric Systems-on-Chip (ReCoSoC 2017)*, Madrid, Spain. July 2017.

[160] Subhan Ullah, Bernhard Rinner and Lucio Marcenaro. Smart Cameras with onboard Signcryption for Securing IoT Applications. In *Proceedings of the Global IoT Summit*, Geneve, Switzerland. June 2017.

[159] Jennifer Simonjan and Bernhard Rinner. Distributed Visual Sensor Network Calibration based on Joint Object Detections. In *Proceedings of the IEEE International Conference on Distributed Computing in Sensor Systems*, Ottawa, Canada. June 2017.

[158] Ihtesham Haider and Bernhard Rinner. Context Enhanced Multi Object Tracker for Human Robot Interaction. In *Proceedings of the EAI International Conference on Cloud, Networking for IoT Systems*, Brindisi, Italy. April 2017.

[157] Sharath Chandra Akkaladevi, Matthias Plasch, Christian Eitzinger and Bernhard Rinner. Context Enhanced Multi Object Tracker for Human Robot Interaction. In *Proceedings of the IEEE Conference on Human Robot Interaction (Late Breaking Results)*, Vienna, Austria. March 2017.

[156] Sharath Chandra Akkaladevi, Matthias Plasch, Christian Eitzinger, Sriniwas Chowdhary Maddukuri and Bernhard Rinner. Towards Learning to Handle Deviations using User Preferences in a Human Robot Collaboration Scenario. In *Proceedings of the International Conference on Human Computer Interaction*, Pilani, India. December 2016.

[155] Evsen Yanmaz, Markus Quaritsch, Saeed Yahyanejad, Bernhard Rinner, Hermann Hellwagner, and Christian Bettstetter. Communication and Coordination for Drone Networks. In *Proceedings of the EAI International Conference on Ad Hoc Networks (ADHOCNETS)*, Ottawa, Canada. September 2016.

[154] Obaid Khalid, Bernhard Rinner and Andrea Cavallaro. Detecting tracking errors via forecasting. In *Proceedings of the British Machine Vision Conference (BMVC)*, York, UK. September 2016.

[153] Tahir Nawaz, Bernhard Rinner and James Ferryman. User-centric, embedded vision-based human monitoring: A concept and a healthcare use case. In *Proceedings of the ACM/IEEE International Conference on Distributed Smart Cameras (ICDSC)*, Paris, France. September 2016.

[152] Jürgen Scherer and Bernhard Rinner. Persistent Multi-UAV Surveillance with Energy and Communication Constraints. In *Proceedings of the IEEE International Conference on Automation Science and Engineering (CASE)*, Dallas, TX, USA. August 2016.

[151] Omair Khan, Bernhard Rinner and Andrea Cavallaro. Design Space Exploration for Adaptive Privacy Protection in Airborne Images. In *Proceedings of the IEEE International Conference on Advanced Video and Signal-based Surveillance (AVSS)*, Colorado Springs, CO, USA. August 2016.

[150] Sharath Chandra Akkaladevi, Matthias Plasch, Andreas Pichler and Bernhard Rinner. Human Robot Collaboration to Reach a Common Goal in an Assembly Process. In *Proceedings of the European Conference on Artificial Intelligence, Starting AI Researcher Symposium (STAIRS)*, Den Haag, The Netherlands. 2016.

[149] Ihtesham Haider, Michael Hoeberl and Bernhard Rinner. Trusted Sensors for Participatory Sensing and IoT Applications based on Physically Unclonable Functions. In *Proceedings of the 2nd International Workshop on IoT Privacy, Trust, and Security (IoTPTS)*, Xi'an, China. May 2016.

[148] Michael Hoeberl, Ihtesham Haider and Bernhard Rinner. Towards a Secure Key Generation and Storage Framework on Resource-Constrained Sensor Nodes. In *Proceedings of the International Conference on Embedded Wireless Systems and Networks Workshops*, Graz, Austria. February 2016.

[147] Jennifer Simonjan and Bernhard Rinner. Autonomous, Lightweight Calibration of Visual Sensor Networks with Dense Coverage. In *Proceedings of the IEEE International Conference on Pervasive Computing and Communications (WiP)*, Sydney, Australia. March 2016.

[146] Michael A. Gruber, Melanie Schranz and Bernhard Rinner. Demo: The extended VSNsim for Hybrid Camera Systems. In *Proceedings of the ACM/IEEE International Conference on Distributed Smart Cameras (ICDSC)*, Seville, Spain. September 2015.

[145] Lukas Esterle, Bernhard Rinner and Peter Lewis. Self-organising Zooms for Decentralised Redundancy Management in Visual Sensor Networks. In *Proceedings of the IEEE International Conference on Self-Adaptive and Self-Organizing Systems (SASO)*, Boston, MA, USA. September 2015.

[144] Asif Khan, Bernhard Rinner and Andrea Cavallaro. Multiscale Observation of Multiple Moving Targets using Micro Aerial Vehicles. In *Proceedings of the IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, Hamburg, Germany. September 2015.

[143] Jürgen Scherer, Saeed Yahyanejad, Samira Hayat, Evsen Yanmaz, Torsten Andre, Asif Khan, Vladimir Vukadinovic, Christian Bettstetter, Hermann Hellwagner and Bernhard Rinner. An Autonomous Multi-UAV System for Search and Rescue. In *Proceedings of the 13th International Conference on Mobile Systems, Applications, and Services*, ACM, Florence, Italy, May 2015.

[142] Thomas Winkler and Bernhard Rinner. Secure Embedded Visual Sensing in End-User Applications with Trust-EYE.M4. In *Proceedings of the IEEE International Conference on Intelligent Sensors, Sensor Networks and Information Processing (ISSNIP)*, Singapore. April 2015.

[141] Syed Tahir Fahad, Andrea Cavallaro and Bernhard Rinner. Re-identification with multiple source-cameras. In *Proceedings of the IEEE International Conference on Intelligent Sensors, Sensor Networks and Information Processing (ISSNIP)*, Singapore. April 2015.

[140] Melanie Schranz and Bernhard Rinner. Resource-Aware State Estimation in Visual Sensor Networks with Dynamic Clustering. In *Proceedings of the International Conference on Sensor Networks (SENSORNETS)*, Angers, France. February 2015.

[139] Thomas Winkler and Bernhard Rinner. Demo: TrustEYE.M4 - A novel Platform for Secure Visual Sensor Network Applications. In *Proceedings of the ACM/IEEE International Conference on Distributed Smart Cameras (ICDSC)*, Venice, Italy. November 2014.

[138] Melanie Schranz and Bernhard Rinner. Demo: Demonstrating Autonomous Handover in Heterogeneous Multi-camera Systems. In *Proceedings of the ACM/IEEE International Conference on Distributed Smart Cameras (ICDSC)*, Venice, Italy. November 2014.

[137] Jennifer Simonjan, Lukas Esterle, Bernhard Rinner, Georg Nebehay and Gustavo F. Dominguez. Demo: Demonstrating Autonomous Handover in Heterogeneous Multi-camera Systems. In *Proceedings of the ACM/IEEE International Conference on Distributed Smart Cameras (ICDSC)*, Venice, Italy. November 2014.

[136] Bernhard Rinner and Thomas Winkler. Privacy-protecting Smart Cameras. In *Proceedings of the ACM/IEEE International Conference on Distributed Smart Cameras (ICDSC)*, Venice, Italy. November 2014.

[135] Herwig Guggi and Bernhard Rinner. Reducing Processing Delay in Dataflow-oriented Middleware Systems for Smart Camera Applications. In Proceedings of the *ACM/IEEE International Conference on Distributed Smart Cameras (ICDSC)*, Venice, Italy. November 2014.

[134] Tahir Nawaz, Andrea Cavallaro and Bernhard Rinner. Trajectory-Clustering for Motion Pattern Extraction in Aerial Videos. In *Proceedings of the IEEE International Conference on Image Processing*. 5pp, Paris, France. October 2013.
Top 10 % Award

[133] Adam Erdelyi, Thomas Winkler and Bernhard Rinner. Multi-Level Cartooning for Context-Aware Privacy Protection in Visual Sensor Networks. In *Proceedings of the MediaEval 2014 Workshop*, 2pp, Barcelona, Spain. October 2014.

[132] Thomas Winkler, Adam Erdelyi and Bernhard Rinner. TrustEYE.M4: Protecting the Sensor - not the Camera. In *Proceedings of the IEEE International Conference on Advanced Video and Signal-Based Surveillance (AVSS)*, Seoul, Korea. August 2014.

[131] Adam Erdelyi, Tibor Barat, Patrick Valet, Thomas Winkler and Bernhard Rinner. Adaptive Cartooning for Privacy Protection in Camera Networks. In *Proceedings of the IEEE International Conference on Advanced Video and Signal-Based Surveillance (AVSS)*, Seoul, Korea. August 2014.

[130] Muhidul Khan and Bernhard Rinner. Energy-aware Task Scheduling in Wireless Sensor Networks based on Cooperative Reinforcement Learning. In *Proceedings of the IEEE International Conference on Communications Workshops*, Sydney, Australia. June 2014.

[129] Asif Khan, Evsen Yanmaz and Bernhard Rinner. Information Merging in Multi-UAV Cooperative Search. In *Proceedings of the 2014 IEEE International Conference on Robotics and Automation (ICRA 2014)*, Hong Kong, China. June 2014.

[128] Bernhard Dieber and Bernhard Rinner. Distributed Online Visual Sensor Network Reconfiguration for Resource-aware Coverage and Task Assignment. In *Proceedings of the the Globecom Ad Hoc and Sensor Networking Symposium*, 6pp, Atlanta, USA. December 2013.

[127] Venkata Pathuri Bhuvana, Melanie Schranz, Mario Huemer and Bernhard Rinner. Distributed Object Tracking based on Cubature Kalman Filter. In *Proceedings of the the 47th Asilomar Conference on Signals, Systems and Computers.* Pacific Grove, USA. November 2013.

[126] Bernhard Dieber, Jennifer Simonjan, Lukas Esterle, Bernhard Rinner, Georg Nebehay, Roman Pflugfelder and Gustavo J. Fernandez. Ella: Middleware for Multi-camera Surveillance in Heterogeneous Visual Sensor Networks. In *Proceedings of the seventh ACM/IEEE International Conference on Distributed Smart Cameras.* 6 pp, Palm Springs, USA. October 2013,

[125] Adam Erdelyi, Thomas Winkler and Bernhard Rinner. Serious Fun: Cartooning for Privacy Protection. In *Proceedings of the MediaEval 2013 Workshop.* 2pp, Barcelona, Spain. October 2013.

[124] Vidya Sagar Kantamneni, Wolfgang Scherr and Bernhard Rinner. Design of Stable and Configurable Digital Filters for Automotive Sensors. In *Proceedings of 21st Austrian Workshop on Microelectronics (Austrochip 2013).* Linz, Austria 2013.

[123] Peter R. Lewis, Lukas Esterle, Arjun Chandra, Bernhard Rinner and Xin Yao. Learning to be Different: Heterogeneity and Efficiency in Distributed Smart Camera Networks. In *Proceedings of the Seventh IEEE International Conference on Self-Adaptive and Self-Organizing Systems (SASO 2013)*, 10 pp, Philadelphia, USA. September 2013.

[122] Herwig Guggi and Bernhard Rinner. Increasing efficiency of data-flow based middleware systems by adapting data generation. In *Proceedings of the Seventh IEEE International Conference on Self-Adaptive and Self-Organizing Systems (SASO 2013)*, 10 pp, Philadelphia, USA. September 2013.

[121] Thomas Winkler and Bernhard Rinner. Sensor-level Security and Privacy Protection by embedding Video Content Analysis. In *Proceedings of the International Conference on Digital Signal Processing (DSP 2013).* Santorini, Greece. July 2013.

[120] Muhidul Islam Khan, Bernhard Rinner and Carlo S. Regazzoni. Resource Coordination in Wireless Sensor Networks by Combinatorial Auction Based Method. In *Proceedings of the IEEE International Conference on Networked Embedded Systems for Every Application (NESEA 2012).* Liverpool, UK. December 2012.

[119] Vera Mersheeva, Daniel Wischounig-Strucl, Markus Quaritsch, Bernhard Rinner, Gerhard Friedrich. Lightscribing the sky with micro UAVs. In *Proceedings of UAVveek 2012*. Siegen, Germany. November 2012.

[118] Umair Ali Khan, Bernhard Rinner. A Reinforcement Learning Framework For Dynamic Power Management of a Portable, Multi-Camera Traffic Monitoring System. In *Proceedings of the IEEE International Conference on Green Computing and Communications (GreenCom 2012).* Besancon, France. November 2012.

[117] Umair Ali Khan, Martin Godec, Markus Quaritsch, Marcus Hennecke, Horst Bischof, Bernhard Rinner. MobiTrick - Mobile Traffic Checker. In *Proceedings of the ITS World Congress (ITSWC 2012).* Vienna, Austria. October 2012.

[116] Felix Pletzer, Roland Tusch, Thomas Mariacher, Manfred Harrer, Laszlo Beoszoermenyi, Bernhard Rinner. LOOK2: Video-based traffic state estimation on smart cameras for traffic information systems. In *Proceedings of the ITS World Congress (ITSWC 2012).* Vienna, Austria. October 2012.

[115] Roland Tusch, Felix Pletzer, Thomas Mariacher, Armin Kraetschmer, Vijay Mudunuri, Karuna Sabbavarapu, Marian Kogler, Manfred Harrer, Peter Hrassnig, Laszlo Boeszoermenyi, Bernhard Rinner. LOOK2: A video-centric system for real-time notification and presentation of relevant traffic situations in Austria. In *Proceedings of the ITS World Congress (ITSWC 2012).* Vienna, Austria. October 2012.

[114] Lukas Esterle, Peter R. Lewis, Bernhard Rinner, Xin Yao. Improved Adaptivity and Robustness in Decentralised Multi-Camera Networks. In *Proceedings of the ACM/IEEE Conference on Distributed Smart Cameras (ICDSC 2012)*. Hong Kong, China. October 2012.

[113] Melanie Schranz, Bernhard Rinner. Consensus in Visual Sensor Networks Consisting of Calibrated and Uncalibrated Cameras (PhD Forum). In *Proceedings of the ACM/IEEE Conference on Distributed Smart Cameras (ICDSC 2012)*. Hong Kong, China. October 2012.

[112] Bernhard Dieber, Lukas Esterle, Bernhard Rinner. Distributed Resource-aware Task Assignment for Complex Monitoring Scenarios in Visual Sensor Networks. In *Proceedings of the ACM/IEEE Conference on Distributed Smart Cameras (ICDSC 2012)*. Hong Kong, China. October 2012.

[111] Felix Pletzer, Roland Tusch, Laszlo Boeszoermenyi, Bernhard Rinner. Robust traffic state estimation on smart cameras. In *Proceedings of the IEEE Conference on Advanced Video and Signal-based Surveillance (AVSS 2012)*. Bejing, China. September 2012.

[110] Roland Tusch, Felix Pletzer, Vijay Mudunuri, Armin Kraetschmer, Karuna Sabbavarapu, Marian Kogler, Laszlo Boeszoermenyi, Bernhard Rinner, Thomas Mariacher, Manfred Harrer, Peter Hrassnig. Demonstration paper for ICME 2012 LOOK2 - A video-based system for real-time notification of relevant traffic events. In *Proceedings of the IEEE International Conference on Multimedia and Expo (ICME 2012)*. Melbourne, Australia. July 2012. **Best Demonstration Award**

[109] Roland Tusch, Felix Pletzer, Armin Kraetschmer, Laszlo Boeszoermenyi, Bernhard Rinner, Thomas Mariacher, Manfred Harrer. Efficient Level of Service Classification for Traffic Monitoring in the Compressed Video Domain. In *Proceedings of the IEEE International Conference on Multimedia and Expo (ICME 2012)*. Melbourne, Australia. July 2012.

[108] Bernhard Rinner, Bernhard Dieber, Lukas Esterle, Peter R. Lewis and Xin Yao. Resource-Aware Configuration in Smart Camera Networks. In *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition Workshop on Camera Networks and Wide Area Analysis.* Providence, USA. June 2012.

[107] Daniel Wischounig-Strucl and Bernhard Rinner. Incrementally Generated Wide Area Mosaics for Rescue Scenarios by Networked UAVs. In *Proceedings of the 2nd Austrian Robotics Workshop (ARW 2012).* Graz, Austria. May 2012.

[106] Robert Kuschnig, Evsen Yanmaz, Ingo Kofler, Bernhard Rinner and Hermann Hellwagner. Profiling IEEE 802.11 Performance on Linux-based Networked Aerial Robots. In *Proceedings of the 2nd Austrian Robotics Workshop (ARW 2012).* Graz, Austria. May 2012.

[105] Umair Khan and Bernhard Rinner. Dynamic Power Management for Portable, Multi-Camera Traffic Monitoring. In *Proceedings of the 18th IEEE Real-Time and Embedded Technology and Applications Symposium (RTAS 2012).* Beijing, China. April 2012.

[104] Muhidul Islam Khan and Bernhard Rinner. Resource coordination in wireless sensor networks by cooperative rein- forcemnet learning. In *Proceedings of the 4rd International Workshop on Sensor Networks and Ambient Intelligence (SeNAmI 2012).* Lugano, Switzerland. March 2012.

[103] Saeed Yahyanejad, Jakub Misiorny and Bernhard Rinner. Lens Distortion Correction for Thermal Cameras to Improve Aerial Imaging with Small-Scale UAVs. In *Proceedings of the IEEE International Symposium on RObotic and Sensors Environment (ROSE 2011).* Montreal, Kanada. September 2011.

[102] Saeed Yahyanejad, Markus Quaritsch and Bernhard Rinner. Incremental, Orthorectified and Loop-independent Mosaicking of Aerial Images Taken by micro UAVs. In *Proceedings of the IEEE International Symposium on RObotic and Sensors Environment (ROSE 2011).* Montreal, Kanada. September 2011. **(best student paper award)**

[101] Felix Pletzer, Roland Tusch, Laszlo Boeszoermenyi, Oliver Sidla, Thomas Mariacher, Manfred Harrer, Bernhard Rinner. Feature-based Level of Service Classification for Traffic Surveillance. In *Proceedings of the 14th International IEEE Conference on Intelligent Transportation Systems (ITSC 2011).* Washington, DC, USA. October 2011.

[100] Lukas Esterle, Peter R. Lewis, Marcin Bogdanski, Bernhard Rinner and Xin Yao. A Socio-Economic Approach to Online Vision Graph Generation and Handover in Distributed Smart Camera Networks. In *Proceedings of the ACM/IEEE International Conference on Distributed Smart Cameras (ICDSC 2011)* 6 pages, Ghent, Belgium. August 2011.

[99] Herwig Guggi and Bernhard Rinner. Distributed Smart Cameras for Hard Real-Time Obstacle Detection in Control Applications. In *Proceedings of the ACM/IEEE International Conference on Distributed Smart Cameras (ICDSC 2011)* 6 pages, Ghent, Belgium. August 2011.

[98] Fahdi Al Machot, Kyandoghere Kyamakya, Bernhard Dieber and Bernhard Rinner. Real Time Complex Event Detection for Resource-Limited Multimedia Sensor Networks. In *Proceedings of the Workshop on Activity Monitoring by Multi-Camera Surveillance Systems (co-located with AVSS 2011)* pages 468–473, Klagenfurt, Austria. August 2011.

[97] Fahdi Al Machot, Sabrina Londero, Christian Micheloni, Paolo Omero, Claudio Piciarelli, Bernhard Dieber, Kyandoghere Kyamakya, Bernhard Rinner and Carlo Tasso. Smart Resource-aware Multimedia Sensor Network for Automatic Detection of Complex Events. In *Proceedings of the 2nd International Workshop on Multimedia Systems for Surveillance (co-located with AVSS 2011)* pages 402–407, Klagenfurt, Austria. August 2011.

[96] Bernhard Dieber and Bernhard Rinner. Resource-Aware Sensor Selection and Task Assignment. In *Proceedings of the International Workshop on Resources AWare Sensor and surveillance NETworkS (co-located with AVSS 2011)* pages 438–440, Klagenfurt, Austria. August 2011.

[95] Umair Khan, Markus Quaritsch and Bernhard Rinner. Design of a Heterogeneous, Energy-Aware, Stereo-Vision Based Sensing Platform for Traffic Surveillance. In *Ninth Workshop on Intelligent Solutions in Embedded Systems (WISES 2011)*. Regensburg, Germany. July 2011.

[94] Daniel Wischounig-Strucl, Markus Quaritsch, Bernhard Rinner. Prioritized Data Transmission in Airborne Camera Networks for Wide Area Surveillance and Image Mosaicking. In *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition, Workshop on Camera Networks and Wide Area Scene Analysis*. Colorado Springs, USA. June 2011.

[93] Markus Quaritsch, Robert Kuschnig, Hermann Hellwagner, Bernhard Rinner. Fast Aerial Image Acquisition and Mosaicking for Emergency Response Operations by Collaborative UAVs. In *8th International Conference on Information Systems for Crisis Response and Management (ISCRAM 2011)*. Lisbon, Portugal. May 2011.

[92] Markus Quaritsch, Robert Kuschnig, Vera Mersheeva, Daniel Wischounig-Strucl, Saeed Yahyanejad, Evsen Yanmaz, Gerhard Friedrich, Hermann Hellwagner, Christian Bettstetter, Bernhard Rinner. Collaborative UAVs for Aerial Reconnaissance in Rescue Scenarios. In *Proceedings of the Austrian Robotics Workshop*. Innsbruck, Austria. May 2011.

[91] Evsen Yanmaz, Robert Kuschnig, Markus Quaritsch, Christian Bettstetter and Bernhard Rinner. On Path Planning Strategies for Networked Unmanned Aerial Vehicles. In *Proceedings of the IEEE INFOCOM Workshop on Machine-to-Machine Communications and Networking*. Shanghai, China. April 2011.

[90] Daniel Wischounig-Strucl, Markus Quaritsch, and Bernhard Rinner. A Structure Based Mosaicking Approach for Aerial Images from Low Altitude of Non-Planar Scenes. In *Proceedings of the Computer Vision Winter Workshop (CVWW)*. Mitterberg, Austria. February 2011.

[89] Felix Pletzer and Bernhard Rinner. Distributed Task Allocation for Visual Sensor Networks: A Market-based Approach. In *Proceedings of the Workshop on Socio-Economics Inspiring Self-Managed Systems and Concepts (SEISMYC)*. Budapest, Hungary. September 2010.

[88] Herwig Guggi and Bernhard Rinner. Distributed Smart Cameras for Hard Real-Time Control. In *Proceedings of the 4th ACM/IEEE International Conference on Distributed Smart Cameras (Work-in-Progress)*. Atlanta, GA., USA. September 2010.

[87] Daniel Wischounig-Strucl and Bernhard Rinner. Resource-Aware Image Mosaicking on Networks of Small-Scale UAVs. In *Proceedings of the 4th ACM/IEEE International Conference on Distributed Smart Cameras (PhD Forum)*. Atlanta, GA., USA. September 2010.

[86] Wolfgang Schriebl and Bernhard Rinner. A Resource-Aware Distributed Event Space for Pervasive Smart Camera Networks. In *Proceedings of the 4th ACM/IEEE International Conference on Distributed Smart Cameras (ICDSC)*. Atlanta, GA., USA. September 2010.

[85] Thomas Winkler and Bernhard Rinner. A Systematic Approach Towards User-Centric Privacy and Security for Smart Camera Networks. In *Proceedings of the 4th ACM/IEEE International Conference on Distributed Smart Cameras (ICDSC)*. Atlanta, GA., USA. September 2010.

[84] Saeed Yahyanejad, Daniel Wischounig-Strucl, Markus Quaritsch and Bernhard Rinner. Incremental Mosaicking of Images from Autonomous, Small-Scale UAVs. In *Proceedings of the 7th IEEE International Conference on Advanced Video and Signal Based Surveillance (AVSS)*. pages 329-336, Boston, MA., USA. August/September 2010.

[83] Martin Godec, Christian Leistner, Horst Bischof, Andreas Starzacher and Bernhard Rinner. Audio-Visual Co-Training for Vehicle Classification. In *Proceedings of the 7th IEEE International Conference on Advanced Video and Signal Based Surveillance (AVSS)*. pages 586-592, Boston, MA., USA. August/September 2010.

[82] Thomas Winkler and Bernhard Rinner. TrustCAM: Security and Privacy-Protection for an Embedded Smart Camera based on Trusted Computing. In *Proceedings of the 7th IEEE International Conference on Advanced Video and Signal Based Surveillance (AVSS)*. pages 593-600, Boston, MA., USA. August/September 2010. **(best paper award)**

[81] Bernhard Dieber, Thomas Grassauer, Jakob Mayring and Bernhard Rinner. The Geobashing Architecture for Location-Based Mobile Massive Multiplayer Online Games. In *Proceedings of the 4th International Conference on Next Generation Mobile Applications, Services and Technologies (NGMAST 2010)*. Amman, Jordan. July 2010.

[81] Thomas Winkler and Bernhard Rinner. User-Based Attestation for Trustworthy Visual Sensor Networks. In *Proceedings of the 2010 IEEE International Conference on Sensor Networks, Ubiquitous, and Trustworthy Computing (SUTC)*. pages 74-81, Newport Beach, CA., USA. June 2010.

[80] Andreas Starzacher and Bernhard Rinner. Single Sensor Acoustic Feature Extraction for Embedded Realtime Vehicle Classification. In *Proceedings of the 2009 International Conference on Parallel and Distributed Computing, Applications and Technologies (Workshop on Sensor Networks and Ambient Intelligence)*. pages 378-383, Hiroshima, Japan. December 2009.

[79] Thomas Winkler and Bernhard Rinner. Power Aware Communication in Wireless Pervasive Smart Camera Networks. In *Proceedings of the 5th International Conference on Intelligent Sensors, Sensor Networks and Information Processing (ISSNIP 2009)*. pages 6, Melbourne, Australia. December 2009.

[78] Thomas Winkler and Bernhard Rinner. Applications of Trusted Computing in Pervasive Smart Camera Networks. In *Proceedings of the 4th ACM Workshop on Embedded Systems Security (WESS 2009)*. pages 10, Grenoble, France. October 2009.

[77] Bernhard Dieber, Bernhard Rinner and Nikolaus Viertl. Flexible clustering in networks of smart cameras. In *Proceedings of the IEEE International Workshop on Embedded Computer Vision (ECV 2009) (co-located with ICCV 2009)*. pages 834-839, Kyoto, Japan. October 2009.

[76] Bernhard Dieber and Bernhard Rinner. Evaluating clustering in smart camera networks. In *Proceedings of the ACM/IEEE International Conference on Distributed Smart Cameras (ICDSC 2009) PhD Forum*. pages 2, Como, Italy. September 2009.

[75] Wolfgang Schriebl, Thomas Winkler, Andreas Starzacher and Bernhard Rinner. A Pervasive Smart Camera Network Architecture applied for Multi-Camera Object Classification. In *Proceedings of the ACM/IEEE International Conference on Distributed Smart Cameras (ICDSC 2009)*. pages 8, Como, Italy. September 2009.

[74] Andreas Starzacher and Bernhard Rinner. Embedded Realtime Feature Fusion based on ANN, SVM and NBC. In *Proceedings of the 12th International Conference on Information Fusion (Fusion 2009)*. pages 8, Seattle, Washington USA. July 2009.

[73] Herwig Guggi, Raimund Leitner and Bernhard Rinner. Exploiting Feature-Based Fusion in LED-based Multi-Spectral Imaging. In *Proceedings of the 33rd Annual Workshop of the Austrian Association for Pattern Recognition (OAGM 2009)*. pages 107-117, Stainz, Austria. May 2009.

[72] Thomas Winkler and Bernhard Rinner. Pervasive Smart Camera Networks exploiting heterogeneous wireless Channels. In *Proceedings of the IEEE International Conference on Pervasive Computing and Communications (PerCom)*. pages 296-299, Galveston, USA. March 2009.

[71] Andreas Starzacher and Bernhard Rinner. Evaluating KNN, LDA and QDA Classification for embedded online Feature Fusion. In *Proceedings of the 4th International Conference on Intelligent Sensors, Sensor Networks and Information Processing (ISSNIP 2008)*. pages 85-90, Sydney, Australia. December 2008.

[70] Markus Quaritsch, Emil Stojanovski, Christian Bettstetter, Gerhard Friedrich, Hermann Hellwagner, Bernhard Rinner, Michael Hofbauer and Mubarak Shah. Collaborative Microdrones: Applications and Research Challenges. In *Proceedings of the Second International Conference on Autonomic Computing and Communication Systems*. pages 7, Milan, Italy. October 2008.

[69] Markus Quaritsch and Bernhard Rinner. DSCAgents: A Lightweight Middleware for Distributed Smart Cameras. In *Proceedings of the Workshop on Embedded Middleware for Smart Cameras and Visual Sensor Networks*. pages 7, Stanford, USA. September 2008.

[68] Christian Leistner, Peter Roth, Helmut Grabner, Horst Bischof, Andreas Starzacher and Bernhard Rinner. Visual On-line Learning in Distributed Camera Networks. In *Proceedings of the ACM/IEEE International Conference on Distributed Smart Cameras (ICDSC-08)*. pages 10, Stanford, USA. September 2008.

[67] Bernhard Rinner, Markus Quaritsch, Wolfgang Schriebl, Thomas Winkler and Wayne Wolf. The Evolution from Single to Pervasive Smart Cameras. In *Proceedings of the ACM/IEEE International Conference on Distributed Smart Cameras (ICDSC-08)*. pages 10, Stanford, USA. September 2008.

[66] Markus Quaritsch, Bernhard Rinner, Mario Wiesinger and Bernhard Strobl. An Adaptive Multi-Purpose Transmission Scheme for H.264 Encoded Video in Wireless Networks. In *Proceedings of the International Symposium Communication Systems Networks and Digital Signal Processing*. pages 5, Graz, Austria. July 2008.

[65] Allan Tengg, Andreas Klausner and Bernhard Rinner. Task Allocation in Distributed Embedded Systems by Genetic Programming. In *Proceedings of the Eighth International Conference on Parallel and Distributed Computing, Applications and Technologies (PDCAT)*. pages 26-30, Adelaide, Australia. December 2007.

[64] Wolfgang Schriebl, Thomas Winkler and Bernhard Rinner. Towards Pervasive Smart Cameras. In *Proceedings of the ACM/IEEE International Conference on Distributed Smart Cameras (ICDSC-07) PhD Forum*. pages 402-403, Vienna, Austria. September 2007.

[63] Andreas Starzacher and Bernhard Rinner. An Embedded Multi-Sensor Data Fusion Framework for Enhancing Vision-based Traffic Monitoring. In *Proceedings of the ACM/IEEE International Conference on Distributed Smart Cameras (ICDSC-07) PhD Forum*. pages 400-401, Vienna, Austria, September 2007.

[62] Markus Quaritsch, Bernhard Rinner and Bernhard Strobl. Improved Agent-oriented Middleware for Distributed Smart Cameras. In *Proceedings of the ACM/IEEE International Conference on Distributed Smart Cameras (ICDSC)*. pages 297-304, Vienna, Austria. September 2007.

[61] Andreas Klausner, Allan Tengg and Bernhard Rinner. Vehicle Classification on Multi-Sensor Cameras using Feature- and Decision-Fusion. In *Proceedings of the ACM/IEEE International Conference on Distributed Smart Cameras (ICDSC)*. pages 67-74, Vienna, Austria. September 2007.

[60] Andreas Klausner, Christian Leistner, Stefan Erb and Bernhard Rinner. An audio-visual sensor fusion approach for feature based vehicle identification. In *Proceedings of the 2007 IEEE International Conference on Advanced Video and Signal based Surveillance (AVSS 2007)*. pages 111-116, London, UK. September 2007.

[59] Andreas Klausner, Stefan Erb, Allan Tengg and Bernhard Rinner. DSP Based Acoustic Vehicle Classification for Multi-Sensor Real-Time Traffic Surveillance. In *Proceedings of the 15th European Signal Processing Conference (EUSIPCO 2007)*. pages 5, Poznan, Poland. September 2007.

[58] Allan Tengg, Andreas Klausner and Bernhard Rinner. An improved genetic algorithm for task allocation in distributed embedded systems. In *Proceedings of the Genetic and Evolutionary Conference (GECCO 2007)*. London, UK. July 2007.

[57] Andreas Klausner, Allan Tengg and Bernhard Rinner. Enhanced Least Squares Support Vector Machines for Decision Modeling in a Multi-Sensor Fusion Framework. In *Proceedings of the International Conference on Artificial Intelligence and Pattern Recognition (AIPR 2007)*. Orlando, FL, USA. July 2007.

[56] Milan Jovanovic and Bernhard Rinner. Middleware for Dynamic Reconfiguration in Distributed Camera Systems. In *Proceedings of the IEEE Workshop on Intelligent Solutions in Embedded Systems (WISES 2007)*. pages 139-150, Madrid, Spain. June 2007.

[55] Allan Tengg, Andreas Klausner and Bernhard Rinner. I-SENSE: A Light-Weight Middleware for Embedded Multi-Sensor Data-Fusion. In *Proceedings of the IEEE Workshop on Intelligent Solutions in Embedded Systems (WISES 2007)*. pages 165-170, Madrid, Spain. June 2007.

[54] Bernhard Rinner, Milan Jovanovic and Markus Quaritsch. Embedded Middleware in Distributed Smart Cameras. In *Proceedings of the IEEE Conference on Acoustics, Speech, and Signal Processing (ICASSP 2007)*. pages 1381-1384, Honolulu, Hawaii, USA. April 2007. (invited paper)

[53] Markus Quaritsch, Markus Kreuzthaler, Bernhard Rinner and Bernhard Strobl. Decentralized Object Tracking in a Network of Embedded Smart Cameras In *Proceedings of the Workshop on Distributed Smart Cameras (DSC 2006)*. pages 6, Boulder, CO, USA. October 2006.

[52] Andreas Doblander, Arnold Maier, Bernhard Rinner and Helmut Schwabach. A Novel Software Framework for Power-Aware Reconfiguration in Distributed Embedded Smart Cameras. In *Proceedings of the IEEE Twelfth International Conference on Parallel and Distributed Systems (ICPADS 2006)*. pages 281-288, Minneapolis, USA, July 2006.

[51] Andreas Klausner, Bernhard Rinner and Allan Tengg. I-SENSE: Intelligent Embedded Multi-Sensor Fusion. In *Proceedings of the Fourth International IEEE Workshop on Intelligent Solutions in Embedded Systems (WISES 2006)*. pages 12, Vienna, Austria, June 2006.

[50] Andreas Doblander, Arnold Maier, Bernhard Rinner and Andreas Zoufal. An Efficient Middleware for Power-Aware Service Reconfiguration in Multi-DSP Smart Cameras. In *Proceedings of the IEEE International Conference on Information & Communication Technologies: From Theory to Applications (ICTTA 2006)*. pages 2985-2990, Damascus, Syria, April 2006.

[49] Andreas Doblander, Bernhard Rinner, Norbert Trenkwalder and Andreas Zoufal. A light-weight Publisher-Subscriber Middleware for Dynamic Reconfiguration in Networks of Embedded Smart Cameras. In *Proceedings of the 5th WSEAS International Conference on Software Engineering, Parallel and Distributed Systems (SEPADS 2006)*. pages 6, Madrid, Spain, February 2006.

[48] Arnold Maier, Bernhard Rinner, Wolfgang Schriebl and Helmut Schwabach. Online Multi-Criterion Optimization for Dynamic Power-Aware Configuration Management in Distributed Embedded Surveillance Clusters. In *Proceedings of the IEEE 20th International Conference on Advanced Information Networking and Applications (AINA 2006)*. pages 307-312, Vienna, Austria, April 2006.

[47] Michael Bramberger, Andreas Doblander, Milan Jovanovic, Andreas Klausner, Arnold Maier, Bernhard Rinner and Allan Tengg. Embedded Smart Cameras as Key Components in Reactive Sensor Systems. In *Proceedings of the International Conference on Cognitive Systems with Interactive Sensors (COGIS 2005)*. pages 6, Paris, France, March 2006.

[46] Michael Bramberger, Bernhard Rinner and Helmut Schwabach. A Method for Dynamic Allocation of Tasks in Clusters of Embedded Smart Cameras. In *Proceedings of the IEEE Conference on Systems, Man and Cybernetics (SMC 2005)*. pages 2595-2600, Hawaii, U.S.A., October 2005.

[45] Michael Bramberger, Markus Quaritsch, Thomas Winkler, Bernhard Rinner and Helmut Schwabach. Integrating Multi-Camera Tracking into a Dynamic Task Allocation System for Smart Cameras. In *Proceedings of the IEEE Conference on Advanced Video and Signal Based Surveillance (AVSS 2005)*. pages 474-479. Como, Italy, September 2005.

[44] Arnold Maier, Bernhard Rinner and Helmut Schwabach. A Hierarchical Approach for Energy-Aware Distributed Embedded Intelligent Surveillance. In *Proceedings of the IEEE/IFIP International Workshop on Parallel and Distributed Embedded Systems*. pages 12-16, Fukuoka, Japan, July 2005.

[43] Michael Bramberger, Bernhard Rinner and Helmut Schwabach. Resource-Aware Dynamic Task Allocation in Clusters of Embedded Smart Cameras by Mobile Agents. In *Proceedings of the IEE Workshop on Intelligent Environments*. pages 100-108. Colchester, U.K., June 2005.

[42] Andreas Doblander, Arnold Maier, Bernhard Rinner and Helmut Schwabach. Improving Fault-Tolerance in Intelligent Video Surveillance by Monitoring, Diagnosis and Dynamic Reconfiguration In *Proceedings of the Third International IEEE Workshop on Intelligent Solutions in Embedded Systems (WISES 2005)*. pages 194-201. Hamburg, Germany, May 2005.

[41] Michael Bramberger, Bernhard Rinner and Helmut Schwabach. A Mobile Agent-based System for Dynamic Task Allocation in Clusters of Embedded Smart Cameras. In *Proceedings of the Third International IEEE Workshop on Intelligent Solutions in Embedded Systems (WISES 2005)*. pages 17-26. Hamburg, Germany, May 2005.

[40] Matthias Pfragner, Peter Priller, Dietmar Prisching and Bernhard Rinner. Performance Estimation in complex Automation Systems. In *Proceedings of the Telecommunications and Mobile Computing Workshop on Wearable and Pervasive Computing (TCMC 2005)*. pages 4, Graz, Austria, March 2005.

[39] Andreas Doblander, Arnold Maier, Bernhard Rinner and Helmut Schwabach. Increasing Service Availability in Intelligent Video Surveillance Systems by Fault Detection and Dynamic Reconfiguration. In *Proceedings of the Telecommunications and Mobile Computing Workshop on Wearable and Pervasive Computing (TCMC 2005)*. pages 5, Graz, Austria, March 2005.

[38] Michael Bramberger, Bernhard Rinner and Helmut Schwabach. Dynamic Task Allocation in Clusters of Embedded Smart Cameras. In *Proceedings of the Telecommunications and Mobile Computing Workshop on Wearable and Pervasive Computing (TCMC 2005)*. pages 6, Graz, Austria, March 2005.

[37] Michael Bramberger, Bernhard Rinner and Helmut Schwabach. An Embedded Smart Camera on a scalable heterogeneous Multi-DSP System. In *Proceedings of the IEEE European DSP Education and Research Symposium (EDERS 2004)*. pages 6, Birmingham, U.K., November 2004.

[36] Arnold Maier, Bernhard Rinner, Thomas Trathnigg and Helmut Schwabach. Combined Management of Power- and Quality of Service in Distributed Embedded Video Surveillance Systems. In *Proceedings of the 1st International Workshop on Power-Aware Real-Time Computing (PARC 2004)*. pages 4, Pisa, Italy, September 2004.

[35] Michael Bramberger, Josef Brunner, Bernhard Rinner and Helmut Schwabach. Real-Time Video Analysis on an Embedded Smart Camera for Traffic Surveillance. In *Proceedings of the 10th IEEE Real-Time and Embedded Technology and Applications Symposium (RTAS 2004)*. pages 174-181, Toronto, Canada, May 2004.

[34] Arnold Maier, Bernhard Rinner, Thomas Trathnigg and Helmut Schwabach. Combined Dynamic Power- and QoS-Management in Embedded Video Surveillance Systems. In *Proceedings of the 2nd Workshop on Intelligent Solutions in Embedded Systems (WISES 2004)*. pages 63-77, Graz, Austria, June 2004.

[33] Andreas Doblander, Dietmar Gösseringer, Bernhard Rinner and Helmut Schwabach. Synthesis of Embedded Image Processing Applications from SIMULINK Models. In *Proceedings of the 2nd Workshop on Intelligent Solutions in Embedded Systems (WISES 2004)*. pages 13-24, Graz, Austria, June 2004.

[32] Michael Bramberger, Andreas Doblander, Arnold Maier, Bernhard Rinner Martin Schmid and Reinhold Weiss. Innovative Video Applications on High-Performance DSPs. In *Proceedings of the Texas Instruments Developers Conference*. Houston, TX, USA, February 2004.

[31] Dietmar Prisching and Bernhard Rinner. Modeling Real-Time and non Real-Time Interoperability. In *Proceedings of the 15th Euromicro Conference on Real-Time Systems (Work in Progress Session)*. pages 4, Porto, Portugal, July 2003.

[30] Michael Bramberger, Roman Pflugfelder, Arnold Maier, Bernhard Rinner, Bernhard Strobl and Helmut Schwabach. A Smart Camera for Traffic Surveillance. In *Proceedings of the Workshop on Intelligent Solutions for Embedded Systems (WISES03)*. pages 12, Vienna, Austria, June 2003.

[29] Dietmar Prisching and Bernhard Rinner. Response Time Analysis of Systems with Real-Time and non Real-Time Processing. In *Proceedings of the 7th World Multiconference on Systemics, Cybernetics and Informatics (SCI 2003)*. pages 6, Orlando, U.S.A., July 2003.

[28] Andreas Doblander, Bernhard Rinner and Ulrich Weiss. Model Refinement for Monitoring - Refutation vs. traditional Parameter Estimation. In *Proceedings of the 5th Symposium on Fault Detection, Supervision and Safety of Technical Processes (SAFEPROCESS 2003)*. pages 6, Washington, DC, June 2003.

[27] Bernhard Rinner and Ulrich Weiss. Online Monitoring of Hybrid Systems using Imprecise Models. In *Proceedings of the 5th Symposium on Fault Detection, Supervision and Safety of Technical Processes (SAFEPROCESS 2003)*. pages 6, Washington, DC, June 2003.

[26] Dietmar Prisching, Michael Paulweber and Bernhard Rinner. Configuring Complex Multi-Sensor Test Bed Systems. In *Proceedings of the Telecommunications and Mobile Computing Workshop on Wearable Computing (TCMC03)*. pages 4, Graz, Austria, March 2003. ÖVE.

[25] Michael Bramberger, Roman Pflugfelder, Bernhard Rinner, Helmut Schwabach and Bernhard Strobl. Intelligent Traffic Video Sensor: Architecture and Applications. In *Proceedings of the Telecommunications and Mobile Computing pages 4, Workshop on Wearable Computing (TCMC03)*. Graz, Austria, March 2003. ÖVE.

[24] Bernhard Rinner, Martin Schmid and Reinhold Weiss. Rapid Prototyping of flexible Embedded Systems multi-DSP Architectures. In *Proceedings of the Design, Automation and Test in Europe (DATE) Conference 2003*. pages 204-209, Munich, Germany, March 2003. IEEE.

[23] Dietmar Prisching and Bernhard Rinner. Thread-based Analysis of embedded Applications with real-time and non real-time processing on a single platform. In *Proceedings of the Embedded World Congress 2003*. pages 1009-1018, Nuernberg, Germany, March 2003.

[22] Bernhard Rinner and Ulrich Weiss. Model-Based Monitoring of Piecewise Continuous Behaviors using Dynamic Uncertainty Space Partitioning. In *Proceedings of the International Thirteenth International Workshop on Principles of Diagnosis (DX-02)*. pages 146-150, Semmering, Austria, May 2002.

[21] Bernhard Rinner and Ulrich Weiss. Model-Based Monitoring using Dynamic Uncertainty Space Partitioning. In *Proceedings of the IASTED International Conference on Modelling, Identification and Control (MIC2002)*. pages 174-179, Innsbruck, Austria, February 2002.

[20] Arnold Maier, Paul Fugger and Bernhard Rinner. Low-Power meets High-Performance: Dynamic Voltage Scaling on the CARMEL Signal Processor. In *Proceedings of the Telecommunication and Mobile Computing Workshop on Wearable Computing*. pages 5, Graz, Austria, October 2001.

[19] Bernhard Rinner, Bernd Ruprechter and Martin Schmid. Rapid Prototyping of Multi-DSP Systems based on Accurate Performance Estimation. In *Proceedings of the IEEE International Conference on Acoustics, Speech and Signal Processing*. pages 1113-1116, Salt Lake City, USA, May 2001.

[18] Bernhard Rinner. From Tracking Continuous Mode Hypotheses to Diagnosing Technical Systems. In *Proceedings of the Twelfth International Workshop on Principles of Diagnosis*. pages 183-188, Via Lattea, Italy, March 2001.

[17] Bernhard Rinner and Reinhard Schneider. Lessons Learned from Prototyping Parallel Computer Architectures for AI Algorithms. In *Proceedings of the AAAI Workshop on Parallel and Distributed Search for Reasoning*. pages 5, Austin, TX, August 2000.

[16] Claudia Mathis, Bernhard Rinner, Martin Schmid, Reinhard Schneider and Reinhold Weiss. A New Approach to Model Communication for Mapping and Scheduling DSP Applications. In *Proceedings of the IEEE International Conference on Acoustics, Speech and Signal Processing*. pages 3354-3357, Istanbul, Turkey, June 2000.

[15] Eugen Brenner, Christian Kreiner, Claudia Mathis, Bernhard Rinner, Martin Schmid, Reinhard Schneider, Christian Steger and Reinhold Weiss. Einsatz programmierbarer Logik und digitaler Signalprozessoren in Forschung und Lehre. In *Proceedings of Austrochip 1999*, Villach, Austria. 1999.

[14] Claudia Mathis and Bernhard Rinner. Hardware-Supported Scheduling for DSP Applications. In *Proceedings of the International Conference on Signal Processing Applications and Technology (ICSPAT'99)*, pages 36-40, Orlando, USA. 1999.

[13] Claudia Mathis, Bernhard Rinner, Christian Steger and Reinhold Weiss. Educating and Training Digital Signal Processing Using TMS320 Processors. In *Proceedings of the International Conference on Signal Processing Applications and Technology (ICSPAT'99)*, pages 5, Orlando, USA. 1999.

[12] Bernhard Rinner and Benjamin Kuipers. Monitoring Piecewise Continuous Behaviors by Refining Semi-Quantitative Trackers. In *Proceedings of the Sixteenth International Joint Conference on Artificial Intelligence (IJCAI-99)*, pages 1080-1086, Stockholm, Sweden 1999.

[11] Bernhard Rinner and Benjamin Kuipers. Monitoring Piecewise Continuous Behaviors by Refining Trackers and their Models. In *Working Notes of the AAAI Spring Symposium Series: Hybrid Systems and AI*, pages 164-169, Stanford, CA 1999.

[10] Bernhard Obermaier and Bernhard Rinner. A TMS320C40-based Speech Recognition System for Embedded Applications. In *Proceedings of the 2nd European DSP Education & Research Conference*, pages 72-75, Paris, France, September 1998.

[9] Bernhard Rinner, Reinhard Schneider, Christian Steger and Reinhold Weiss. A Multi-DSP Laboratory Course. In *Proceedings of the 2nd European DSP Education & Research Conference*, pages 350-356, Paris, France, September 1998.

[8] Bernhard Rinner and Diethard Kaufmann. On-line Scheduling of Tasks in Multi-DSP Systems. In *Proceedings of the 8th International Conference on Signal Processing Applications & Technology*, pages 1509-1513, San Diego, USA, September 1997. Miller Freeman.

[7] Erich Lind, Marco Platzner, and Bernhard Rinner. A Multi-DSP System with Dynamically Reconfigurable Co-processors. In *Proceedings of the 7th International Conference on Signal Processing Applications & Technology*, pages 1407-1411, Boston, USA, October 1996. Miller Freeman.

[6] Marco Platzner and Bernhard Rinner. High-Performance Qualitative Simulation on a Multi-DSP Architecture. In *Proceedings of the 6th International Conference on Signal Processing Applications & Technology*, pages 725-729, Boston, USA, October 1995.

[5] Marco Platzner, Bernhard Rinner, and Reinhold Weiss. Parallel Qualitative Simulation. In *Proceedings of the 1995 EUROSIM Congress*, pages 231-236, Vienna, Austria, September 1995.

[4] Marco Platzner and Bernhard Rinner. Improving Performance of the Qualitative Simulator QSIM - Design and Implementation of a Specialized Computer Architecture. In *Proceedings of the ISCA International Conference on Parallel and Distributed Computing Systems*, pages 494-501, Orlando, USA, September 1995.

[3] Eugen Brenner, Robert Ginthoer-Kalcsics, Robert Hranitzky, Marco Platzner, Bernhard Rinner, Christian Steger and Reinhold Weiss. High-Performance Simulators Based on Multi-TMSC320C40. In *Proceedings of the Fifth Annual Texas Instruments TMS320 Educators Conference*, Houston, USA, August 1995.

[2] Gerald Friedl, Marco Platzner and Bernhard Rinner. A Special-Purpose Coprocessor for Qualitative Simulation. In *Proceedings of the International Conference on Parallel Processing (EURO-PAR'95)*, pages 695-698, Stockholm, Sweden, August 1995.

[1] Marco Platzner, Bernhard Rinner and Reinhold Weiss. A Distributed Computer Architecture for Qualitative Simulation Based on a Multi-DSP and FPGAs. In *Proceedings of the 3rd Euromicro Workshop on Parallel and Distributed Processing*, pages 311-318, San Remo, Italy, January 1995. IEEE Computer Society Press.

5.4 Patents

[4] Felix Pletzer, Roland Tusch, Bernhard Rinner, Laszlo Boeszoermenyi. *Concept for Detecting a Motion of a Moving Object.* patent application (EP 2709066 A1) to the European Patent Office, September 2012.

[3] Felix Pletzer, Roland Tusch, Bernhard Rinner, Laszlo Boeszoermenyi. *Concept for Counting Moving Objects Passing a Plurality of Different Areas Within a Region of Interest.* patent application (EP 2 709 065 A1) to the European Patent Office, September 2012.

[2] Bernhard Rinner, Markus Quaritsch, Saeed Yahyanejad and Daniel Wischounig-Strucl. *Apparatus and Method for Generating an Overview Image of a Plurality of Images Using an Accuracy Information.* granted patent (US 8,797,400 B2) by the US Patent Office, August 2014.

[1] Bernhard Rinner, Markus Quaritsch, Saeed Yahyanejad and Daniel Wischounig-Strucl. *Apparatus and Method for Generating an Overview Image of a Plurality of Images Using a Reference Plane.* granted patent (US 8,902,308 B2) by the US Patent Office, December 2014.

5.5   Technical Reports

[8] Michael Bramberger, Josef Brunner and Bernhard Rinner. *Mapping High-Level Image Analysis Algorithms to Embedded DSP Architectures.* Technical Report 03/05, Institute for Technical Informatics, Graz University of Technology, 2003.

[7] Bernhard Rinner, Martin Schmid and Reinhold Weiss. *Automated Design of Parallel Signal Processing Applications based on Performance Estimation.* Technical Report 01/05, Institute for Technical Informatics, Graz University of Technology, 2001.

[6] Bernhard Rinner and Ulrich Weiss. *Real-Time Model-based Monitoring based on Uncertainty Space Partitioning.* Technical Report 01/04, Institute for Technical Informatics, Graz University of Technology, 2001.

[5] Marco Platzner, Bernhard Rinner and Reinhold Weiss. *Towards Embedded Qualitative Simulation – A Specialized Computer Architecture for the Qualitative Simulator QSIM.* Technical Report 99/01, Institute for Technical Informatics, Graz University of Technology, 1999.

[4] Herbert Kay, Bernhard Rinner and Benjamin Kuipers. *Semi-Quantitative System Identification.* Technical Report AI99-179, Department of Computer Sciences, University of Texas at Austin, 1999.

[3] Marco Platzner and Bernhard Rinner. *Design and Implementation of a Parallel Constraint Satisfaction Algorithm.* Technical Report 96/04, Institute for Technical Informatics, Graz University of Technology, 1996.

[2] Marco Platzner, Bernhard Rinner and Reinhold Weiss. *Parallel Qualitative Simulation.* Technical Report 96/03, Institute for Technical Informatics, Graz University of Technology, 1996.

[1] Bernhard Rinner. *QSim Kernel Interface.* Technical Report 95/02, Institute for Technical Informatics, Graz University of Technology, August 1995.

5.6   Other Publications

[12] Bernhard Rinner (editor). *Embedded Vision.* Telematik 12(3), Dec 2006. ISSN 1028-5068.

[11] Bernhard Rinner (editor). *20 Jahre Telematik.* Telematik 11(2), Dec 2005. ISSN 1028-5068.

[10] Bernhard Rinner (editor). *Intelligent Solutions in Embedded Systems.* Telematik 10(3-4), Dec 2004. ISSN 1028-5068.

[9] Bernhard Rinner (editor). *TU Graz neu.* Telematik 10(1), May 2004. ISSN 1028-5068.

[8] Bernhard Rinner (editor). *Monitoring and Diagnosis.* Telematik 8(2), June 2002. ISSN 1028-5068.

[7] Bernhard Rinner. *Monitoring and Diagnosis of Technical Systems.* Habilitationsschrift, Graz University of Technology, September 2001.

[6] Bernhard Rinner (editor). *Neue Prozessortrends.* Telematik 7(1), February 2001. ISSN 1028-5068.

[5] Alexander Haimayer, Martin Prossnigg and Bernhard Rinner. *Entwicklung eines Prototypen zur Best Signal Selection - Endbericht.* Institute for Technical Informatics, Graz University of Technology, 1998.

[4] Alexander Haimayer, Martin Prossnigg and Bernhard Rinner. *Entwicklung eines Prototypen zur Best Signal Selection - Zwischenbericht.* Institute for Technical Informatics, Graz University of Technology, 1997.

[3] Marco Platzner, Bernhard Rinner and Reinhold Weiss. A Distributed Computer Architecture for Fast Qualitative Simulation. In *The Elite Yearbook 1997 - Digital Signal Processing Solutions from Europe's leading Universities* (Texas Instruments eds.), pages 106-107, 1998.

[2] Bernhard Rinner. *Design, Prototype Implementation and Experimental Evaluation of a Scalable Multiprocessor Architecture for Qualitative Simulation*. PhD thesis, Graz University of Technology, April 1996.

[1] Bernhard Rinner. *Konzepte zur Parallelisierung des qualitativen Simulators QSim.* Master's thesis, Institute for Technical Informatics, Graz University of Technology, 1993.

6 Presentations

6.1 Invited Talks

[42] *Can we trust smart cameras?* Keynote talk at 13th International Conference on Distributed Smart Cameras, Trento, Italy. September 10, 2018.

[42] *Multi-Drone Systems.* Keynote talk at 10th International Congress on Ultra Modern Telecommunications and Control Systems, Moskow, Russia. November 5, 2018.

[41] *Secure and Privacy-aware Cameras.* Invited talk at Huawei Video Intelligence Forum, Dublin, Ireland. October 23, 2018.

[40] *Self-awareness in Camera and Sensor Networks.* Keynote talk at GTTI Thematic Meeting 2018 on Multimedia Signal Processing, Cavalese, Italy. January 23, 2018.

[39] *Privacy Protection in Visual Data.* Keynote talk at 10th International Symposium on Image and Signal Processing and Analysis, Ljubljana, Slovenia. September 20, 2017.

[38] *Toward the Future of IoT with Drones.* Panel talk at IEEE Conference on Standards for Communications & Networking , Helsinki, Finland. September 19, 2017.

[37] *Privacy in Visual Data.* Colloquium talk at University of Ontario Institute of Technology, Toronto, Canada. August 10, 2017.

[36] *Privacy in Visual Data.* Colloquium talk at Boston University, MA, USA. August 3, 2017.

[35] *Multi-Drone Systems.* Colloquium talk at Korea University, Seoul, Korea. April 19, 2017.

[35] *Smart Camera Systems.* Overview talk at ACM Multimedia Systems Conference, Klagenfurt, Austria. May 10, 2016.

[34] *Privacy-Protecting and Self-Aware Smart Cameras.* JKU Linz, Austria. January 18, 2016.

[33] *Autonomous Networked Aerial Robot Systems.* Bundesministerium für Wissenschaft, Forschung und Wirtschaft, Vienna, Austria, October 15, 2015.

[32] *On Privacy-Protecting and Self-Organizing Cameras.* CITIUS, University of Santiago, Spain. April 21, 2015.

[31] *On Privacy-Protecting and Self-Organizing Cameras.* Austrian Computer Science Day, Graz, Austria. June 6, 2014.

[30] *Security and Privacy Protection in Smart Camera Networks.* Colloquium. EPFL Multimedia Signalprocessing group, Lausanne, Switzerland. March 4, 2014.

[29] *Security and Privacy Protection in Smart Camera Networks.* Invited talk. Fraunhofer Institut für Optronik, Systemtechnik und Bildauswertung, Karlsruhe Germany. March 3, 2014.

[28] *Can Smart Cameras protect our Privacy?* Computer Science Colloquium. University of Birmingham, UK. September 26, 2013.

[27] *Smart and Aerial Camera Networks.* Keynote lecture. IEEE Workshop on Camera Networks and Wide Area Scene Analysis. Portland, USA. June 28, 2013.

[26] *Visuelle Sensornetze.* Colloquium. Universität Tübingen, Germany. May 27, 2011.

[25] *Visuelle Sensornetze: Chancen und Herausforderungen.* Colloquium. HU Berlin, Germany. April 18, 2011.

[24] *Pervasive Smart Cameras.* Keynote lecture. International Conference on Pervasive and Embedded Computing and Communications Systems (PECCS), Algarve, Portugal. March 6, 2011.

[23] *Visuelle Sensornetze: Chancen und Herausforderungen.* Colloquium. TU Kaiserslautern, Germany. January 22, 2011.

[22] *Distributed Smart Cameras: Past - Present - Future.* Keynote lecture. ACM/IEEE International Conference on Distributed Smart Cameras (ICDSC), Atlanta, USA. September 2, 2010.

[21] *Challenges and Opportunities of Distributed Smart Cameras.* University of Central Florida, Orlando, USA May 20, 2009.

[20] *From Smart Cameras to Visual Sensor Networks.* Georgia Institute of Technology, Atlanta, USA March 6, 2009.

[19] *Distributed Smart Cameras.* Colloquium. Tübingen University, Germany May 6, 2008.

[18] *Was macht Kameras intelligent ?* Tag der Forschung. Klagenfurt University, November, 2007.

[17] *Intelligente Kameras.* Informatics Keynote. Austrian Computer Society, Vienna, September 19, 2007.

[16] *Pervasive Computing – wie Computer unser Alltagsleben durchdringen.* Inaugural Lecture. Klagenfurt University, May 4, 2007.

[15] *Embedded Middleware on Distributed Smart Cameras.* IEEE Conference on Acoustics, Speech, and Signal Processing (ICASSP 2007), April 2007, special session on Distributed Processing in Image Sensor Networks.

[14] *Distributed Smart Cameras.* Princeton University, Department of Electrical Engineering, July 2006.

[13] *Architekturen verteilter eingebetteter Systeme.* Universität Innsbruck, January 2006.

[12] *Architekturen verteilter eingebetteter Systeme.* Universität Frankfurt, Fakultät für Informatik, January 2006.

[11] *Intelligente Kameras zur Verkehrsüberwachung.* 20. Österreichische Automatisierungstag, Graz October 2005.

[10] *Intelligente Kameras in "Smart Environments" .* Alpen-Adria Universität Klagenfurt, September 2005.

[9] *Architectures of Smart Embedded Systems.* Berlin University of Technology, Department of Electrical Engineering and Computer Science, December 2004.

[8] *Rapid Prototyping of Multi-DSP Systems.* University of the Federal Armed Forces Munich, Department of Computer Science, June 2002.

[7] *Monitoring and Diagnosis of Technical Systems.* (Habilitation lecture) Graz University of Technology, January 2002.

[6] *Refining Semi-Quantitative Models.* Workshop on Differential Inclusions and Qualitative Reasoning in Global Change: Theory and Practice, Potsdam Institute for Climate Impact Research, Germany, May 1999.

[5] *Monitoring Piecewise Continuous Behaviors by Trackers and their Models.* NASA Ames, Moffett Field, CA, USA, March 1999.

[4] *Monitoring with Trackers Based On Semi-Quantitative Models.* (joint talk with Ben Kuipers), Corporate Engineering, Phillips Petroleum Company, OK, USA, October 1998.

[3] *Towards Embedded Qualitative Simulation.* Department of Computer Sciences, University of Texas at Austin, USA, June 1998.

[2] *Performance Improvements of AI Techniques by Specialized Computer Architectures.* Department of Mathematics and Computer Science, University of Udine, Italy, September 1996.

[1] *Distributed Computer Architecture for Qualitative Simulation.* Department of Computer Sciences, University of Texas at Austin, USA, July 1995.

6.2   Tutorials

[8] Tutorial on *Privacy-Protecting and Self-Aware Smart Cameras.* VISMAC Summer School, Pordenone, Italy. June 2016.

[7] Tutorial on *Visual Sensor Networks.* University of Udine, Italy. December 2014.

[6] Tutorial on *Visual Sensor Networks.* Summer School on Design for Interactive and Cognitive Environments (DICE). Baarlo, Netherlands, July 2013.

[5] Tutorial on *Smart Cameras and Visual Sensor Networks.* Second Smart Surveillance Spring School (S5), Modena, Italy, May 2013.

[4] Half-day tutorial on *Smart Cameras and Visual Sensor Networks.* SPIE Electronic Imaging, San Francisco, USA, January 2011.

[3] Half-day tutorial on *Smart Cameras and Visual Sensor Networks.* Embedded Systems Week, Grenoble, France, October 2009. (joint tutorial with F. Berry, D. Ginhac and J. Falcou)

[2] Tutorial on *Smart Cameras and Visual Sensor Networks.* International CONET Summer School "SENIOT: From Sensor Networks to Networked Intelligent Objects", Bertinoro, Italy, July 2009.

[1] Half-day tutorial on *Distributed Vision Processing in Smart Camera Networks.* IEEE Conference on Computer Vision and Pattern Recognition (CVPR 2007), Minneapolis, USA, June 2007. (joint tutorial with H. Aghajan, F. Berry, H. Bischof, R. Kleihorst and W. Wolf)

6.3   Conference Presentations

[14] *The Evolution from Single to Pervasive Smart Cameras.* ACM/IEEE International Conference on Distributed Smart Cameras (ICDSC-08). Stanford, USA. September 2008.

[13] *Autonomous Multi-Camera Tracking using Embedded Smart Cameras.* Workshop on Distributed Smart Cameras (DSC-06), Boulder CO. USA, October 2006.

[12] *Online Multi-Criterion Optimization for Dynamic Power-Aware Configuration Management in Distributed Embedded Surveillance Clusters.* IEEE 20th International Conference on Advanced Information Networking and Applications (AINA 2006). Vienna, Austria, April 2006.

[11] *Innovative Video Applications on High-Performance DSPs.* Texas Instruments Developer Conference. Houston, TX, USA, February 2004.

[10] *Rapid Prototyping of flexible Embedded Systems multi-DSP Architectures.* Design, Automation & Test in Europe (DATE 2003). Munich, Germany, March 2003.

[9] *From Tracking Continuous Mode Hypotheses to Diagnosing Technical Systems.* Twelfth International Workshop on Principles of Diagnosis. Via Lattea, Italy, March 2001.

[8] *Lessons Learned from Prototyping Parallel Computer Architectures for AI Algorithms.* AAAI Workshop on Parallel and Distributed Search for Reasoning. Austin, TX, August 2000.

[7] *Monitoring Piecewise Continuous Behaviors by Semi-Quantitative Trackers.* 16th International Joint Conference on Artificial Intelligence (IJCAI-99), Stockholm, Sweden, August 1999.

[6] *Monitoring Piecewise Continuous Behaviors by Trackers and their Models.* AAAI Spring Symposium Series: Hybrid Systems and AI, Stanford, CA, March 1999.

[5] *On-line Scheduling of Tasks in Multi-DSP Systems.* 8th International Conference on Signal Processing Applications & Technology, San Diego, USA, September 1997.

[4] *A Multi-DSP System with Dynamically Reconfigurable Coprocessors.* 7th International Conference on Signal Processing Applications & Technology, Boston, USA, October 1996.

[3] *Improving Performance of the Qualitative Simulator QSIM.* ISCA International Conference on Parallel and Distributed Computing Systems, Orlando, FL, September 1995.

[2] *Parallel Qualitative Simulation.* 1995 EUROSIM Congress, Vienna, Austria, September 1995.

[1] *High-Performance Simulators Based on Multi-TMS320C40.* Fifth Annual Texas Instruments Educators Conference, Houston, TX, August 1995.

7 Teaching

7.1 Lectures

- *Research Seminar in Pervasive Computing* (in English) 700.490, Klagenfurt University, SS 2008, SS 2009, SS 2010, SS 2011, SS 2013, SS 2014, SS 2015, SS 2016, SS 2018, SS 2019.

- *Advanced Topics in Pervasive Computing, VK* (in English) 700.410, Klagenfurt University, SS 2008, SS 2009, SS 2010.

- *Sensor Networks, VK* (in English) 700.410, Klagenfurt University, SS 2011, SS 2013, SS 2014, SS 2015, SS 2016, SS 2018, SS2019.

- *Entwurf digitaler Schaltungen, VO* (Design of Digital Circuits, lecture) 700.410, Klagenfurt University, WS 2007/2008, WS 2008/2009, SS 2010, SS 2011, SS 2012, SS 2013, SS 2014, SS 2015, SS 2016, WS 2017/2018, SS 2018, WS 2018/2019, SS 2019, WS 2019/2020.

- *Digital Signal Processors, lecture* (in English) 700.410, Klagenfurt University, WS 2007/2008, SS 2009, WS 2009/2010, WS 2010/2011, WS 2011/2012, WS 2012/2013, WS 2013/2014, WS 2014/2015, WS 2015/2016, WS 2016/2017.

- *Pervasive Computing, VK* (in English) 623.417, Klagenfurt University, SS 2007, SS2008, WS 2008/2009, WS 2009/2010, WS 2010/2011, WS 2011/2012, WS 2012/2013, WS 2013/2014, WS 2014/2015, WS 2015/2016, WS 2016/2017, WS 2017/2018, WS 2018/2019, WS 2019/2020.

- *Seminar in Pervasive Computing* (in English) 700.491, Klagenfurt University, SS 2007, WS 2007/2008, WS 2008/2009, WS 2009/2010, WS 2010/2011, WS 2011/2012, WS 2012/2013, WS 2013/2014, WS 2014/2015, WS 2015/2016, WS 2019/2020.

- *Context-Aware Computing, VO* (lecture), 448.056, Graz University of Technology, SS 2006, WS 2006/2007, WS 2007/2008.

- *Context-Aware Computing, RU* (tutorial), 448.057, Graz University of Technology, SS 2006, WS 2006/2007, WS 2007/2008.

- *Einführung in die Informatik, VL* (Introduction to Computer Science, lecture) 448.016, Graz University of Technology, SS 2000, SS 2001.

- *Einführung in die Informatik, RU* (Introduction to Computer Science, tutorial) 448.014, Graz University of Technology, WS 1997/1998.

- *Einführung in die Informatik, LU* (Introduction to Computer Science, lab) 448.018, Graz University of Technology, WS 1997/1998, SS 1998, SS 2000, SS 2001.

- *Technische Informatik 1, VO* (Computer Organization 1, lecture) 448.003, Graz University of Technology, WS 2005/2006.

- *Technische Informatik 1, RU* (Computer Organization 1, tutorial) 448.004, Graz University of Technology, WS 1999/2000, WS 2000/2001, WS 2001/2002, WS 2002/2003, WS 2003/2004, WS 2004/2005, WS 2005/2006.

- *Technische Informatik, LU* (Computer Organization, lab) 448.010, Graz University of Technology, WS 1997/1998, WS 1999/2000, WS 2000/2001.

- *VLSI Prozessoren, RU* (VLSI Processors, lab) 448.026, Graz University of Technology, WS 1997/1998, WS 1999/2000, WS 2000/2001.

- *Signalprozessoren, VO* (Signal Processors, lecture) 448.034, Graz University of Technology, WS 2002/2003, SS 2003, WS 2003/2004, SS 2004, WS 2004/2005, SS 2005, WS 2005/2006, SS 2006, WS 2006/2007, SS 2007.

- *Signalprozessoren, RU* (Signal Processors, lab) 448.035, Graz University of Technology, WS 2001/2002, WS 2002/2003, SS 2003, SS 2004, SS 2005, SS 2006, WS 2006/2007.

- *Fehlertolerante Rechnersysteme, RU* (Fault-Tolerant Computing Systems, tutorial) 448.031, Graz University of Technology, SS 2003, SS 2004, SS 2005, SS 2006.

- *Architektur verteilter Systeme, VO* (Architecture of Distributed Systems, lecture), 448.020, Graz University of Technology, SS 2001, SS 2002.

- *Architektur verteilter Systeme, RU* (Architecture of Distributed Systems, tutorial), 448.021, Graz University of Technology, SS 2001, SS 2002.

- *Echtzeit-KI-Systeme, VO* (Real-Time Artificial Intelligence, lecture), 448.054, Graz University of Technology, SS 2002, SS 2003, SS 2004, SS 2005, SS 2006, WS 2006/2007.

- *Echtzeit-KI-Systeme, RU* (Real-Time Artificial Intelligence, tutorial), 448.055, Graz University of Technology, SS 2002, SS 2003, SS 2004, SS 2005, SS 2006, WS 2006/2007.

- *Seminar/Projekt Technische Informatik* (seminar/project Computer Engineering), 448.021, Graz University of Technology, WS 1997/1998, WS 1999/2000, WS 2000/2001, WS 2002/2003, SS 2003, WS 2003/2004, SS 2004, WS 2004/2005, SS 2005, WS 2005/2006, SS 2006, WS 2006/2007.

7.2 Guest Lectures

- *Advanced Topics in Pervasive Computing* (in English) University of Udine, Italy, WS 2014/2015.

- *Pervasive Computing in Multimedia Systems, VK* (in English) University of Udine, Italy, SS2008.

- *Context-Aware Computing, VO* (lecture), 448.056, Graz University of Technology, WS 2007/2008, WS 2009/2010, WS 2010/2011, WS 2011/2012, WS 2012/2013.

7.3 Supervision of Master's Theses

- Johannes Riedl. *Parallele Algorithmen und Laufzeitmessungen für Constraint Satisfaction im qualitativen Simulator QSIM.* 1995.

- Diethard Kaufmann. *Parallele Implementierung des qualitativen Simulators QSIM auf einer Multi-DSP Architektur.* 1996.

- Alexander Haymaier. *Analyse und experimentelle Bewertung von Algorithmen zur Best Signal Selection.* 1998.

- Franz Silli. *Entwurf und Implementierung eines konfigurierbaren Trainingssystems zur Verbesserung kognitiver Fähigkeiten.* 1998.

- Bernhard Obermaier. *Entwurf und Implementierung eines Spracherkennungssystems auf einem TMS320C40 Signalprozessor.* 1998.

- Bernd Ruprechter. *Rapid Prototyping von Multi-DSP Systemen anhand einer audiotechnischen Anwendung.* 2001.

- Siegbert Waldner. *An Implementation of an on-line model-based Monitoring System.* 2001.

- Rene Widowitz. *Fraud Analysis, Detection, Prevention in Voice over IP Networks.* 2002.

- Arnold Maier. *Evaluation of Dynamic Voltage Scaling on the CARMEL Signal Processor.* 2002.

- Edin Arnautovic. *Integration of Session Initiation Protocol (SIP) Functionality into an IP Telephony System.* 2002.

- Suad Kajtazovic. *Scheduling in Multiprocessor Systemen mittels Constraint Satisfaction.* 2002

- Martin Schittegg. *Entwicklung einer Testumgebung für ein Voice over IP Telefonie System.* 2002.

- Heinz Töfferl. *Data Preselection using a Lookup Table for the Space Telescope COROT.* 2002.

- Andreas Doblander. *Refinement of Uncertain Models by Parameter Models and Subspace Refutation.* 2003.

- Christian Steindl. *Analyse und Bewertung von Datenbankzugriffsmechanismen und Ableitung eines Realisierungskonzepts.* 2003.

- Ozren Milosavljevic. *Leistungsbewertung von Client/Server-Applikationen in komplexen, heterogenen Rechnernetzwerken.* 2003.

- Peter Ranegger. *Evaluierung von Java-Frameworks für die Evaluierung von Web-Applikationen.* 2003.

- Frank Strieder. *Entwicklung eines Frequenzumrichters auf einem digitalen Signalprozessor.* 2004.

- Franz Hackl. *Überwachung hybrider Systeme mit Intervallmodellen.* 2004.

- Josef Brunner. *Software Optimization Techniques for DSP-based Embedded Systems.* 2004.

- Thomas Trathnigg. *Combined Management of Power and Quality of Service in Video Surveillance Systems.* 2004.

- Klaus Matuschek. *Steigerung der Verfügbarkeit eines heterogenen Voice-over-IP Systems im Zuge einer Session-Initiation-Protocol-Integration.* 2005.

- Markus Quaritsch. *An Agent-based Framework for Object Tracking among multiple Smart Cameras.* 2005.

- Thomas Winkler. *Load Distribution for Embedded Smart Cameras based on Mobile Agents.* 2005.

- Dietmar Gösseringer. *Evaluation of a Model-Based Design Approach for Embedded Image Processing Algorithms.* 2005.

- Van Tin Lai. *Evaluiering einer Agentenplattform für den Einsatz in einem verteilten eingebetteten System.* 2005.

- Matthias Pfragner. *Performance Evaluation of Complex Automation Systems.* 2005.

- Vedran Bauer. *Schnelle Bildverarbeitungsalgorithmen zur Objektklassifizierung auf digitalen Signalprozessoren.* 2006.

- Wolfgang Schriebl. *Implementation and Evaluation of Online Multi-Criterion Optimization for Dynamic Power-Aware Smart Camera Reconfiguration.* 2006.

- Michael Faschinger. *Design and Implementation of mobile and locatable RFID Readers.* 2006.

- Martin Mangard. *Motion Detection on Embedded Smart Cameras.* 2006.

- Markus Kreuzthaler. *Multi-Camera Tracking on Distributed Smart Cameras.* 2006.

- Norbert Trenkwalder. *Ein Publisher/Subscriber System für eingebettete Smart Cameras.* 2007.

- Karima Klamminger. *Design and Implementation of a Fault Tolerance Concept in a Network of Smart Cameras.* 2007.

- Martin Dientl. *Implementierung eines akustischen Echokompensationssystems auf dem digitalen Signalprozessor TMS320DM642.* 2007.

- Stefan Erb. *Classification of Vehicles based on Acoustic Features.* 2007.

- Mario Wiesinger. *Ein Übertragungsschema für H.264 codierte Videodaten mittels Stream Control Transmission Protokoll (SCTP).* 2007.

- Christian Galbavy. *Qualitätsverbesserung von Gepäcksortieranlagen durch Bilderkennung.* 2007.

- Bernhard Hohmann. *Multiuser Communication in Ad-hoc Networks.* 2007.

- Felix Pletzer. *Location Based Services for Wireless Sensor Networks.* 2008.

- Bernhard Dieber. *Localization with Active Long-Range RFID.* 2008.

- Andreas Fischer. *Fixed-point Implementierung von akustischen Feature-Extraktions Algorithmen.* 2008.

- Andreas Weiss. *Entwicklung einer eingebetteten Prototypenplattform zur Sensorfusion im Bereich der Verkehrs-überwachung.* 2008.

- Karl Flicker. *Analyse und Erweiterung der Hardwarebeschreibungssprache HDCaml.* 2008.

- Herwig Guggi. *Sensor Fusion für ein LED-basiertes multi-spektrales Aufnahmesystem.* 2009.

- Yuvarakesh Vadlamudi. *Face Detection using Smooth Edges and Color Segmentation Techniques.* 2009.

- Stefan Urabl. *Evaluation and Implementation of Localization Methods in Wireless Sensor Networks using the SunSPOT Platform.* 2009.

- Martin Kammerhofer. *Evaluation and Implementation of Time-Synchronization for Distributed Systems.* 2009.

- Lokesh Peddireddi. *Audio Feature Extraction for Traffic Monitoring on an Embedded Platform.* 2009.

- Mourya Chintalapati. *Evaluation of Virtualization Technologies for a Single-Core DSP Architecture.* 2010.

- Michal Filip Gurtowski. *Implementierung und Evaluierung eines Transport-Monitoring-Systems basierend auf Drahtlosen Sensornetzwerken.* 2010.

- Melanie Schranz. *Consensus in Smart Camera Networks.* 2011

- Misiorny Jakub Mikolaj. *Feature extraction and matching in multi-spectral images.* 2011

- Gumpena Neelima Towards. *Realization of Mining Clouds.* 2012

- Sharath Chandra Akkaladevi. *Distributed Object Tracking in Multi-Camera Networks.* 2012

- Udaya Lakshmi Cherukuri. *Video-based Pedestrian Detection using Optical Flow Information.* 2012

- Sandeep Katragadda. *Reliable and Robust Feature Point Detection for Stereoscopic Image Analysis.* 2012

- Gerald Stanje. *Communication and Energy Allocation Algorithms for Energy Harvesting Active Networked Tag.* 2012

- Roland Wasserer. *Visualisation of Mosaicked Aerial Image Data in Multi-UAV Applications.* 2012

- Udaya Lakshmi Cherukuri. *Video-based Pedestrian Detection using Optical Flow Information.* 2012

- Marko Keuschnig. *Entwicklung eines optischen Messgerätes zur Unterstützung von Roboterkalibrierungen.* 2013

- Vidya Sagar Kantamneni. *Development of Configurable Wave Filters for Automotive Sensors.* 2013

- Alankar Aryal Atreya. *Combining Multiple Tracking Approaches for Improving Performance.* 2013

- Jennifer Simonjan. *Development of a Smart Lighting Application: Exploring Self-Organization in the Internet of Things.* 2014

- Andrija Sucevic. *Extraction of biometrical features for identification of a 3D head model using Microsoft Kinect.* 2014

- Michael Höberl. *Securing Visual Sensor Nodes with Physically Unclonable Functions.* 2015

- Chiara Populin. *Evaluation of Privacy Protection in Aerial Videos.* 2016

- Jakob Schauer. *An Embedded Smart Camera based on a Low-power Microcontroller.* 2016

- Erica Perseghin. *Online Performance Monitoring of a Visual Sensor Node.* University of Udine, 2016

- Clio Bofelli. *A Benchmark for Embedded Smart Camera Platforms.* University of Udine, 2017

- Gavin Cetollo. *Distance Estimation Techniques for monocular Vision Systems.* University of Udine, 2017

- Francesco Manzato. *Tracking with on-board Sensors: Evaluation through KITTI and Motion Capture System.* University of Udine, 2017

- Maxim Alkhilou. *Anonymous Mutual Authentication Scheme for Internet-Integrated Sensing Devices.* 2017

- Martin Steinwender. *Heliostat mit Seilzugaktuatoren.* 2018

- Mario Lassenberger. *Smartphones and Tablets as Human Machine Interfaces for Mixed Realities.* 2018

- Anton Hribernig. *A reusable communication interface for ASICs in safety critical applications.* 2018

7.4 *Supervision of PhD Theses*

- Ulrich Weiss. *Simulation with Imprecise Models for online Model-based Monitoring.* Graz University of Technology. 2003.

- Dietmar Prisching. *Performance Evaluation and Prediction in Complex Real-Time Automation Systems.* Graz University of Technology. 2003.

- Michael Bramberger. *Distributed Dynamic Task Allocation in Clusters of Embedded Smart Cameras.* Graz University of Technology. 2005.

- Arnold Maier. *Dynamic Power-Aware Camera Configuration in Distributed Embedded Surveillance Clusters.* Graz University of Technology. 2006.

- Andreas Doblander. *A Novel Software Framework for Multi-Processor Embedded Smart Cameras.* Graz University of Technology. 2006.

- Markus Quaritsch. *A Lightweight Agent-Oriented Middleware for Distributed Smart Cameras.* Graz University of Technology. 2008.

- Andreas Klausner. *Multi-Sensor Multi-Level Information Fusion on Embedded Systems.* Graz University of Technology. 2008.

- Allan Tengg. *A Generic, Dynamically Reconfigurable Data Fusion Architecture based on Distributed Embedded Systems.* Graz University of Technology. 2008.

- Andreas Starzacher. *Multi-Sensor Real-Time Data Fusion on Embedded Computing Platforms.* Klagenfurt University. 2010.

- Thomas Winkler. *Security and Privacy in Smart Camera Networks.* Klagenfurt University. 2011.

- Saeed Yahyanejad. *Orthorectified Mosaicking of Images from Small-scale Unmanned Aerial Vehicles.* Klagenfurt University. 2013.

- Umair Ali Khan. *Online Learning of Timeout Policies for Dynamic Power Management.* Klagenfurt University. 2013.

- Bernhard Dieber. *Resource-aware Reconfiguration of Visual Sensor Networks.* Klagenfurt University. 2013.

- Daniel Wischounig-Strucl. *Resource aware and incremental mosaics of wide areas from small-scale UAVs.* Klagenfurt University. 2013.

- Lukas Esterle. *Autonomous Distributed Tracking in Networks of Self-organised Smart Cameras.* Klagenfurt University. 2014.

- Muhidul Khan. *Resource-Aware Task Scheduling in Wireless Sensor Networks.* Klagenfurt University. 2014.

- Asif Khan. *Coordinated Unmanned Aerial Vehicles for Surveillance of Targets.* Klagenfurt University. 2015.

- Melanie Schranz. *Design Space Exploration for Coordination and Control Strategies in Visual Sensor Networks.* Klagenfurt University. 2016.

- Ihtesham Haider. *Trustworthy and Privacy-Aware Sensing for Internet of Things.* Klagenfurt University. 2018.

- Omair Sarwar. *Facial Privacy Protection in Airborne Recreational Videography.* Klagenfurt University. 2019.

- Subhan Ullah. *Secure Camera Nodes for IoT Applications.* Klagenfurt University. 2019.

- Jennifer Simonjan. *Resource-efficient and Resilient Self-Calibration in Distributed Visual Sensor Networks.* Klagenfurt University. 2019.

7.5 Co-supervision of PhD Theses

- Bernhard Peischl. *Automated Source-Level Debugging of Synthesizeable VHDL Designs.* Graz University of Technology. 2004. *(co-advisor).*

- Ulrich Muehlmann. *A High-speed CMOS Camera for Real-time Tracking Applications.* Graz University of Technology. 2008. *(co-advisor).*

- Clemens Arth. *Visual Surveillance on DSP-Based Embedded Platforms.* Graz University of Technology. 2008. *(co-advisor).*

- Sven Fleck. *Privacy Sensitive Surveillance.* University of Tübingen, Germany. 2008. *(co-advisor).*

- Yasir M. Mustafah. *Real-Time Face Detection on High Resolution Smart Camera System.* University of Queensland, Australia. 2011. *(co-advisor).*

- Rainer Matischek. *Real-Time Communication Protocols for Automotive Wireless Sensor Networks.* Vienna University of Technology. 2011. *(co-advisor).*

- Ali Akbar Zarezadeh. *Distributed Smart Cameras: Architecture and Communication Protocols.* Universität Potsdam, Germany. 2011. *(co-advisor).*

- Peter Holzer. *Multibody Structure and Motion from Structure and Motion in conjunction with Space Time Appearance Analysis.* Graz University of Technology. 2012. *(co-advisor).*

- Anilloy Frank. *A new Approach to the Identification of Variability in Model-based Embedded Software.* Graz University of Technology. 2012. *(co-advisor).*

- Leander Bernd Hörmann. *Hardware-Software Interactions in Energy Harvesting Wireless Sensor Networks.* Graz University of Technology. 2013. *(co-advisor).*

- Muhammad Imran. *Energy Efficient and Programmable Architecture for Wireless Vision Sensor Node.* Mid Sweden University. 2013. *(opponent).*

- Florian Seitner. *Virtual HW/SW Prototyping for Design and Runtime Prediction of Parallel Video Coding Systems.* Vienna University of Technology. 2013. *(co-advisor).*

- Niki Martinel. *A Distributed Video Surveillance System to Track Persons in Camera Networks.* University of Udine, Italy. 2014. *(co-advisor).*

- Karima Hein. *Assessing Event Detection Algorithms for Wireless Sensor Networks.* Graz University of Technology. 2014. *(co-advisor).*

- Tahir Nawaz. *Trajectory evaluation and analysis in videos.* Queen Mary University of London, UK. 2014. *(co-advisor).*

- Syed Fahad Tahir. *Person re-identification in camera networks.* Queen Mary University of London, UK. 2015. *(co-advisor).*

- Manuel Suarez Cambre. *Low power CMOS vision sensors for scale and rotation invariant feature detectors using CMOS heterogeneous smart pixel architectures.* Universidade de Santiago de Compostela, Spain. 2015. *(co-advisor).*

- Erik Ludwig Krempel. *Steigerung der Akzeptanz von intelligenter Videoüberwachung im öffentlichen Raum.* Karlsruher Institut für Technologie, Germany. 2016. *(co-advisor).*

- ObaidUllah Khalid. *Performance evaluation for tracker-level fusion in video tracking.* Queen Mary University of London, UK. 2017. *(co-advisor).*

- Daniele Pannone. *Smart Environment Monitoring through micro Aerial Unmanned Vehicles.* Sapienza University, Italy. 2018. *(evaluator).*

8 Research Grants and Awards

8.1 Received Research Grants

- Co-PI: *Karl Popper Kolleg*, Doctoral school funded by Alpen-Adria-Universität Klagenfurt; budget: k€ 520; October 2017 – September 2020

- PI: *ProSecCo*, "Brückenschlagproject" funded by Austrian Research Promotion Agency; budget: k€ 220; January 2014 – August 2017

- PI: *CROSMOS*, project funded by KWF/Lakeside Labs; budget: k€ 364; January 2013 – June 2015

- Co-PI: *ComVis*, project funded by BMWF/AIT; budget: M€ 2.1; January 2014 – December 2018

- PI: *SINUS*, project funded by KWF/Lakeside Labs; budget: k€ 880; January 2013 – June 2015

- PI: *TrustEYE*, project funded by KWF/Austrian Science Fund; budget: k€ 388; August 2012 – July 2015

- PI: *ICE Booster*, project funded by Lakeside Labs; budget: k€ 723; January 2011 – December 2014

- WP Leader: *EPiCS – Engineering Proprioception in Computing Systems*, FP7 Future Emerging Technologies (FET proactive) (grant no. 257906); budget: M€ 6.67; September 2010 – August 2014

- Co-PI: *MobiTrick – Mobile Traffic Checker*, "FIT-IT [visual computing]" research project funded by Österreichische Forschungsförderungsgesellschaft (FFG) (grant no. 819482); budget: k€ 656; July 2010 – June 2013

- Co-PI: *SRSnet – Smart Resource-Aware Multi-Sensor Network*, project funded by European Interreg 4 Fund and Carinthian Economic Promotion Fund; budget: k€ 850; September 2009 – August 2012

- Co-PI: *CLIC – Closed-Loop Integration of Cognition, Communication and Control*, "FIT-IT [embedded system]" research project funded by Österreichische Forschungsförderungsgesellschaft (FFG) (grant no. 819482); budget: k€ 720; January 2009 – December 2010

- Co-PI: *SOMA – Self-organizing Multimedia Architecture*, project funded by Lakeside Labs; budget: M€ 1.02; December 2008 – December 2011

- Consortium speaker: *cDrones – Collaborative Microdrones*, project funded by Lakeside Labs (grant 20214/17095/24772); budget: M€ 2.05; April 2008 – December 2011

- Consortium speaker: *EVis – Autonomous Traffic Monitoring by Embedded Vision*, "FIT-IT [visual computing]" project funded by Österreichische Forschungsförderungsgesellschaft (FFG) (grant no. 813399); May 2007 – April 2010

- Principle investigator: *I-SENSE – Embedded Multi Sensor Fusion Framework*, "FIT-IT [embedded system]" dissertation scholarship funded by Österreichische Forschungsförderungsgesellschaft (FFG) (grant no. 812204); June 2006 – May 2008

- Principle investigator: *Di-FUSE – A HW/SW Architecture for Embedded Distributed Data Fusion*, "FIT-IT [embedded system]" dissertation scholarship funded by Österreichische Forschungsförderungsgesellschaft (FFG) (grant no. 812033); June 2006 – May 2008

- Principle investigator: *Autonomous Reconfiguration in Distributed Smart Surveillance Systems*, "Bridge" research project funded by Österreichische Forschungsförderungsgesellschaft (FFG) (grant no. 810072); budget: k€ 150; September 2005 – August 2007

- Principle investigator: *Monitoring and Diagnosis of Hybrid Systems*, research project funded by the Austrian Science Fund (J14233-INF), ATS 2.034 Mio; April 2000 – May 2004

- Principle investigator: *Development of a Self-Calibrating Monitoring System*, post-doc scholarship funded by the Austrian Science Fund (J01429-MAT), US$ 31 K; May 1998 - April 1999

- Co-investigator: *Distributed Computer Architecture for Qualitative Simulation*, research project funded by the Austrian Science Fund (P10441-MAT), ATS 560 K; April 1995 - March 1997

8.2 Research Awards

- Top 10% award at *IEEE International Conference on Image Processing (ICIP 2014)* , October 2014

- Best demo award at *IEEE International Conference on Multimedia and Expo (ICME 2012)* , July 2012

- Best student paper award at *IEEE International Symposium on Robotic and Sensors Environments (ROSE 2011)* , September 2011

- Best paper award (runner up) at *IEEE International Conference on Video and Signal-based Surveillance*, September 2010

- Best research proposal (3rd place) "FIT-IT [visual computing]" *MobiTrick – Mobile Traffic Checker*, Federal Ministry for Transport, Innovation and Technology; May 2010

- Best research proposal (1st place) "FIT-IT [embedded system]" *CLIC – Closed-Loop Integration of Cognition, Communication and Control*, Federal Ministry for Transport, Innovation and Technology; March 2009

- Award for Science Communication (2nd place): "How to fly Microdrones?"; Austrian Science Event "Lange Nacht der Forschung"; November 2008

- ACM Service Award, October 2007

- Laureate: *Best Telematik Dissertation*, Telematik Ingenieurverband (TIV), October 1997

9 Professional Activities and Serving

9.1 Professional Organizations

- Executive member of Telematik-Ingenieurverband (alumni organization of Graz University of Technology)

- Senior member IEEE, member IFIP (working group 10.2)

9.2 Journal Editor

- Editor-in-Chief *Telematik* magazine; January 2000 – 2007

- Associate Editor: EURASIP Journal on Embedded Systems. 2011 – ongoing

- Associate Editor: Ad Hoc Networks journal. 2012 – ongoing

- Guest Editor: IEEE Computer special issue on Smart Camera Networks. May 2015

- Guest Editor: ACM Transactions on Embedded Computing Systems special issue on Embedded Aspects of Distributed Smart Cameras. 2011.

- Guest Editor: EURASIP Journal on Embedded Systems special issue on Challenges on Complexity and Connectivity in Embedded Systems. February 2009.

- Guest Editor: The Proceedings of the IEEE special issue on Distributed Smart Cameras. 96(10) October 2008

- Guest Editor: e&i special issue on Networked Embedded Systems. 125(10), October 2008.

- Guest Editor: IEEE Journal on Selected Topics in Signal Processing special issue on Distributed Processing in Vision Networks. 2(4) August 2008.

9.3   Conference Organization

- Steering Committee Member IEEE Workshop on Intelligent Solutions in Embedded Systems (WISES)

- Steering Committee Member for the ACM/IEEE Conference on Distributed Smart Cameras

- Steering Committee Member for the IEEE International Conference on Advanced Video and Signal-Based Surveillance

- Demo Chair for the IEEE International Conference on Multimedia and Expo (ICME) 2015. Torino, Italy 2015

- TPC Co-Chair for the IEEE International Conference on Advanced Video and Signal-Based Surveillance, 2013, Krakow

- General Conference Co-chair for the IEEE International Conference on Advanced Video and Signal-Based Surveillance (AVSS 2011)

- Organizing Chair of the IEEE/ICE Summer School on Networked Embedded Systems, Sep 3-7, 2011, Klagenfurt

- Program Co-Chair IEEE Workshop on Camera Networks and Wide Area Scene Analysis (CVPR Workshop 2011)

- Special Session Chair ACM/IEEE Conference on Distributed Smart Cameras (ICDSC 2009)

- Program Chair Workshop on Embedded Middleware for Smart Camera and Visual Sensor Networks (eMCAM-08)

- General Conference Co-Chair for the ACM/IEEE Conference on Distributed Smart Cameras (ICDSC-07)

- Program Chair Workshop on Distributed Smart Cameras (DSC 2006)

- Program Chair Workshop on Qualitative Reasoning (QR 2005)

- Program Chair Workshop on Intelligent Solutions for Embedded Systems (WISES 2004)

9.4   Membership in Technical Program Committees (TPCs)

- IEEE International Conference on Distributed Computing in Sensor Systems (DCoSS 2014, 2015, 2016, 2017)

- IEEE International Conference on Advanced Video and Signal Based Surveillance (AVSS 2009, AVSS 2010)

- ACM/IEEE International Conference on Distributed Smart Cameras (ICDSC 2008, ICDSC 2009, ICDSC 2010, ICDSC 2011, ICDSC 2012, ICDSC 2013, ICDSC 2014, ICDSC 2015, ICDSC 2016, ICDSC 2017)

- International Conference on Pervasive and Embedded Computing and Communication Systems (PECCS 2011, PECCS 2012, PECCS 2013, PECCS 2014)

- International Conference on Sensor Networks (SENSORNETS 2014)

- IEEE Workshop on Workshop on Advances in Automated Multimedia Surveillance for Public Safety (ICME Workshop 2011, 2012, 2013)

- IEEE Workshop on Embedded Computer Vision (ECV 2008, ECV 2009, ECV 2010, ECV 2011, ECV 2012, ECV 2013, ECV 2014, ECV 2015, ECV 2016, ECV 2017)

- IEEE Workshop on Intelligent Solutions in Embedded Systems (WISES 2005, WISES 2006, WISES 2007, WISES 2008, WISES 2009, WISES 2010, WISES 2011, WISES 2012, WISES 2013, WISES 2014, WISES 2015, WISES 2017)

- IFIP Working Conference on Distributed and Parallel Embedded Systems (DIPES 2008, DIPES 2010)

- Conference D-A-CH Mobility (2006, 2008)

- IEE International Conference on Intelligent Environments (IE 2006, IE 2007, IE 2008, IE 2009, IE 2010, IE 2011)

- IADIS Wireless Applications and Computing Conference (WAC 2007, WAC 2008, WAC 2009, WAC 2010)

- International Workshop on ITS for Ubiquitous Roads (UBIROADS 2007, UBIROADS 2011)

- Workshop on Qualitative Reasoning (QR 2004, QR 2006)

- IEEE International Conference on Computational Cybernetics (ICCC 2004)

- International Workshop on Principles of Diagnosis (DX'02)

9.5   University Appointments

- Member of the Board of the Austrian Science Fund (since 2014)

- Vice Dean of the Faculty of Technical Sciences (January 2008 – December 2011)

- Deputy Head of the Institute of Networked and Embedded Systems (since March 2007)

- Elected Member of the Senate, Klagenfurt University (October 2010 – September 2016)

- Chair of the Doctoral Advisory Board of the Faculty of Technical Sciences (since 2013)

- Chair of the Search Committee for the Professorship in Smart Grids (2015)

- Chair of the Search Committee for the Professorship in Embedded Systems (2013)

- Initiator and coordinator of a Double-Degree Master Program on Pervasive Computing and Multimedia Communications between Klagenfurt University and the University of Udine (effective October 2009)

- University lead coordinator of an Erasmus Mundus Joint Doctorate Program on Interactive and Cognitive Environments between University of Genua, UPC Barcelona, TU Eindhoven, Queen Mary University London and Klagenfurt University (effective October 2010)