

Igor Kanovsky

Curriculum Vita

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Department of Management Information Systems
The Max Stern Academic College of Emek Yzreel

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University of Haifa

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Date and place of birth: 4-th October 1954, Chernivtsi, Ukraine.

Marital status: married and 2 children. *Nationality:* Israeli

Residential Address: Jerusalem str. 53A, Afula, Israel, 18251.

I. EDUCATION

Ph. D. in Physics and Mathematics, January 1981.
Chernivtsi National University, Ukraine.

M.A. in Physics and Didactics, July 1975.
Summa cum Laude Diploma.
Chernivtsi National University, Ukraine.

II. EXPERIENCE

ACADEMIC APPOINTMENTS

Associate Professor, Emek Yzreel College, Department of Management Information Systems
(before 2008 - Department of Computer Science and Information Systems), (1999-present).
- Head of the Department, 2000-2004.

Senior Adjunct Lecturer, University of Haifa, Department of Mathematics (1997-2004),
Department of Management Information Systems. (2003-present).

Visiting Researcher, Levich Institute, The City College of New York, CUNY (Oct. 2006 – Feb. 2007).

Director, Multimedia Laboratory, Faculty of Humanities, University of Haifa (1996-1999).

Associate Professor, Chernivtsi National University, Department of Computer Science (1988-1991).

Senior Researcher, Chernivtsi National University, Department of Theoretical Physics, (1981-1988).

Junior Researcher, Chernivtsi National University, Department of Theoretical Physics, (1978-1981).

NON-ACADEMIC EMPLOYMENT

CEO and Founder, Logen Computerization Ltd., Afula, Israel (1994-1996).

Project Entrepreneur and Manager, Technological Incubator "Yozmot Ha-Emek", Migdal Ha-Emek, Israel (1992-1994).

ACADEMIC ACTIVITIES:

Complex Network Theory.

- Developing theoretical models for proper simulations of real world networks,
- Analysis of link-link correlations in networks, developing algorithms for data mining in the network environment, especially network clustering and network classifying.

Self-organizing Data Grid and Cloud Computing.

- Developing of the data structures and algorithms for a self-organized data grid.
- Adopting of the existing XML technologies for practical application in the self-organizing cloud based systems.
- Developing algorithms for data replication and data relocation in the cloud.

E-learning in Higher Education.

- Practical aspects of the IT utilization in higher education institutes.
- Developing of the simple XML-based templates and tools for support of course material distribution and basic course management.
- Computerized real world modeling as a learning method in higher education.

III. PUBLICATIONS AND PRESENTATIONS

REFEREED JOURNAL PAPERS

Kanovsky Igor, Or-Bach Rachel, E-Learning – Using XML technologies to meet the special characteristics of higher education . *Journal of Systemics, Cybernetics and Informatics* . 2005. V.2. N1.

Kanovsky I.Ya., Tkachenko I.V., "Effective coefficient for diffusion in inhomogeneous medium," *Ukrainian Physical Journal*. 1991, v.36, N. 3, p.432 – 434 .

- Udovitsky V.I., Kanovsky I.Ya., "Features of Silicon Diffusion in Fe-C Alloys During Thermochemical Treatment," *Information of USSR Academy of Sciences, Metals Series*, 1990, N1, p. 190-192.
- Kanovsky I.Ya., Udovitsky V.I., "Dynamic Percolation with Diffusion in Inhomogeneous Solid State Medium," *Solid State Physics*, 1988, V. 30, N 5, p. 1405-1408
- Gorbach V.G., Udovitsky V.I., Kanovsky I.Ya., "Phase Transitions and Percolation Diffusion in Multy-Component Materials," *Scientific Reports of Ukrainian Academy*, 1987, A N 1, p.71-74.
- Nitsovich V. M., Kanovsky I. Ya., Muntyanu R. P., "Negative Magnetoresistance in Magnetic Semiconductors with Narrow Degenerated Bands," *Physics. News of Academic School*, 1986, V. 29, N 12, p. 10-14
- Nitsovich V.M., Kanovsky I.Ya., Muntyanu R.P., "Electrons Correlation Influence on Conductivity of Transition Metals Compounds with Orbital Degeneration," *Ukrainian Physical Journal*, 1986, v.31, N 10, p.1531 – 1537.
- Nitsovich V.M., Kanovsky I.Ya., "D-centers Conductivity of Transition Metals Compounds," *Solid State Phys.*, 1985, v.27, N 9, p.2631-2636.
- Kosyachenko S.V., Kanovsky I.Ya., Nitsovich V.M., "Charge Ordering in Metals Compounds," *Ukrainian Physical Journal*, 1985, v.30, N 3, p.455 – 459.
- Kanovsky I., Borets N. Ya., "Polar States Influence on Magnetic Ordering of Electron System with Direct Ising Exchange," *Ukrainian Physical Journal*, 1985, v.30, N 1, p.83 – 85.
- Kanovsky I.Ya., Borets N.Ya., Nitsovith V.M. "Coexistence of Charge and Magnetic Orderings in Polar Ferromagnetic," *Phys. Stat. Solid.(b)* 1983, v.120, N 2, p.K167 -171.
- Kanovsky I.Ya. , Borets N. Ya. Nitsovich V.M., "Polar States and Charge Ordering in Ising Ferromagnetic," *Solid State Phys.* 1983, v.28, N9, p.2828-2830.
- Nitsovich V.M., Kanovsky I.Ya. , Moiseenko N.I., "Kinetic Properties and Concentrated Stability of Charge Ordered Systems," *Journal of Physical Chemistry*, 1983, V.57, N7, p.1585-1596.
- Nitsovich V.M., Kanovsky I.Ya. , Moiseenko N.I., "Concentrated Dependence of Charge Ordered Systems Physical Characteristics," *Journal of Physical Chemistry*, 1983, V.57, N5, p.1068-1078.
- Nitsovich V.M., Kanovsky I.Ya., "Theory of Metal-Isolator Transition in Impurities Subsystem of GaAs in External Magnetic Field," *Ukrainian Physical Journal*, 1982, v.27, N 3,p.462 - 464.
- Nitsovich V.M., Kanovsky I.Ya. , Moiseenko N.I., "Charge Ordering Coursed Phase Transition in Generalized Hubbard Model," *Ukrainian Physical Journal*, 1978, v.23, N 9,p.1563 - 1566.
- Nitsovich V.M., Kanovsky I.Ya. , Timochko B.M., "Magnetic Field Influence on Mott Transition in Hubbard Model," *Solid State Physics*, 1977, v.19, N 7,p.2122 - 2125.
- Nitsovich V.M., Kanovsky I.Ya. , Timochko B.M., "Magnetic Field Influence on Criterion of Mott Transition in Hubbard Model," *Ukrainian Physical Journal*, 1977, v.22, N 2,p.154 - 156.

REFEREED CONFERENCE PAPERS

- Kanovsky Igor, "Small World models for social network algorithms testing," *Proceedings of International Conference on Computational Science, ICCS 2010*, Amsterdam, Published by Elsevier B.V. , 2010.
- Kanovsky Igor, Or-Bach Rachel, "E-Learning – Using XML technologies to meet the special characteristics of higher education," *Proceedings of the International Conference on Education and Information Systems: Technologies and Applications (EISTA '03)*, p.289-293, Orlando, 2003.
- Kanovsky Igor, Mazor Shaul, "Models of Web-Like Graphs: Integrated Approach," *Proceedings of The 7th World Multiconference on Systematics, Cybernetics and Informatics (SCI 2003)*, v.3, p.278-283, Orlando, 2003.
- Kanovsky Igor, Mazor Shaul, "Stochastic Processes for Web-like Graph Generation", *Proceedings of The 12th International World Wide Web Conference (WWW2003)*, Budapest, 2003.
- Kanovsky Igor, Or-Bach Rachel, "A Gradual Process for Integrating E-learning in a Higher Education Institute" ,. *Proceedings of European Conference "The New Educational Benefits of ICT in Higher Education"*, Rotterdam. 2002, p. 104-108.
- Kanovsky I.Ya., Kloesnikov N.N. "Fault-tolerant functioning organization of active connection subcomplexes with the object", *Proceedings of VII All-Union scientific and engineering conference "Problems, tasks and experience of Automatic Manufacturing software introduction, development and technology application"*, Chernivtsi, 1990, p.13-14
- Kanovsky I.Ya., Udovitsky V.I., "Intellectual microprocessor Thermo-Chemical Treatment processes control system", *Regional Conference "New materials and resources preserving technologies of thermo - and thermo-chemical treatment"*, Penza, 1990, p.39.
- Kanovsky I.Ya., "On the Experience of Educational Software Development," *The 1st Soviet-American conference "Computers, Education and Children"*, Zvenigorod, October, 1988.
- Kanovsky I.Ya., "Didactic Efficiency of Applied Programmers Packages", *All-Union conference "Pedagogical and Psychological Aspects of Educational Computerization"*, Riga, 1988, p. 125-126.
- Kanovsky I.Ya., "Microcomputers Personal Information System", *VI All-Union conference "Experience of Creating Special Software"*, Moscow, 1988, p. 67.
- Kanovsky I.Ya., "Stability Conditions of Bipolaron in Transition Metals Compounds", *XIII All-Union conference on Semiconductors Theory*, Yerevan, 1987, p. 126.
- Kanovsky I.Ya., "Data Base on PC", *Intensification of Microprocessor Computers Study Process at Higher School*, Voronezh, 1987, p.31.
- Kanovsky I.Ya., "Methods of Teaching the Programming School Course on Basic Language Computers", *All-Union conference "Intensification of Microprocessor Computers Study Process at Higher School"*, Voronezh, 1987, p. 153- 154.
- Kanovsky I.Ya., "Personal Computers Applied Programs Packets development Peculiarities", *"Improvement of Programmed Computer Guarantee Quality"*, Sevastopol, 1986, p. 51-53.

- Kanovsky I.Ya., "Electronic Ordering Influence on Conductivity of Magnetic Semiconductors," *XII-th All-Union conference on the Theory of Semiconductors*. Tashkent, 1985, p.51-52.
- Kanovsky I.Ya., "Electronic Phase Transitions in Multilevel Systems with Correlation Effects", *Soviet-Italian symposium on Mathematics Problems of Statistical Physics*, Lvov, 1985, p.77-78.
- Kanovsky I.Ya., "Electric Conductivity on d-centers of Magnetic-Ordered Compounds of Transitive Metals," *XVII-th All-Union conference on Magnetic Phenomena Physics*, Donetsk, 1985, V.II, p.117-118.
- Udovitsky V.I., Kanovsky I.Ya., "Ascending Diffusion Thermodynamics in the Process of Multicomponent Solid State System Homogenization" *Thesis for the II-d All-Union conference "Thermodynamics of Irreversible Processes and their Application"*, Chernovtsy, 1984, p.129.
- Kanovsky I.Ya., Nitsovich V.M., "Charge and Orbital Ordering in Forming the Electronic States of Transitional and Rare-Earth Metals", *II-d All-Union conference "Electronic Dynamics in Charge - Ordering Crystals"*, Moscow, 1984, p.5-8.
- Kanovsky I.Ya., Nitsovich V.M., "Electric Space Distribution of Charge in Semiconductor Compounds with Intermediate Valence", *XXI All-Union conference on Theory of Semiconductors*, Uzhgorod, 1983, p.236-237
- Kanovsky I.Ya., Nitsovich V.M., "Interaction of Spin and Charge Orders in Systems with Strongly Located Electrons", *The XV-th All-Union Conference on Physics of Magnetic Phenomenon*, Perm, 1981, p. 26-27.
- Nitsovich V.M., Kanovsky I.Ya., "Concentration Dependencies of Physical Properties in Charge-Ordering System", *1st All- Union Conference "Investigation Methods of Electronicdynamic Mechanism in COS"*, Moscow, 1981, p. 15-18.
- Nitsovich V.M., Kanovsky I.Ya., "Crystal's Magnetic Influence Characteristics on Phase Transition Concerned with Charge Ordering", *XXI All-Union Conference on Low Temperatures Physics*, part 3. Kharkov, 1980, p.125-126.
- Nitsovich V.M., Kanovsky I.Ya., "Metal-Dielectric Transition in External Magnetic Field", *All-Union Conference on Physics of Magnetic Phenomenon*. Kharkov, 1979, p.98.
- Nitsovich V.M., Kanovsky I.Ya., "Charge Ordering Influence on Thermodynamic and Statistic Properties of Strongly Correlated Electrons", *IX-th conference on the Theory of Semiconductors*, Tbilisi, 1978, p. 200-201.

METHODICAL PUBLICATIONS, PATENTS AND PREPRINTS

- Kanovsky I.Ya., Kolesnikov N.N., "Beginner's Guide to PC" - Two-parts Manual Guide, Chernivtsi, 1991, Part 1,134 p., 1992, Part 2, 175 p.
- Kanovsky I.Ya., Methodical directions to laboratory works on the course "Computer Theory and Computer Design". - Chernivtsi, 1991, 24 p.
- Kanovsky I.Ya. Ionov S.P. "Charge Ordering Properties. Cluster Approach.", *Preprint of Atomic Energy Institute. AEI-4811/9*, Moscow, 1989, 33 p.

- Kanovsky I.Ya., Udovitsky V.I., "Dynamic Percolation in Solid State Systems", *In book "Application of Computers in Physical Metallurgy and Metal-work"*, Moscow, 1987, p. 94-99.
- Udovitsky V.I., Kanovsky I.Ya., "Composition for Surface Hardening Ferrous Alloys Components", *Patent N 1478656 (USSR)*.
- Kanovsky I.Ya., "Forms of Cooperation of Public Education and Higher Education Institutes on Teachers Training with Computers", *In book "Problems of Teachers Training on Computers"*, 1988, p. 108-113.
- Kanovsky I.Ya., "Program and Technical Document Generator for "Vahta-1" -IC-tester", Informational Paper of Scientific- Engineering Achievements, N 88-004, Ukrainian Scient. Research Inst. Chernivtsi, 1988.

PROFESSIONAL PRESENTATIONS

- Kanovsky Igor, "Complex Networks Clustering by Link Weighting". *The Israel Association for Information Systems Conference (ILAIS 2007)*. Ramat-Gan, Israel. May. 2007.
- Kanovsky Igor, "Web graph clustering based on link correlations", *Fourth Workshop on Algorithms and Models for the Web-Graph (WAW2006)*, Banff, Canada, December 2006.
- Kanovsky Igor, "Complex Networks Clustering and Edges Correlation". *International Conference on Network Science (NetSci2006)*, Bloomington, Indiana, USA . May. 2006.
- Kanovsky Igor, Pergo Lilach, "Small World Graph Clustering", *Workshop on Structure and Function of Complex Networks*, Trieste, Italy May 2005.
- Kanovsky Igor, "Stochastic Processes for Scale-Free Digraph Generation", *Complex Networks*, International Conference, Bar-Ilan University, Israel, April 2005.
- Kanovsky Igor, Pergo Lilach, "Small World Graph Clustering", *Science of Complex Networks: from Biology to the Internet and WWW (CNET 2004)*, International Conference, Aveiro, Portugal, September 2004.
- Kanovsky Igor, "Clusters Recognition from Large Small World Graph" *Fourth Haifa Workshop on Interdisciplinary Applications of Graph Theory, Combinatorics and Algorithms*. Haifa, Israel, May 2004.
- Kanovsky Igor, "Perception of the Value of Information from Link Analysis", *The Value of Information in Networked Contexts*. International Conference. Haifa, Israel, February 2004.
- Kanovsky Igor, "Statistical Properties of the Web Graph and their Simulation", *Haifa Winter Workshop on Computer Science and Statistics (CsStat '03)*, Haifa, Israel, December 2003.
- Kanovsky Igor, "Courseware Generator", *Israeli Software Technology Preview*, Atlanta, GA, Santa Clara, CA, December 1996.

IV. GRANTS

Title: Courseware Generator.

Funding Agency: Office of the Chief Scientist, Ministry of Industry and Trade, Israel.

Duration: 1992 - 1994

Amount: \$300,000

PI: I. Kanovsky

Courseware Generator is new original software tools for computer based training development automation.

V. TEACHING AND ADVISING ACTIVITIES

ACADEMIC COURSES DEVELOPING AND TEACHING

- Information Systems for Businesses, 2009-present.
- Computer Networks, 2008 – present.
- Distributed Systems and Web Services, 2008-present.
- SQL servers: Programming and Administration, 2007-present.
- Information Retrieval, undergraduate course, 2007-present.
- Internet Based Systems Development, undergraduate course, 2005-present.
- Applications Development with C#, undergraduate course, 2004-present.
- Software Design and Development, undergraduate course, 2003-2006.
- J2EE Programming Platform, undergraduate course, 2002-present.
- XML based technologies, undergraduate course, 2002-2007, 2009-present.
- Introduction to Internet Technologies, undergraduate course, 2000-2006.
- Internet Based Technologies, undergraduate seminar, 2000-2004.
- Object Oriented Programming with Java, undergraduate course, 1999-2008.
- Introduction to Computer Science, undergraduate course, 1999-2001.
- Internet Technologies, graduate seminar, 1998-2003.
- Compilers Structure, undergraduate course, 1997-2006.

INDUSTRIAL COURSES AND SEMINARS TEACHING:

Course "Java & XML" – Amdocs (June 2005, July 2005, February 2006), Interbit (Januar 2006, February 2007)

Seminar "Java & XML" – Amdocs (June 2005), CISCO Israel (July 2005),

Course "Java Programming and OOP", Israel Ministry of Defense (June-July 2005), RAMBAM Medical Center (October-November 2005), Comvers (November-December 2005),

Course "Core Java", NDS Jerusalem (September 2005),

Seminar "Java Tiger", NDS Jerusalem (September 2005),

Course "Core Java for Managers", Amdocs (October 2005),

Seminar "Java Standards", Amdocs (July 2006),

Course "Design Patterns with Java", Convergys Israel (July 2006), Interbit (August 2006),

Course "Servlets and JSP", Amdocs (August 2006, September 2006, June 2007, October 2007),

Course "Java Developer Track", Amdocs (August-September 2006), modules JavaScript and HTML, J2EE Design Patterns, Amdocs (May 2007),

Course "Java Server Faces", Hapoalim Bank (February 2007), Interbit (August 2007)

Course "Web Services", Amdocs (September 2007, March 2008, June 2008, August 2008), Amdocs Cyprus (August 2008), Israel Ministry of Defense (September 2008).

Course AJAX, Amdocs (February 2008).

ADVISING

Advisor for M.A. Graduates:

Alexy Yakimets, advisors Dr. Avi Gal and Prof. Igor Kanovsky.

Final project title: "Software infrastructure development for distributed data grid based on self-organization principle." The Technion, September 2006.

Lilach Pergo, advisors Prof. Igor Kanovsky and Prof. Alek Vainshtein.

Thesis Title: "Algorithm for directed graph clustering, based on edges weighting, and its implementation on Web graphs." University of Haifa, December 2005.

Shaul Mazor, advisors Prof. Igor Kanovsky and Prof. Alek Vainshtein.

Thesis Title: "Stochastic Processes for Web-like Graph Generation". University of Haifa, February 2004.

Daniel Geva, advisors Prof. Josef Patrich and Prof. Igor Kanovsky.

Thesis Title: "Implementation of a Computerized Archeological Report System for Excavations of the Byzantine Governor Place at Caesarea". University of Haifa, November 2002.

Advisor for Undergraduate Senior Projects

Through 2001-2009, I have advised 79 senior final projects to successful completion.

Undergraduate Research Experience Advisor

I was the advisor for the five students in Undergraduate Research Experience Program. These students worked actively on research projects under my guidance as a part of the B.A. Honor Program of the Emek Yzreel College.

VI. SERVICE

Committee Service to Emek Yzreel College

- Member and head (from 2009) of the College Academic Faculty Trade Union Committee (2007-present),
- Member of the College Academic Committee (2000-2004, 2007-present),
- Member of the College Board of Governors (2003-present),
- Member of the College Board of Directors (2002-2007),
- Chair of the College Computers Committee (2000-2002),
- Member of the College Central Committee (2000-2004),

- Chair of the College Internet Committee (1999-2000).

Miscellaneous Service

- Member of The Project Committee of the Technological Incubator "Yozmot Ha-Emek", Migdal Ha-Emek (2010-present).
- Member of The Education Committee of the city Afula (2009-present).
- Member of The Council of the Academic College Trade Union of Israel (2007-present).
- Head of the Regional activity of the Project "Science for Pupils", founded by Israeli Ministry of Science (2001-2003).
- Academic Advisor for Computer Division of the Extra Academic Studies of the University of Haifa (1998-2003).
- Coordinator of the VATAT (Israeli commission for High Education Funding) project for establishing Multimedia Laboratory of the Faculty of Humanities, University of Haifa. Academic head Prof. Rafi Talmon (1996-1997).
- Coordinator of the VATAT project for establishing Computer Aided Language Learning Center, University of Haifa. Academic head Dr. Marsha Ben-Shushan (1995-1997).

VII. AWARDS AND RECOGNITION

Recognition as "Software industry distinguished trainer" by InterBit Training and Consulting Ltd. The recognition was earned by successful training "Java Core Technology" and "Developing XML Applications using Java" courses and seminars during 2005, for leading software companies in Israel (such as Amdocs, NDS, Comverse, Cisco, Israel Ministry of Defense and others). April, 2006.

Best Paper Award. (Kanovsky Igor presentation of the paper: "E-Learning – Using XML technologies to meet the special characteristics of higher education," International Conference on Education and Information Systems: Technologies and Applications (EISTA '03), Orlando, FL, 2003.

Excellent Lecturer Award. University of Haifa, 2002.

Israeli Information Processing Association honored my project "Courseware Generator" as the best technological solution of the year. The award was handed in by the president of Israel Mr. Ezer Weizmann, 1996.

Title Docent (associate professor) in Computer Science given by High Qualification Commission of The Soviet Union, Moscow, 1991.

Title Senior Researcher in Solid State Physics given by High Qualification Commission of The Soviet Union, Moscow, 1983.