

# Combinatorial Image Analysis



## 11th International Workshop

Humboldt-Universität zu Berlin, Germany

**Sunday, June, 18**

Preconference trip (Einstein-Tower & Potsdam Science Park)  
Please send an email to [iwcia@informatik.hu-berlin.de](mailto:iwcia@informatik.hu-berlin.de) for details and registration.  
11:30 Potsdam Hbf., Charge 5 €



Welcome reception  
German Aerospace Center (DLR)  
18:00 Berlin Adlershof

**Monday, June, 19**

|               |              |                                       |
|---------------|--------------|---------------------------------------|
| 9:00 – 9:15   | Welcome Note |                                       |
| 9:15 – 10:45  | Session I    | Combinatorics and Counting            |
| Coffee break  |              |                                       |
| 11:15 – 12:45 | Session II   | Thinning and Watersheds               |
| Lunch break   |              |                                       |
| 13:45 – 15:15 | Session III  | Distances                             |
| Coffee break  |              |                                       |
| 15:45 – 17:15 | Session IV   | Image Representation and Segmentation |

**Tuesday, June, 20**

|  |                |                    |
|--|----------------|--------------------|
| 8:30 – 9:00  | Invited Talk   |                    |
| Coffee break   |                |                    |
| 9:15 – 10:45   | Session V      | Approximations I   |
| Coffee break   |                |                    |
| 11:00 – 12:30  | Session VI     | Digital Topology   |
| Lunch break  |                |                    |
| 14:00 – 15:30  | Session VII    | Shape and Matching |
| Coffee break   |                |                    |
| 15:45-16:30  | Poster Session |                    |
| 17:30 Boat trip and conference dinner aboard of MS Olympia |                |                    |

**Wednesday, June, 21**

|                           |              |                            |
|---------------------------|--------------|----------------------------|
| 9:00 – 9:30               | Invited Talk |                            |
| Coffee break              |              |                            |
| 9:45 – 10:45              | Session VIII | Approximations II          |
| Coffee break              |              |                            |
| 11:00 – 12:30             | Session IX   | Combinatorics and Grammars |
| Lunch break               |              |                            |
| 14:00 – 15:30             | Session X    | Tomography                 |
| Coffee break and farewell |              |                            |

**Combinatorics and Counting**

*Konrad Polthier*

Topological Map: An Efficient Tool to Compute Incrementally Topological Features on 3D Images  
*Guillaume Damiand, Samuel Peltier, Laurent Fuchs, Pascal Lienhardt*

Counting Gaps in Binary Images  
*Valentin E. Brimkov, Angelo Maimone, Giorgio Nardo*

The exact lattice width of planar sets and minimal arithmetical thickness  
*Fabien Feschet*

**Thinning and Watersheds**

*David Coeurjolly*

Branch Voxels and Junctions in 3D Skeletons  
*Gisela Klette*

New 2D parallel thinning algorithms based on critical kernels  
*Gilles Bertrand, Michel Couprie*

Grayscale watersheds on perfect fusion graphs  
*Jean Cousty, Michel Couprie, Laurent Najman, Gilles Bertrand*

**Distances**

*Gunilla Borgefors*

Matching of the Multi-Channel Images with Improved Nonparametric Transformations and Weighted Binary Distance Measures  
*Boguslaw Cyganek*

Approximating Euclidean Distance Using Distances Based on Neighbourhood Sequences in Non-Standard Three-Dimensional Grids  
*Benedek Nagy, Robin Strand*

Fuzzy Distance Based Hierarchical Clustering Calculated Using the A\* Algorithm  
*Magnus Gedda, Stina Svensson*

**Image Representation and Segmentation**

*Longin Jan Latecki*

A New Sub-Pixel Map for Image Analysis  
*Hans Meine, Ullrich Köthe*

Feature Based Defuzzification at Increased Spatial Resolution  
*Joakim Lindblad, Natasa Sladoje*

Extended Mumford-Shah Regularization in Bayesian Estimation for Blind Image Deconvolution and Segmentation  
*Hongwei Zheng, Olaf Hellwich*

Invited Talk

Polygonal Approximation of Point Sets  
*Longin Jan Latecki, Rolf Lakaemper, Marc Sobel*

Approximations I

*Reinhard Klette*

Linear Discrete Line Recognition and Reconstruction based on a Generalized Preimage  
*Martine Dexet, Eric Andres*

Digital Line Recognition, Convex Hull, Thickness, a Unified and Logarithmic Technique  
*Lilian Buzer*

Incremental and Transitive Discrete Rotations  
*Bertrand Nouvel, Éric Rémila*

Digital Topology

*Atsushi Imiya*

Discrete Homotopy of a Closed k-Surface  
*Sang-Eon Han*

Topology Preserving Digitization with FCC and BCC Grids  
*Peer Stelldinger, Robin Strand*

On the Notion of Dimension in Digital Spaces  
*Valentin E. Brimkov, Angelo Maimone, Giorgio Nardo*

Shape and Matching

*Valentin Brimkov*

Size and shape measure of particles by image analysis  
*Weixing Wang*

A Comparison of Shape Matching Methods for Contour Based Pose Estimation  
*Bodo Rosenhahn, Thomas Brox, Daniel Cremers, Hans-Peter Seidel*

Relevance criteria for data mining using error-tolerant graph matching  
*Sidharta Gautama, Rik Bellens, Guy De Tré, Johan D'Haeyer*

Poster Session

*Ralf Reulke*

A Novel Automated Hand-based Personal Identification  
*Yinghua Lu, Yuru Wang, Jun Kong, Longkui Jiang*

Hierarchical Tree of Image derived by Diffusion Filtering  
*Haruhiko Nishiguchi, Atsushi Imiya, Tomoya Sakai*

Shortest Paths in a Cuboidal World  
*Fajie Li, Reinhard Klette*

Object Tracking Using Genetic Evolution Based Kernel Particle Filter  
*Qicong Wang, Jilin Liu, Zhigang Wu*

Surface Registration Markers from Range Scan  
*John Rugis, Reinhard Klette*

Two-dimensional discrete shape matching and recognition  
*Isameddine Boukhriss, Serge Miguet, Laure Tougne*

An Efficient Reconstruction of 2D-Tiling with  $t_{1,2}$ ,  $t_{2,1}$ ,  $t_{1,1}$  tiles  
*V. Masilamani, Kamala Krithivasan*

Invited Talk

Computational Aspects of Digital Plane and Hyperplane Recognition  
*David Coeurjolly, Valentin E. Brimkov*

Approximations II

*Thomas Brox*

A Linear Algorithm for Polygonal Representations of Digital Sets  
*Helene Dörksen-Reiter, Isabelle Debled-Renesson*

The Monogenic Curvature Scale-Space  
*Di Zang, Gerald Sommer*

Combinatorics and Grammars

*Christer Kiselman*

Combinatorial Properties of Scale Space Singular Points  
*Atsushi Imiya, Tomoya Sakai*

Additive subsets  
*Yan Gerard*

Cooperating Basic Puzzle Grammar Systems  
*Kumbakonam G. Subramanian, Ramakrishnan Saravanan, Philip Helen Chandra*

Tomography

*Boris Flach*

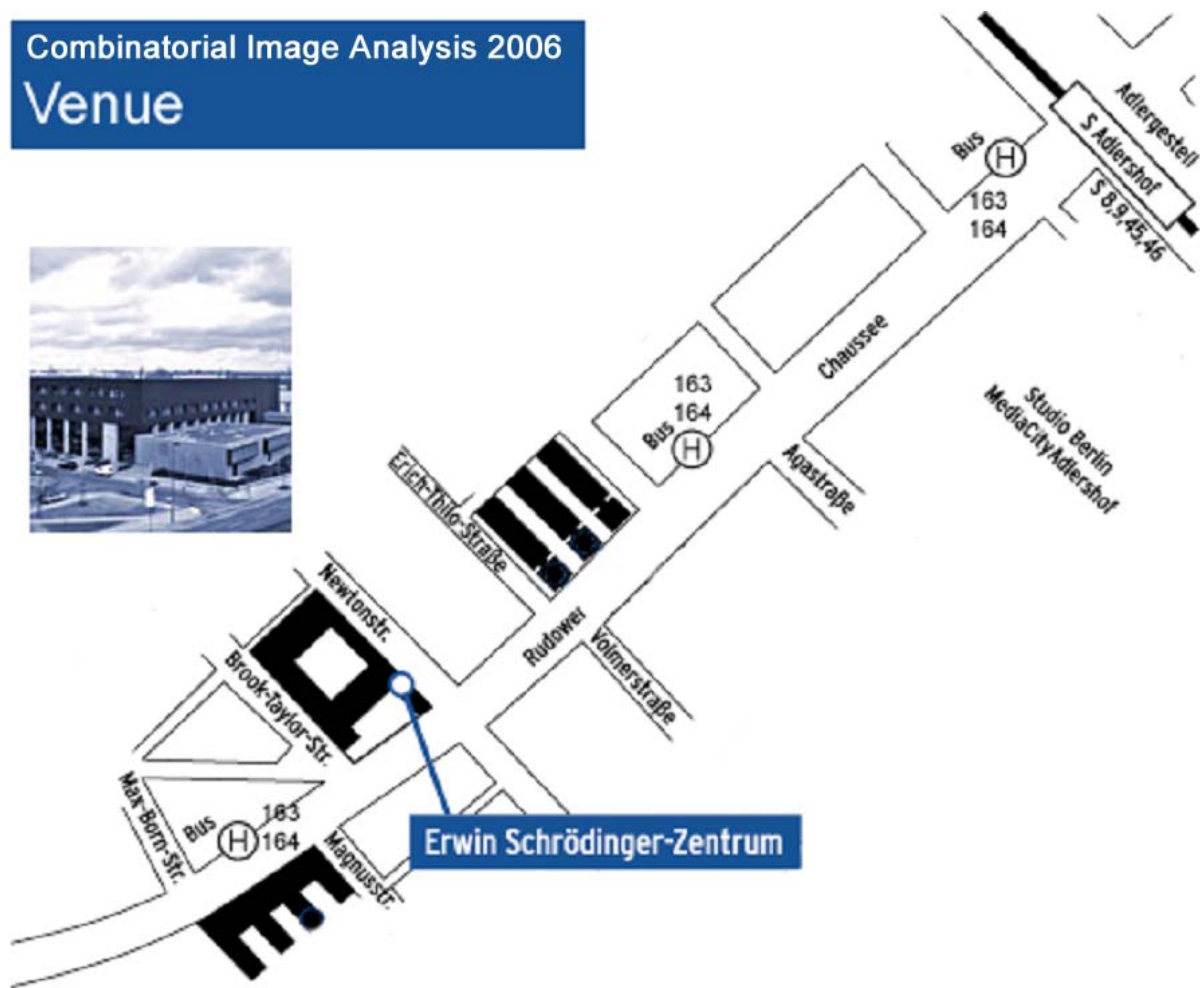
Quasi-Isometric and Quasi-Conformal Development of Triangulated Surfaces for Computerized Tomography

*Eli Appleboim, Emil Saucan, Yehoshua Y. Zeevi, Ofir Zeitoun*

Binary Tomography with Deblurring  
*Stefan Weber, Thomas Schüle, Christoph Schnörr, Attila Kuba*

A Neural Network Approach to Real-time Discrete Tomography  
*Kees Joost Batenburg, Walter A. Kosters*

## Combinatorial Image Analysis 2006 Venue



Erwin Schrödinger-Zentrum  
Rudower Chaussee 26  
12489 Berlin-Adlershof

Please visit [www.s-bahn-berlin.de](http://www.s-bahn-berlin.de) and  
[www.bvg.de](http://www.bvg.de) for more detailed routing

Conference Hall



