

Preface

We are delighted to present the proceedings of DAGM 2004, and wish to express our gratitude to the many people whose efforts made the success of the conference possible. We received 146 contributions of which we were able to accept 22 as oral presentations and 48 as posters. Each paper received 3 reviews, upon which decisions were based. We are grateful for the dedicated work of the 38 members of the program committee and the numerous referees. The careful review process led to the exciting program which we are able to present in this volume.

Among the highlights of the meeting were the talks of our four invited speakers, renowned experts in areas spanning learning in theory, in vision and in robotics:

- William T. Freeman, Artificial Intelligence Laboratory, MIT: *Sharing Features for Multi-class Object Detection*
- Pietro Perona, Caltech: *Towards Unsupervised Learning of Object Categories*
- Stefan Schaal, Department of Computer Science, University of Southern California: *Real-Time Statistical Learning for Humanoid Robotics*
- Vladimir Vapnik, NEC Research Institute: *Empirical Inference*

We are grateful for economic support from Honda Research Institute Europe, ABW GmbH, Transtec AG, DaimlerChrysler, and Stemmer Imaging GmbH, which enabled us to finance best paper prizes and a limited number of travel grants. Many thanks to our local support Sabrina Nielebock and Dagmar Maier, who dealt with the unimaginably diverse range of practical tasks involved in planning a DAGM symposium. Thanks to Richard van de Stadt for providing excellent software and support for handling the reviewing process. A special thanks goes to Jeremy Hill, who wrote and maintained the conference website. Without all of your dedicated contributions, the successful 26th DAGM Symposium in Tübingen would not have been possible.

June 2004

Carl Edward Rasmussen, Heinrich H. Bülthoff,
Martin A. Giese and Bernhard Schölkopf

Organization

DAGM e.V.: German Association for Pattern Recognition

Organizing Committee and Program Chairs

Carl Edward Rasmussen	Max Planck Institute for Biological Cybernetics
Heinrich H. Bülthoff	Max Planck Institute for Biological Cybernetics
Martin A. Giese	University Clinic Tübingen
Bernhard Schölkopf	Max Planck Institute for Biological Cybernetics

Since 1978 DAGM (German Association for Pattern Recognition) has organized annual scientific conferences at various venues. The goal of each DAGM symposium is to inspire conceptual thinking, support the dissemination of ideas and research results from different areas in the field of pattern recognition, stimulate discussions and the exchange of ideas among experts, and support and motivate the next generation of young researchers.

DAGM e.V. was founded as a registered research association in September 1999. Until that time, DAGM had been comprised of the following support organizations that have since become honorary members of DAGM e.V.:

DGaO	Deutsche Arbeitsgemeinschaft für angewandte Optik (German Society for Applied Optics)
GMDS	Deutsche Gesellschaft für Medizinische Informatik, Biometrie und Epidemiologie (German Society for Medical Informatics, Biometry, and Epidemiology)
GI	Gesellschaft für Informatik (German Informatics Society)
ITG	Informationstechnische Gesellschaft (Information Technology Society)
DGN	Deutsche Gesellschaft für Nuklearmedizin (German Society for Nuclear Medicine)
IEEE	Deutsche Sektion des IEEE (Institute of Electrical and Electronics Engineers, German Section)
DGPF	Deutsche Gesellschaft für Photogrammetrie und Fernerkundung (German Society for Photogrammetry, Remote Sensing and Geo-information)
VDMA	Fachabteilung industrielle Bildverarbeitung/Machine Vision im VDMA (Robotics + Automation Division within VDMA)
GNNS	German Chapter of the European Neural Network Society
DGR	Deutsche Gesellschaft für Robotik (German Robotics Society)

DAGM Prizes 2003

The main prize was awarded to

Ulrich Köthe
Universität Hamburg, Germany
Edge and Junction Detection with an Improved Structure Tensor

Further DAGM prizes for 2003 (sponsored by ABW) were awarded to

Christian Perwass, Vladimir Banarer, Gerald Sommer
Christian-Albrechts-Universität zu Kiel, Germany
Spherical Decision Surfaces Using Conformal Modelling

Martin Welk, Christian Feddern, Bernhard Burgeth, Joachim Weickert
Saarland Universität, Germany
Median Filtering of Tensor-Valued Images

Ivan Kovtun
Technische Universität Dresden, Germany
Partial Optimal Labelling Search for a NP-Hard Subclass of $(max,+)$ Problems

Program Committee

Maximilian Buhmann	ETH Zürich
Hans Burkhardt	Universität Freiburg
Wolfgang Förstner	Universität Bonn
Matthias Franz	MPI Tübingen
Siegfried Fuchs	Technische Universität Dresden
Dariu Gavrilă	DaimlerChrysler
Armin Grün	ETH Zürich
Gerd Hirzinger	DLR Oberpfaffenhofen
Thomas Hofmann	Brown University
Bernd Jähne	Universität Heidelberg
Reinhard Koch	Universität Kiel
Walter Kropatsch	TU Wien
Paul Levi	Universität Stuttgart
Claus-Eberhard Liedtke	Universität Hannover
Hanspeter Mallot	Universität Tübingen
Barbel Mertsching	Universität Hamburg
Rudolf Mester	Universität Frankfurt
Bernhard Nebel	Universität Freiburg
Heiko Neumann	Universität Ulm
Hermann Ney	RWTH Aachen
Heinrich Niemann	FORWISS Erlangen
Manfred Oppel	Aston University
Bernd Radig	TU München
Gunnar Rätsch	MPI Tübingen
Helge Ritter	Universität Bielefeld
Gerhard Sagerer	Universität Bielefeld
Dietmar Saupe	Universität Konstanz
Bernt Schiele	ETH Zürich
Christoph Schnörr	Universität Mannheim
Hans-Peter Seidel	MPI Saarbrücken
Gerald Sommer	Universität Kiel
Gabor Székely	ETH Zürich
Luc Van Gool	ETH Zürich
Thomas Vetter	Universität Basel
Friedrich M. Wahl	Universität Braunschweig
Christian Wallraven	MPI Tübingen
Joachim Weickert	Universität des Saarlandes

Referees

Tim Bodenmüller	Frank Jäkel
Gökhan Bakır	Martin Kampel
Klaus Arbter	Dimitris Katsoulas
Vladimir Banarer	Tanja Kämpfe
Curzio Basso	Jens Keuchel
Christian Bauckhage	Daniel Keyzers
Pierre Bayerl	Wolf Kienzle
Olivier Bousquet	Alexander Kleiner
Michael Brenner	Istvan Kokai
Thomas Brox	Esther Koller-Meier
Andres Bruhn	Ivan Kopilovic
Gerd Brunner	Lars Krüger
Sven Buchholz	Franz Kummert
Bernhard Burgeth	Christian Köhler
Geert Caenen	Navin Lal
Nikolaos Canterakis	Christian Lange
Youssef Charfi	Tilman Lange
Dachuan Cheng	Georg Langs
Kurt Cornelis	Pavel Laskov
Cristobal Curio	Julian Laub
Thomas Deselaers	Bastian Leibe
Guido Dornhege	Otto Löhlein
Christian Feddern	Wolfgang Macherey
Bernd Fischer	Jocelyn Marchadier
Gernot A. Fink	Frank Meinecke
Boris Flach	Sebastian Mika
Jan-Michael Frahm	Matthias Mühlich
Rik Fransens	Julia Neumann
Jannik Fritsch	Björn Ommer
Indra Geys	Peter Orbanz
Martin Giese	Mihai Osian
Toon Goedeme	Nils Papenberg
Oliver Granert	Christian Perwass
Bernard Haasdonk	Klaus-Dieter Peschke
Alaa Halawani	Jean-Sebastian Pierrard
Allan Hanbury	Martin Röder
Stefan Harmeling	Matthias Rätsch
Sasa Hasan	Marco Ragni
Gunther Heidemann	Marco Reisert
Matthias Heiler	Sami Romdhani
Malte Helmert	Olaf Ronneberger
Jeremy Hill	Volker Roth
Ulrich Hillenbrand	Mauro Ruggeri
Heiko Hirschmüller	Liu Rui

Axel Saalbach
Christin Schaefer
Helmut Schirmer
Friedhelm Schwenker
Edgar Seemann
Wolfgang Sepp
Nils T. Siebel
Martin Spengler
Harald Steck
Jochen Steil
Jürgen Toelke
Katharina Tluk v. Toschanowitz

Tinne Tuytelaars
Thorsten Twellmann
Maarten Vergauwen
Julia Vogel
Sven Wachsmuth
Jörg Walter
Quing Wang
Thilo Weigel
Olaf Weiss
Martin Welk
Alexey Zalesny
Andras Zolnay