CURRICULUM VITAE
Yehoshua Y. Zeevi, Ph.D.

PERSONAL DATA

Address: Viterbi Faculty of Electrical and Computer Engineering
Technion—Israel Institute of Technology, Haifa 3200003, Israel
zeevi@technion.ac.il, joshzeevi@gmail.com, josh.zeevi@cortica.com
Fax: 972-4–8293315; Phone: 972-4–8294728; Home: 972–4–8258850
Married to Naomi (Seide), Two married children (Prof. Assaf J. Zeevi and Yael Cohen)

EDUCATION

Technion—Israel Institute of Technology	ECE	B.Sc.	1965
Technion Graduate School	EE		1966
University of Rochester, Rochester	ECE/BME	M.Sc.	1967
University of California, Berkeley	ECE/Biophysics	Ph.D.	1972

RESEARCH AND ACADEMIC EXPERIENCE

Oct. 1974– Technion, Department of Electrical Engineering:
Norman and Barbara Seiden Chair in Computer Science (1987–2008).
Dean (1994–1999),
Head, Irwin and Joan Jacobs Center for Communication and Information
Technologies, CCIT (1999–2001, 2016–2020)
Head, Ollendorff Minerva Center (1994–),
Head, Zisapel Center for Nano-Electronics (2004–2008).
Secondary appointment: Department of Biomedical Engineering (1975–2008).

Sept. 2001–Aug. 2003
Visiting Professor, EE and BME Dept., Columbia University.

Aug. 1994–Sept. 1994
Visiting Professor, University of Melbourne and Curtin University, Australia.

Aug. 1993–Sept. 1993
NTT Human Interface Research Labs., Japan. Visiting Distinguished Scientist.

Feb. 1989–Feb. 1991
Visiting Professor, CAIP Center, Rutgers University,
and Harvard University, Division of Applied Sciences.

Sept. 1980–Oct. 1982
Massachusetts Institute of Technology, Visiting Assoc. Prof.
Harvard University, Division of Applied Sciences: Visiting Scholar.

June 1980–Aug. 1980
AFOSR Faculty Fellow. (Jointly with MIT).

May 1975–Sep. 1980
Harvard University, Division of Applied Sciences, Courtesy Appointment.

Aug.–Sep. 1979
University of California, Lawrence Berkeley Lab: Guest Scientist.

March 1972–May 1975
> Harvard University, Division of Engineering and Applied Physics:
> Vinton Hayes Fellow and Gordon McKay Faculty Member;
> Participation in the Harvard-M.I.T., HST Program;
> MIT, Neuroscience Research Program, Fellow-at-Large.

May 1971–March 1972
> Lawrence Radiation Laboratory, Univ. of California, Berkeley,
> Guest Scientist.

Sept. 1967–March 1972
> University of California, Berkeley, Dept. of Electrical Engineering
> and Electronics Research Lab; Donner Lab of Biophysics and Medical Physics:
> Research Assistant and Post Graduate Fellow.

Sept. 1966–Sept. 1967
> University of Rochester, Department of Electrical Engineering.
> Research Assistant.

Sept. 1965–Sept. 1966
> Technion—Dept. of Electrical Engineering: Research Assistant.
> and The Hebrew University, Vision Research Lab., both under
> Professor Franz Ollendorff supervision.

FELLOWSHIPS AND AWARDS

1966-1968 – H.T.I. Fellowship.

1968-1972 – Predoctoral and Post Doctoral N.I.H. Fellow, U.C. Berkeley.

1970 – Honorary mention in U.C. Berkeley President report to the Regents.

1972 – Fellow at Large, Neurosciences Res. Program, M.I.T.

1972-1974 – Vinton Hayes Fellow, Harvard University.

1980 – SCEEE - AFOSR Fellow.

1983 – Klein Research Award, Technion

1984 – Member Rodin Remediation Academy, Sweden.

1987 – The Henry Gutwirth Award, Technion.

1991 – SPIE Fellow

1993 – Hershel Rich Technion Innovation Award.

1994 – Two papers included in the Selected Reprints Volume of the most significant papers on "Neuro-Vision Systems", IEEE Press.

1997 – Member, Technion 100 Club.

2003 – Taub Prize for Excellence in Research, Technion.

2015 – Elsevier Award of Excellence.

PROFESSIONAL AFFILIATION

Rodin Academy (Fellow 1984), SPIE (Fellow 1991).
Sigma Xi (nominated 1971). N.Y. Academy of Sciences (nominated 1981),
International Brain Research Organization (elected 1973).

CURRENT RESEARCH INTEREST

Biological and Computational Vision. Visual Communication and Image Representation. Intelligent Image Acquisition and Processing Technology. Biological and Artificial Neural Networks. Image, Analysis and Understanding. Image Representation by Wavelet-type Techniques. Medical Imaging & Image Processing. Large Scale Image Tracking Classification and Matching.

PROFESSIONAL AND ACADEMIC ACTIVITIES

Editor-in-Chief, Founding Editor, Journal of "Visual Communication and Image Representation", Elsevier Press Pub. (Jointly with Ming-Ting Sun and Zicheng Liu), 1990–2015.

Member Editorial Board:
Journal of Mathematical Imaging and Vision, Kluwer Academic Pub., 2017–2019.

Neural, Parallel and Scientific computation, 2003–2005.

Journal of Fourier Analysis and Applications, CRC Press, 1995–2011.

Journal of Advances in Artificial Neural Systems, 2007–2011.

Guest Editor, Journal of Imaging Systems and Technology Special Issue on "Inverse Problems in Imaging", (Jointly with P. Sajda. Publication: 2005).

Guest Editor of Applied Optics Special Issue on "Processing with Limited Extent Waves", (Jointly with Y. Li. Publication: 1994.)

Guest Editor IEEE Transactions on SMC Special Issue on "Neural and Sensory Information Processing", (Jointly with A.C. Sanderson. Publication: 1983).

Scientific Secretary Society for Medical and Biological Engineering, Israel, 1975–1978.
Academia Rodinensis Pro Remediatione, Sweden, 1983-1988.

Reviewer and Referee Science, IEEE Trans. and Proc., J. Mathematical Imaging and Vision, Signal Processing, J. Theoretical Biology, J. Opt. Soc. Am., Investigative Ophthal., CRC Press. NSF, NIH, USAF, Israel Academy of Sci., Israel Sci. Foundation, C.E. Smith Foundation, Human Neurobiology, Vision Res., J. FAA, Science, Nature.

Invited for research and lectures to over 70 universities and research institutes.
Annual invitations to Harvard University for series of lectures and research in vision, 1974–2002.

Chairman of various symposia sessions and workshops, and member of organizing committees.

Technical and Scientific Consultant:
Cortica Ltd. (Israel) – Multimedia Classification, 2007–.
LiquidComp Ltd. (Israel), 2006–2012.
CrossID Inc. (Israel), 2004–2007.
Liberty Imaging (New York), 2002–2003.
CByond Inc., (Nesher, Israel) – Miniature Cameras for Medical Procedures, 2000–2003.
UltraGuide Inc., (Tirat Hacarmel, Israel)—Medical Imaging and Guidance Technology, 1997–2000.
GE- Corporate R&D Center (Schnectudy, NY) - Visual Technology, 1989–1991.
The Analytic Sciences Corp. (Reading, MA) - Image Representation, 1989–1991.
CAE-Electronics (Montreal) - Eye movements and visual aspects of head-slaved flight simulators, 1981-1987.
Gulf and Western, Applied Science Laboratories (Waltham) - Visual search, and 3D Technology, 1981-1985.

General Electric, Simulations and Control (Daytona Beach) - Eye movements and visual aspects of flight simulators, 1982.

SRD Ltd. (Shorashim, Israel) - Eye movements and physiological signal processing, 1985-1987

University of Dayton Research Institute (Williams AFB) - Imaging schemes and display systems, 1986–1993.

Sorex Ltd. (Boston) - Intelligent Vision Systems, 1987-1989.

Lawrence Berkeley Laboratory (Berkeley) - Retinal interaction with accelerated particles and electromagnetic fields, 1978–79.

Neurosciences Research Program, M.I.T. (Cambridge) - Scientific consultant to the Chairman, 1972–1974.

Membership in Technion's Committees:

Chairman Ollendorff Center Committee (1989, 1991–).

Member Harvey Prize Committee (1987, 1988, 2004, 2005).

Senate's Research Committee (1985–1988).

Senate's Promotion and Tenure Committee (1986–1988).

Chairman, Technion Technological Forum (1996).

Senate's Steering Committee, 1999–2001.

Advisory Council, The Ne'eman Institute for Advanced Studies in Science and Technology (1988–1991).

Head Ollendorff Center – A Technion Minerva Center (1994–).

Member The Bernard Katz Minerva Center for Cell Biophysics, (1994–1997).

Chairman, Technion's Technology Forum, 1996.

Technion Board of Governors – Representative of the Senate 1993–1996, 1999–2001, 2004–2008.

Technion Council – Representative of the Senate, (1993–1996, 1999–2001, 2004–2008).

Member, Steering Committee, The Global Information Superhighway, New York, 1996.

Head, Jacobs Center for Communication and Information Technologies, 1999–2001.

Head, Ollendorff Minerva Center (1991–2001, 2003–2011).

President's Strategy Committee, 2000–2001.

Executive Committee, The Technion 100 Club; 1997–2005.

The Technion 100 Club, Member of Steering Committee, 1997–1999.

Technion 100 Club, Member Subcommittee on Israel's High-Tech, 1998.

Chairman, EE 60th Anniversary Committee, 1998.

Chairman, Technion's 80th Anniversary Celebration Committee, 2004.

Member, Technion Faculty Prizes of Excellence Committee.

The Technion 100 Club, Member R&D Committee, 2007.

Member, Technion Center for Security S&T Scientific Committee, 2010–2015.

Membership in National and International Committees:

SPIE Scientific Committee on Visual Communication and Image Processing, 1987–1998.

IEEE Scientific Committee on Visual Signal Processing and Communications, 1988–1992.

Israel Science Foundation, Administered by the Israel Academy of Sciences, Member Foundation Council, (1988–1990).

Vice Chairman General Assembly Academia Rodinensis (Stockholm), 1988–2000; Chairman, 2000–.

Committee on Computer Sciences, Israel Science Foundation, 1993.

Clore Scholars Programme, Committee of Exact Sciences, 1997.

Israel Ministry of Science, Member, Committee for S&T Infrastructure, 1997.

Israel Council for Higher Education (Appointments made by Israel Minister of Education):

- Member, Tzur Subcommittee, 1996–1997.
- Chairman, Hebrew University Engineering – Rev. Committee, 1999–2003.
- Chairman, Alon Fellowship, Committee of Exact Sciences, 2001.
- Member, Review of EE Departments in Israel Universities and Colleges, 2006.
- Member, Evaluation Committee, Machon Lev Dept. of Electronics, 2006–2007.

US-Israel Science Technology Commission – Committee on Information Technology, 1996–1997.

Steering Committee, Education 2000 – A forum devoted to the advancement of engineering education, 1996–2000.

Committee on Science and Technology, Israel Ministry of Education, 1996–1997.

Member Research Program Committee, Israel Ministry of Science, 1997.

National Museum of Science, Committee on Innovation, 1996–1997.

Executive Committee Bicora ("First") Foundation, Israeli Academy of Sciences, 1997–2001.

Rashi Foundation Forum for Advancement of HiTech, 1998–1999.

IEEE IMDSP Technical Committee, 2002–2007.

Chairman, Israel Innovation Award Committee, The Israel Innovation Summit, 2006.

Membership in Boards:

Board of Directors, Cortica (Israel and USA), 2007–.

Chairman, Board of Directors, Cortica (Israel and USA), 2009–2011.

Board of Directors, SeeTrue Screening, Ltd., 2020–.

Board of Directors, Fintica Ltd., 2020–.

Board of Directors, CORDiguide Ltd., 2021–.

Scientific Board, CByond (Haifa), 2000–2001.

Scientific Advisory Board, VISTA (Taipei, Taiwan), 2000–2003.

Board of Directors Clal Computers, 1998.

Board of the Foundation, Focal Initiatives for Research "Bikura", Israel Academy of Sciences, 1997–2002.

Technion's Board of Governors and Technion Council, 1995–1996, 1999–2001, 2004–2008.

Board of Directors, i-Sight Inc. (New York, Haifa), 1990–1997.

Chairman, Scientific Board, i-Sight Inc. (New York, Haifa, 1990–1993.

Technical Advisory Board, DDS Inc. (Tel Aviv, New York), 1986–1987.

Board of Directors OzVision Inc. (Israel), 1995–1998.

Board of Directors UltraGuide Ltd., 1996–1999.

Board of Directors Technion Research and Development Foundation, 1986–1989, 1999–2001.

Board of Directors Cortica Ltd. (Israel), 2006–2011.

Board of Directors, LCB (Israel), 2006–2011.

Board of the Foundation for Research in Electronics, Computers and Communication, administered by the Israel Academy of Science, 1987–1988.

MAJOR SPONSORED RESEARCH

1977-1980	Bioengineering approach to eye movements patterns and visual scanpath algorithms. (U.S.A. - Israel Binational Science Foundation, with Dr. Lawrence Stark).
1977-1979	Position control by means of eye movement. (Dept. of Research and Development).
1977-1979	Visual mechanisms in the Ground Squirrel retina. (Israel National Academy of Sciences, with Dr. M. Gur).
1978-1980	Spatio-temporal frequency channels in the visual system. (Charles E. Smith Foundation).
1980-1983	Pilots' eye movement patterns and scanning algorithms. (U.S. Air Force, with Dr. Laurence R. Young, M.I.T.).
1980-1982	Masking effects on visual target detection and tracking (AF Office of Scientific Research, M.I.T.).
1981-1982	The mutual relation between central and peripheral vision (NASA, with Dr. R.V. Kenyon, M.I.T.).
1981-1983	Quantification of Interference and Detectability Properties of Visual Stimuli (Associate Investigator. Harvard University).
1983-1984	Eye movement and scanning algorithms (The Gutwirth Fund).
1983-1984	Effects of eye movements on signal visibility (Technion - Eye Research Institute joint research program funded by The Friedman Trust, with Dr. M. Snodderly).
1983-1985	Visual information processing - Hyperacuity mechanisms.
1985-1988	Head Position Sensing System (Elbit).
1986-1988	Adaptive Computer Vision (Chief Scientist, Israel Ministry of Industry).
1987-1988	Image Representation by Partial Information (Israel National Academy of Sciences).
1987-1989	Intelligent Scan Systems (TEKI Inc., Boston).
1989-1990	Random Scan Systems (The Israel Ministry of Industry, with Dr. R. Ginosar).
1990-1992	Variable Resolution Imagery for Flight Simulators (U.S. Air Force, Office of Scientific Research, with Prof. I. Gertner Rutgers University).
1990-1993	Efficient Image Coding of Pyramidal Structures for the Human Visual System (NSF, with Dr. William A. Pearlman, RPI).
1992-1995	Image Representation and Analysis in Vision: Group Theoretic Approach (The Israel Science Foundation).
1994–1997	Intelligent Image Sensors (Chief Scientist, Ministry of Trade and Commerce, with Dr. R. Ginosar).
1996–1997	HP – Technion Support of Image System Engineering (jointly with M. Lindenbaum, CS Technion).
1996–1998	The Integrated Vision Platform Project (Israel Ministry of Science, Scientific Infrastructure Program, with E. Rivlin, S. Ullman and S. Peleg).
1996–1998	Active Robot Vision (Israel Science Foundation, National Academy of Sciences, with E. Rivlin).
1996–2000	Two-Dimensional Wavelet-Type Representation (The Wideband Consortium, Chief Scientist, Israel Ministry of Industry).
1996–1999	Video Feedback Control (Israel Ministry of Science, with H. Rotstein).

1997-1999	Intelligent Sensor for Optical Communication (Israel Ministry of Science, with R. Ginosar).
1999-2000	Multiscale Analysis of Medical Images, (with A. Tannenbaum, Georgia Tech University and N. Sochen, Tel-Aviv University).
1999-2002	Image Representation for Transmission of Medical Data Over the Network (Israel Ministry of Science, with N. Sochen, Technion and Prof. A. Cohen, Ben-Gurion University).
2002-2006	Harmonic Analysis and Statistical Modelling for Signal and Image Processing (European Program, jointly with: Cambridge University, UK; EPFL, Switzerland; University of Bremen, Germany; National Research Center, Nuremberg, Germany; Institute of Theoretical Physics, University of Louvain, Belgium; Department of Mathematics, University of Vienna; University of Provence, Marseille), Contract No. HPRN-CT–2002–00285.
2004-2006	Image Enhancement by Blind Deconvolution and Blind Source Separation (Israel Ministry of Defence), Contract No. 2004455.
2004-2006	Algorithms for Separation and Recognition of Targets (Devora Foundation; with R. Meir, Y. Schechner and M. Zibulevsky).
2005-2006	Recognition of Man-Made Targets in Satellite Images (MAFAT).
2005-2006	Remote Sensing and Detection IR Plant Signatures (MAFAT, with Prof. Y. Paz, Chem. Eng.).
2006-2008	Blind Separation of Dynamic Images obtained by Remote Sensing (Devora Fund, with Prof. Y. Paz and Prof. Y. Schechner).
2007-2008	Classification of Man-Made Targets – Magenton (Israel Ministry of T&C; jointly with Elbit Systems Ltd.).
2007-2009	Computer Vision for Transportation Safety (Ran Naor Foundation).
2007-2009	PDE-Based Super-resolution of Images (Philips Corp.).
2008-2010	Detection of Man-Made Targets (MAFAT).
2011–2013	Blind Source Separation (Elbit Systems).
2011–2012	Geometrical Methods for Neural Signal Representation (Minerva Foundation).
2012–2013	Detection of Targets by Geometrical and BSS Techniques (MAFAT).
2013–2014	Change Detection in Images (Israel Ministry of T&C, MAGNETON; jointly with Elbit Ltd.).
2015–	OMEK Consortium (jointly with Prof. G. Gilboa and Prof. Y. Schechner). A major Israeli Ministry of Economics MAGNET joint program of R&D with Elbit systems, RAFAEL, INTEL and Applied Materials.
2016–	Smart Transportation Systems (Israeli Ministry of Transportation).

PATENTS

– Method and Apparatus for Forming Three-Dimensional Images (with A. Medina), JAPAN, Application, 1986.

– Apparatus for Relief Illusion (Single lens 3D; imaging with A. Medina), U.S.A. Patent No. 4,714,319, 1987.

– Camera Flash Attainment for 3D Imaging System (with A. Medina), U.S.A. Patent No. 4,695,130 1987.

– Random Scan System (with O. Hilsenrath), U.S.A. Patent No. 4,858,014 1989. Israeli Patent No. 79,485.

– Intelligent Scan Image Sensor (with R. Ginosar and O. Hilsenrath), U.S.A. Patent No. 0,300,365 1989. Israeli Patent Application No. 83,213, filed 7/16/87. Japanese Patent Application S.N. 176835/88, filed 7/15/88. European Patent Application S.N. 88111330.2, filed 7/14/88. USA Patent No. 4,942,473, July 17, 1990.

– Wide Dynamic Range Imaging Sensor (with R. Ginosar and O. Hilsenrath), Patent Pending. ISRAEL, 1988, Worldwide 1989.

– Intelligent Scan Processor (with R. Ginosar and O. Hilsenrath). Israeli Patent # 87,320, 1988, Worldwide 1989.

– A Dynamic Image Representation System (with Ran Ginosar and O. Hilsenrath), Israel Patent Application S.N. 89,065, 1989.

– Video Imaging System (with R. Ginosar and O. Hilsenrath), PCT Patent Application S.N. PCT/US90/00143, U.S.A Patent Application S.N. 675,935.

– Noninversive Measurement of Ocular Blood Flow (with G. Landsberg and U. Dinar), Israel, 1989.

– Intelligent Scan Image Compression (with R. Ginosar and O. Hilsenrath), Israel, 1989.

– Video Imaging System (with R. Ginosar and O. Hilsenrath), EP0411076), Jan. 1990.

– Single camera 3D Head Position Tracking System (with O. Hilsenrath), ISRAEL Patent Allowed 1993, U.S.A. Patent No. 4,956,794 1990. Japan, Europe, 1987 (Application Pending).

– R. Ginosar, Y.Y. Zeevi and O. Hilsenrath, "Wide Dynamic Range Sensor," Israel Patents 87,307/91,095, 1988; European EP431010A1, 1991.

– Wide Dynamic Range Camera (with R. Ginosar and O. Hilsenrath), Israel, 1988, Worldwide 1989, U.S.A. Patent No. 5,144,442, 1992.

– Wide Dynamic Range Mosaic CCD Color Camera (with R. Ginosar, Y.Y. Zeevi D. Kligler, N. Sorek, T. Genossar and O. Zinaty), US Application, March 1993 (Application Pending).

– Color Wide Dynamic Range Camera (With R. Ginosar, D. Kligler, O. Zinaty and N. Sorek), U.S.A Patent No. 5,247,366, 1993.

– Dynamic Image Representation System (with R. Ginosar and O. Hilsenrath), U.S.A. Patent No. 5,420,637, May 1995.

- Apparatus and Methods for Enhancement of Color Images (with R. Ginosar and S. Wolf), 1992. U.S.A Patent No. 5,467,123, November 1995.

- Super-Resolution of Digital Images (with I. Vitsnudel and O. Zinaty), submitted, 1998.

- Apparatus and Methods for Enhancing Color Images (with R. Ginosar and S. Wolf), Israel Patent No. 103,763, August 1999.

- Scintillation camera for emission tomography with adaptive event position estimation (with A.M. Bronstein, M.M. Bronstein and M. Zibulevsky) US Provisional patent 60/356,701 Patent pending, 2003.

- Blind separation of tissue signatures using MRI (with A. Laine and M. Zibulevsky), application pending USA, 2003.

- Natural Liquid Architectures (NLA) Technology (with I. Raichelgauz and K. Odinaev), Israel Provisional Patent Application No. N185414, 2007.

- Method for Attaching Relevant Metadata to Multimedia Content on a Large-Scale (with I. Raichelgauz and K. Odinaev), USA Application pending, 2008.

- Methods for identifying relevant metadata for multimedia data of a large-scale matching system (with I. Raichelgauz and K. Odinaev), Patent number: 9798795, filed on January 5, 2009.

- Denoising-Enhancement Images on Elastic Manifolds, (with Vadim Ratner), USA Provisional Application No. 61/151,883, 2009.

- Unsupervised Clustering of Multimedia Data Using a Large-Scale Matching System (with I. Raichelgauz and K. Odinaev), USA Patent No. 20090282218.

- A System and Method for Mapping Real-World Images into Web Domains (with I. Raichelgauz and K. Odinaev), USA Application No. 12/822,005, June 2009.

- Signature Generation for Multimedia Deep-Content-Classification by a Large-Scale Matching System and Method Thereof (with with I. Raichelgauz and K. Odinaev), Patent Application No. 20090043818.

- Methods for Identifying Relevant Metadata for Multimedia Data of a Large-Scale Matching System (with with I. Raichelgauz and K. Odinaev), Patent Application No. 20090112864.

- System and Method for Linking Multimedia Data elements to Web Pages (with I. Raichelgauz and K. Udinaev), USA Application No. 20100262609, Oct. 2010.

- Signature Based System and Methods for Generation of Personalized Multimedia Channels (with I. Raichelgauz and K. Odinaev), USA Patent No. 20090216761 (12/434,221), February 2012.

- A System and Methods Thereof for Generation of Conceptrons Responsive of Multimedia Data Content (with I. Raichelgauz and K. Odinaev), USA Patent No. 2010042646 (12/603,123), September 2012.

- A System and Method for Matching Content to Conceptrons (with I. Raichelgauz and K. Odinaev) — A continuation of USA Application No. 12/603,123.

– Signature Generation for Multimedia Deep-Content-Classification by a Large-Scale Matching System and Method Thereof (with I. Raichelgauz and K. Odinaev), UK Application No. 1001219.3 (GB2463836), October 2012.

– A System and Methods for Generation of Complex Signatures for Multimedia Data Content (with I. Raichelgauz and K. Odinaev), USA Patent No. 20090313305 (12/538,495), Nov. 2012.

– Large-Scale Matching System and Method for Multimedia Deep-Content-Classification (with I. Raichelgauz and K. Odinaev), USA Patent Application No. 20090043818 (12/195,863), December 2012.

– System and Method for Generation of Complex Signatures for Multimedia Data Content (with I. Raichelgauz and K. Odinaev), US Patent No. 8312031B2, 2013.

– System and method for generation of concept structures based on sub-concepts (with I. Raichelgauz and K. Odinaev), Patent No. 10180942, filed November 22, 2013.

– A Method and System for Unsupervised Classification of Large Database Content (with I. Raichelgauz and K. Odinaev), USA Application No. 20090282218 (12/507,489), February 2013.

– Method for Determining an Area within a Multimedia Content Element over which an Advertisement can be Displayed (with I. Raichelgauz and K. Odinaev), US Patent Application No. 20130246166, filed April 2013.

– System and Method for Brand Monitoring and Trend Analysis based on Deep-Content-Classification (with I. Raichelgauz and K. Odinaev), US Patent Application No. 20130238393, filed April 30, 2013

– System and Method of Detecting Common Patterns within Unstructured Data Elements Retrieved from Big Data Sources (with I. Raichelgauz and K. Odinaev), US Patent Application No. 20130346412, August 2013.

– System and method for verification of user identification based on multimedia content elements (with I. Raichelgauz and K. Odinaev), Application No. 9529984, filed Oct. 1, 2013.

– System and method for tagging multimedia content elements (with I. Raichelgauz and K. Odinaev), Patent No. 10380267, filed Oct. 10, 2013.

– Context-based analysis of multimedia content items using signatures of multimedia elements and matching concepts (with I. Raichelgauz and K. Odinaev), Patent number: 9639532, filed Dec. 4, 2013.

– A Computing Device, A System and a Method for Parallel Processing of Data Streams (with I. Raichelgauz and K. Odinaev), USA Patent Application No. 20090187736, (12/084,150), February 2014. European Patent Specification: EP 1 949 311 B1, granted Jan. 2014.

– A Computing Device, A System and a Method for Parallel Processing of Data Streams (with I. Raichelgauz and K. Odinaev), USA Patent No. 8,655,801, Feb. 2014.

– A System and Method for Identifying the Context of Multimedia Content Elements Displayed in A Web-Page and Providing Contextual Filters Respective Thereto (with I. Raichelgauz and K. Odinaev), US Patent Application No. 20,140,188,786 (Cort 4239), filed March 2014.

– A System and Method for Using On-Image Gestures and Multimedia Content Elements as Search Queries (with I. Raichelgauz and K. Odinaev), US Patent Application (Cort 4257), filed March 2014.

- A System and Method for Searching Applications Using Multimedia Content Elements, (with I. Raichelgauz and K. Odinaev), US Patent Application (Cort 4259), filed March 2014.

- A System and Method for Matching Informative Content to A Multimedia Content Element Based on Concept Recognition of the Multimedia Content, (with I. Raichelgauz and K. Odinaev), US Patent Application (Cort 5000), filed March 2014.

- A System for Unsupervised Clustering of Multimedia Data Using a Large-Scale Matching Technique (with I. Raichelgauz and K. Odinaev), US Patent Application No. 20130144884 (13/731,906), March 2014.

- A Computer Software Product for Unsupervised Classification of Large Database Content (with I. Raichelgauz and K. Odinaev), US Patent Application No. 20130138653 (13/731,921), March 2014.

- A System and Method for Creating a Database of Multimedia Content Elements Assigned to Users (with I. Raichelgauz and K. Odinaev), US Patent Application No. 20,140,188,930 (Cort 4238), filed March 2014.

- System and method for using on-image gestures and multimedia content elements as search queries (with I. Raichelgauz and K. Odinaev), Patent No. 10380164, filed March 10, 2014.

- System and method for searching applications using multimedia content elements (with I. Raichelgauz and K. Odinaev), Patent No. 10372746, filed March 13, 2014.

- Multi-Layer System for Symbol-space Based Compression of Patterns (with I. Raichelgauz and K. Odinaev), US Patent Application No. 20,140,225,757, filed 2014.

- A System and Methods Thereof for Generation of Conceptrons Respective of Multimedia Data Content (with I. Raichelgauz and K. Odinaev), US Patent Application No. 201220331011 (13/602,858), June 2014.

- System and method for diagnosing a patient based on an analysis of multimedia content (with I. Raichelgauz and K. Odinaev), Patent number: 9747420, filed on June 25, 2014.

- An Assembler and Method Thereof for Generating a Complex Signature of an Input Multimedia Data Element (with I. Raichelgauz and K. Odinaev), US Patent Application No. 20130070773 (13/668,559), July 2014.

- A System and Method for Mapping Real-World Images into Web Domains (with I. Raichelgauz and K. Odinaev), filed as US Patent Application No. 20100262609 (12/822,005), Aug. 2014.

- A Multi-Layer System for Signature-Space Based Compression of Patterns (with I. Raichelgauz and K. Odinaev), US Patent Application No. 20140225757 (13/874,159), August 2014.

- A System and Method for Identification of Deviations from Periodic Behavior Patterns in Multimedia Content (with I. Raichelgauz and K. Odinaev), US Patent Application No. 14/509,543, filed on October 8, 2014.

- Systems and Methods for Generation of Searchable Structures Respective of Multimedia Data Content (with I. Raichelgauz and K. Odinaev), Patent number No. 9575969, filed on October 8, 2014.

- System and Method for Generation of Signatures for Multimedia Data Elements (with I. Raichelgauz and K. Odinaev), US Patent Application No. 14/530,970, filed on November 3, 2014.

– A Method and System for Ranking Multimedia Content Elements (with I. Raichelgauz and K. Odinaev), US Patent Application No. 14/530,922, filed on January 3, 2014.

– System and method for creating a database of multimedia content elements assigned to users (with I. Raichelgauz and K. Odinaev), Patent number: 9646005, filed March 5, 2014.

– A System and Method for Indentifying a Target Area in a Multimedia Content Element (with I. Raichelgauz and K. Odinaev), US Patent Application No. 14/530,913, filed on November 3, 2014.

– Method for unsupervised clustering of multimedia data using a large-scale matching system (with I. Raichelgauz and K. Odinaev), US Patent Application No. US9,009,086 B2.

– System and method for identifying a target area in a multimedia content element (with I. Raichelgauz and K. Odinaev), Patent number: 9558449, filed on November 3, 2014.

– System and method for caching of concept structures (with I. Raichelgauz and K. Odinaev), Patent number: 9767143, filed on November 3, 2014.

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56. "The Importance of Phase in Image Processing", CCIT Report #773 (EE Pub. No. 1730), Aug. 2010, Technion (with N. Skarbnik and C. Sagiv).

57. "Generalized Laplacians and Curvatures for Image Analysis and Processing", CCIT Report #774 (EE Pub. No. 1731), Aug. 2010, Technion (with E. Appleboim, E. Saucan and G. Wolansky).

58. "Blind Source Separation of Instantaneous Mixtures", CCIT Report #787 (EE Pub. No. 1744), Mar. 2011, Technion (with M. Shamis).

59. "Automatic Gain Control of Images Motivated by Human Vision", CCIT Report #793 (EE Pub. No. 1750), Aug. 2011, Technion (with S. Furman).

60. "Superresolution of Self-similar Textures", CCIT Report #838 (EE Pub. No. 1795), Aug. 2013, Technion (with Ido Zachevsky).

61. "Stable Image Enhancement by Approximated Forward-and-Backward Wave Equation" , CCIT Report #842 (EE Pub. No. 1799), Oct. 2013, Technion (with Vadim Ratner).

62. "On the Statistics of Natural Stochastic Textures", CCIT Report #862 (EE Pub. No. 1819), June 2014, Technion (with Ido Zachevsky).

63. "Geometry-based distortion measures for space deformation", CCIT Report #915 (EE Pub. No. 1872), December 2017, Technion (with Alexander Naitsata, Emil Saucana).

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1. "Scanning Electron Microscopy of Neural Networks", Proc. 27th Meeting Electron Microscopy Soc. Am. St Paul Minn., C.J. Arceneaux Ed., Claitor's Pub., pp. 8-9, 1969 (with E.R. Lewis).

2. "A Model of the Organization of Neuronal Membranes", 16th Annual Meeting Biophysical Soc., Biophysic. J. Vol. 12, p. 263, 1972 (with E.R. Lewis).

3. "Digital Computer Analysis of Signal Flow in Subneuronal Systems", Proc. 5th Hawaii International Conf. System Sciences, Vol. 129, p. 2, 1972.

4. "Structural Functional Relationships in Subneural Systems", Proc. 4th International Biophysics Congress, Moscow, p. 350, 1972 (with E.R. Lewis).

5. "Vertebrate Photoreceptors: Interaction with Accelerated Ions", 17th Annual Meeting Biophysical Soc. Biophysic. J., 13, 234a, Columbus (with C.A. Tobias).

6. "Digital Computer Simulations of the Behavior of a Planar Population of Excitatory and Inhibitory Neurons", International Conf. Systems, Man and Cybernetics, SCMC-5O, Boston, 1973 (with E. Peli).

7. "Information Processing in Visual Systems", International Conf. Systems, Man and Cybernetics, Boston, 1973 (with R.E. Kronauer).

8. "On Nonprobabilistic Negentropy and Information Processing in Nervous Systems", IEEE International Symposium on Information Theory, E2-5, 1973.

9. "Decision Model for Vernier Acuity Tasks", Proc. First Mediterranean Conf., Bio-Med. Engr., Sorrento, l977 (with E. Peli and S.S., Mangoubi).

10. "Position Control by Means of Eye Movement", Proc. First Mediterranean Conf., Bio-Med. Engr., Sorrento, l977 (with R. Herz).

11. "Measuring Eye Movement with a Ferromagnetic Ring", Proc. lOth IEEE Conv., Tel-Aviv, l977 (with J. Ish-Shalom).

12. "Hyperacuity Decision Model", Proc. lOth IEEE Conv., Tel-Aviv, l977 (with S.S. Mangoubi).

13. "Comparison of Single Signed Integral Pulse Frequency Modulation and Pulse Frequency Modulation", Proc. lOth Conv. Tel-Aviv, l977 (with A.M. Bruckstein).

14. "Analysis of Heart Sounds Using the Linear Prediction Method", Annual Meeting Israel Soc. Physiol. and Pharmacol., Haifa, 1977 (Abstract in Israel J. Med. Sci., Vol. l3, p. 328, l977) (with H. Garten).

15. "A Combined Statistical Morphological Method for Cardia Arrythmia Classification", Proc. 3rd Internl. Conf. Cardiovascular System Dynamics, Leiden, l978 (with L. Luks, D. Adam and A. Valero).

16. "Processing of Velocity Information in the Visual System", l3th Annual Meeting Israel Soc. Biomedical Eng., Haifa, l978 (with H. Gafni).

17. "A Magnetic Device for Measurements of Eye Movements", l3th Annual Meeting Israel Soc. Biomedical Eng., Haifa, l978 (with J. Ish-Shalom).

18. "On Photoreceptor Noise and Visual Incremental Thresholds", l3th Annual Meeting Israel Soc. Biomedical Eng., Haifa, l978 (with S.S. Mangoubi).

19. "Automatic Identification and Classification of P-Wave Changes During Continuous ECG Monitoring", l3th Annual Meeting Israel Soc. Biomedical Eng., Haifa, l978 (with D. Adam and E. Avineder).

20. "Assessment of Mitreal Stenosis via Signal Analysis of Heart Sounds", Annual Meeting Israel Soc. Physiol., and Pharmacol., Tel-Aviv, l978 (Abstract in Israel J. Med. Sci., l978) (with Z. Portnoy, H. Garten, W. Markevich and D. Adam).

21. "Multiple Visual Feedback Loops in Eye Movement Control", XIII Internl. Conf. Biomed. Engr., Jerusalem l979. (Also to be submitted to IEEE Trans. SMC) (with E. Peli).

22. "Cognitive Model Direct Scanpath Eye Movements: Evidence Obtained by Means of Computer Processing of Perceptual Scanpath Eye Movements", Proc. XIII Internl. Conf. Biomed. Engr., Jerusalem, l979 (with L. Stark, S. Ellis and Z. Portnoy).

23. "An Adaptive Neuronal Encoder Model", XIII Internl. Conf. Biomed. Engr., Jerusalem, l979 (with A.M. Bruckstein and R.E. Kronauer).

24. "A Neural Encoder Model", Proc. l2th IEEE Convention, Tel-Aviv, l979 (with A.M. Bruckstein).

25. "Some Techniques of ERG Analysis", IV Internl. Congress for Eye Research, New York, l98O (with M. Gur and E. Barak).

26. "Temporal Channels in Vision", Annual Meeting Optical Soc. America, Chicago, l98O (with H. Gafni).

27. "Modeling of Two-Phase Adaptation in Neuronal Encoders", Proc. IEEE Internl. Conf. on Cybernetics, Cambridge, Mass., l98O (with A.M. Bruckstein).

28. "Some Aspects of Motion Perception", Proc. IEEE Internl. Conf. on Cybernetics, Cambridge, Mass., l98O (with H. Gafni).

29. "The Eye Movement Signal - An Accessible Probe into Some Brain Functions", Proc. IEEE International Conference on Cybernetics, Atlanta 1981 (with E. Peli and P.A. Wetzel).

30. "Adaptive Stochastic Models of Neural Coding Processes", Proc. IEEE International Conference on Cybernetics, Atlanta 1981 (with A.M. Bruckstein).

31. "Some Psychophysical Aspects of Visual Processing of Displayed Information", Proc. Image II Conf. Phoenix, l98l (with J.G. Daugman).

32. "AGC of Signal Processing in Vision", J. Opt. Soc. Am., Vol. 71, p. 1556, 1981, Ann. Meeting Optical Soc. Am., Orlando 1981 (with M. Shefer).

33. "Masking Effects on Visual Target Detection and Tracking", Ann. Meeting Optical Soc. Am., Orlando 1981 (with T.N. Longridge and J.C. Demaio).

34. "Processing of Visual Information in the Saccadic and Smooth Movement Modes of Eye Movement", Proc. Workshop on Modeling the Control of Eye Movement, Carnegie-Mellon University, Pittsburgh, 1981.

35. "Visual Information Processing During Tracking of the Point of Gaze", Ann. Meeting Optical Soc. Am., Orlando 1981 (with E. Peli and P.A. Wetzel).

36. "Eye Movement Response to Bifurcating Targets", Ann. Meeting Optical Soc. Am., Orlando 1981 (with P.A. Wetzel).

37. "Spatiotemporal Masking: Asymmetry, Nonseparability and Facilitation", ARVO, Sarasota 1982 (with R.E. Kronauer and J.D. Daugman).

38. "Acquisition of Visual Information in the Saccadic and Smooth Movement Modes, AFOSR Ann. Rev. Prog., Sarasota 1982 (with P.A. Wetzel and L.R. Young).

39. "Motion Aftereffect and Selective Rivalry Suppression in Binocular Viewing of Dynamic Noise", Ann. Meeting Optical Soc. Am., Tuscon 1982 (with G.A. Geri).

40. "Visual Acceleration Perceived with Dynamic Noise", Ann. Meeting Optical Soc. Am., Tuscon 1982 (with A. Medina).

41. "Degree of Disorder Perceived in Images with Punctate Spectra", Ann. Meeting Optical Soc. Am., Tuscon 1982 (with R.E. Kronauer and J.G. Daugman).

42. "Eye Movement Responses to Unidirectional and Bidirectional Bifurcating Targets", Ann. Meeting Optical Soc. Am., Tuscon 1982 (with P.A. Wetzel).

43. "Perceptual Effects Induced by Disparate Stimulation of the Two Eyes", AFOSR Ann. Rev. Prog., Sarasota 1982 (with G.A. Geri and T.M. Longridge).

44. "Reorganization and Diversification of Signals in Vision", Invited Paper, Joint IEEE ACEMB Meeting, Philadelphia 1982 (with R.E. Kronauer).

45. "Saccadic Responses to Single and Dual Context-Free Visual Stimuli", OMS Meeting, Chicago 1982 (with P.A. Wetzel).

46. "Perceived Randomness in Images with Sparse Punctuate 2-D Spectra", European Conf. Visual Perception, Leuven, Belgium 1982, in Perception, Vol. 11, No. 1, A22.

47. "Effects of Attention on Detection of Flashed Peripheral Targets", OMS Meeting, Chicago 1982 (with R.V. Kenyon and A. Medina).

48. "Fourier Synthesis of Spatio-Temporal Textures", ARVO, Sarasota 1983 (with R.E. Kronauer, J.G. Daugman and M.E. Namiska).

49. "Masking Tuning Distribution in 3-D Spatio-Temporal Frequency Space, ARVO, Sarasota, 1984 (with R.E. Kronauer and J.G. Daugman).

50. "Supermasking by Bandlimited Dynamic Incoherent Images, ARVO, Sarasota, 1984 (with R.E. Kronauer and J.G. Daugman).

51. "Perception of 2D Phase- and Amplitude Modulated Signal in Spatio-temporal Bandlimited Textures", 7th ECVP Cambridge, England, 1984 (with R.E. Kronauer and J.G. Daugman).

52. "Analysis of the Inhomogeneous Gabor Model of Cortical Representation", 7th ECVP Cambridge, England, 1984 (with M. Porat).

53. "The Spatial Hyperacuity Dichotomy - A Perturbation Approach", 7th ECVP Cambridge, England, 1984 (with P. Meer).

54. "On Signal Representation by Partial Information", IEEE Convention, 1985 (with S. Shitz).

55. "Image Reconstruction from Sine Wave Crossings", IEEE Convention, 1985 (with A. Gavrieli and S. Shitz).

56. "Image Representation in Vision Using A Generalized Gabor Scheme", GRETSI, Conf., pp. 809–814, Nice, 1985 (with M. Porat).

57. "Image Reconstruction from Partial Information – Zeros and Sine-Wave Crossings", GRETSI, Nice, 1985 (with A. Gavrieli and S. Shitz).

58. "Information in Zero Crossings of Images", Proc. Image Science 85, Helsinki, Ed.'s A.T. Friberg and P. Oittinen, in Acta Polytechnica Scandinavia, Vol.2, pp. 232-235, 1985 (with D. Rotem).

59. "The Generalized Gabor Scheme of Image Representation", Proc. Image Science 85, Helsinki, Ed.'s A.T. Friberg and P. Oittinen, in Acta Polytechnica Scandinavia, Vol.2, pp. 166-169, 1985 (with M. Porat).

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61. "Image Structure in Gabor Space", Opt. Soc. Am., 1985 Annual Meeting, Washington, D.C. (with M. Porat).

62. "Image Sampling Based on Sinewave and Zero Crossings", Opt.Soc.Am., 1985 Annual Meeting, Washington, D.C. (with A. Gavrieli and S. Shitz).

63. "Interaction Between Lateral and Eccentricity-dependent Preferences in Saccadic Responses", Opt.Soc.Am., 1985 (with B. Hason).

64. "Does 2-D Hyperacuity Exist ?", Opt.Soc.Am., 1985 (with P. Meer).

65. "Priorities in Programming of Saccadic Responses", 39th ACEMB, Baltimore, 1986 (with B. Hason).

66. "Eye Movement Measurement with Subpixel Resolution", 39th ACEMB, Baltimore, 1986 (with F. Cohen, L. Rosenfeld, P. Alper and T. Williams).

67. "Interactions Between Lateral and Eccentricity-Dependent Preferences in Programming of Saccadic Responses", EBBS Workshop on Sensory to Motor Transformation, Zichron-Yaacov, 1986 (with B. Hason).

68. "Electrooptical Gaze Measurement with High Spatial and Temporal Resolution", Opt. Soc. Am., 1986 Annual Meeting, Seattle (with L. Rosenfeld and T. Williams).

69. "Monitoring Six-Degrees-of-Freedom Movement with a Single Camera", Opt. Soc. Am., 1986 Annual Meeting, Seattle (with O. Hilsenrath).

70. "Video Data Acquisition by Random Scan", Opt. Soc. Am., 1986 Annual Meeting, Seattle (with O. Hilsenrath).

71. "The Phasogram - Image Representation by Localized Phase", Opt. Soc. Am., 1986 Annual Meeting, Seattle (with M. Porat).

72. "Techniques and Methods Used in Eyetracking in the Fiber Optic Helmet Mounted Display", 1987 Image IV Conf., Phoenix (with T. Williams, M. Komoda and M. Thomas).

73. "A Pyramid of Image Generation Functions", SPIE Conf. on Visual Communication and Image Processing, Cambridge MA, in Proc. SPIE Vol. 845, pp. 253-257, 1987 (with B. Hason).

74. "On the Importance of Spatial Frequency and Orientation in Image Decomposition and Coding", SPIE Conf. on Visual Communication and Image Processing, Cambridge MA, in Proc. SPIE Vol. 845, pp. 152-158, 1987 (with E. Shlomot and W. A. Pearman).

75. "Digital Image Processing at the Level of Data Acquisition", SPIE Conf. on Visual Communication and Image Processing, Cambridge MA, in Proc. SPIE Vol. 845, 1987 (with O. Hilsenrath).

76. "Image Representation in Nonuniform Systems", SPIE's Symposium on Visual Communication and Image Processing, Cambridge, Mass, 1988 and Image Processing Symposium, SPIE, Boston, 1988 (with N. Peterfreund and E. Shlomot), in Proc. SPIE, Vol. 1001, pp. 563-571.

77. "The Mutual Information of Images", SPIE's Symposium on Visual Communication and Image processing, Cambridge, Mass., 1988, in Proc. SPIE, Vol. 1001, pp. 555-562. (with B. Hason).

78. "Pyramidal Edge Detection and Image Representation", Proc. SPIE, Cambridge, Mass.,(with A. Schrift and M. Porat), in Proc. SPIE, Vol. 1001, pp. 529-536, 1988.

79. "The Importance of Localized Phase in Vision and Image Representation", SPIE's Symposium on Visual Communication and Image Processing, Cambridge, Mass., 1988 (with J. Behar and M. Porat), in Proc. SPIE, Vol. 1001, pp. 61-68.

80. "3D Cuboid Scene Understanding by a Mixed Cognitive Graph and Log-Complex Mapping", 9th Int'l Conf. Pattern Recog., Rome, 1988 (with O. Hilsenrath).

81. "3D Reasoning with Damaged Wire Pattern", 11th ECVP, Bristol, 1988 (with O. Hilsenrath).

82. "The Role of Localized Phase in Vision", 11th ECVP, Bristol, 1988 (with M. Porat).

83. "On-Line Visual Data Compression along a One-Dimensional Scan", SPIE's Symposium on Visual Communication and Image processing, Cambridge, Mass. 1988 (with N. Sorek), in Proc. SPIE, Vol. 1001, pp. 764-770.

84. "Pattern Analysis and Texture Discrimination in the Gabor Space", 9th Int'l Conf. Pattern Recognition, Rome, (ICPR), Vol. II, pp. 700–702, 1988 (with M. Porat).

85. "Feature Extraction and Sensitivity Matching in Visual Search in Man and Machine", 1st Int'l Conf. on Visual Search, Durham, 1988 (with O. Hilsenrath).

86. "Adaptive Sensitivity/Intelligent Scan Image Processor", SPIE's Symposium on Visual Communication and Image Processing, Cambridge, Mass, 1988 (with R. Ginosar), in Proc. SPIE, Vol. 1001, pp. 456-461.

87. "Adaptive Sensitivity/Intelligent Scan Image Sensor Chips", SPIE's Symposium on Visual Communication and Image Processing, Cambridge, 1988 (with R. Ginosar), in Proc. SPIE, Vol. 1001, pp. 462-468.

88. "Adaptive Two-Dimensional Neighborhood Sensitivity Control by a One-Dimensional Process", SPIE's Symposium on Visual Communication and Image Processing, Cambridge, Mass., 1988 (with O. Hilsenrath), in Proc. SPIE, Vol. 1001, pp. 717-723.

89. "The Most Significant Edges: An Efficient Image Description for Machine Vision Applications", IAPR Workshop on Computer Vision, Tokyo, pp. 340–342, 1988 (with A. Schrift and M. Porat).

90. "Wire Pattern and Cognitive Graph Representation of Textured Images", IAPR Workshop on Computer Vision, Tokyo, 1988 (with O. Hilsenrath).

91. "Glass-Pattern Recognition with Neural Networks", INNS, Boston, 1988 (with H. Greenspan, M. Fleisher and M. Porat), in Neural Networks, Vol. 1, Sup. 1, p. 499

92. "A Nonuniform Sampling and Representation Scheme for Images which are not Band-Limited", IEEE Convention, Tel-Aviv, 1989 (with E. Shlomot).

93. "Biologically-Motivated Computational Neural Network", Nordic Symposium Neural Computing, Espoo, Finland, 1989.

94. "Pattern Recognition by Neural Network Processing in the Combined Spatial-Orientational Space", 16th IEEE Convention, Tel-Aviv, No. 2.5.5, pp. 1–4, 1989.

95. "Image Representation by Localized Phase", SPIE's Symposium on Visual Communication and Image Processing IV, Philadelphia, 1989 (with M. Porat), in Proc. SPIE, Vol. 1109, pp. 1512-1517.

96. "Adaptive Machine Vision: What can be Learned from Biological Systems", SPIE's Symposium on Advances in Intelligent Robotics Systems, Philadelphia 1989, in Proc. SPIE, Vol. 1192.

97. "Adaptive Sensitivity Cameras and Image Sensors", Electronic Imaging, 1989 (with R. Ginosar, O. Hilsenrath and D. Kligler).

98. "Phase Discrimination of Multicomponent Gabor Textures in the Central and Peripheral Visual Field", ARVO, Sarasota, FA, 1990 (with G. A. Geri and D. R. Lyon), in Investigative Ophthalmol. and Vis. Sci., Vol. 31, 104, 1990.

99. "Gram-Gabor Approach to Optimal Image Representation", SPIE's Symposium on Visual Communication and Image Processing '90, Lousanne, Vol. 1360, pp. 1474–1477, 1990 (with M. Porat).

100. "Foveating Vision Systems", SPIE's Symposium on Visual Communication and Image processing '90, Lousanne, 1990 (with R. Ginosar).

101. "The Gabor-Zak Scheme of Image Representation", SPIE's Symposium on Visual Communication and Image Processing '90, Lousanne, 1990 (with I. Gertner).

102. "Recognition of Distorted Patterns by Invariance Kernels", 10th Int'l Conf. on Pattern Recognition", Atlantic City, 1990 (with J. Rubinstein and J. Segman).

103. "Generalized Scanning and Multiresolution Image Compression", DCC '91, Data Compression Conf. Snowbird, 1991 (with I. Gertner). [In DCC '91, IEEE Comp. Soc. Press., J. A. Storer and J. H. Reif, Ed.'s, Los Alamitos, 1991]

104. "Image Representation by Group Theoretic Approach", SPIE's Symp. on Visual Communication and Image Processing '91, Boston, 1991 (with J. Segman), in Proc. SPIE Vol. 1606, pp. 97-109.

105. "Application of Wavelet-Type Functions in Image Processing", SPIE's Symp. on Visual Communication and Image Processing '91, Boston,1991 (with I. Segall), in Proc. SPIE Vol. 1606, pp. 1048-1058.

106. "Neural Network Aided Design for Image Processing", SPIE's Symp. on Visual Communication and Image Processing '91, Boston, 1991 (with I. Vitsnudel and R. Ginosar), in Proc. SPIE Vol. 1606, pp. 1086–1091.

107. "Scanning Strategies for Target Detection", SPIE Symp. on Data Structures and Target Classification, Boston, 1991 (with I. Gertner), in Proc. SPIE Vol. 1470, pp. 148–166.

108. "On the Realization of the Zak-Gabor Representation of Images", SPIE's Symp. on Visual Communication and Image Processing '91, Boston, 1991 (with K. Assaleh and I. Gertner), in Proc. SPIE, Vol. 1606, pp. 532–540, 1991.

109. "Image Representation with Position-Frequency Localization", in Proc. IEEE ICASSP–91, Toronto (with I. Gertner), pp. 2353–2356, 1991.

110. "Oversampling in the Gabor Scheme", ICASSP, San Francisco, 1992 (with M. Zibulski). In Proc. ICASSP, Vol. III, pp. 281-284, 1992.

111. "Image Compression: Wavelet-Type transform Along Generalized Scan", SPIE Symposium on Image Technology, Orlando, 1992. (with A. C. Ansari and I. Gertner).

112. "A New Method for Detection and Measurement of Pulsations in Fetal Descending Aorta", The 2nd World Congress of Ultrasound in Obstetrics and Gynocology (with Z. Leibowitz, S. Degani. I. Shapiro and M. Sharf), Vol. 2, Supplement 1, p. 122, 1992.

113. "A New Method for Detection of Diameter in Fetal Descending Aorta and Inferior Vana Cava", The 2nd World Congress of Ultrasound in Obstetrics and Gynecology (with Z. Leibowitz, S. Degani. I. Shapiro and M. Sharf), Vol. 2, Supplement 1, p. 122, 1992.

114. "Imaging: From Theory to Application", Proc. Int'l Workshop on Medicine and Engineering", The Neeman Institute Press, pp. 87-93, 1992.

115. "Gabor Representation with Oversampling", Proc. SPIE's Symp. on Visual Communication and Image processing '92, Boston, 1992 (with M. Zibulski).

116. "Classification of distorted Images by Summation kernels", SPIE's Symp. on Visual Communication and Image Processing '92, Boston 1992 (with V. Segalescu and J. Segman).

117. "Image Representation by Wavelet-type Transforms", Proc. SPIE's Symp. on Visual Communication and Image Processing '92, Boston, 1992 (with J. Segman and V. Segalescu).

118. "Spatio-Chromatic Model for Colored-Image Enhancement", Proc. SPIE VCIP'92, Boston, 1992 (with S. Wolf and R. Ginosar).

119. "Irregular Periodic Sampling of Images and Their Derivatives", Proc. SPIE Symp. on Wavelets, San Diego 1993 (with M. Zibulski).

120. "Matrix Approach to Frame Analysis of Gabor-type Image Representation", Proc. SPIE Symp. on Wavelets, San Diego 1993 (with M. Zibulski).

121. "Finding The Optimal Wavelet Function for Image and Signal Representation", SPIE's Symp. VCIP'93, Boston 1993 (with D. Stanhill), in Proc. SPIE, Vol. 2094, 1691-1700.

122. "Image Motion Compensation Using Multiple Exposures", Proc. SPIE VCIR'93, Boston 1993, (with N. Sorek).

123. "Matrix Algebra Approach to Gabor-type Image Representation and Analysis", SPIE's Symp. VCIP'93, Boston 1993 (with M. Zibulski), in Proc. SPIE Vol. 2094, pp. 1010-1020.

124. "Wavelet Decomposition of Multichannel Evoked Potentials", XIII Int'l Congress of EEG and Clinical Neurophysiology, Vancouver 1993, (with A. B. Geva and H. Pratt).

125. "Spatio-temporal Multiple Source Localization of Evoked Potentials", Israel Soc. for Clinical Neurophysiology, Jerusalem 1993, (with A. B. Geva and H. Pratt).

126. "Gaborian Wavelets: Image Representation in Vision", The Neaman Workshop on Signal and Image Representation in Combined Spaces, Haifa 1994.

127. "Classification of Compressed Images Using Fourier Transform Phase-Based Invariants", SPIE's Symp. VCIP'94, Chicago 1994 (with Z. Abraham, M. Elbaz and J. Rubinstein).

128. "Discretization of the Gabor-Type Scheme by Sampling of the Zak Transform", SPIE's Symp. VCIP'94, Chicago 1994 (with M. Zibulski).

129. "Source Estimation of Auditory Brainstem Evoked Potentials: Comparison of 3CLT and Dipole Localization", Colleqium Oto-Rhino-Laringologicum Amicitae Sacrum, Lisbon 1994, (with H. Pratt, A. B. Geva and K. Feingold).

130. "Auditory Brainstem Evoked Potentials: Comparison of 3CLT and Two Dipole Localization Methods", 2nd Meeting of the Israel Society of Auditory Research, Tel-Aviv, Israel, October 1994, (with H. Pratt, A.B. Geva, and K. Feingold).

131. "Source Estimation of Auditory Brainstem Evoked Potentials by 3 Methods", Meeting of the Israeli Society of Neuroscience, Eilat, Israel, December 1994, (with H. Pratt, A.B. Geva, and K. Feingold).

132. "Spatio-Temporal Multiple Source Localization of Evoked Potentials", Electroenceph. clin, Neurophysiol. Vol. 91, 130P, 1994, (with A.B. Geva and H. Pratt).

133. "Signal and Image Reconstruction from Partial Fourier Phase", 12th ICPR, Jerusalem 1994 (with M. Elbaz, Z. Abraham and J. Rubinstein), Vol. 3, pp. 82-87.

134. "Spatial Chromatic Model for Color Image Processing", 12th ICPR, Vol. 1, Jerusalem 1994 (with S. Wolf and R. Ginosar).

135. "Super-resolution Estimation of Edge Images", 12th ICPR, Jerusalem 1994 (with Eyal Fosfeld), Vol. 1.

136. "The Furthest Point Strategy for Progressive image Sampling", 12th ICPR, Jerusalem 1994 (with Y. Eldar, M. Lindenbaum and M. Porat), Vol. 3, pp. 93-97.

137. "Wavelet-type Approach to Pattern Recognition", IAPR Int'l Workshop on Syntactic and Structural Pattern Recognition", Nahariya 1994.

138. "Schemes of Image Representation and Processing Motivated by Biological Vision", Japan-Israel Workshop CVVC'94, Haifa 1994.

139. "Spatio-Temporal Source Estimation Evoked Potentials by Wavelet-Type Decomposition", Bat-Sheva Seminar on Advances in Processing and Pattern Analysis of Biological Signals, Haifa, Israel, March 1995, (with A.B. Geva and H. Pratt).

140. "Interactions of Monocular and Cyclopean Forms and the Role of Depth in the Ebbinghaus Illusion", ECVP'95, Tubingen 1995 (with T. V. Papathomas, A. Feher, B. Julesz and Y. Y. Zeevi).

141. "Two-dimensional Orthogonal Wavelets with Vanishing Moments", SPIE Symp. on Wavelets, San Diego 1995 (with D. Stanhill).

142. "Analysis of Multi-Window Gabor-Type Schemes", SPIE Symp. on Wavelets, San Diego 1995

143. "Two-dimensional Orthogonal and Symmetrical Wavelets and Filter-Banks", ICASSP-96, Atlanta 1996 (with D. Stanhill).

144. "Education in Image Sciences and Engineering at the Technion", ICIP'96, Lausanne 1996 (with M. Lindenbaum).

145. "Signal- and Image-Component Separation by a Multi-Window Gabor-Type Scheme", 13th ICPR, Vienna 1996 (with M. Zibulski).

146. "Image Representation by Level Crossings of the Wavelet Transform", ICIP'96, Lausanne 1996 (with M. Shmoueli).

147. "Frame Analysis of Wavelet Type Filter Banks", DSP Workshop 1996, Loen, Norway (with D. Stanhill) in Proc. 7th IEEE Digital Signal Processing Workshop, pp. 435–438, 1996.

148. "2D Multiwavelets for Image Representation", The 19th Convention of the IEEE, Jerusalem 1996, pp. 251–254 (with D. Stanhill).

149. "Representation of Images by Surfaces and Higher Dimensional Manifolds in Non-Euclidean Space", 4–th Int. Conf. on Math. Methods for Curves and Surfaces, Lillehammer, Norway, July 3–8, 1997 (with N. Sochen).

150. "Nonseparable Two-Dimensional Multiwavelet Transform for Image Coding and Compression", SPIE Symp. VCIP'97 (with D. Wietzer), in Proc. SPIE, Vol. 3309, 1997, pp. 944–954.

151. "Two-Dimensional Multiwavelets with Vanishing Moments for Image Coding", IEEE MELECON'98, Tel-Aviv, 1998 (with D. Wajcer and D. Stanhill).

152. "Super-Resolution of Grey-Level Images by Inverse Diffusion Processes", IEEE MELECON'98, Tel-Aviv, 1998 (with N. Sochen).

153. "Automatic Transcription of Polyphonic Music Using the Multiresolution Fourier Transform", IEEE MELECON'98, Tel-Aviv, 1998 (with R. Keren and D. Chazan).

154. "Estimation of Single-Trial Evoked Signals by Local Transform Domain Filtering", IEEE MELECON'98, Tel-Aviv, 1998 (with P. Kisilev and H. Pratt).

155. "Detection and Processing of Single-Trial Evoked Potentials: A Nonparametric Approach", MEDICON'98, Cyprus, 1998 (with P. Kisilev and H. Pratt).

156. "Resolution Enhancement of Colored Images by Inverse Diffusion Processes", ICASSP'98, 1998 (with N. Sochen).

157. "Representation of Colored Images by Manifolds Embedded in Higher Dimensional Non-Euclidean Space", IEEE ICIP'98, Chicago 1998 (with N. Sochen).

158. "The Multi-Window Gabor-Type Analysis of Images and Multidimensional Signals", ICIP'98, Chicago 1998 (with Z. Piao and M. Zibulski).

159. "Representation and Coding of Images with Nonseparable Two-Dimensional Wavelets", ICIP'98, Chicago 1998 (with D. Wajcer and D. Stanhill).

160. "Multiresolution Time-Frequency Analysis of Polyphonic Music", IEEE-SP International Symposium on Time-Frequency and Time-Scale Analysis (TFTS'98), Pittsburgh 1998 (with R. Keren and D. Chazan).

161. "Multidimensional Multi-Window Nonrectangular Discrete Gabor Schemes", IEEE-SP International Symposium on Time-Frequency and Time-Scale Analysis (TFTS'98), Pittsburgh 1998.

162. "Two-Dimensional Nonseparable Multiwavelet Transform and Its Application", IEEE-SP International Symposium on Time-Frequency and Time-Scale Analysis (TFTS'98), Pittsburgh 1998.

163. "Estimation of Noisy Signals Based on Local Transforms", IEEE-DSP, Bryce Canyon 1998 (with P. Kisilev and H. Pratt).

164. "Nonseparable 2D Multiwavelets with Orientation Preference for Image Representation and Compression", IEEE-DSP, Bryce Canyon 1998 (with D. Wajcer and D. Stanhill).

165. "Color Space Geometry via the Beltrami Framework", IEEE ICASSP'99, Pheonix, 1999 (with N. Sochen).

166. "Local Transform Processing of Single-Trial Evoked Potentials", European Medical and Biological Engineering Conference EMBEC'99, Vienna, 1999 (with P. Kisilev and H. Pratt).

167. "A Geometric Functional for Derivatives Approximation", The 2nd International Scale-Space, Korfu, Greece, 1999, 507–512 (with N. Sochen and R. Haralick).

168. "Anisotropic Selective Inverse Diffusion for Signal Enhancement in the Presence of Noise", Proc. IEEE ICASSP-2000, Istanbul, Turkey 2000 Vol. 1, pp. 211–224, June 2000. (with G. Gilboa and N. Sochen).

169. "Signal and Image Enhancement by a Generalized Forward-and-Backward Adaptive Diffusion Process", EUSIPCO–2000, Tampere, Finland September 2000. (with G. Gilboa and N. Sochen).

170. "Wavelet Domain ML Reconstruction in Positive Emission Tomography", World Congress on Medical Physics, Chicago 2000 (with P. Kisilev and M. Jacobson).

171. "Gabor-Space Geodesic Active Contours", AFPAC 2000, Kiel, 2000 (with C. Sagiv and N. Sochen).

172. "Algebraic Frames for the Perception-Action Cycle", AFPAC 2000, Kiel Germany Sept. 10–11, 2000 (with G. Sommer).

173. "Color Image Enhancement by a Forward-and-Backward Adptive Beltrami Flow", AFPAC-2000, Kiel 2000, LNCS 1888, pp. 319–328, 2000, Springer-Verlag. (with N. Sochen and G. Gilboa).

174. "Gabor Feature Space Diffusion via the Minimal Weighted Area Method", EMMCVPR, INRIA, Sophia Antipolis, 2001, G21–G35 (with C. Sagiv and N. Sochen).

175. "Complex Diffusion Processes for Image Filtering", Scale-Space'01, Vancouver, 2001, LNCS 2106, pp. 299–307, (with G. Gilboa and N. Sochen).

176. "Resolution Enhancement by Forward-and-Backward Nonlinear Diffusion Processes", NISP'01, Baltimore, Maryland, June 2001. (with G. Gilboa and N. Sochen).

177. "Blind Source Separation Using Multiscale Representations", IEEE-EURASIP Workshop NISP'01, Baltimore, 2001 in: Advances in Neural Information Processing Systems, Vol. 14, pp.185–191, 2002. (with P. Kisilev and M. Zibulevsky).

178. "Geodesic Active Contours Applied to Texture Feature Space", Scale-Space'01, Vancouver, Canada, July 01, 344–352 (with C. Sagiv, and N. Sochen).

179. "Image Enhancement Segmentation and Denoising by Time Dependent Nonlinear Diffusion Processes", ICIP'01, Thessalonicki, Greece, October 2001, (with G. Gilboa and N. Sochen).

180. "Blind Source Separation Using Multinode Sparse Representation", ICIP'01, Thessalonicki, Greece, October 2001, (with M. Zibulevsky, P. Kisilev).

181. "Wavelet Representation and Total Variation Regularization in Emission Tomography", ICIP'01, Thessalonicki, Greece, October 2001, (with P. Kisilev and M. Zibulevsky).

182. "Sparsity and Error-Dependent Multiscale Blind Source Separation", 10th DSP Workshop, Georgia, Oct. 2002 (with P. Kisilev and M. Zibulevsky).

183. "Regularized Shock Filters and Complex Diffusion", ECCV 2002, Copenhagen, May 27 – June 2, LNCS 2350, pp. 399–413 Springer Verlag 2002, (with G. Gilboa and N. Sochen).

184. "Wavelet-Based Multiresolution Stereo Vision", IEEE 3DPVT 2002, Padova, Italy, June 19–21, 2002 (with G. Caspary).

185. "Optimal nonlinear estimation of photon coordinates in PET", International Symposium on Biomedical Imaging, ISBI2002, Washington DC 2002, pp. 541–544 (with A.M. Bronstein, M.M. Bronstein and M. Zibulevsky).

186. "Iterative reconstruction in diffraction tomography using non-uniform fast Fourier transform", International Symposium on Biomedical Imaging, ISBI2002, Washington DC 2002, pp. 633–636 (with M.M. Bronstein, A.M. Bronstein and M. Zibulevsky).

187. "Geodesic Active Contours Applied to Texture Feature Space", Texture 2002, Denmark, May 2002 (with C. Sagiv and N. Sochen).

188. "Complex Diffusion Processes for Image Filtering", ECCV 2002, Denmark, May 2002 (with G. Gilboa and N. Sochen).

189. "Wavelet-based Multiresolution Stereo Vision", ICPR 2002, Quebec City, Canada, August 2002, ICPR02, III pp. 680–683, IEEE Abstract:0211 (with G. Caspary).

190. "Blind Separation of Mixed Images Using Multiscale Transforms", VCIP 2003, Lugano, Switzerland, July 8–11, 2003 (with Pavel Kisilev and Michael Zibulevsky).

191. "Blind Separation of Mixed Images in Subspaces of Sparse Representations", Wavelet X Conference, San Diego, CA, August 3–8, 2003, (with Pavel Kisilev and Michael Zibulevsky).

192. "Blind Separation of Mixed Images Using Multiscale Transforms", ICIP 2003, Barcelona, Sept. 14–17, 2003, pp. 309–312, (with Pavel Kisilev and Michael Zibulevsky).

193. "Separation of Reflections via Sparse ICA", ICIP 2003, Barcelona, Sept. 14–17, 2003, pp. 313–316, (with M. Bronstein, A. Bronstein and Michael Zibulevsky).

194. "PDE-Based Denoising of Complex Scenes Using a Spatially-Varying Fidelity Term", ICIP 2003, Barcelona, Sept. 14–17, 2003, pp. 865–868, (with G. Gilboa and N. Sochen).

195. "Color Image Denoising and Blind Deconvolusion Using the Beltramy Operator", Proceedings of the 3rd International Symposium on Image and Signal Processing and Analysis, Rome, Italy, September 18–20, 2003, pp. 1–4 (with R. Kaftory and N. A. Sochen).

196. "Texture Preserving Variational Denoising Using Adaptive Filtering Term", 2nd IEEE Workshop on Geometric, Variational and Level Sets Methods in Computer Vision, Nice, France, Oct. 2003 (with G. Gilboa and N. Sochen).

197. "Separation of semireflective layers using Sparse ICA", Proc. ICASSP 2003, Vol. 3, pp. 733–736 (with A.M. Bronstein, M.M. Bronstein and M. Zibulevsky).

198. "Quasi maximum likelihood blind deconvolution of images acquired through scattering media", Proc. ISBI, 2004, pp. 352–355 (with A.M. Bronstein, M.M. Bronstein and M. Zibulevsky).

199. "Effect of Neural Microcircuit Structure on its Computational Performance", Dynamical Neuroscience XII: Closing the Loop, San Diego, 2004 (with I. Raichelgauz, K. Odinaev and S. Marom).

200. "Optimal sparse representations for blind source separation and blind deconvolution: A learning approach", Proc. IEEE ICIP 2004, pp. 1815–1818 (with A.M. Bronstein, M.M. Bronstein and M. Zibulevsky).

201. "Fast relative Neuton algorithm for blind deconvolution of images", Proc. IEEE ICIP 2004, pp. 1233–1236 (with A.M. Bronstein, M.M. Bronstein and M. Zibulevsky).

202. "Blind Separation of Spatio-Temporal Data Sources", ICA 2004, Granada, Spain, pp. 962–969 (with H. Unger).

203. "QML Blind Deconvolution: Asymptotic Analysis", ICA 2004, Granada, Spain (with A.M. Bronstein, M.M. Bronstein and Y.Y. Zeevi).

204. "Optimal sparse representations for blind deconvolution of images", ICA 2004, Granada, Spain, pp. 507–507 (with A.M. Bronstein, M.M. Bronstein and M. Zibulevsky).

205. "Blind Separation of a Dynamic Image Source from Superimposed Reflections", 13th European Signal Processing Conf. (EUSIPCO2005), September 2005, Antalya, Turkey (with H. Unger).

206. "Indexing of Macromolecules using Multiwindow Gabor Representations", IEEE 4th Int'l Workshop on Content-Based Multiwindow Indexing CBMI 2005, Riga (with N.K. Subbanna).

207. "Unmixing Tissues: Sparse Component Analysis in Multi-Contrast MRI", IEEE ICIP, Genova, Sept. 2005 (with A.M. Bronstein, M.M. Bronstein and M. Zibulevsky).

208. "Estimation of the Optimal Variational Parameters via SNR Analysis", Int'l Conf. Scale-Space and PDE Methods in Computer Vision, Hofgeismar, Germany, April 2005, (with G. Gilboa and N. Sochen).

209. "Scale-Space Generation via Uncertainty Principles", Int'l Conf. Scale-Space and PDE Methods in Computer Vision, Hofgeismar, Germany, pp. 351–362, April 2005 (with C. Sagiv and N. Sochen).

210. "Blind Separation of a Dynamic Image Source from Superimposed Reflections", SPIE, San-Diego, 2005 (with H. Unger).

211. "Blind Separation of Complex-Valued Mixtures of Images: Sparse Representation in Polar Scatter-Plots", 13th European Signal Processing Conf. (EUSIPCO2005), Sept. 4-8, 2005, Antalya, Turkey (with E. Orian).

212. "An Efficient Analysis Technique for DNA Sequences Using Multiwindow Gabor Representations", 13th European Signal Processing Conf. (EUSIPCO2005), Sept. 4-8, 2005, Antalya, Turkey (with N.K. Subbanna).

213. "Automatic Transcription of Piano Polyphonic Music", IEEE 4th Int'l Symposium on Image and Signal Processing and Analysis, ISPA 2005, Zagrev (with A. Kobzantsev and D. Chazan).

214. "Oversampling of the Generalized Multiwindow Gabor Space", SampTa'05, Samsun, Turkey, July 2005 (with N.K. Subbanna and Y. Eldar).

215. "Optimal Processing of Color for Dense Stereo Vision", 13th European Signal Processing Conf. (EUSIPCO 2005), Sept. 2005, Antalya, Turkey (with E. Pinhasov and N. Shimkin).

216. "Co-evolutionary Learning in Liquid Architectures", 8th International Workshop on Artificial Neural Networks", June 2005, Barcelona (with I. Raichelgauz and K. Odinaev), pp. 241–248.

217. "Reward-Based Liquid Computing", The 9th Int'l Conf. on Engineering Applications of Neural Networks (EANN2005), 24–26 August, 2005, Lille, France (with K. Odinaev and I. Raichelgauz).

218. "Two-Dimensional Sampling and Representation of Folded Surfaces Embedded in Higher Dimensional Manifolds", 14th European Signal Processing Conf. (EUSIPCO 2006), Sept. 2006, Florence, Italy (with E. Saucan and E. Appleboim).

219. "Natural Signal Classification by Neural Cliques and Phase-Locked Attractors", IEEE World Congress on Computational Intelligence, IJCNN2006, Vancouver, Canada, July 2006 (with I. Raichelgauz and K. Odinaev).

220. "Natural Signal Classification by Neural Cliques and Phase-Locked Attractors", IEEE EMB, New York, September 2006, pp. 6693–6697.

221. Blind Separation of Time-Varying Signal Mixtures Using Zadeh Transform", EUSIPCO 2006, Florence, Italy, Sept. 2006 (with R. Kaftory).

222. "Image Representation using Discrete Non-Canonical Multiwindow Gabor Frames", Proc. Int'l Conf. Visual Information Engineering (VIE 2006), Sept. 2006, Bangalore, India (with N. K. Subbanna), pp. 522–527.

223. Quasi-Conformal and Quasi-Isometric Development of Triangulated Surfaces for Computerized Tomography, IWCIA, Berlin 2006 (with E. Appleboim, E. Saucan and O. Zeitouni).

224. "Variational Distance-Dependent Image Restoration", CVPR 2007, Minneapolis, MN (with R. Kaftory and Y. Schechner).

225. "Telegraph-Diffusion Operator for Image Enhancement", IEEE ICIP, San Antonio, Sept. 2007 (with V. Ratner).

226. "Probabilistic Geometric Approach to Blind Separation of Time-Varying Mixtures", 7th International Conf. ICA, London, Sept. 2007 (with R. Kaftory).

227. "Image Enhancement Using Elastic Manifolds", 14th International Conf. Image Analysis and Processing (ICIAP 2007), Sept. 2007, Modena, Italy (with V. Ratner).

228. "Geometric Sampling and Reconstruction of Manifolds for Image Processing", SSVM'07, Ischia, Italy, June 2007 (with E. Appleboim and E. Saucan).

229. "Blind Separation of Images obtained by Spatially-Varying Mixing Systems", IEEE ICIP 2008, San Diego (with R. Kaftory).

230. "Combinatorial Ricci Curvature for Image Processing", MICCAI 2008 Workshop *Manifolds in Medical Imaging: Metrics, Learning and Beyond*, New York, 2008 (with E. Saucan, G. Wolanski and E. Appleboim).

231. "Image Representation and Enhancement on Elastic Manifolds", Proc. PRIME 2008, Istanbul (with V. Ratner).

232. "Analysis and Segmentation of Brain MR Images with Blind Source Separation Techniques", IEEE DSP, July 2009, Santorini, Greece (with E. Vizel and D. Carasso).

233. "Blind Source Separation using Mixtures Scatter Plot Properties", IEEE DSP, July 2009, Santorini, Greece (with D. Carasso and E. Vizel).

234. "The Dynamics of Image Processing Viewed as Deformation of Elastic Sheet", IEEE DSP, July 2009, Santorini, Greece (with V. Ratner).

235. "Fast Wavelet-Packet-Based Shift-Invariant Feature Extraction", IEEE DSP, July 2009, Santorini, Greece (with A. Achtenberg and M. Shamis).

236. "Edge Detection and Skeletonization using Quantized Localized Phase", EUSIPCO, Aug. 2009, Glasgow, Scotland (with N. Skarbnik and C. Sagiv).

237. "The Dynamics of Image Processing Viewed as Dampled Elastic Deformation", EUSIPCO, Aug. 2009, Glasgow, Scotland (with V. Ratner).

238. "Blind Separation of Position Varying Mixed Images, IEEE ICIP 2009, Cairo, Egypt (with R. Kaftory).

239. "Geometric Reproducing Kernels for Signal Reconstruction", SampTA'09, May 2009, Marseille, France (with E. Appleboim and E. Saucan).

240. "Geometric Sampling of Images, Vector Quantization and Zador's Theorem", SamTA'09, May 2009, Marseille, France (with E. Appleboim and E. Saucan).

241. "A model for simultaneous encoding of "where" and "what" information in the Prefrontal Cortex", Computational Neuroscience Meeting CNS2009, Berlin, July 2009; BMC Neurosci (2009) 10 (Suppl. 1): p. 283, Springer Nature (with E. Barak-Shimron and R. Meir).

242. "Cliques in Cortical Ensembles and Co-evolutionary Learning in Liquid Architectures", CNS 2009 Workshop on Information Theoretic Approach (Invited paper), Berlin, July 2009 (with I. Raichelgauz and K. Odinaev).

243. "Combinatorial Ricci Curvature and Laplacians for Image Processing", 2nd International Congress on Signal Processing (CISP'09, Tianjin, China, Oct. 2009 (with E. Saucan, G. Volansky and E. Appleboim).

244. "Independent Component Analysis of Instantaneous Time/Position Varying Mixtures", 9th International Conference on LVA/ICA, Sept. 2010, St. Malo, France (with M. Shamis).

245. "Automatic Gain Control of Multidimensional Visual Adaptation", International Conf. Neural Computation, ICNC, Oct. 2010, Valencia, Spain, pp. 163–175 (with S. Furman).

246. "Sparse Source Separation of Non-instantaneous Spatially Varying Single Path Mixtures", 10th Asian Conf. on Computer Vision, ACCV20D, New Zealand, 2010 (with A. Achtenberg).

247. "Stable Image Enhancement by Adaptive Damped Wave Equation with Force Term", SITIS 2011, Dijon, France (with V. Ratner).

248. "Blind Source Separation of Underdetermined Time/Position Varying Mixtures", LVA/ICA 2012, Tel-Aviv (with Y. Michael).

249. "Ricci Curvature and Flow for Image Denoising and Super-Resolution", EUSIPCO 2012, Bucharest, Romania, August 2012 (with E. Saucan and E. Appleboim).

250. "Single-Image Superresolution of Self-Similar Textures", IEEE ICIP 2013, Melbourne, Australia (with I. Zachevsky).

251. "Stable Denoising-Enhancement of Images by Telegraph-Diffusion", IEEE ICIP 2013, Melbourne, Australia (with V. Ratner).

252. "On the Statistics of Natural Stochastic Images and Their Application in Image Processing", IEEE ICASSP 2014, Florence, Italy (with I. Zachevsky).

253. "Combining Long-Range Dependencies with Phase Information in Stochastic Texture Enhancement", IEEE ICIP 2014, Paris (with I. Zachevsky).

254. "Ricci Flow for Image Processing", IEEEI 2014, Eilat, Israel (with E. Sonn, E. Saucan and E. Appleboim).

255. "Computing Quasi-Conformal Maps in 3D with Applications to Geometric Modeling and Imaging", IEEEI 2014, Eilat, Israel (with A. Naitsat and E. Saucan).

256. "Texture Enhancement Using Diffusion Process with Potential", IEEEI 2014, Eilat, Israel (with E. Cohen and L. D. Cohen).

257. "Statistics of Stochastic Textures: Application in Pattern Analysis and Image Processing", IEEEI 2014, Eilat, Israel (with I. Zachevsky).

258. "Volumetric Quasi-Conformal Mappings", VISIGRAPP 2015, Berlin, Germany (with A. Naitsat and E. Saucan).

259. "Denoising of Natural Stochastic Colored-Textures based on Fractional Brownian Motion Model", IEEE ICIP, 27–30 September, 2015, Québec City, Canada (with I. Zachevsky).

260. "On the Role of Non-local Menger Curvature in Image Processing", IEEE ICIP, 27–30 September, 2015, Québec City, Canada (with G. Gilboa, E. Appleboim and E. Saucan).

261. "Image Unmixing Success Estimation in Spatially Varying Systems", IEEE GLOBALSIP 2015, Orlando, Florida, USA (with R. Gaizman).

262. "Model-based Color Natural Stochastic Textures Processing and Classification", GLOBALSIP 2015, pp. 1357–1361, Orlando, Florida, USA (with I. Zachevsky).

263. "Geometric Approach to Estimation of Volumetric Distortions", VISIGRAPP 2016, Rome, Italy, 27–29 February, 2016 (with A. Naitsat and E. Saucan).

264. "Geometric Approach to Detecting Volumetric Changes in Medical Images", International Conference on Information and Computational Science (ISISC) 2016) (with A. Naitsat, S. Cheng, X. Qu, X. Fan, E. Saucan).

265. "Local and Global Fractal Behaviour in Mammographic Images", XIV Mediterranean Conference on Medical and Biological Engineering and Computing 2016, IFMBE Proceedings 57, pp. 228–233, Cyprus (with I. Zachevsky).

266. "Exploiting Spatial Phase in Deconvolution of Structured Stochastic Textures", ICSEE 2016, Eilat, Israel (with I. Zachevsky).

267. "A Differential Geometry Approach for Change Detection in Medical Images", CBMS 2017, Thessaloniki, Greece, June 2017 (with A. Naitsat and E. Saucan).

268. "Manifold-Based Analysis of Natural Stochastic Tectures with Application to Texture Synthesis", ICASSP 2018, pp. 1298–1302, Calgary, Canada 2018 (with I. Zachevsky).

269. "Modeling of Local Phase of Images and Textures with Applications in Phase Denoising and Phase Retrival", Corr 2018 (with I. Zachevsky).

270. "Inpainting of Surfaces and Images", ICSEE 2018, Eilat, Dec. 2018 (with O. Krengal and E. Appelboim), Eilat, Dec. 2018.

271. "Face Anti-spoofing Based on Projective Invariants", 2018 IEEE International Conference on the Science of Electrical Engineering in Israel (ICSEE), Eilat, Israel, Dec. 2018 (with A. Naitsat).

272. "Analysis of Piecewise Fractional Brownian Motion Signals and Textures", 2018 IEEE International Conference on the Science of Electrical Engineering in Israel (ICSEE), Eilat, Israel, Dec. 2018 (with A. Naitsat).

273. "Fractal Features Combined with Local Phase Information in Texture Analysis", 2019 11th International Symposium on Image and Signal Processing and Analysis (ISPA), Dubrovnik, Croatia, Sept. 2019 (with S. Khawaled).

274. "Adaptive Block Coordinate Descent for Distortion Minimization", Symposium on Geometry Processing 2019 (SGP 2019) (with A. Naitsat).

275. "Multi-Resolution Approach to Computing Locally Injective Maps on Meshes", ACM Siggraph 2019 (with A. Naitsat).

276. "The Use of Digital Stethoscope and Analysis of Lung Sound Recordings Based on Geometric Distortion of the Spectrographic Representations", Pediatric Pulmonology, Vol. 56, pp. S146–S146, Hoboken, NJ, USA, 2021 (with G. Shallufi, R. Bar-Yoseph, M. Gur, Y. Toukan, K. Masarweh, Y. Ben-David, J. Levy, A. Naitsat, Y. Y. Zeevi, and L. Bentur).

INVITED SCIENTIFIC LECTURES

Yehoshua Y. Zeevi

(Invited Seminars, Workshops and Conferences 1969–2003)

1969 –   Cambridge University, Cambridge, England, "Biological Applications of Scanning Electron Microscopy", August.

University of California, Berkeley, Eta Kappa Nu Lecture, "Bioelectronics - Modern Biological and Medical Studies".

1970 –   University of California, Berkeley, Biophysics Meeting, "Scanning Electron Microscopy of Neural Networks", November.

Stanford University, Stanford, California, "Scanning Electron Microscopy of Nerve Cells".

1971 –   Carnegie-Mellon University, Pittsburgh, PA. "Structural Functional Relationships in Single Neurons", April.

University of Chicago, Chicago, ILL. "Signal Flow in Single Neurons".

1972 –   Neurosciences Research Program, M.I.T., Work session on "Dynamic Patterns of Brain Cell Assemblies", May.

Harvard University, Cambridge, "Neuronal Membranes and Signal Processing in Neurons - Theoretical Studies", May.

N.R.P. - M.I.T. Workshop on "Spatial Selectivity and Vision", June.

N.R.P. - M.I.T., Boulder, Colorado, Third Intensive Study, "The Neurosciences", July-August.

Neurosciences Research Program, M.I.T., Work session on "Conceptual Models of Neural Organization", October.

1973 –   Lawrence Berkeley Laboratory, U.C. Berkeley, CA. "Photoreceptor Interaction with Accelerated Ions", May.

The Weizmann Institute of Science, Rehovot, First Katzir-Katchalsky workshop on "Stability and Origin of Biological Information", June.

Neuroscience Research Program, Pebble Beach, CA. Workshop on "Functional Linkage in Biomolecular Systems", August.

International Conference on Cybernetics, Boston, MA. "Information Processing in Visual Systems", November.

1974 –   International Symposium on Signal Analysis and Pattern Recognition in BME, Technion, Haifa, "Signal Processing in Visual Systems and its Relevance to Pattern Recognition", July.

1975 –   The Hebrew University, Jerusalem, "Membranes and Signal Flow in Nerve Cells", January. Harvard University, Cambridge, Guest lectures on "Bioelectric Signals and their Processing in Neural Networks", March-April.

Technion, Haifa, "Signal Processing in the Visual System", July.

1976 –   Harvard University, Cambridge, Guest lectures on "Bioelectric Signals and their Processing in Neural Networks", February.

1977 –   Harvard University, Cambridge, Guest lectures on "Bioelectric Signals and their Processing in Neural Networks", February.

1978 –   University of California, Berkeley, lectures on: "Noise in Vision" and "Spatial and Temporal Frequency Analysis in Vision", January.

Harvard University, Cambridge, Guest lectures on "Bioelectric Signals and their Processing in Neural Networks", February.

Massachusetts Institute of Technology, Cambridge, "Spatio-Temporal Signals Processing in Vision", February.

The Biological Laboratories Harvard University, Cambridge, "Noise Suppression in Photoreceptors", February.

University of Alabama, Birmingham, "Bioengineering Approach to Eye Movement Research", February.

Massachusetts Institute of Technology, Cambridge, "Eye Movement Control in Eccentric Fixation Tasks", September.

University of California, Berkeley, "The Secondary Visual Feedback", September.

Max-Planck Institute of Optics, Germany, "Some Considerations of Signal Flow in Vision", October.

1979 –   University of Karlsruhe, Karlsruhe, Germany, "Eye Movement and Analysis", "Analysis of Heart Sounds", July.

Fraunhofer Institute for Information, Karlsruhe, "A New Technique for Eye Movement Measurements", July.

Cambridge University, Cambridge, England, "Photoreceptors and Visual Noise", July.

International Workshop on Target Acquisition and Visual Information Processing, Technion, Haifa, "Secondary Visual Feedback", August.

Lawrence Berkeley Laboratory, U.C. Berkeley, "Some Techniques of Electroretinogram Signal Processing", September.

University of Rochester, Rochester, N.Y. "Temporal Information Processing in Vision", October.

1980 –	Harvard University, Cambridge, Guest lectures on "Bioelectric Signals and their Processing in Neural Networks", February.
	Aerospace Medical Research Lab., Wright-Patterson AFB, "Eye Movements and Visual Mechanisms", February.
	Harvard University, Cambridge, "Temporal Channels in Vision", February.
	Aviation Vision Lab., AMRL Wright-Patterson AFB, "Spatio-Temporal Channels in Vision", June.
	Williams AFB, Phoenix, "Eye Movement and Secondary Visual Feedback", "Spatio-Temporal Signal Processing in Vision", July.
	University of Pennsylvania, Philadelphia, "Spatio-Temporal Information Processing in Vision", November.

1981 –	Carnegie-Mellon University, Pittsburgh, "Dynamic Pattern Processing in Vision", March.
	Image II Conference, Scottsdale, Round table discussion on "Visual Aspects of Flight Simulators", June.
	University of Utah, Salt Lake, "Processing of Dynamic Signals in Vision", August.
	Carnegie-Mellon University, Workshop on Eye Movement Control, Pittsburgh, "Acquisition of Visual Information in the Saccadic and Smooth Movement Modes", October.
	The Rockefeller University, New York, "Processing of Dynamic Patterns in Vision", November.
	Harvard-M.I.T. Division of Health Sciences and Technology, Cambridge, "Bioengineering Approach to Information Processing in Vision", November.

1982 –	Harvard University, Cambridge, Guest lectures on "Bioelectric Signals and their Processing in Neural Networks", February.
	University of California, Berkeley, Lectures in Bioengineering, "Information Processing in Visual Coding", April.
	Stanford University, Stanford, "Recent Ideas in Visual Information Processing", April.
	ACEMB - University of Pennsylvania, Philadelphia, Symposium on Sensory Communication, "Reorganization and Diversification of Signals in Vision", September.
	Columbia University, New York, "Dynamic Signal Processing in Vision", September.

1983 –	Harvard University, Cambridge, Guest lectures on "Bioelectric Signals and their Processing in Neural Networks", February.
	Rodin Remediation Academy, Villa Musso Sealed Symposium, Prof. Ragnar Granit, Honorary Chairman, "Eye Movement Responses to Bihemispheric Stimuli", April.

1984 –   Harvard University, Cambridge, Guest lectures on "Bioelectric Signals and their Processing in Neural Networks", January.

Tel-Aviv University, Guest Lectures in Physics on Vision, April.

Harvard University, Lectures on "Image Representation in Vision", August.

University of California, Berkeley, "Image Processing in Vision and Computer Vision", September.

Bell Laboratories, Murray Hill, "The Gabor Scheme of Image Representation in Vision", September.

G.M. Computer Sci. Research Center, "The Gabor Scheme of Image Representation".

Academia Rodenesis pro Remediatione, "Registration of Brain Activity, Brain Topography and Eye Movements", St. Andrews, Scotland, October.

Cambridge University, England, The Craik Lecture, "The Duality of Phase and Zero Crossings Information in Images", October.

1985 –   Bat-Sheva Seminar on Nonlinear Analysis of Neurobiological Processes, "A Combined Position and Frequency Scheme of Image Representation in Vision", Jerusalem, January.

Harvard University, Cambridge, "Image Acquisition and Representation in Vision", February.

Guest Lectures on "Bioelectric Signals and their Processing in Vision", February.

The Hebrew University, Jerusalem, "Models of Signal Processing in the Visual Cortex", June.

University of Waterloo, Waterloo, "Information Processing in Vision", September.

Clark University, Worcester, Mass., Physics Colloquium, "Models of Image Processing in Vision", September.

The Ludwig-Maximilians University, Munich, "Adaptive Gain Control in Neural Networks", October.

1986 –   University of Toronto, Toronto, "Image Representation in Vision - The Generalized Gabor Scheme", February.

Harvard University, Cambridge, "The Generalized Gabor Scheme", February.

Fourth Rodin Symposium, King's College, Cambridge, "Hemispheric Specialization, Visual Function and Dyslexia", June.

The Rodin Remediation Conf. on Dyslexia at the Royal Soc., London, "Laterality of Eye Movements", July.

1987 –   Northeastern University, Boston, "Eye Movement to Bihemisfield Stimuli", Feb.

Harvard University, Cambridge, Guest lectures on "Bioelectric Signals and Neural Networks", Feb.

NATO International Advanced Study Institute on "Theoretical Foundations of Computer Graphics", Ciocco, Italy, "Computer Image Generation Using Localized Elementary Functions Matched to Human Vision", July.

University of California, Berkeley, "A Generalized Gabor Scheme of Image Representation in Vision and Computer Vision", August.

Boston University, Boston, "The Generalized Gabor Scheme of Image Representation", Sept.

RPI, Troy, "The Generalized Gabor Scheme of Image Representation", Sept.

ATT-Bell Labs, Murray Hill, "The Generalized Gabor Scheme of Image Representation in Vision", Sept.

The North Atlantic Scientific Advanced Workshop on "Neural Computers: From Computational Neuroscience to Computer Design", Dusseldorf, "Neural Computers in Vision", Oct.

1988 –   IBM, Watson Research Center, Yorktown, "Image Representation in the Gabor Space", Feb.

Harvard University, Cambridge, Guest lectures on "Bioelectric Signals and Neural Networks", Feb.

NASA, Ames Research Center, Moffett Field, "The Gabor Scheme of Image Representation in Vision", Feb.

The Ollendorff Symposium on Image Understanding and Computer Vision, Technion, "Nonuniform Sampling and Processing in Vision", March.

DARPA Binational Symposium on High Level Vision and Planning, Weizmann Institute, "The Intelligent Scan: Efficient Allocation of Computational Resources in Vision", April.

The Hebrew University, Bat-Sheva Seminar on Neural Networks, Jerusalem, "Image Representation by Partial Information in Vision", May.

Rodin Academy Symposium on Dyslexia, Stockholm, "Hemispheric Interactions in Saccadic Responses to Bihemisfield Stimuli", June.

University of North Carolina, Charlotte, "Image Representation in Biological and Machine Vision", August.

1989 –   G.E. Corporate Research and Development, Schenectady, "Image Representation by Partial Information".

"Vision and Image Technology", Jan.

Nordic Symposium on Neural Computing, Helsinki, "Neural Computing in Vision", Invited Tutorial, April.

CAIP's 3rd Annual Machine Vision Workshop, Rutgers, "Cognitive Graph Approach to 3D Vision", April.

Harvard University, Cambridge, Guest lectures on "Neural Networks", April.

Drexel University - Stein Workshop on "Imaging in Medicine and Biology", Philadelphia, Sept.

Rodin Academy Satellite Symposium at 5th ECEM, Pavia, "Timing of Events in Saccadic Responses", Sept.

ATT-Bell Labs, Murray Hill, "Image Representation by Partial Information in the Combined Position-Frequency Space", June.

The Analytic Sciences Corp., Reading, MA, "Image Representation", Oct.

David Sarnoff Research Center, Princeton, "Nonuniform Image Representation in Foveating Systems", Dec.

1990 –   The George Washington University, Washington, D.C., "Efficient Allocation of Computational Resources in Vision", Jan.

Harvard University, Cambridge, Guest lectures on "Neural Networks", March.

International Symposium on Neural Networks, Dusseldorf, "Neural Networks for Foveating Visual Systems", March.

Yale University, New Haven, "Visual Wavelets: The Generalized Gabor Scheme of Image Representation", May

National Chiao Tung University, Center for Telecommunication Research, Hsin-Chu, Taiwan, sequence of lectures on "Advanced Visual Acquisition and Representation Techniques", May

Cognitiva 90, Madrid, "Intelligent Vision Systems"

1991 –   Harvard University, Cambridge, Guest Lectures on "Neural Networks", Feb.

TASC, Reading, MA, "Gaborian-Type Schemes of Image Representation" (Joint lecture with I. Gertner), Feb.

Int'l Workshop on Signal Theory and Image Processing, Cetraro, Italy, "Schema of Image Representation Motivated by Biological Vision", May.

Lockheed Palo Alto Research Lab., Palo Alto, "Scanning Strategies and Compression in the Focal Plane" (Joint lecture with I. Gertner), Sept.

University of California, Berkeley, "The Gabor-Zak Approach to Image Representation", Sept.

Int'l Workshop on Interaction Between Medicine and Engineering, Haifa, "Imaging: From Theory to Application", Dec.

1992 –   Harvard University, Cambridge, Guest lectures on "Neural Networks", Feb.

NATO International Advanced Study institute on "Wavelets", El Ciocco, Italy, August.

The Julius Silver Workshop on Biomedical Engineering, Haifa, "From Biological Vision to Technological Vision", December.

1993 –   The Israel Academy of Sciences Lectures on technology, Jerusalem, "From Biological Vision to Technological Vision", February.

NTT Human Interface Laboratories, Kanagawa, Japan, "Localized Processing in Vision and Image Technology", September.

ATR Communication Systems Research laboratories, Kyoto, Japan, "Localized Processing of Images in Vision Systems", September.

1994 –   The university of New South Wales, Sydney, "Gabor-type Wavelets: Image Representation and Processing in Vision", August.

The University of Melbourne, Victoria, "On Image Structure and its Processing in Vision", August.

Signal Processing Research Institute, Adelaide, "Image Acquisition and Processing Motivated by Biological Vision", August.

University of Adelaide, Adelaide, "Intelligent Vision Systems", August.

GINTIC Institute, Singapore, "Intelligent Vision Systems", September.

Curtin University of Technology, Perth, "From biological Vision to Computer Vision", September.

IAPR Int'l Workshop on Syntactic and Structural Pattern Recognition", Wavelet-type Approach to Pattern Recognition", October.

1995 –   Harvard University, Cambridge, MA, Guest lectured on "Biological and Artificial Neural Networks", February.

LACOS Center, University of Le Havre, "Image Representation and Processing in Visual Systems", September.

1996 –   Harvard University, Cambridge, MA, Guest lectures "Biological and Artificial Neural Networks", February.

Institute for Signal and Information Processing, ETH, Zurich, "Biologically-Based Localized Techniques of Linear and Nonlinear Processing of Images", February

Technical University of Wienna, Austria, "Wavelet-Type Gabor-Type Representations", September.

Czech Technical University, Prague, "Biologically-Based Localized Techniques of Linear and Nonlinear Processing of Images", September.

1997 –   Harvard University, Cambridge, MA, Guest Lectures on Neural Networks, September.

Massachusetts Institute of Technology, Cambridge, "The Application of Multi-Window Gabor-Type and Wavelet-Type Transforms in Signal and Image Representation, October.

NSF Center for Integrated Media Systems, USC, Workshop on High Fidelity Media Processing, February. "Biologically-Based Techniques of Image Acquisition and Processing", February.

1998 –   NATO Advanced Study Institute on Signal and Image Processing for Multimedia, Il Ciocco, Italy, July. "Multiwindow Gabor Schemes and Nonseparable Multiwavelet Representation of Images".

Stanford University, "Image Representation by 2D Multiwindow Gabor-type Schemes and Nonseparable Multiwavelets", October.

1999 –   Boston University, Boston, "Multiwindow Gabor-type Schemes and Nonseparable Wavelets", March 1999.

Harvard University, Cambridge, MA, Guest Lectures on Biological and Artificial Neural Networks, February.

Universitat Politechnica de Catalunya, Barcelona, Spain, March:
"Application of Nonseparable Wavelets and Gabor-type Schemes in Image Processing".
Nonlinear and Nonuniform Processing in Vision".

Rodin Academy Symposium, Wako City, Japan, "Brain Mechanisms and Disorders in Language Comprehension", April.

Riken Brain Science Institute, Wako City, Japan, "Biologically-Based Localized Techniques of Linear and Nonlinear Processing in Vision and Imaging Systems", April.

ETH, Zürich, "Two-Dimensional Nonseparable Multiwavelets and a Wavelet-Type Approach to Image Representation and Vision", June.

Harvard University, Cambridge, MA, "2D Nonseparable Wavelets and Wavelet-Type Approach to Image Analysis and Vision", September.

Courant Institute, NYU, "2D Nonseparable Wavelets and Wavelet-Type Approach to Image Analysis and Vision", December.

2000 –   Harvard University, Cambridge, MA, Guest Lectures on "Biological and Artifical Neural networks", February.

Israel Physics Society, IPS 2000, "On Image Structure and Its Processing by Retina-Type Networks", Haifa, May.

NATO-ASI 20th Century Harmonic Analysis – A Celebration: "The Impact of Harmonic Analysis Upon 20th Century Technology", Il Ciocco, Italy, July.

AFPAC 2000, Second International Workshop, Kiel, Germany: "Algebraic Schemes for Image Representation and Processing", September.

DAGM 2000, "Wavelet-Type and Gabor-Type Representation in Vision and Image Processing", Kiel, Germany, September.

National Chiao-Tung University and IEEE Taipei Chapter Taiwan,,, Distinguished Lecture Series, "Wavelet-Type Approach to Image Analysis and Vision, September.

City University of New York, "Image Pyramids and Nonseparable Two-Dimensional Wavelets", New York, September.

Albert-Ludwigs University, Freiburg, "A Wavelet-Type Approach to Image Analysis and Vision", Freiburg, Germany, September.

Institute of Mathematics and Its Application, University of Minnesota, Mathematics in Multimedia, IMA Annual Program, "Generalized Wavelet-Type and Gabor-Type Representations and their Applications", October.

2001 –   Harvard University, Cambridge MA, Guest Lectures on Biological and Artificial Neural Networks, February.

International Conference on Computational Harmonic Analysis, City University of Hong Kong, "Multiwindow Gabor-Type Frames and their Applications in Signal and Image Representation and Analysis, June.

ECCTD'01 Special Session on Gabor Analysis, Epsoo, Finland, "Multiwindow Gabor-Type Schemes and their Applications, August.

The Cognex Corp., Natick MA, "Wavelet-Type and Intelligent Techniques of Image Acquisition and Representation", November.

2002 –   Harvard University, Cambridge, MA, Guest Lectures on "Biological and Artificial Neural Networks", March.

Columbia University, Biomedical Engineering, "Localized Techniques of Image Acquisition and Processing Motivated by Visual Neurophysiology, April.

CUNY Graduate Center, Computer Science Colloquia, "Enhancement and Blind Separation of Images", April.

State of New York Center of Advanced Technology (CAT) in Photonics and Ultrafast Laser, "Enhancement and Blind Separation of Noisy Medical Images", May.

Yale University, New Haven, "Enhancement and Blind Separation of Image", Oct.

Dagstuhl Workshop on Vision & Images, Dagstuhl, Germany, "Sparse Representations Applied to Blind Separation of Images", November.

HASSIP Workship on Harmonic Analysis, Marseille, "Sparse Representations Applied to Blind Separation of Images", November.

Martin Lockheed Space Systems, Long Island, "Image Enhancement and Blind Source Separation Using Sparse Representations", December.

2003 –   Rutgers University Seminars in BME, NJ, "Blind Separation of Signatures of Medical Signals and Images", April.

Telcordia Corp. "Midnight Seminars", Morristown, NJ, "Healthy Solutions to Ill-Posed Problems in Signal and Image Processing", May.

Columbia Computer Vision Seminars, New York, "Healthy Solutions to Ill-posed Problems in Vision and Imaging Systems", July.

University of California at Irvine, "Blind Separarion of Images in Vision and Imaging Systems", August.

SPIE Symposium Wavelet X, San Diego, "Applicaion of Wavelets in Blind Source Separation," August.

University of British Columbia, Vancouver, Canada, "Blind Separation of Signals and Images Using Sparse Representations in Wavelet-Type Spaces", September.

Microsoft Research Asia, Beijing, "Blind Separation of Images in Vision and Imaging Systems", September.

Tsinghua University, Beijing, "Blind Separation of Signals & Images in Wavelet-Type Spaces", September.

Shanghai Jiaotong University, Shanghai, "Blind Separation of Signatures of Medical Signals and Images Using Sparce Representations", September.

The University of Hong Kong, Institute of Medical Imaging and Hong Kong Institution of Engineers, "Blind Separation of Images Using Sparce Representations in Wavelet-Type Spaces", October.

Industrial Technological Research Institute of Taiwan—ITRI, Taiwan, "Healthy Solutions to Ill-Posed Problems in Vision and Imaging Systems", October.

National Chiao Tung University, Hsinchu, Taiwan, "Blind Source Separation: Theory and Applications", October.

Recent Invited Talks and Plenary Presentations

2017 –
Huawei International Workshop on Smart Device Technologies, Munich, Intelligent Vision Systems, Invited Speaker, September.

Baidu Map AI Conference, Beijing, "Autonomous AI", Invited Speaker, December.

2018 –
10th GMIC, Beijing, "Unsupervised Flat NN Technologies for Autonomous Vision Systems", Invited Speaker, April.

Taiwan-Israel Innotech Summit, Taipei, "The IE Revolution: Breaking the Boundaries between Disciplines", Invited Speaker, August.

GRADUATE STUDENT SUPERVISION
Yehoshua Y. Zeevi

1. J. Ish-Shalom, "Measurement of Eye Movement with a Ferromagnetic Contact Ring", M.Sc. Thesis, 1978.

2. A. Geva, "Measuring Cardiac Output by Thermodilution Technique", M.Sc. Project Thesis, 1978.

3. R. Hertz, "Eye Movement Tracking Characteristics", M.Sc. Final Paper, 1978.

4. L. Lux, "Statistical Classification of Cardiac Arrythmia", M.Sc. Thesis, 1978.

5. S.S. Mangoubi, "The Role of Eye Movement in Visual Signal Processing", Ph.D. Thesis, May 1979.

6. H. Garten, "Analysis of Phonocardiographic Signals", M.Sc. Thesis, 1979.

7. E. Peli, "Evaluation of Eccentric Fixations and Peripheral Saccades", M.Sc. Thesis, 1979.

8. M. Shefer, "AGC Models for Retinal Signal Processing", M.Sc. Thesis, 1979.

9. S. Shapira, "Micro Computer Based System for STI Automatic Measurements", M.Sc. Project, 1980.

10. A.M. Bruckstein, "Models of Coding in the Nervous System", M.Sc. Thesis, 1980.

11. H. Gafni, "Spatio-Temporal Transformations in the Visual System", Ph.D. Thesis, 1980.

12. A. Pollak, "Latency of Eye Movements in Thyrotoxicosis", M.D. - Basic Sciences, 1980.

13. Z. Gopher, "Statistical Methods for Cardiac Arrythmias Classification", M.Sc. Final Paper, 1981.

14. E. Barak, "Time Domain Analysis of Electroretinographic Signals", M.Sc. Thesis, 1981 (Joint supervision with Dr. M. Gur).

15. P. Wetzel, "Eye Movement Response to Dual Target Stimuli", M.Sc. Thesis, 1982, (M.I.T.).

16. M. Yahalom, "Non-Inversive Technique for Detection of His-bundle Activity", M.D. - Basic Sciences, 1984.

17. D. Rotem, "Information and Zero-crossings in Images", M.Sc. Final Paper, 1984.

18. B. Hason, "Programming of Saccadic Responses to Dual Targets", M.Sc. Thesis, 1985.

19. A. Gavrieli, "Information in Sign-Wave Crossings of Images", M.Sc. Thesis, 1985.

20. Y. Greenstein, "Models of the Electroretinogram", M.Sc. Thesis, 1985.

21. O. Hilsenrath, "TV Gaze Tracking System", M.Sc. Project, 1986.

22. P. Meer, "Mechanisms of Hyperacuity", Ph.D. Thesis, 1986.

23. A. Hassidin, "Fixational Eye Movements in Macular Diseases", M.D. - Basic Sciences, 1986.

24. Y. Hazan, "Pattern Recognition using Fourier Descriptors", M.Sc. Final Paper, 1987.

25. M. Yahalom, M.D. "Non-Inversive Analysis of His-bundle Activity", Ph.D. Thesis in Biomedical Engineering. (Joint supervision with Dr. D. Adam).

26. M. Venice, "Models of the Saccadic Eye Movement", M.Sc. Thesis, 1988.

27. E. Shlomot, "Image Sampling Schemes", M.Sc. Thesis, 1988.

28. A. Shrift, "Edge Detection: Sampling and Processing in Parallel BPF", M.Sc. Thesis, 1989.

29. M. Porat, "Frequency-Image Relationship and Visual Representations", Ph.D. Thesis, 1987.

30. B. Hason, "A Fractal Pyramidal Approach to Image Structure", Ph.D, Submitted 1992.

31. O. Hilsenrath, "Reconstruction of Multidimensional Visual Patterns from Projections", Ph.D. Thesis, 1988.

32. N. Peterfreund, "Image Representation in Nonuniform Systems", M.Sc. Thesis, 1989.

33. A. Eitan, "Image Scanning According to Lines in Finite Fields", M.Sc. Thesis, 1988. (Joint supervision with Dr. I. Gertner).

34. H. Greenspan, "The Role of Localized Orientational Information in Vision and Image Structure", M.Sc. Thesis, 1989. (Joint supervision with Dr. M. Porat).

35. J. Segman, "Analysis of Distorted Images by Invariance Kernels", Ph.D. Thesis. (Joint supervision with J. Rubinstein).

36. J. Sharf, "Image Representation and Processing by Schemes with Multiple Focal points", Ph.D. Thesis, Rutgers university (Joint Supervision with Dr. H. Freeman, Rutgers Univ.).

37. Y. Eldad, "Nonuniform Sampling of Images", M.Sc. Thesis, 1991. (Joint supervision with Dr. M. Porat).

38. M. Zibulski, "Finite Gaborian-Type Representations", M.Sc. Thesis, 1992.

39. V. Segalescu, " Application of Frames, Biorthonormal Bases and Wavelets in Image Processing", M.Sc. Thesis, 1993.

40. A. Geva, "EEG Analysis of Concept Formation in Short-Term Memory", Ph.D. Thesis. (Joint supervision with Prof. H. Pratt), 1994.

41. S. Wolf, "Color Enhancement Algorithms", M.Sc. Thesis, 1992. (Joint supervision with Dr. R. Ginosar)

42. E. Fosfeld, "Estimation of Edge Position with Subpixel Resolution", M.Sc. Thesis, 1994.

43. N. Sorek, "Image Motion Compensation Using Multiple Exposures", M.Sc. Thesis, 1993.

44. M. Elbaz, "Invariance Schemes of Image Representation", M.Sc. Thesis, 1995

45. Z. Avraham, "Classification of Compressed Images in Invariance Transform Space", M.Sc. Thesis, 1995.

46. M. Shmueli, "Recognition of Irregular Structures in Images", M.Sc. Thesis, 1996.

47. M. Zibulski, "Gabor-Type Representations of Signals and Images", Ph.D. Thesis, 1996.

48. D. Stanhill, "Two Dimensional Wavelets for Image Representation", Ph.D. Thesis, 1997.

49. D. Wietzer, "Application of Generalized Wavelet, Representations in Compression and Filtering of Images", M.Sc. Thesis, 1998.

50. P. Kissilev, "Analysis of Single Evoked Potentials", M.Sc. Thesis, 1998. (Joint supervision with H. Pratt).

51. R. Keren, "Application of Wavelet and Gabor Transforms in Recognition of Musical Sounds", M.Sc. Thesis, 1998.

52. Y. Kimchy, "Identification of Evoked Potential Components based on Single Recordings", Ph.D. in BME, 2000. (Joint supervision with Prof. H. Pratt).

53. T. Dar, "Event Recognition Based on Analysis of Image Sequences", M.Sc Thesis, 2000. (Joint supervision with E. Rivlin).

54. B. Tzipin, "Dual Tracking in Visual Systems", M.Sc. Thesis, 2000. (Joint supervision with E. Rotstein).

55. J. Piao, "Gabor-Type Analysis of Images", M.Sc. Thesis, 2000. (Joint supervision with Dr. M. Zibulski).

56. G. Caspari, "Image Correspondence Algorithms based on Wavelet-Type Techniques", M.Sc. Thesis, 2001.

57. A. Meir, "Nonperiodic Gabor Schemes", M.Sc. Thesis, 2001. (Joint supervision with Dr. M. Zibulski).

58. Y. Weltsh-Cohen, "Models of Self-Organization in the Visual Cortex", M.Sc. Thesis, 2002.

59. Chris Christoforos, "Face Recognition using Normalized Symmetric Eigenfaces", M.Sc. Thesis, CUNY, NY, 2003.

60. P. Kisilev, "Localized Nonparametric Methods for Multidimensional Signal Processing", Ph.D. Thesis, 2003. (Joint supervision with A. Nemirovsky).

61. R. Kaftory, "Image Reconstruction by Energy Minimization Methods", M.Sc. Thesis, 2003. (Joint supervision with N. Sochen).

62. A. Gazit, "Gabor Frames", M.Sc. Thesis, 2004. (Joint supervision with M. Tzur).

63. A. Kobzantsev, "Automatic Transcription of Polyphonic Music", M. Sc. Thesis (Joint supervision with D. Chazan).

64. G. Gilboa, "Enhancement of Images and Signals by the Application of a Generalized Diffusion-Type Process", Ph.D. Thesis, 2004. (Joint supervision with N. Sochen).

65. E. Pinhasov, "Progressive Resolution Algorithms for Stereo Vision", M.Sc. Thesis, 2004. (Joint supervision with N. Shimkin).

66. A. Bronstein, "Blind Deconvolution Using Sparse Representations", M.Sc. Thesis, 2005. (Joint supervision with M. Zibulevsky).

67. N. Subbanna Koundinya, "Sampling and Reconstruction in Combined Complementary Spaces for Gabor Representations", M.Sc. Thesis, 2006. (Joint supervision with Y. Eldar).

68. C. Sagiv, "Scale Space Wavelets, Ph.D. Thesis, 2006. (TAU, Joint supervision with N. Sochen).

69. H. Grosberg-Unger, "Inverse Problems in Neural and Radiometric Systems", M.Sc. Thesis, 2006.

70. V. Kluzner, "Minimal Surfaces, Measure based Distance Functions and Image Segmentation", Ph.D. Thesis, 2007. (Joint supervision with Assoc. Prof. G. Wolansky).

71. E. Orian, "Blind Separation of Brain Tissue Signatures in MRI", M.Sc. Thesis, 2007.

72. B. Eizenshtark, "On the Performance of Echo State Networks", M.Sc. Thesis, 2007. (Joint Supervision with R. Meir).

73. O. Honigman, "Texture Processing by Generalized Diffusion-Schrödinger Operators", M.Sc. Thesis, 2008.

74. M. Batzon, "Remote Sensing of Signature of Plants", M.Sc. Thesis, 2008. (Joint supervision with Yaron Paz, Chem. Eng.).

75. D. Karaso, "Schemes of Blind Separation of Images", M.Sc. Thesis, 2008.

76. E. Barak, "Sparseley Connected Neural Networks", M.Sc. Thesis, 2009.

77. R. Kaftory, "Blind Separation of Time/Position Varying Mixtures", Ph.D. Thesis, 2010.

78. E. Vizel, "Blind Separation of Tissue Signatures Using MRI", M.Sc. Thesis, 2010.

79. N. Skravnik, "The Importance of Phase in Image Processing", M.Sc. Thesis, 2010.

80. M. Shamis, "Blind Source Separation of Instantaneous Time/Position Varying Mixtures", M.Sc. Thesis, 2011.

81. A. Achtenberg, "Geometric BSS of Time/Position Varying Mixtures", M.Sc. Thesis, 2011.

82. S. Furman, "AGC Models of Image Processing in Vision", M.Sc. Thesis, 2011.

83. Y. Michaeli, "Algorithms of Staged BSS", M.Sc. Thesis, 2012.

84. V. Ratner, "Elastic Manifolds in Image Processing", Ph.D. Theses, 2013.

85. E. Cohen, "Texture Enhancement Using Diffusion Processes with Potential", M.Sc. Thesis, 2014, (Joint supervision with Prof. Laurent Cohen, Université Paris Dauphine).

86. R. Gaizman, "Search-and-Match Algorithms for BSS of Time/Position Varying Mixtures", M.Sc. Thesis, 2015.

87. E. Sonn, "Ricci Flow in Image Processing", M.Sc. Thesis, 2015.

88. A. Naitsat, "Quasi-Conformal Mapping for Volumetric Deformations in Geometric Modeling", M.Sc Thesis, 2017.

89. I. Zachevsky, "Models of Stochastic Textures and their Applications in Image Procecssing", Ph.D. Thesis, 2018.

90. O. Krengel, "Inpainting of Surfaces and Images", M.Sc. Thesis, 2019.

91. S. Khawaled, "Models of Stochastic Textures", M.Sc. Thesis, 2020.

92. A. Naitsat, "Minimizing Geometrical Distortions in Mappings of Two- and Three-Dimensional Data", Ph.D. Thesis, 2021. (Joint supervision with E. Saucan, Ort Braude College).

93. A. Chocron, "Machine Learning Algorithms for Atrial Fibrillation Diagnosis", M.Sc. Thesis, 2021. (Joint supervision with J. Behar, BME).

In Progress

94. J. Levy, "Machine Learning for Diagnostics of Respiratory Pathologies", Ph.D. Thesis. (Joint supervision with J. Behar, BME).