

IWCIA 2004 – Conference Program

at The University of Auckland, Auckland, New Zealand



30 November 2004

9.30am – 4pm

pre-conference boat trip, meet 9.30am at **Ferry building, lower end of Queen Street** (we meet at the left-hand corner of the Ferry building, as seen from Queen Street)

6pm – 8pm

conference reception and conference registration, **Univ. of Auckland, city campus, Computer Science Department** (enter Science Center from Symonds Street, follow IWCIA signs, proceed to room 361 in the new part of building 303)

1 December 2004

8.15am

IWCIA bus leaves **Alfred Street**, stop in front of the UoA General Library, and drives about 20 minutes to **Tamaki campus (corner Morrin and Merton Road in Glen Innes; for parking use North Entrance to campus and follow IWCIA signs)**. IWCIA takes place at **building 731**. You may also travel by bus or train (Glenn Innes train station) to Tamaki campus (in case you missed our chartered IWCIA bus).

8.30–9am

Registration desk opens again, and posters can be hung at assigned places within the conference area in building 731.

9am

Opening of IWCIA

By Prof. **RALPH COONEY** (Pro Vice Chancellor– Tamaki, The University of Auckland)

9.10am – 10.30am

FIRST SESSION, SESSION CHAIR: **WALTER KROPATSCH** (VIENNA, AUSTRIA)

9.10am – 10.10am

[22] INVITED TALK by **Vladimir Kovalevsky** (Berlin, Germany)

Algorithms in digital geometry based on cellular topology

10.10am – 10.30am

[23] **R. Kopperman** and **J. L. Pfaltz** (New York and Charlottesville, USA)

Jordan surfaces in discrete antimatroid topologies

10.30am – 11am: tea break (IWCIA registration desk still open)

11am – 12.20pm

SECOND SESSION, SESSION CHAIR: **TETSUO ASANO** (JAIST, JAPAN)

11am – 11.20am

[3] **I. Svalbe** and **A. Kingston** (Melbourne, Australia)

On correcting the unevenness of angle distributions arising from integer ratios lying in restricted portions of the Farey plane

11.20am – 11.40am

[4] **P. Stelldinger** (Hamburg, Germany)

Shape preserving sampling and reconstruction of grayscale images

11.40am – noon

[5] **O. Bodini** and **B. Nouvel** (Montpellier and Lyon, France)

Z-tilings of polyominoes and standard basis

noon – 12.20pm

[6] **M.N. Huxley** and **J. Zunic** (Cardiff and Exeter, U.K.)

On the number of digitizations of a disc depending on its position

12.20pm – 12.40pm

[7] **E. Melin** (Uppsala, Sweden)

How to find a Khalimsky-continuous approximation of a real-valued function

12.40pm – 1.40pm: lunch break

1.40pm – 3pm

THIRD SESSION, SESSION CHAIR: **AKIRA NAKAMURA** (HIROSHIMA, JAPAN)

1.40pm – 2pm

[8] **X. Liang**, **A. Bishnu**, and **T. Asano** (JAIST, Japan)

A near-linear time algorithm for binarization of fingerprint images using distance transforms

2pm – 2.20pm

[9] **V. Kovalevsky** and **H. Schulz** (Berlin and Dresden, Germany)

Convex hulls in a 3-dimensional space

2.20pm – 2.40pm

[10] **C.O. Kiselman** (Uppsala, Sweden)

Convex functions on discrete sets

2.40pm - 3pm

- [11] **A. Imiya, M. Saito, and K. Nakamura** (Chiba, Japan)
Thinning by curvature flow

3pm - 4pm: tea break

4pm- 5.20pm

FOURTH SESSION, SESSION CHAIR: **RALF REULKE** (BERLIN, GERMANY)

4pm - 4.20pm

- [12] **B. Cyganek** (Krakow, Poland)
Comparison of nonparametric transformations and bit vector matching for stereo correlation

4.20pm - 4.40pm

- [13] **B. Rosenhahn** and **R. Klette** (Auckland, New Zealand)
Geometric algebra for pose estimation and surface morphing in human motion estimation

4.40pm - 5pm

- [14] **Y. Wan, S. Ji, Y. Xie, X. Zhang** and **P. Xie** (Hanzhou, China)
Video program clustering indexing based on face recognition hybrid model of hidden Markov model and support vector machine

5pm - 5.20pm

- [15] **M.I. Fanany, K. Kobayashi, and I. Kumazawa** (Tokyo, Japan)
A combinatorial transparent surface modeling from polarization images

5.30pm: IWCIA bus leaves Tamaki campus (stop in front of building 731) back to stop at Alfred Street in downtown Auckland

2 December 2004

8.15am

IWCIA bus leaves **Alfred Street**, stop in front of the UoA General Library, and drives about 20 minutes to **CITR**.

9am - 10am

FIFTH SESSION, SESSION CHAIR: **CHRISTER KISELMAN** (UPPSALA, SWEDEN)

- [16] INVITED TALK by **Akira Nakamura** (Hiroshima, Japan)
Magnification in digital topology
(A lecture dedicated to Professor **Azriel Rosenfeld**)

10am - 10.20am: tea break

10.20am - noon

SIXTH SESSION, SESSION CHAIR: **ATSUSHI IMIYA** (CHIBA, JAPAN)

10.20am - 10.40am

- [17] **Ch. Perwass** (Kiel, Germany)
Junction and corner detection through the extraction and analysis of line segments

10.40am - 11am

- [18] **G. Klette** and **M. Pan** (Auckland, New Zealand)
3D topological thinning by identifying non-simple voxels

11am - 11.20am

- [19] **H. Ki, J. Shin, J. Jung, S. Lee, and J. Paik** (Seoul, Korea)
Surface smoothing for enhancement of 3D data using curvature-based adaptive regularization

11.20am - 11.40am

- [20] **A. Chalechale, G. Naghdy, and P. Premaratne** (Wollongong, Australia)
Sketch-based shape retrieval using length and curvature of 2D digital contours

11.40am - noon

- [21] **I. Boukhriess, S. Mignet, and L. Tougne** (Lyon, France)
Two-dimensional discrete morphing

noon - 1pm: lunch break

1pm - 2.15pm: Short oral presentations of posters

SEVENTH SESSION, SESSION CHAIR: **DONALD BAILEY**
(PALMERSTON NORTH, NEW ZEALAND)

- 3 min oral presentation time for each of the IWCIA'04 posters -

Posters at IWCIA '04

- [P1] S. Weber, Th. Schüle, J. Hornegger, and Ch. Schnörr (Germany):
Binary tomography by iterating linear programs from noisy projections
- [P2] S. Gnanasekaran and V.R. Dare (India):
On recognizable infinite array languages
- [P3] Q. Chen, C. Zhou, J. Luo, and D. Ming (China):
Fast segmentation of high-resolution satellite images using watershed transform combined with an efficient region merging approach
- [P4] K. Kangarloo and E. Kabir (Iran):
Sequential probabilistic grass field segmentation of soccer video images
- [P5] J. Shin, S. Hwang, K. Kim, J. Kang, S. Lee, and J. Paik (Korea):
Blur identification and image restoration based on evolutionary multiple object segmentation for digital auto-focusing
- [P6] J. Darbon and M. Sigelle (France):
Exact optimization of discrete constrained total variation minimization problems
- [P7] K. Kith and E.-h. Zahzah (France):
2D shape recognition using discrete wavelet descriptor under similitude transform
- [P8] T.K. Linh, A. Imiya, R. Strand, and G. Borgefors (Japan and Sweden):
Supercover of non-square and non-cubic grids
- [P9] Y. Huang and R. Klette (New Zealand):
A comparison of property estimators in stereology and digital geometry
- [P10] W.G. Kropatsch, Y. Haxhimusa, and Z. Pizlo (Austria and USA):
Integral trees: subtree depth and diameter
- [P11] M. Marji, R. Klette, and P. Siy (USA and New Zealand):
Corner detection and curve partitioning using arc-chord distance
- [P12] F. Li and R. Klette (New Zealand):
Minimum-length polygon of a simple cube-curve in 3D space
- [P13] K. Win, S. Baik, R. Baik, S. Ahn, S. Kim, and Y. Jo (Korea):
Texture feature extraction and selection for adaptive object surface recognition
- [P14] H. Li, S. Wang, and F. Qi (China):
Automatic face recognition by support vector machines

[P15] D.N.R. McKinnon and B.C. Lovell (Australia):
Tensor algebra: a combinatorial approach to the projective geometry of figures

[P16] B. Flach and R. Sara (Germany and Czech Republic):
Joint non-rigid motion estimation and segmentation

[P17] Y.W. Woo (Korea):
Performance evaluation of binarizations of scanned insect footprints

[P18] B.R. Lee, K.S. Park, H.C. Kang, H.S. Kim, and C.K. Kim (Korea):
Adaptive local binarization method for recognition of vehicle license plates

[P19] Y.-J. Jeon, J.-G. Choi, and J.-I. Kim (Korea):
A study on supervised classification of remote sensing satellite image by Bayesian algorithm using average fuzzy intracluster distance

[P20] B. McKinnon and J. Baltés (Canada):
Practical region-based matching for stereo vision

[P21] Ph. Leclercq, J. Liu, A. Woodward, and P. Delmas (New Zealand):
Which stereo matching algorithm for accurate 3D face creation?

[P22] W. Lee, H. Kim, H. Kang, J. Lee, Y. Kim, and S. Jeon (Korea):
Video cataloging system for real-time scene change detection of news video

EXCURSION AND DINNER

2.30pm

busses leave **stop in front of building 731** for excursion, followed by conference dinner (see IWCIA website for details), return to downtown Auckland is expected for about 10.30pm

(partners of conference participants can join the tour at a pick-up stop in downtown Auckland - to be defined on 1 December)

3 December 2004

8.15am

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9am – 10.20am

EIGHTH SESSION, SESSION CHAIR: **T. YUNG KONG** (NEW YORK, USA)

9.00am – 10.00am

[1] INVITED TALK by **Maurice Nivat** (LIAFA, France)

Binary matrices under the microscope: a tomographical problem

This **Alberto Del Lungo** memorial lecture will be coauthored by **Andrea Frosini** from the University of Siena in Italy.

10.00am – 10.20am

[2] **K.J. Batenburg** and **W.J. Palenstijn** (Leiden and Amsterdam, The Netherlands)

On the reconstruction of crystals through discrete tomography

10.20am – 10.40am: tea break

10.40am – 12.20pm

NINTH SESSION, SESSION CHAIR: **MAURICE NIVAT** (PARIS, FRANCE)

10.40am – 11am

[24] **T.Y. Kong** and **C.-J. Gau** (New York, USA)

Minimal non-simple sets in 4-dimensional binary images with (8,80)-adjacency

11am – 11.20am

[25] **J.C. Ciria**, **A. De Miguel**, **E. Dominguez**, **A.R. Frances**, and **A. Quintero** (Zaragoza and Sevilla, Spain)

A maximum set of (26,6)-connected digital surfaces

11.20am – 11.40am

[26] **S. Fourey** (Caen, France)

Simple points and generic axiomatized digital surface-structures

11.40am – noon

[27] **S. Alayrangues**, **X. Daragon**, **J.-O. Lachaud**, and **P. Lienhardt** (Poitiers, France)

Equivalence between regular n-G-maps and n-surfaces

noon – 12.20pm

[28] **V.E. Brimkov** (Fairmont, USA) and **R. Klette** (Auckland, New Zealand)

Curves, hypersurfaces, and good pairs of adjacency relations

12.20pm – 1.20pm: lunch break

1.20pm – 2.40pm

TENTH SESSION, SESSION CHAIR: **VLADIMIR KOVALEVSKY** (BERLIN, GERMANY)

1.20pm – 1.40pm

[29] **I. Sivignon**, **F. Dupont**, and **J.-M. Chassery** (Grenoble and Lyon, France)

Discrete surface segmentation into discrete planes

1.40pm – 2pm

[30] **B. Nouvel** and **E. Remila** (Lyon and Roanne, France)

Characterization of bijective discretized rotations

2pm – 2.20pm

[31] **D. Jamet** (Montpellier, France)

On the language of standard discrete planes and surfaces

2.20pm – 2.40pm

[32] **K.S. Dersanambika**, **K. Krithivasan**, **C. Martin-Vide**, and **K.G. Subramanian** (Madras, India, and Tarragona, Spain) – presented by **B. Nagy** (Tarragona, Spain)

Hexagonal pattern languages

2.40pm – 3pm: tea break

3pm – 4.20pm

ELEVENTH SESSION, SESSION CHAIR: **SÉBASTIEN FOUREY** (CAEN, FRANCE)

3pm – 3.20pm

[33] **B. Nagy** (Debrecen, Hungary, and Tarragona, Spain)

Calculating distance with neighborhood sequences in the hexagonal grid

3.20pm – 3.40pm

[34] **K. Kawamoto** and **K. Hirota** (Yokohama, Japan)

Curve tracking by hypothesis propagation and voting-based verification

3.40pm – 4pm

[35] **D.G. Bailey** (Palmerston North, New Zealand)

An efficient Euclidean distance transform

4pm – 4.20pm

[36] **R. Reulke** and **N. Haala** (Berlin and Stuttgart, Germany)

Tree specy recognition with fuzzy texture parameters

4.20pm: closing of conference with an

++++ Outlook on the 11th IWCIA in 2006 +++

4.20pm – 5.20pm

DRINKS AND NIBBLES (COLLECTION OF VOTES FOR “BEST POSTER”, TAKE-OFF OF POSTERS)

5.30pm: IWCIA bus leaves Tamaki campus (**stop in front of building 731**) back to stop at Alfred Street in downtown Auckland