**CURRICULUM VITA AND LIST OF PUBLICATIONS**

January, 2004.

## 1. Personal Details

**Its'hak Dinstein**

Born on January 15, 1939, in Haifa, Israel.
Married to Talma, one son, Ilan.
Citizenship, dual Israeli - USA


Professor
Ben-Gurion University
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## 2. Education

| | | |
|---|---|---|
| B.Sc. | 1961 - 1965 | Technion, Israel Institute of Technology<br>Electrical Engineering. |
| M.Sc. | 1967 - 1969 | The University of Kansas, Lawrence Kansas, USA<br>Electrical Engineering. |
| Ph.D. | 1970 - 1974 | The University of Kansas, Lawrence Kansas, USA<br>Electrical Engineering<br>"Cluster Analysis and its Application to Multi Image Data", Professor Robert M. Haralick - advisor. |

## 3. Employment History

| | |
|---|---|
| 1977 - Present | Professor (since October 1996)<br>Electrical and Computer Engineering<br>Ben Gurion University of The Negev,<br>Beer-Sheva, 84105, Israel. |
| 1992 - 1999 | General Manager,<br>Impro-Temed Ltd.<br>Omer Industrial Park, Omer 84965, Israel.<br>(Image Processing and Computer Vision Applications.) |

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|---|---|
| 1988-1990 | Visiting Associate Professor<br>Electrical Engineering Department, Polytechnic University<br>Brooklyn, NY (Sabbatical + Leave of absence). |
| 1985 - 1988 | Consultant,<br>Tadiran Inc., Communications Division, Israel.<br>Subject - Image Data Compression. |
| 1982 - 1984 | Visiting Scientist,<br>IBM Research Division, San Jose, California, USA<br>(Sabbatical + Leave of absence). |
| 1974 - 1977 | Member of the Technical Staff,<br>COMSAT Laboratories, Gaithersburg, Maryland, USA |
| 1969 - 1974 | Senior Research Engineer,<br>Center for Research, The University of Kansas,<br>Lawrence Kansas, USA |
| 1968 - 1969 | Research Engineer,<br>Center for Research, The University of Kansas,<br>Lawrence Kansas, USA |
| 1967 - 1968 | Teaching Assistant,<br>Electrical Engineering Department,<br>The University of Kansas, Lawrence Kansas, USA |
| 1965 - 1967 | Development Engineer,<br>Elron - Elbit,<br>Haifa, Israel. |

**4. Professional Activities.**

Associate Editor for IEEE Transactions on Pattern Analysis and Machine Intelligence, (Since April 1998).

<u>Positions in academic administration.</u>

| | |
|---|---|
| 1987 - Present | Head of The Image Processing Laboratory. |
| 1987 - 1988, and<br>1994 - Present | Member of The Committee for Computing Policy,<br>Ben Gurion University of The Negev. |
| 1994 - 1999 | Head of the appeals committee, The Faculty of Engineering |
| 1993 - 1994 | Member of the university committee for multimedia studies program development. |
| 1990 - 1992 | Head of undergraduate student affairs committee,<br>The Department of Electrical Engineering (about 600 students). |

**5. Educational activities.**

**Courses Taught:**

| | |
|---|---|
| Introduction to Electrical Engineering I and II | Undergraduates (compulsory). |
| Dynamic Systems | Undergraduates (compulsory). |
| Introduction to computers | Undergraduates (compulsory). |
| Introduction to Signal Processing | Undergraduates (compulsory). |
| Multimedia Signal Processing | Undergraduates (elective). |
| Digital Signal Processing | Undergraduates (elective). |
| Introduction to Image Processing | Undergraduates (elective). |
| Fourth year projects | Undergraduates (compulsory). |
| Digital Image Processing | Graduates. |
| Pattern Recognition | Graduates. |
| Advanced Topics in Image Processing | Graduates. |

**Graduate Students.**

Current students:

| | | |
|---|---|---|
| Itay Bar Yoseph | M.Sc. | Hebrew Caligraphic Handwriting style classification. Expected graduation date: Summer 2004. |

Graduated (last five years):

| | | |
|---|---|---|
| Cohen Boaz | Ph.D. | Resolution enhancement in image sequences. (2000). |
| Agam Gady | Ph.D. | Regulated Mathematical Morphology Operators for Map Analysis and Recognition (1999), With distinction. |
| Avrin Vadim | M.Sc. | Restoration and Super-Resolution in Image Sequences (1997). |
| Zilberstein Itai | M.Sc. | Practical Aspects of Parallelizing Structured-Mesh Applications (1997). |
| Mashiach Yossi | M.Sc. | Online Mathematical Expression recognition (1996). |
| Lerner Boaz | Ph.D. | Classification of biological forms with Neural Networks. (Co-advisor with Dr. Hugo Gutterman) (1996). |
| Cohen Boaz | M.Sc | A System for Computerized Classification of Color Texture Perthite Images (1995). |
| Agam Gady | M.Sc | Pre-Processing of Metaphase Images for Automatic Chromosome Classification (1994). |
| Hershfinkel Doron | M.Sc | Parallel Algorithms for Iterative Clustering and Co-occurrence Matrices Computation(1994). |
| Sinai Ofer | M.Sc | Elastic Registration Between CT Scan Images of Brain and Model Sections, (Computer Science Department) (1994). |

**6. Scientific Publications.**

Refereed Articles and refereed letters in Scientific Journals:

1. R.M. Haralick and I. Dinstein,
"An Iterative Clustering Procedure", **IEEE Tr. on System, Man, and Cybernetics,** Vol. SMC-1, No. 3, pp. 275-289, July 1971.

2. R. M. Haralick, K. S. Shanmugam, and I. Dinstein,
Textural Features for Image Classification", **IEEE Tr. on System, Man, and Cybernetics**, Vol. SMC-3, No. 6, pp. 610-621, November 1973.

3. R. M. Haralick and I. Dinstein,
"A Spatial Clustering Procedure for Multi-Image Data," **IEEE Tr. on Circuits and Systems**, Vol. CAS-22, No. 5, pp. 440-450, May 1975.

4. I. Dinstein,
"Study and Simulation of a Variable Length Code DPCM for Luminance Signal in DITEC", **Comsat Technical Review,** Vol. 5, No. 2, pp. 275-299, Fall 1975.

5. I. Dinstein,
"DPCM Encoding of NTSC Color Composite Signals", **Journal of the Society of Motion Pictures and Television Engineering**, Vol. 86, pp. 739-743, Oct. 1977.

6. I. Dinstein,
"DPCM Predictors for NTSC Color Composite Signals", **Comsat Technical Review,** Vol. 7, No. 2, pp. 429-446, Fall 1977.

7. I. Dinstein and T. Zilberberg,
"Walsh Descriptors for Shape Discrimination", **International Journal of Electronics**, Vol. 49, No. 1, pp. 47-58, July 1980.

8. D. Yitzhak, I. Dinstein, and T. Zilberberg,
"Pitting Corrosion Evaluation by Computer Image Processing", **Corrosion Science**, Vol. 21, 1981.

9. I. Dinstein,
"Computer Recognition of Handwritten Hebrew Characters", **Signal Processing,** Vol. 3, No. 1, pp. 73-77, January 1981.

10. I. Dinstein, and T. Zilberberg,
"Average Walsh Power Spectrum for Periodic Signals", **IEEE Tr. on Electromagnetic Compatibility,** Vol. 23, No. 4, pp. 407-412, November, 1981.
11. I. Dinstein, and J. Shapira,
"Ancient Hebraic Handwriting Identification with Run Length Histograms", **IEEE Tr. on System, Man, and Cybernetics,** Vol. 12, No. 3, pp. 405-409, May-June 1982.

12. I. Dinstein, F. Merkle, and T. Lam,

"Imaging System Response Linearization and Shading Correction", **Optical Engineering**, Vol. 23, No. 6, pp. 788-793, Nov.-Dec. 1984.

13. I. Dinstein, D. W. L. Yen, and M. D. Flickner, "Handling Memory Overflow in Connected Component Labeling Applications", **IEEE Tr. on Pattern Analysis and Machine Intelligence**, Vol. PAMI-7, No. 1, pp. 116-121, January 1985.

14. N. S. Kopeika, A. N. Seidman, I. Dinstein, et al, "How Weather Affects Seeing Through the Atmosphere", **Optical Engineering**, Vol. 25, No. 3, pp. 505-512, March 1986, (Invited paper).

15. J. L. C. Sanz, and I. Dinstein, "Projection-Based Geometrical Feature Extraction for Computer Vision: Algorithms in Pipeline Architectures", **IEEE Tr. on Pattern Analysisand Machine Intelligence**, Vol. PAMI-9, No. 1, pp. 160-168, January 1987.

16. J. L. C. Sanz, and I. Dinstein, "A New Algorithm for Computing Multicolored Masks in General Purpose Pipeline Image Processing Architectures", **Communications of The A.C.M.** Vol. 30, No. 4, pp.318-329**,** April 1987.

17. I. Dinstein, and A. C. Fong, "Computing Local Minima and Maxima of Digital Images in Pipeline Image Processing Systems Equipped with Hardware Comparators", **IEEE Proceedings** (letter), Vol. 76, No. 3, pp. 286-287, March 1988.

18. I. Dinstein, H. Zoabi and N. S. Kopeika, "Prediction of Effects of Weather on Image Quality: Preliminary Results of Model Validation", **Applied Optics**, Vol. 27, No. 12, pp. 2539 - 2545 , December 1988.

19. I. Dinstein, "A New Technique for Visual Motion Alarm", **Pattern Recognition Letters,** Vol. 8, pp. 247-351, December 1988.

20. I. Dinstein, G. Guy, J. Rabani, J. Tzelgov, and A. Henik, "On the Compression of Stereo Images: Preliminary Results". **Signal Processing**, Vol. 17, No. 8, pp. 373-382, August 1989.

21. B. Arazi, I. Dinstein, and O. Kafri, "An Encryption Scheme Utilizing Human Visual Intelligence", **IEEE Tr. on System**, **Man, and Cybernetics**, Vol. 19, N0. 5, pp. 1016-1020, September-October 1989.

22. K. Rose, A. Heiman and I. Dinstein, "Alternate DCT - DST Transform Image Coding",**IEEE Tr. on Communications**, Vol. 38, No. 1, pp. 94-101, January 1990.

23. I. Dinstein, and G.M. Landau,
"Parallel Algorithms for Contour Extraction and Coding on an EREW PRAM Computer", **Pattern Recognition Letters**, Vol. 11, pp. 87-93, February 1990

24. J. Tzelgov, A. Henik, I. Dinstein, and J. Rabany,
"Performance Consequences of Two Types of Stereo Picture Compression", **Human Factors**, Vol. 32, No. 2, pp. 173-182, April 1990.

25. I. Dinstein, K. Rose, and A. Heiman,
"Using Adaptive Block Size for Transform Image Coding", **IEEE Tr. on Communications**, Vol. 38, No. 11, pp. 2073-2078, November 1990.

26. N. S. Kopeika, I. Kogan, R. Israeli, and I. Dinstein,
"Prediction of image propagation quality through the atmosphere: the dependence of atmospheric modulation transfer function on weather", **Optical Engineering,** Vol. 29, No. 12, pp.1427-1438, December 1990 (Invited paper).

27. I. Dinstein, and G. M. Landau,
"Parallel Computable Contour Based Feature Strings for 2-D Shape Recognition" **Pattern Recognition Letters.** Vol. 12, pp. 299-306, May 1991.

28. I. Dinstein, M.G.Kim, A.Henik, and J. Tzelgov,
"Compression of Stereo Images Using Sub-sampling and Transform Coding", **Optical Engineering.** Vol. 30, No. 9, pp. 1359-1364, September 1991.

29. I. Dinstein, G. M. Landau, and G. Guy,
"Parallel (PRAM EREW) Algorithms for Contour Based 2-D Shape Recognition" **Pattern Recognition**,Vol. 24, No. 10, pp. 929-942, October 1991.

30. Y. Ben-Shimol, I. Dinstein, A. Meisels, and Z. Priel,
"Ciliary Motion Features from Digitized Video Photography"
**Journal of Computer Assisted Microscopy,** Vol. 3, No. 3. 1991.

31. A. Henik, J. Tzelgov, A. Meisels, and I. Dinstein,
"The Effect of Picture Compression on Magnitude Estimation of Depth",
**Human Factors**, Vol. 34, No. 2, pp. 179-188, 1992.

32. M. Aladjem, and I. Dinstein,
"Linear Mapping of Local Data Structures",
**Pattern Recognition Letters,** Vol. 13, pp. 153-159, March 1992.

33. M.G. Kim, I. Dinstein, and L. Shaw,
"A Prototype Filter Design Approach to Pyramid Generation", **IEEE Tr. on Pattern Analysis and Machine Intelligence**, Vol. 15, No. 12,
pp. 1233-1240. December 1993.

34. A. Pikaz, and I. Dinstein,
"Using Simple Decomposition for Smoothing and Feature Detection of Noisy Digital Curves", **IEEE Tr. on Pattern Analysis and Machine Intelligence,** Vol. 16, No. 8, pp. 808-813, August 1994.

35. A. Pikaz and I. Dinstein,
"Matching of Partially Occluded Curves", **Pattern Recognition,** Vol. 28, No. 2, pp. 199-209, February 1995.

36. A. Pikaz and I. Dinstein,
"Optimal Polygonal Approximation of Digital Curves", **Pattern Recognition.** Vol. 28, No. 3, pp. 373-379, March 1995.

37. A. Pikaz and I. Dinstein,
"An Algorithm for Polygonal Approximation based on Iterative Point Elimination", **Pattern Recognition Letters,** Vol. 16, pp. 557-563, June 1995

38. B. Lerner, H. Guterman, I. Dinstein, and Y. Romem,
"Medial Axis Transform Based Features and a Neural Network for Human Chromosomes Classification", **Pattern Recognition,** Vol. 28 No. 11, November 1995.

39. B. Lerner, H. Guterman, I. Dinstein, and Y. Romem,
"Human Chromosome Classification using Multilayer Perceptron Neural Networks", **International Journal of Neural Systems,** Vol. 6, No. 3, December 1995**.**

40. B. Cohen, and I. Dinstein,
"A System for Computerized Classification of Color Textured Perthite Images" **Pattern Recognition,** vol. 30, No. 9, pp. 1533-1545, 1997.

41. G. Agam and I. Dinstein.
"Pre-Processing of Metaphase Images for Automatic Chromosome Classification", **IEEE Tr. on Pattern Analysis and Machine Intelligence.** Vol. 19, No. 11, November 1997, pp. 1212-1222.

42. B. Cohen, V. Avrin, M. Belitsky, and I. Dinstein,
"Generation of a Restored Image From a Video Sequence Recorded Under Turbulence Effects", **Optical Engineering**, Vol. 36, No. 12, pp. 3312-3317, December 1997.

43 B. Lerner, Hugo Guterman, Mayer Aladjem, Its'hak Dinstein, and Yitzhak Romem, "On Pattern Classification with Sammon's Nonlinear Mapping – an Experimental Study", **Pattern Recognition**, vol. 31, No. 4, pp. 371-381, 1998.

44. B. Lerner, Hugo Guterman, and Its'hak Dinstein,
"A Classification-Driven Partially Ocluded Object Segmentation(CPOOS) Method with Application to Chromosome Analysis", **IEEE Transactions on Signal Processing**, Vol. 46, No. 10, pp. 2841-2847, October, 1998.

45. B. Lerner, Hugo Guterman, Mayer Aladjem, Its'hak Dinstein,
"A Comparative Study of Network Based Feature Extraction Paradigms", **Pattern Recognition Letters**, Vol. 20, pp. 7-14, 1999.

46. G. Agam, and I. Dinstein,
"Regulated Morphological Operations", **Pattern Recognition**, vol. 32, No.5 pp. 949-971, 1999.

47. B. Lerner, H. Guterman, M. Aladjem, and I. Dinstein,
``On the initialisation of Sammon's nonlinear mapping." **Pattern Analysis & Applications**, Vol. 3, No. 1, January 2000

48. Boaz Cohen and Its'hak Dinstein,
"Polyphase back-projection filtering for image resolution enhancement", **IEE Proceedings on Vision and Image Precessing**, Vol. 147, No. 4, August 2000.

49. Isaac Berzin, Boaz Cohen, David Mills, Its'hak Dinstein, and Jose C. Merchuk,
"RhizuScan: A semiautomatic Image Processing System for Characterization of the Morphology and Secondary Metabolite Concentration in Hairy Root Cultures", **Biotechnology and Bioengineering,** Vol. 70, No. 1, Oct. 2000.

50. Boaz Cohen and Its'hak Dinstein, "New maximum likelihood motion estimation schemes for noisy ultrasound images," to appear in **Pattern Recognition**, vol. 35, no. 2, Feb. 2002.

Publications in Conference and Symposium Proceedings:

1. R. M. Haralick and I. Dinstein,
"An Adaptive Clustering Procedure for Remote Sensing Data", **IEEE Symposium on Adaptive Processes, Decision, and Control**, Austin, Texas, December 1970.

2. R. M. Haralick and I. Dinstein,
"Spectral Parameters Affecting Automatic Interpretation Using Baysian Probability Techniques", **7-th International Symposium on Remote Sensing of Environment**, Ann Arbor, Michigan, May 1971.

3. R. M. Haralick and I. Dinstein,
"On Some Quickly Computable Features for Texture", **Computer Image Processing and Recognition**, University of Missouri, Columbia, Missouri, August 1972.

4. R. M. Haralick and I. Dinstein,
"Spatial Clustering", **Proceedings of the 1-st International Conference on Pattern Recognition**, Washington D.C., October 1973.

5. I. Dinstein,
"A DPCM Encoder for TV Signals Using Selective Prediction And Entropy Coding", **National Telecommunication Conference**, December 1975, New Orleans, LA.
6. I. Dinstein,
"DPCM Encoding of NTSC Composite Signals", **Winter TV Conference, Society of Motion Pictures and Television Engineers**, San Francisco, January 1977.

7. I. Dinstein,
"Computer Recognition of Handwriting Hebrew Characters", **Second International Conference on Information Sciences and Systems**", Patras, Greece, July 1979.

8. I. Dinstein and T. Zilberberg,
"Shape Description with Walsh Functions", **15-th National Data Processing Conference**, Jerusalem, Israel, November 1980.

9. I. Dinstein and T. Zilberberg,
"Shape Discrimination with Walsh Descriptors", **5-th International Conference on Pattern Recognition**, Miami Beach, Florida, December 1980.

10. I. Dinstein, Y. Plotkin, and A. Zayezdny,
"Generalized Phase Planes for Feature Extraction", **Acoustic, Speech, and Signal Processing Conference**, Paris, France, May 1982.

11. I. Dinstein, F. Merkle, and T.Y. Lam,
"Imaging System Response Linearization and Shading Correction", **First International Conference on Robotics**, Atlanta, Georgia, March 1984.

12. I. Dinstein, A.C. Fong, and K.Y. Wong,
"Fast DBetween Homogeneous and Textured Regions,"
Proceedings of the **7-th International Conference on Pattern Recognition,** Montreal, Canada, August 1984.

13. J.L.C. Sanz, I. Dinstein, and D. Petkovic,
"Computing Polygonal Masks in Pipeline Architectures for Automated Visual Inspection Applications", **SPIE Machine Vision Conference**, Lake Taho, California, March 1985.

14. J. L. C. Sanz, E. Hinkle, and I. Dinstein,
"A New Approach to Computing Geometrical Features of Digital Objects for Machine Vision, Image Analysis, and Image Processing: Algorithms in Pipeline Architectures", **Computer Vision and Pattern Recognition Conference**, San-Francisco, June 1985.

15. I. Dinstein and E. Gurwitz,
"On the Benefit of a Third Eye for Machine Stereo Perception,"**Third European Signal Processing Conference**, The Hague, The Netherlands, September 2-5, 1986.

16. E. Gurwitz and I. Dinstein,
"More On the Benefit of a Third Eye for Machine Stereo Perception", **Proceedings of the 8-th International Conference on Pattern Recognition**, Paris, France, October 1986.

17. K. Rose, A. Heiman, and I. Dinstein,
"Alternate DCT - DST Transform Image Coding", **Global Communication Conference**, Tokyo, Japan, November 1987.

18. I. Dinstein, J. Tselgov, and A. Henik,
"On the Compression of Stereo Images: Preliminary Results", Proceedings of the **9th International Conference on Pattern Recognition**, Rome, November 1988.

19. I. Dinstein, K. Rose, and A. Heiman,
"A Variable Block-size DCT Image Coder", Proceedings of the **9th International Conference on Pattern Recognition**, Rome, November 1988.

20. I. Dinstein, M.G. Kim, J. Tzelgov, and A. Henik,
"Compression of Stereo Images and Evaluation of its Effects on 3-D Perception", SPIE's 33rd Annual International Technical Symposium, **Conference 1153 on Applications of Digital Image Processing XII**,San Diego, August 1989.

21. I. Dinstein, and G.M. Landau,
"Parallel Algorithms for Contour Extraction and Coding", **SPIE/SPSE Symposium on Electronic Imaging**, Santa Clara, California, Feb. 1990.

22.I. Dinstein, and G.M. Landau,
"Parallel Computable Contour Feature Strings for 2-D Shape Recognition", **SPIE Technical Symposium on Optical Engineering and Photonics in Aerospace Sensing** (Real-Time Image Processing II), Orlando, Florida, April 16-20, 1990.

23. I. Dinstein, and G.M. Landau,
"Using Parallel String Matching Algorithms for Contour Based 2-D Shape Recognition", Proceedings of the **10th International Conference on Pattern Recognition,** Atlantic City, New Jersey, June 1990.

24 M. G. Kim, I. Dinstein, and L. Shaw,
"A Polyphase Filter Design Approach to Pyramid Generation", **Italian-Israeli Symposium on Computer Vision**, Capri, May 1991.

25. M. Aladjem, and I. Dinstein,
"Multiclass Extension of Discriminant Mapping", Proceedings of the **11-th IAPR International Conference on Pattern Recognition**, The Hague, The Netherlands, September 1992.

26. D. Hershfinkel and I. Dinstein,
"A New Approach to Parallel Clustering and its Application to Image Data", **SPIE Intelligent Robots and Computer Vision**, Boston, U.S.A., November, 1992.

27. G. Agam and I. Dinstein,
"Geometric Separation of Touching Objects Applied to Automatic Chromosome Classification", **SPIE Vision Geometry II** , Boston , U.S.A., September 1993.

28. B. Lerner, H. Guterman, and I. Dinstein,
"Global Features and Simple Transformation to Chromosome Classification" **Proceedings of The 10-th Israeli Symposium on Artificial Intelligence, Computer Vision, and Neural Networks,** Ramat Gan, Israel, December 1993.

29. H. Luo, and I. Dinstein,
"Using Directional Mathematical Morphology for Separation of Character Strings from Text/Graphics Images", **IAPR International Workshop on Structural and Syntactic Pattern Recognition,** Naharia, Israel, October 4-6, 1994.

30. A. Pikaz, and I. Dinstein,
"Optimal Polygonal Approximation of Digital Curves" **Proceedings of the 12-th IAPR International Conference on Pattern Recognition**, Jerusalem, Israel, October 9-13, 1994.

31. B. Lerner, H. Gutterman, I. Dinstein, and Y. Romem,
"Feature Selection and Learning Curves of a Multi-Layer Perceptron Chromosome Classifier", **Proceedings of the 12-th IAPR International Conference on Pattern Recognition**, Jerusalem, Israel, October 9-13, 1994.

32. G. Agam, H. Luo, and I. Dinstein,
"Morphological Approach for Dashed Lines Detection", **Proceedings of The International Workshop on Graphics Recognition,** The Penn State Scanticon Center Hotel, University Park, PA, August, 10-11, 1995.

33. H. Luo, G. Agam, and I. Dinstein,
"Directional Mathematical Morphology Approach for Line Thinning and Extraction of Character Strings from Maps and Line Drawings", **Proceedings of The International Conference on Document Analysis and Recognition**, Montreal, Canada, August 14-16, 1995.

34 G. Agam, and I. Dinstein,
"Adaptive Directional Mathematical Morphology with Applications to Document Analysis". **Mathematical Morphology and its Applications to Image and Signal Processing,** P. Maragos, R. W. Schafer, and M. A. Butt, Editors, Kluwer Academic Publishers, 1996.

35. Gady Agam and Its'hak Dinstein,
"Directional Processing of Line-Drawing images Based on Adaptive Morphological Operations", **The 1996 International Conference on Acoustics, Speech, and Signal Processing,** May 7-10, 1996, Atlanta, GA.

36. G. Agam, and I. Dinstein,
"Generalized Morphological Operators Applied to Map Analysis", **Sixth International Workshop on Structural and Syntactical Pattern Recognition,** August 1996, Leipzig, Germany. (Lecture Notes in Computer Science, No. 1121, P. Perner, P. Wang, and A. Rosenfeld editors, Springer).

37. B. Lerner, H. Guterman, M. Aladjem, I. Dinstein, and Y. Romem,
"Feature Extraction by Neural Network Nonlinear Mapping for Pattern Classification", **13-th International Conference on Pattern Recognition - Track D,** August 1996, Vienna, Austria, pp. 320-324.

38. B. Cohen, I. Dinstein, and M. Eyal,
"Computerized Classification of Color Textured Images", **13-th International Conference on Pattern Recognition - Track B,** August 1996, Vienna, Austria, pp. 601- 605.

39. Vadim Avrin, and Its'hak Dinstein,
"Restoration and Resolution Enhancement of Video Sequences",
**1997 International Conference on Acoustics, Speech, and Signal Processing",** April 21-24, 1997, Munich, Germany.

40. Gady Agam and Its'hak Dinstein,
"Directional Decomposition of Line-Drawing Images Based on Regulated Morphological operations", Proceedings of the **Second IAPR Workshop on Graphics Recognition, GREC-97**, Nancy, France, August 22-23, 1997, pp. 46-53.

41. B. Cohen, V. Avrin, M. Belitsky, and I. Dinstein,
"Restoration of an image representing a video sequence recorded under turbulence effects", **Proceedings of the SPIE, Applications of Image Processing XX**, vol. 3164, San Diego, Calif. August 1997.

42. Gady Agam and Its'hak Dinstein,
"Efficient Morphological Processing of Maps and Line-Drawings Based on Directional Interval Coding", **Proceedings of The SPIE, Vision Geometry VI**, San Diego, Calif., August 1997.

43. B Cohen, and I. Dinstein,
"Resolution enhancement by polyphase back-projection filtering", **Proceedings of the IEEE International Conference on Acoustics, Speech, and Signal Processing,** Seattle, WA, 1998, Vol. V, pp. 2921-2924.

44. Gady Agam and Its'hak Dinstein,
"Efficient Implementation of Regulated Morphological Operations on Directional Interval Coding", **IAPR International Workshop SSPR 98**, Sydney, Australia, August 1998. Published in "Advances in Pattern Recognition", Lecture Notes in

Computer Science 1451, Adnan Amin and Dov Dori Editors, Springer, 1998.

45. Vadim Avrin and Its'hak Dinstein,
"Local Motion Estimation and Resolution Enhancement of Video Sequences"
**14th International Conference on Pattern Recognition**, Vol. 1, pp. 539-541, Brisbane, Australia, August 1998.

46. Gady Agam and Its'hak Dinstein,
"Compound Regulated Morphological Operations Applied to Map Analysis"
**Third IAPR Workshop on Graphics Recognition, GREC-99,** Jaipur, India, September 26-27, 1999.

47. Boaz Cohen and Its'hak Dinstein,
"Motion Estimation in Noisy Ultrasound Images by Maximum Likelihood",
**15th International Conference on Pattern Recognition**, Vol. 3, pp.186-189, Barcelona, Spain, 3-7 September, 2000.

48. Boaz Cohen and Its'hak Dinstein
"Detection of the presence of Aliasing in digital image sequences",
**International Conference on Image Processing 2001**, Thessalonica, Greece, October, 2001.

49. Itay Bar-Yosepf, Klara Kedem, Its'hak Dinstein, Malaci Beit-Arie, and Edna Engel
"Classification of Hebrew Caligraphic Handwriting styles: Perliminary Results",
**Proceedings of DIAL 2004**, 23-24 January, 2004, Palo Alto, California, pp.299-305.

**7. Patents and Invention Disclosures.**

1. I. Dinstein,
"DPCM Predictors for NTSC Color Composite Signals Using Phase Adjustment of the Samples", U.S.A. Patent Number 4,151,550, issued on April 1979.

2. I. Dinstein, D.W.L. Yen, and M.D. Flickner,
"Method for Reusing Nonactive Labels in Object Labeling in A Black/White Pel Array", IBM Technical Disclosure Bulletin Vol. 26, Number 10b, March 1984.

3. I. Dinstein, A.C. Fong, and K.Y. Wong,
"Fast Discrimination Between Homogeneous and Textured Regions", IBM Technical Disclosure Bulletin Vol. 26, Number 12, May 1984.

**8. Research Grants.** (last five years).

| | | |
|---|---|---|
| 1) | 1991-1995 | Ministry of Science,<br>M. Aladjem and I. Dinstein principal investigators.<br>"Interactive Pattern Recognition", $50,000.- |
| 2) | 1996-1999 | Ministry of Science,<br>A. Cohen, I. Dinstein, A. Averbouch, D. Malach,<br>"Unified Methods and Algorithms for Joint Storage, Organization and Labeling of Image, Voice, and Text Data in Nultimedia Applications on the Information Highway",<br>$150,000.- (per year). |
| 3. | 1999 - | Ministry of Science,<br>A. Cohen, I. Dinstein, et.al., "Intelligent Processing, Labeling, Coding and Reconstruction of Multimedia Information for Tele-Consulting on wideband network". |