

September 25-28, 2007  
Vienna, Austria

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  - [Tuesday Sept. 25, 2007](#)
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**Tuesday Sept. 25, 2007**

08:30 - 09:00 Registration  
09:00 - 09:50 [Tutorials I and II](#)  
09:50 - 10:20 Coffee Break  
10:20 - 12:00 [Tutorials I and II \(cont'd\)](#)  
12:00 - 13:30 Lunch and [PhD Forum \(Student PhD Spot Posters\)](#)  
13:30 - 15:10 [Tutorials III and IV](#)  
15:10 - 15:30 Coffee Break  
15:30 - 16:30 [Tutorials III and IV \(cont'd\)](#)  
16:30 - 18:15 [PhD Forum \(Panel Discussion\)](#)  
19:00 - 21:00 Mayor's Reception at Vienna Town Hall

**Wednesday Sept. 26, 2007**

08:30 - 09:00 Registration  
09:00 - 09:50 Plenary Talk: [Feng Zhao -- "Sensing Platforms for World-wide Sensor Web"](#)  
09:50 - 10:20 Coffee Break  
10:20 - 12:00 Lecture Session I: **Smart Camera Architecture**

- **Coordinated Distributed Power Management with Video Sensor Networks: Analysis, Simulation, and Prototyping**, Nicholas Zamora (Carnegie Mellon University, US); Radu Marculescu (Carnegie Mellon University, US)
- **Application-Oriented Design of Smart Camera Networks**, Stephan Hengstler (Stanford University, US); Hamid Aghajan (Stanford University, US)
- **Hardware, Design and Implementation Issues on a FPGA-based Smart Camera**, Fabio Dias Real (LASMEA - Université Blaise

Pascal, FR); Francois Berry (Universite Blaise Pascal, FR); Jocelyn Sérot (LASMEA - Université Blaise Pascal, FR); François Marmoiton (LASMEA - Université Blaise Pascal, FR)

- **Mapping Vision Algorithms on SIMD Architecture Smart Cameras**, Chen Wu (Stanford University, US); Richard Kleihorst (NXP Semiconductor Research, NL); Hamid Aghajan (Stanford University, US)

12:00 - 13:30 Lunch

13:30 - 15:10 Lecture Session II: **Scene Analysis**

- **Lightweight People Counting and Localizing in Indoor Spaces using Camera Sensor Nodes**, Thiago Teixeira (Yale University, US); Andreas Savvides (Yale University, US)
- **Linear Dynamic Data Fusion Techniques for Face Orientation Estimation in Smart Camera Networks**, Chung-Ching Chang (Stanford University, US); Hamid Aghajan (Stanford University, US)
- **Automatically Determining Dominant Motions in Crowded Scenes by Clustering Partial Feature Trajectories**, Anil Cheriyyadat (Rensselaer Polytechnic Institute, US); Richard Radke (Rensselaer Polytechnic Institute, US)
- **Robust homography-based trajectory transformation for multi-camera scene analysis**, Gabin-Wilfried Kayumbi-Kabeya (Queen Mary University, UK); Andrea Cavallaro (Queen Mary, University of London, UK)
- **Vehicle classification on multi-sensor smart cameras using feature- and decision-fusion**, Andreas Klausner (Graz University of Technology, AT); Allan Tengg (Graz University of Technology, AT); Bernhard Rinner (Klagenfurt University, AT)

15:10 - 15:30 Coffee Break

15:30 - 17:00 Poster + Demo Session I -- For list of papers click [here](#)

## Thursday Sept. 27, 2007

08:30 - 09:00 Registration

09:00 - 09:50 Plenary Talk: [Mubarak Shah -- "Video Surveillance and Monitoring Using Distributed Cameras"](#)

09:50 - 10:20 Coffee Break

10:20 - 12:00 Lecture Session III: **Tracking and Surveillance**

- **Object Reacquisition and Tracking in Large-Scale Smart Camera Networks**, Clemens Arth (Graz University of Technology, AT); Christian Leistner (Graz University of Technology, AT); Horst Bischof (Technical University Graz, AT)
- **A multi-camera visual surveillance system for tracking of reoccurrences of people**, Thang Pham (VU University Medical Center, NL); Marcel Worring (University of Amsterdam, NL); Arnold Smeulders (University of Amsterdam, NL)
- **Audiovisual tracking using STAC sensors**, Huiyu Zhou (Queen Mary, University of London, UK); Murtaza Taj (Queen Mary, University of London, UK); Andrea Cavallaro (Queen Mary, University of London, UK)
- **Distributed Appearance Based Tracking using the EM Algorithm**, Thomas Mensink (Universiteit van Amsterdam, NL); Wojtek Zajdel (University of Amsterdam, NL); Ben Kröse (Universiteit van Amsterdam, NL)

12:00 - 13:30 Lunch

13:30 - 15:10 Lecture Session IV: **Camera Network Architecture**

- **Real-time Human Motion Detection with Distributed Smart Cameras**, Mark Daniels (Princeton University, US); Kate Muldawer (Princeton University, US); Jason Schlessman (Princeton University, US); Burak Ozer (Princeton University, US); Wayne Wolf (Georgia Tech, US)
- **Topology Estimation for Thousand-camera Surveillance Networks**  
Henry Detmold (The University of Adelaide, AU); Anton van den Hengel (The University of Adelaide, AU); Anthony Dick (The University of Adelaide, AU); Rhys Hill (The University of Adelaide, AU); Katrina Falkner (The University of Adelaide, AU); David Munro (The University of Adelaide, AU); Ekim Kocadag (The University of Adelaide, AU); Alex Cichowski (The University of Adelaide, AU)
- **A Light-weight Event-driven Protocol for Sensor Clustering in Wireless Camera Networks**, Henry Medeiros (Purdue University, US); Johnny Park (Purdue University, US); Avinash Kak (Purdue University, US)
- **SmartClassySurv -- A Smart Camera Network for Distributed Tracking and Activity Recognition and its Application to Assisted Living**, Sven Fleck (University of Tübingen, DE); Roland Loy (University of Tuebingen, DE); Christian Vollrath (University of Tübingen, DE); Florian Walter (University of Tübingen, DE); Wolfgang Strasser (University of Tübingen, DE)
- **Architecture for Cluster-based Automated Surveillance Network for Detecting and Tracking Multiple Persons**, Rachel Goshorn (Naval Postgraduate School, US); Joshua Goshorn (JLG Technologies, Inc., US); Deborah Goshorn (SPAWAR Systems Center San Diego, US); Hamid Aghajan (Stanford University, US)

15:10 - 15:30 Coffee Break

15:30 - 17:00 Poster Session II -- For list of papers click [here](#)

17:00 - 21:00 Bus Tour and Banquet

## Friday Sept. 28, 2007

08:30 - 09:00 Registration

09:00 - 09:50 Plenary Talk: [Wilfried Philips -- "Challenges for Single- and Multi-Camera Video Processing"](#)

09:50 - 10:20 Coffee Break

10:20 - 11:10 Lecture Session V-1: **Multi-Camera Compression**

- **Skeleton-Based Compression of 3-D Tele-Immersion Data**, Jyh-Ming Lien (George Mason University, US); Ruzena Bajcsy (University of California, US)
- **A distributed coding-based content-aware multi-view video system**, Marleen Morbee (Ghent University, BE); Linda Tessens (Ghent University, BE); Hiep Quang Luong (Ghent University, BE); Josep Prades-Nebot (Universidad Politécnic de Valencia, ES); Aleksandra Pizurica (Ghent University, BE); Wilfried Philips (Ghent University, BE)

11:10 - 12:00 Lecture Session V-2: **Behavior Analysis**

- **A Distributed Outdoor Video Surveillance System for Detection of Abnormal People Trajectories**, Simone Calderara (University of Modena and Reggio Emilia, IT); Rita Cucchiara (University of Modena and Reggio Emilia, IT); Andrea Prati (Universita' di Modena e Reggio Emilia, IT)
- **An Embedded Low Power High Efficient Object Tracker For Surveillance Systems**, Isael Diaz Palacios (Lund University, SE); Marc Heijligers (Philips Research, NL); Richard Kleihorst (NXP Semiconductor Research, NL); Alexander Danilin (NXP Semiconductor, NL)

12:00 - 13:30 Lunch

13:30 - 15:10 Panel Discussion: **"Distributed Smart Cameras: Research Toys or Practical Tools?"**

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## PhD Forum

- **Optimizing Resources of an FPGA-based Smart Camera**, A. W. Azman (The University of Queensland, AU); A. Bigdeli (NICTA, AU); Y. M. Mustafah (The University of Queensland, AU); B. C. Lovell (The University of Queensland, AU)
- **Challenges of Human Posture Estimation in Multi-view Camera Networks**, Chen Wu (Stanford University, US); Hamid Aghajan (Stanford University, US)
- **Collaborative Face Orientation Analysis in Smart Camera Networks**, Chung-Ching Chang (Stanford University, US); Hamid Aghajan (Stanford University, US)
- **FaceNet: Tracking People and Acquiring Canonical Face Images in a Wireless Camera Sensor Network**, Kyle Heath (Stanford University, US); Leonidas Guibas (Stanford University, US)
- **A Lightweight Middleware for Distributed, Collaborative Image Processing in Embedded Smart Camera Networks**, Markus Quaritsch (Graz University of Technology, AT); Bernhard Rinner (Klagenfurt University, AT)
- **A Low-Power Configurable Wireless Video Sensor Node for Distributed Vision Applications**, Michele Magno (University

of Bologna, IT); Luca Benini (University of Bologna, IT)

- **Implementation of Image Registration Algorithm on a Heterogeneous Platform**, Muneeb Abid (Université Blaise Pascal, FR); Francois Berry (Université Blaise Pascal, FR); Fabio Dias (Université Blaise Pascal, FR); Adrien Bartoli (Université Blaise Pascal, FR); Suman Prasad Sah (Université Blaise Pascal, FR)
- **Content-Aware Control for Efficient Video Transmission of Wireless Multi-Camera Surveillance Systems**, O. Ozturk (The University of Tokyo, JP); T. Hayashi (The University of Tokyo, JP); T. Yamasaki (The University of Tokyo, JP); K. Aizawa (The University of Tokyo, JP)
- **Camera Selection in Visual Sensor Networks with Occluding Objects**, Stanislava Soro (University of Rochester, US); Wendi Heinzelman (University of Rochester, US)
- **Application-Oriented Design of Smart Camera Networks**, Stephan Hengstler (Stanford University, US); Hamid Aghajan (Stanford University, US); Andrea Goldsmith (Stanford University, US)
- **An Embedded Multi-Sensor Data Fusion Framework for Enhancing Vision-Based Traffic Monitoring**, Andreas Starzacher (Klagenfurt University, AT); Bernhard Rinner (Klagenfurt University, AT)
- **Towards Pervasive Smart Cameras**, Wolfgang Schriebl (Klagenfurt University, AT); Thomas Winkler (Klagenfurt University, AT); Bernhard Rinner (Klagenfurt University, AT)

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### **Poster + Demo Session I (Wed September 26, 2007):**

- **Using Smart Cameras to Localize Self-Assembling Modular Robots**, Babak Shirmohammadi (University of Pennsylvania, US); Camillo Taylor (University of Pennsylvania, US); Mark Yim (University of Pennsylvania, US); Jimmy Sastra (University of Pennsylvania, US); Mike Park (University of Pennsylvania, US)
- **Embedded Smart Camera for High Speed Vision**, Martin Litzenberger (Austrian Research Centers GmbH - ARC, AT); Ahmed Belbachir (Austrian Research

Centers GmbH - ARC, AT); Peter Schön (Austrian Research Centers GmbH - ARC, AT); Christoph Posch (Austrian Research Centers GmbH - ARC, AT)

- **Smart Camera Networks in Virtual Reality**, Faisal Qureshi (University of Toronto, CA); Demetri Terzopoulos (University of California Los Angeles, US)
- **A Networked High-Speed Vision System for 1,000-FPS Visual Feature Communication**, Shingo Kagami (Tohoku University, JP); Shoichiro Saito (University of Tokyo, JP); Takashi Komuro (The University of Tokyo, JP); Masatoshi Ishikawa (University of Tokyo, JP)
- **Face and Eye Detection for Person Authentication in Mobile Phones**, Abdenour Hadid (University of Oulu, FI); Jarkko Heikkilä (University of Oulu, FI); Olli Silven (University of Oulu, FI); Matti Pietikäinen (University of Oulu, FI)
- **Camera Mote with a High-Performance Parallel Processor for Real-Time Frame-Based Video Processing**, Richard Kleihorst (NXP Semiconductor Research, NL); Anteneh Abbo (Philips, NL); Ben Schueler (NXP semiconductors, NL); Alexander Danilin (NXP Semiconductor, NL)
- **FaceNet: Tracking People and Acquiring Canonical Face Images in a Wireless Camera Sensor Network**, Kyle Heath (Stanford University, US), Leonidas Guibas (Stanford University, US)
- **A Low-Cost, Tiled Embedded Smart Camera System for Computer Vision Applications**, W. Daniel Leon-Salas (University of Nebraska-Lincoln, US); Senem Velipasalar (University of Nebraska-Lincoln, US); Nathan Schemm (University of Nebraska-Lincoln, US); Sina Balkir (University of Nebraska-Lincoln, US)
- **Geometric Tools for Multicamera Surveillance Systems**, Eleanor Rieffel (FX Palo Alto Laboratory, US); Andreas Girsensohn (FX Palo Alto Laboratory, US); Don Kimber (FX Palo Alto Laboratory, US); Trista Chen (FX Palo Alto Laboratory, US); Qiong Liu (FX Palo Alto Laboratory, US)
- **Interactive Reception Desk with Face Recognition-Based Access Control**, Elena Salvador (University of Udine, IT); Gian Luca Foresti (University of Udine, IT)
- **An Automated Face Recognition System for Intelligence Surveillance: Smart Camera Recognizing Faces in the Crowd**, Yasir Mustafah (The University of Queensland, AU); Amelia Azman (The University of Queensland, AU); Abbas Bigdeli (NICTA, AU); Brian Lovell (NICTA, AU)
- **The Mesheye Smart Camera Mote: Hybrid-Resolution Vision**, Stephan Hengstler (Stanford University, US); Hamid Aghajan (Stanford University, US)
- **Dynamic Sensor Fusion in Distributed Multi-Sensor Smart Cameras**, Allan Tengg (Graz University of Technology, AT); Andreas Klausner (Graz University of Technology, AT); Bernhard Rinner (Klagenfurt University, AT)
- **People Tracking Across Two Distant Self-Calibrated Cameras**, Roman Pflugfelder (Austrian Research Centers GmbH - ARC, AT); Gustavo Dominguez (Austrian Research Centers GmbH - ARC, AT)

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## Poster Session II (Thu September 27, 2007):

- **Multiple View Camera Calibration for Localization**, Peter Meijer (NXP Semiconductors, NL); Christian Leistner (Graz University of Technology, AT); Anthony Martinière (University of Nice, FR)
- **A QoS Evaluation Testbed for MAC Protocols for Wireless Camera Networks**, Paul Shin (Purdue University, US); Johnny Park (Purdue University, US); Avinash Kak (Purdue University, US)
- **Multi-Camera Topology Recovery from Coherent Motion**, Zehavit Mandel (University of Haifa, IL); Ilan Shimshoni (University of Haifa, IL); Daniel Keren (University of Haifa, IL)
- **Diminished Reality via Multiple Hand-Held Cameras**, Songkran Jarusirisawad (Keio University, JP); Hideo Saito (Keio University, JP)
- **Multi-Camera Surveillance with Visual Tagging and Generic Camera Placement**, Jian Zhao (University of Kentucky, US); Sen-ching Cheung (University of Kentucky, US)
- **ROCAS: A Robust Online Algorithm for Spatial Partitioning in Distributed Smart Camera Systems**, Martin Hoffmann (Leibniz Universitaet Hannover, DE); Jörg Hähner (Leibniz Universität Hannover, DE)
- **Multi-Sensor Fusion Tracking Using Visual Information and Wi-Fi Location Estimation**, Takashi Miyaki (The University of Tokyo, JP); Toshihiko Yamasaki (The University of Tokyo, JP); Kiyoharu Aizawa (The University of Tokyo, JP)
- **Feature Fusion for Robust Object Tracking Using Fragmented Particles**, Chhabi Nigam (Indian Institute Of Science, Bangalore, IN); Venkatesh Babu (Indian Institute Of Science, Bangalore, IN); Kumar Raja (Indian Institute Of Science, Bangalore, IN); Kalpathi Ramakrishnan (Indian Institute Of Science, Bangalore, IN)
- **Automatic Estimation of Pedestrian Flow**, Gwang-Gook Lee (Hanyang University, KR); Byeoungsu Kim (Hanyang University, KR); Whoi-Youl Kim (Hanyang University, KR)
- **Improved Agent-Oriented Middleware for Distributed Smart Cameras**, Markus Quaritsch (Graz University of Technology, AT); Bernhard Rinner (Klagenfurt University, AT); Bernhard Strobl (Austrian Research Centers GmbH, AT)
- **How to Dispatch Observers to Track an Evolving Boundary**, Tingting Jiang (Duke University, US); Carlo Tomasi (Duke University, US); Scott Schmidler (Duke University, US)
- **Exploring Tradeoffs in Accuracy, Energy and Latency of Scale Invariant Feature Transform in Wireless Camera Networks**, Teresa Ko (UCLA, US); Zainul Charbiwala (UCLA, US); Shaun Ahmadian (UCLA, US); Mohammad Rahimi (UCLA, US); Mani Srivastava (UCLA, US); Stefano Soatto (UCLA, US);

Deborah Estrin (UCLA, US)

- **Nonstationary Background Removal via Multiple Camera Collaboration**, Huang Lee (Stanford University, US); Chen Wu (Stanford University, US); Hamid Aghajan (Stanford University, US)
- **Volumetric Reconstruction with Compressed Data**, Nantheera Anantrasirichai (University of Bristol, UK); Nishan Canagarajah (University of Bristol, UK); David Redmill (University of Bristol, UK)
- **Network-Adaptive Image and Video Transmission in Camera-Based Wireless Sensor Networks**, Youssef Charfi (Osaka University, JP); Naoki Wakamiya (Osaka University, JP); Masayuki Murata (Osaka University, JP)