

## CURRICULUM VITAE

### 1. Personal Details

Name: Boris A. Portnov

Country of Birth: Ukraine/USSR

Marital Status: Married + 1 child

Electronic Address: [portnov@research.haifa.ac.il](mailto:portnov@research.haifa.ac.il)

Fax Number: +972-4-8249971

Web-site: [http://management.haifa.ac.il/index.php?option=com\\_content&view=article&id=329:bportnov&lang=en](http://management.haifa.ac.il/index.php?option=com_content&view=article&id=329:bportnov&lang=en)

General publication stats:

**H-factor:** 25 (Google Scholar; search term: Portnov B\*)<sup>1</sup>

**H-factor:** 15 (Web of Science; search term: Portnov B\*)<sup>2</sup>

#### Notes:

\* Marks items added since the last appointment on July 16<sup>th</sup>, 2012.

### 2. Higher Education

Period of Study	Name of Institution and Department	Degree	Date of Degree
1977-1982	Faculty of Architecture, Poltava Civil Engineering Institute, (Poltava, Ukraine Republic)	MA (graduated <i>summa cum laude</i> );	08/1982
1982-1987	Central Scientific & Project Institute of Town-Building (Moscow, Russia)	Ph.D. (1 <sup>st</sup> Russian Doctoral Degree)	03/1987
1994-1995	Hubert H. Humphrey Institute of Public Affairs, University of Minnesota, U.S.A. Fulbright – Freedom Support Act Research Program	-	-
1994	Moscow Architectural Institute (Moscow, Russia)	D.Sc. (2 <sup>nd</sup> Russian Doctoral Degree)	03/1994

<sup>1</sup> [https://scholar.google.com/citations?view\\_op=list\\_works&hl=en&user=okPbK4QAAAAJ](https://scholar.google.com/citations?view_op=list_works&hl=en&user=okPbK4QAAAAJ).

<sup>2</sup> Web of Science major reference works database ([https://apps.webofknowledge.com/WOS\\_GeneralSearch\\_input.do?product=WOS&search\\_mode=GeneralSearch&SID=T19zMmCV1vVVIM3Fw6m&preferencesSaved=](https://apps.webofknowledge.com/WOS_GeneralSearch_input.do?product=WOS&search_mode=GeneralSearch&SID=T19zMmCV1vVVIM3Fw6m&preferencesSaved=))

**3. Academic Ranks and Tenure in Institutes of Higher Education**

<b>Name of Institution and Department</b>	<b>Dates</b>	<b>Rank/Position</b>
Krasnoyarsk Civil Engineering Institute, USSR, Department of Architecture and Urban Planning	1988-1992	Senior Lecturer
	1992-1994	Associate Professor
	1994-1995	Full Professor
Ben-Gurion University of the Negev, Israel Department of Man in the Desert	1995-2001	Senior Researcher
	2001-2002	Research Professor (Researcher Grade A)
University of Haifa, Israel Department of Natural Resources and Environmental Management	2002-2005	Senior Research Fellow
	2005-2012	Associate Professor
	Since 05/2005	Tenured
	Since 07/2012	Full Professor

**4. Offices in University Academic Administration**

- 1990-1995 Dean of the Faculty of Architecture – Member of Institute Academic Council; Krasnoyarsk Civil Engineering Institute/Krasnoyarsk Academy of Building Sciences, Krasnoyarsk, Russia;
- 2003-2005 Member of Faculty Computer Committee, University of Haifa;
- 2003-2009 Member of University and Faculty of Social Sciences Professional Promotion Committees, University of Haifa;
- Since 2003 Member of Departmental Teaching and Admission Committees, University of Haifa;
- 2006-2010 Founder & Academic Director of the Real Estate Management & Valuation Program, Graduate School of Management/Faculty of Management, University of Haifa;
- 2006-2012 Chairman of Advisory Committee on Student Candidates from the Former Commonwealth of Independent States, Graduate Authority of University of Haifa (member of the advisory committee since 2005);
- 2005-2008 Head of Departmental M.A. Committee, Dept. of Natural Resources & Environmental Management; University of Haifa;
- 2007-2010 Member of the University Senate, University of Haifa (1<sup>st</sup> term);
- Since 2008 Chairman of the Departmental Ph.D. Committee, Department of Natural Resources & Environmental Management, University of Haifa.
- \*2013-2017 Senate's representative in the University's Board of Governors, University of Haifa.
- \*Since 2015 Chairman of the Faculty of Management Ethics Committee, Faculty of Management, University of Haifa.
- \*2015-2017 Member of the University Senate, University of Haifa (2<sup>nd</sup> term).
- \*Since 2016 Member of Departmental M.A. Committee, Department of Natural Resources & Environmental Management; University of Haifa;

## 5. Scholarly Positions and Activities outside the University

### A) Visiting Scholarships:

- 1992-1993 Tongji University (Shanghai, P.R. of China).
- 1994-1995 Humphrey Centre, University of Minnesota (Minneapolis, U.S.A.) Public Policy & Administration (Fullbright - Freedom Support Act Research Program);
- 1999 Norwegian Social Science Data Services, University of Bergen, Norway;
- 2000 Department of Environmental Science and Engineering, University of Okayama, Japan;
- 2001 London School of Economics and Social Sciences, UK;
- 2001 Statistics Canada, Ottawa, Canada;
- 2011-2012 Visiting Professor, Department of Sociology and Public Affairs, Taiwan National Dong Hwa University, R.O.C.

### B) Professional Consulting:

- 1989-1995 Academic Supervisor of the Laboratory of Regional Problems of Urban Planning at Krasnoyarsk Civil Engineering Institute, Krasnoyarsk, Russia
- 1994-1995 Research advisor for a World Bank project on the formation of property market in a developing economy.
- 2002-2004 Member of Advisory Board - Centre for Applied Statistics and Econometrics, Humboldt University of Berlin.
- 2003-2004 Member of Steering Committee of the Geobase Data Service - Hebrew University of Jerusalem.
- 2004 Contributing Author to the Urban Systems Chapter (Ch.27) of the *Millennium Ecosystem Assessment Report* (NY: UNEP & UNESCO).
- 2005 Contributing Author to the *Global Environment Outlook Report* - Chapter 2: 'People and Deserts' and Chapter 3: 'Deserts and the Planet;' (NY: UNEP & UNESCO).
- Since 2007 Scientific Consultant to the Executive Board of the International Desert City Consortium of the Economic Community of West African States (ECOWAS), Nigeria
- Since 2007 Executive Member of the Steering Committee of the International Geographic Union (IGU) Commission on Global Change and Human Mobility (*Globility*);

### C) Membership in Professional/Scientific Societies:

- Since 1986 Professional Union of Russian Architects;
- Since 1990 European Network for Housing Research (ENHR);
- 1992-1996 Association of Computer-Aided Design in Architecture.
- Since 1999 Regional Science Association International and
- Since 1999 Israel Regional Science Association;
- Since 1999 Professional Union of Israeli Architects and Engineers;

- Since 2000 Association of Israeli Geographers;
- Since 2002 International Geographical Union (IGU);
- Since 2005 American Real Estate Society;
- \*Since 2013 Network on European Communications and Transport Activities Research (NECTAR).

**D) Membership in Ph.D., M.A. and Professional Evaluation Committees:**

- Since 2004 Hebrew University of Jerusalem;
- Since 2005 Ben-Gurion University of the Negev;
- Since 2006 Technion;
- 2009 Université Paul Cézanne, France;
- \*2012 Tel Aviv University
- \*2013 Bar Ilan University.

**E) Books and Articles Reviewing:**

- Annals of Regional Science (U.S.A.);
- European Planning Studies (U.K.);
- Geographic Review of Japan (Japan);
- Geography Research Forum (Israel);
- International Journal of Population Geography (U.K.);
- Journal of Ethnic and Migration Studies (U.K.);
- Journal of Real Estate Research (U.S.A.);
- Papers in Regional Science (U.S.A.);
- Review of Urban and Regional Development Studies (Japan);
- Socioeconomic Planning Sciences (U.S.A.);
- Applied Geography (U.K.);
- Belgian Journal of Geography (Belgium);
- Cross-Cultural Research (U.S.A.);
- Earth Science Review (U.S.A.);
- Elsevier | Major Reference Works (U.K.);
- Environmental Technology (Canada);
- Health & Place (U.S.A.)
- International Journal of Geographical Information Science (U.K.);
- International Journal of Society Systems Science (U.S.A.)
- International Journal of Information Systems & Social Change (U.S.A.)
- John Wiley & Sons Publishers (U.S.A.);

Journal of Modern Jewish Studies (U.S.A.);  
Journal of Regional Science (U.S.A.);  
Journal of Sustainable Society (U.S.A.);  
The Open Family Studies Journal (U.S.A.);  
The Open Demography Journal (U.S.A.);  
Tijdschrift voor Economische en Sociale Geografie (the Netherlands).  
Water Resources Management (U.S.A.).  
Earth Science Informatics (U.S.A.).  
Regional Studies (U.K.);  
Urban Studies (U.K.);  
\*Springer (Germany) | Book reviewing;  
\*Journal of Ocean and Coastal Management (U.S.A.);  
\*Environment and Planning A (U.S.A., Canada);  
\*Chronobiology International (U.S.A);  
\*International Journal of Environmental Research and Public Health (Switzerland);  
\*Regional Science, Policy and Practice (USA);  
\*Human Geographies (Romania);  
\*International Journal of Disaster Risk Reduction (USA);  
\*Geocarta International (USA);  
\*Trends in Endocrinology and Metabolism (USA);  
\*Environmental Research (U.S.A).

**F) Membership in Journal Editorial Boards:**

2001-2010 Socio-economic Planning Sciences (SEPS);  
2007-2014 International Journal of Society Systems Science (IJSSS);  
2007-2014 International Journal of Sustainable Society (IJSSoc) – Associate Editor;  
2007-2015 Open Family Studies Journal (OFSJ);  
2008-2105 Open Demography Journal (ODJ);  
2008-2016 International Journal of Society Systems Science (IJSSS);  
2010-2017 Environmental Economics (EE);  
\*Since 2013 World Journal of Respiriology (WJR);  
\*Since 2013 International Journal of Epidemiology and Community Health (IJRCH);  
\*Since 2017 Human Geographies (HG).

**G) Biography Included:**

Dictionary of International Biography (28<sup>th</sup>-29<sup>th</sup> Editions);  
Outstanding Scholars of the 20<sup>th</sup> Century (1<sup>st</sup> Edition);

Outstanding Intellectuals of the 21<sup>st</sup> Century (1<sup>st</sup> and 2<sup>nd</sup> Editions);  
 Who's Who in the World (16<sup>th</sup>-21<sup>th</sup> Editions);  
 Who's Who in Science & Engineering (2003-2004 Edition);  
 Who's Who in Finance & Business (2004-2005 Edition);  
 Who's in Social Sciences Higher Education (2007 Edition).

**H) Applied Architectural & Design Projects**

1984 Planning project of the coastal health-resort zone in Odessa, Ukraine;  
 1985-86 Development Projects of Housing Districts 'Moldavanka-1,' 'Moldavanka-2' & 'Bizhnieh Melnitsy' in Odessa, Ukraine;  
 1986 Comprehensive Plan of the City of Odessa, Ukraine;  
 1989 Dormitory for family students in Norilsk (All-Union Competition, Moscow, 2<sup>nd</sup> Award);  
 1990 26 Apartment Building on the Dachnaya Street in Krasnoyarsk, Russia (with S.Gueraschenko and S. Kovalevskiy);  
 1992 Administrative Building in Birusinsk, Irkutsk Region of Russia;  
 Public Center in the Student district in Krasnoyarsk, Russia;  
 Housing complex for the elderly in Burisinsk, Irkutsk Region of Russia;  
 School of Arts in Birusinsk, Irkutsk Region of Russia;  
 1993 Administrative Building of Chemical Industry's Enterprise in Pu-Tu district, Shanghai, PR of China;  
 District 'Shalke-Nord' in Gelzenkirshen, Germany (Development Project);  
 2000-2002 'Ramot-C' Neighborhood in Be'er Sheva, Part 'D' – Detailed Development Plan (with Y.Etzion, E. Erell and D. Pearlmutter).

**6. Active participation in Scholarly Conferences**

**A) International Conferences**

Date	Name of Conference	Place of Conference	Subject of Lecture/ Discussion/Comments
June, 1991	International Biennale 'Interarch-91'	Sofia, Bulgaria	Urban Land Use in the Cities of Siberia
Sept. 1992	IAHS XX World Congress on Housing	Birmingham, UK	1) Attractiveness of Urban Environment and Practice of Land Tenure  2) Accounting for the Consumer Qualities of Flats in the Process of Privatization

Date	Name of Conference	Place of Conference	Subject of Lecture/ Discussion/Comments
Sept. 1992	International Symposium on S.-Petersburg Renewal	S.-Petersburg, Russia	Attracting Urban Population to the Housing Renewal and Modernization
Sept. 1993	ENHR International Conference on Housing in Transitional Economy	Budapest, Hungary,	Increase in Town Territory Effectiveness under Changing Socio-Economic Conditions
April 4 <sup>th</sup> -7 <sup>th</sup> , 1998	Second International Conference 'Urban Development: A Challenge for Frontier Regions'.	Be'er Sheva, Israel	Sustainability of Urban growth in Peripheral Areas: The Case of Israel  Private Construction as a Comprehensive Indicator of Urban Growth
February 14-16 <sup>th</sup> , 2000	British-Israeli Workshop on 'Public Investment and Regional Economic Development'	Hebrew University of Jerusalem	Neutral Migration Models as a Tool of Regional Policy
July 2 <sup>nd</sup> -5 <sup>th</sup> , 2000	PLEA 2000 Conference on 'Architecture-City-Environment'	Cambridge, England,	Climate-related Changes in Residential neighbourhoods: An Analysis in a GIS Framework (with Etzion Y, Erell E., Meir I, and D. Pearlmuter)
December 11 <sup>th</sup> , 2000	International Conference on 'Ottoman Be'er Sheva Centenary'	Ben Gurion University of the Negev, Be'er Sheva	Be'er Sheva on the 21st Century: Intra-urban Inequalities and Development Strategies
June 30 <sup>th</sup> -July 4 <sup>th</sup> , 2002	Jerusalem Conference in Canadian Studies	Hebrew University of Jerusalem, Jerusalem	Development Interdependence in Urban Clusters of Canada
July 10 <sup>th</sup> -15 <sup>th</sup> , 2002	XVI Congress of the Association of European Schools of Planning (AESOP) on Planning in Border Regions	University of Thessaly, Volos, Greece	Urban Clustering as a Tool of Facilitating Sustainable Urban Growth in Peripheral Regions
August 27 <sup>th</sup> -31 <sup>st</sup> , 2002	ERSA 2002 Conference on 'From Industry to Advanced Services; Perspectives of	Dortmund, Germany	Interregional Inequalities in Israel: Explanatory Model and Empirical Data

Date	Name of Conference	Place of Conference	Subject of Lecture/ Discussion/Comments
	European Metropolitan Regions		
October 2 <sup>nd</sup> – 6 <sup>th</sup> , 2002	International Seminar on 'Environmental Challenges in the Mediterranean (2000-2050)',	Madrid, Spain	Urban Challenges for the Negev
February, 5 <sup>th</sup> -6 <sup>th</sup> , 2004	Housing and Social Development: Emerging Theoretical Issues in Asia-Pacific	University of Hong-Kong, Hong Kong, PR of China	The Effect of Environmental Conditions in Residential Neighbourhoods on the Investment Decisions of Local Property Owners
May 23 <sup>rd</sup> -24 <sup>th</sup> , 2004	Hurst Seminar on Reform and Democracy in Local Government.	Ben-Gurion University of the Negev, Be'er Sheva	Interaction between Internal Migration and the Fiscal Capacity of Local Authorities in Israel, 1985-1997
April 8 <sup>th</sup> - 9 <sup>th</sup> , 2005	Spatial Econometrics Workshop	Kiel Institute of World Economics, Kiel, Germany	Spatial Interdependency in Urban Clusters of Canada
August 17 <sup>th</sup> -19 <sup>th</sup> , 2005	Regional Science Association International – British and Irish Sections, 35 <sup>th</sup> Annual Conference	Stratford-upon-Avon, UK	1) Interaction between Internal Migration and the Fiscal Capacity of Local Authorities  2) Understanding Regional Disparities in Small Countries (with D. Felsenstein)
August, 23 <sup>rd</sup> -27 <sup>th</sup> , 2005	45 <sup>th</sup> European Congress of the Regional Science Association	Amsterdam, Netherlands	1) Development Similarity Based on Proximity  2) Measuring Regional Disparities in Small Countries (with D. Felsenstein)
September 6 <sup>th</sup> -8 <sup>th</sup> , 2005	APNHR Conference, Housing and Globalization,	Kobe, Japan	Housing Modifications, Neighborhood Environment, and Housing Prices: Traditional Paradigms Re-examined
December 2-4 <sup>th</sup> , 2005	International Geographical Union (IGU) Conference, 'The spatial impact of human mobility in the Mediterranean region'	Pescara, Italy	Interaction between internal migration and the fiscal capacity of local authorities in Israel: Tiebout's model revisited



Date	Name of Conference	Place of Conference	Subject of Lecture/ Discussion/Comments
May 28 <sup>th</sup> -29 <sup>th</sup> , 2006	International Workshop on Economy and Society in Space, the Annual Meeting of the Israeli Regional Science Association	Bar Ilan University	On Ecological Fallacy and Assessment Errors Stemming from Misguided Variable Selection: Implications for Regional Analysis (with J.Dubnov and M.Bar-chana)
August 16 <sup>th</sup> -18 <sup>th</sup> , 2006	36 <sup>th</sup> Annual Conference of Regional Science Association International: British and Irish Section	Jersey, Channel Islands, UK	Location that Helps, Location that Harms: Urban System of Nepal as a Case Study
August 30 <sup>th</sup> - September 3 <sup>rd</sup> 2006	46 <sup>th</sup> Congress of the European Regional Science Association	Volos, Greece	1) Estimating the Effect of Air Pollution from a Coal-Fired Power Station on the Development of Children's Pulmonary Function.  2) Spatial Patterns of Urban Growth - Does Location Matter? A Case Study of Nepal (with M.Adhikari)
November 6 <sup>th</sup> -9 <sup>th</sup> , 2006	International Conference on Deserts & Desertification: Challenges and Opportunities	Ben-Gurion University, Sede-Boker Campus,	General Strategy for Combating Desertification in the Negev: Dryland Agriculture vs. Dryland Urbanization (with U.N.Safriel)
April 20 <sup>th</sup> -21 <sup>st</sup> , 2007	Agglomeration and Growth in Knowledge-based Societies	The Kiel Institute for the World Economy	Spatial Patterns of Urban Growth: Does Location Matter?
July 10 <sup>th</sup> -13 <sup>th</sup> , 2007	4 <sup>th</sup> International Conference on Population Geographies	The Chinese University of Hong Kong	Population Attractiveness of Cities: Popular Theories Re-examined
August 27 <sup>th</sup> - 31 <sup>st</sup> , 2008	48 <sup>th</sup> Congress of the European Regional Science Association	Liverpool, UK	1) On the Relativity of Urban Location  2) On the Importance of the "Location Package" for Urban Growth
November, 4 <sup>th</sup> -5 <sup>th</sup> , 2008	Israel-Netherlands Regional Science Association conference	Hebrew University of Jerusalem.	Urban Clusters as Growth Foci

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June 19 <sup>th</sup> -21 <sup>st</sup> , 2009	International Conference on Transnational Processes and Crossing Places: New Forms of International Mobility	Gran Canaria, Spain	Gibrat's Law for Cities: Does it Hold when Location Counts?
25 <sup>th</sup> – 29 <sup>th</sup> , August 2009	49 <sup>th</sup> European Congress of the Regional Science Association International	Łódz, Poland	1) Gibrat's Law for Cities: Is it Valid when Location Counts? 2) Location Relativity in Space and Time: Some Evidence from Swiss Municipalities, 1950-2000
October 19 <sup>th</sup> -21 <sup>st</sup> , 2009	International Workshop on the Impacts of Mediterranean Climate Change on Human Health	The Cyprus Institute, Paphos, Cyprus	Using Geographic Information Systems (GIS) Technology for Disease Analysis and Mapping (invited presentation)
June, 23 <sup>rd</sup> -26 <sup>th</sup> , 2010	17 <sup>th</sup> Annual European Real Estate Society ERES 2010 Conference	Bocconi School of Management, Milan, Italy	Objective vs. Perceived Air-pollution as a Factor of Housing Pricing: A Case Study of the Greater Haifa Metropolitan Area
July 9 <sup>th</sup> -11 <sup>th</sup> , 2010	IGU Globility Commission 2010 meeting	University of Haifa, Israel	1) Tourism in Turbulent Times: The Effects of Economic and Political Externalities on Local and Foreign Tourism in Israel during 2006-2009 2) Investigating the Effect of Economic Restructuring on Employment-related Household Migration in Taiwan in 2002 (with W. Li)
August 18 <sup>th</sup> -22 <sup>nd</sup> , 2010	50 <sup>th</sup> European Congress of the Regional Science Association International	Jönköping University, Sweden	1) Does Zipf's Law Hold for Primate Cities? Some Evidence from a Discriminant Analysis of World Countries 2) Change of Support Problem (COSP) and its Implications for Urban Analysis: Some Evidence from a Study of the European Urban System

Date	Name of Conference	Place of Conference	Subject of Lecture/ Discussion/Comments
September 16 <sup>th</sup> -18 <sup>th</sup> , 2010	3 <sup>rd</sup> International Congress of Environmental Research	University of Mauritius, Reduit, Mauritius	Desert Urbanization: Status, Prospects and Environmental Impacts ( <b>Invited speaker</b> )
May 2 <sup>nd</sup> -4 <sup>th</sup> 2011	2011 Tripartite Workshop of British-Irish – Israeli – Netherlands RSAI Sections	Resource Centre, London	On Geographic Ordinarity and Main City Status
May 9-12 <sup>th</sup> , 2012	9 <sup>th</sup> World Congress of the Regional Science Association International	Regional Business Centre, Timișoara, România	1) Diminishing Effects of Location? Some Evidence from Swiss Municipalities, 1950-2000. 2) Does the Choice of Geographic Units Matter for the Validation of Gibrat's Law?
*March 3 <sup>rd</sup> -6 <sup>th</sup> , 2013	2013 Elsevier Environmental Health Conference	Boston, Massachusetts, USA	Light Pollution and its Known Health Effects
*June 16 <sup>th</sup> -18 <sup>th</sup> , 2013	NECTAR 2013 Conference	Azores Island, Portugal	Diminishing Returns to Accessibility? Some Evidence from Swiss Municipalities, 1950-2000
*October 3 <sup>rd</sup> -4 <sup>th</sup> , 2013	Dutch-Israeli Bi-national Regional Science Workshop	University of Groningen, the Netherlands	Does the Choice of Geographic Units Matter for the Validation of Gibrat's Law?
*November 13 <sup>th</sup> -16 <sup>th</sup> , 2013	50 <sup>th</sup> North American regional Science Association Conference	Atlanta, USA	1) Housing Price Implications of Public Real Estate Sentiment 2) Does Gibrat's Law for Cities Hold when Location Counts?
*May 13-18 <sup>th</sup> , 2014	International AGC/IGU conference on Geography & Planning	Tel Aviv	Using Kernel density tools for fine-tuned analysis of health outcomes
*September 21 <sup>st</sup> -22 <sup>nd</sup> , 2014	An International Light Day event on 'The Future of Light and Illumination Studies'	The University of Haifa's Israeli Center for Interdisciplinary Research in Chronobiology	Using Geographic Information Systems (GIS) Tools in Studies of Health Effects of Light Pollution
*November 5 <sup>th</sup> -7 <sup>th</sup> , 2014	International Conference on Sustainable Lighting and Light Pollution - SLLP 2014	Seoul, Republic of Korea	1) Using Light-At-Night (LAN) Satellite Data for Epidemiological Studies of Cancer and Economic Analysis (with A. Haim

Date	Name of Conference	Place of Conference	Subject of Lecture/ Discussion/Comments
			<p>and N. Rybnikova; Invited paper; Best Paper Award)</p> <p>2) Artificial Light at Night (ALAN) as a Source of Pollution – The Health Consequences Attributed To Its Exposure (with A. Haim and A. Zubidat; Invited paper)</p>
*August 24 <sup>th</sup> -29 <sup>th</sup> , 2015	55 <sup>th</sup> European Congress of the Regional Science Association International	Lisbon, Portugal	<p><b>Spatial session organizer</b> on Urban Environment and Human Health: Novel Investigation and Monitoring Approaches</p> <p>Presentations:</p> <p>1) Using Multivariate Double Kernel Density Approach for Analyzing Health-Related Geographic Databases</p> <p>2) Artificial Light at Night (ALAN) and breast cancer incidence worldwide: an early study revisited</p>
*November, 11 <sup>th</sup> -14 <sup>th</sup> , 2015	62 <sup>nd</sup> North American Regional Science Conference (NARSC)	Portland, OR, USA	<p>1) Using Extended Measures of Price Momentum for Improving Empirical Models Estimated for Different Phases of Housing Price Cycle.</p> <p>2) Using Double Kernel Density Smoothing to the Analysis of Attributeless Point-based Datasets.</p>
*August 21 <sup>rd</sup> -25 <sup>th</sup> , 2016	33 <sup>rd</sup> International Geographic Congress (IGU)	Beijing, P.R. of China	Spatial Identification of Potential Health Hazards: A Systematic Areal Search Approach (Session co-chairman)
*October 2-4 <sup>th</sup> , 2016	RSAI Workshop: Regional Development in Armenia, A regional Science Perspective	Armenian State University of Economics, Yerevan, Armenia	Mapping Geographic Concentrations of Economic Activities in Europe Using Light-at-Night (LAN) Satellite Data (with N. Rybnikova); plenary presentation.

Date	Name of Conference	Place of Conference	Subject of Lecture/ Discussion/Comments
*June 28 <sup>th</sup> - July 1 <sup>st</sup> , 2017	Light Pollution Theory, Modelling, Measurements (LPTMM-2017) conference	Cellers, Spain	Outdoor Light and Breast Cancer Incidence: A Comparative Analysis of DMSP and VIIRS-DNB Satellite Data
*29 <sup>th</sup> -31 <sup>st</sup> of August, 2017	57 <sup>th</sup> ERSA congress "Social Progress for Resilient Regions"	Groningen, the Netherland	1) Spatial Identification of Potential Health Hazards: A Systematic Areal Search Approach 2) Mapping Geographic Concentrations of Economic Activities in Europe Using Light-at-Night (LAN) Satellite Data
*11 <sup>th</sup> -15 <sup>th</sup> of September, 2017	International Geographic Union (IGU) Thematic Conference on Land Use/Cover Changes, Biodiversity, Health and Environment, Local and Regional Development.	Bucharest and Tulcea, Romania	Alternative Approaches to the Investigation of Population Morbidity Patterns in a Large Metropolitan Area
*June 21- 23 <sup>rd</sup> , 2018	VI International Scientific Conference on "Space, Society, Politics"	Ivane Javakhishvili Tbilisi State University, Tbilisi, Georgia	Geopolitical and Environmental Risk Factors behind Mortgage Defaults in Israel (Session chair)
*16 <sup>th</sup> - 20 <sup>th</sup> of July, 2018	1 <sup>st</sup> International Symposium on "Life-course Epidemiology and Spatial Science" (ISLES)	Lorentz Center, the University of Leiden, the Netherlands	Estimating and Ranking Geographic Mortality Gradients in Europe (Invited plenary talk).
*26 <sup>th</sup> -31 <sup>th</sup> of August, 2018	58 <sup>th</sup> ERSA congress	University of Cork, Ireland	1) Application of the kernel density analysis to a study of breast cancer incidence patterns in Connecticut (refereed session) 2) Environmental and Security Risks Affecting Mortgage Defaults in Israel

**B) Local or National Conferences**

September, 1986	Annual Conference of the Central Institute for Urban Planning and Design	Moscow, USSR,	Town-Building Specific of Daily Facilities Organization in Renewal Areas
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November, 1987	Proceedings of International Symposium on Recreation	Riga, Latvia	Town-Building Principles of Recreation Place Formation in Historical City Centers
April, 1989	All-Union Conference on Urban and Regional Development	Alma-Ata, USSR,	1) The Use of Correlation Matrixes for Studying of the Urban Heterogeneity 2) Considering the Dynamic of Demographic Structure of the Urban Population at the Process of Urban Renewal
June, 1989	Regional Conference on Housing Development in Large Cities	Irkutsk, USSR,	Strategy of Compensation Reconstruction in City Low-Rise Development
September, 1990	All-Union Symposium on Urban Renewal	Moscow, USSR,	Problems of Urban Low-Rise Development Renewal
October, 1990	Regional Conference on Forecast Reliability	Novosibirsk, USSR,	Prognostication of Urban Environment Prestige with Urban-Planning Measures
Apr. 1991	All-Union Conference	Tashkent, UzSSR,	Computerized Assessment of Urban Land Values
June 1991	Regional Conference on Urban Development	Krasnoyarsk, Russia,	1) Effective Use of Land in Housing Development of Northern Cities 2) Forecasting of Town-Building Measures Social Effectiveness by Criterion of Urban Environment Prestige (with V. Kislyakov)
Oct. 1993	All-Russia Conference on Resource-Saving and Ecologically Clean Technologies	Samara, Russia	Considering Ecological Factors for Urban Land Evaluation
December 24 <sup>th</sup> -25 <sup>th</sup> , 2000	2000 Annual Conference of Israel Geographical Association	Hebrew University of Jerusalem	Long-distance Migration in a Dynamic Economy
December 11 <sup>th</sup> -13 <sup>th</sup> , 2001	2001 Annual Conference of Israel Geographical Association on Society and Environment in the Time of Change	Tel Aviv University	Urban Clusters as a Tool for Enhancing the Potential of Urban Growth in Peripheral Areas.

May 26 <sup>th</sup> , 2002	Information day on: 'Closing Gaps: Spatial, Economic, and Social,'	Technion, Haifa	Interregional Inequalities in Israel: Censuses of Population and Housing 1948-1995 (with E. Erell)
May 30 <sup>th</sup> , 2002	Annual Conference of the Israel Geographic Association (IGA), 'Geographers at Public Service'	Be'er-Sheva	Monitoring Housing Modifications in the GIS Framework (with Y. Etzion)
December 1 <sup>st</sup> - 3 <sup>rd</sup> , 2002	Annual Conference of the Israeli Geographical Association on 'Man and the Land'.	Ben-Gurion University of the Negev	Long-term Growth of Development Towns in Israel: Does Location Matter?
March 4 <sup>th</sup> , 2003	Information day on, 'Environmental Protection of the Mediterranean Sea Shore'	University of Haifa	The Effect of Environmental and Location Factors on Urban Growth in Israel
December, 21 <sup>st</sup> -23 <sup>rd</sup> , 2003	Israeli Geographic Association (IGA) Conference on 'Man and his Birth Landscape'	Bar Ilan University, Ramat Gan	Interregional Inequalities in Israel: Population and Housing Census Data
June 6 <sup>th</sup> , 2004	Israel Regional Science Conference, 'New Directions in urban and Regional Science'	Ben-Gurion University of the Negev, Be'er Sheva	Environmental Factors of Housing Modifications and Housing Pricing
January, 27 <sup>th</sup> , 2005	Annual Conference of Israeli Planning Association	TA, Congress Centre	Long-term Development of Small Towns in Israel: Does Location Matter?
March 17 <sup>th</sup> , 2005	GIS and Cartography 2005	Tel Aviv University	Light Pollution as a Risk Factor for Breast Cancer (with I. Kloog & A. Haim)
June 7 <sup>th</sup> , 2005	Information Day on Environmental Quality	University of Haifa	Real Estate and Environment: Revisiting Traditional Paradigms
June 21 <sup>st</sup> , 2005	Israel Regional Science Association Annual Conference, 'New Directions in Regional Research'	University of Haifa	1) Regional Inequalities in Small Countries: Factors and Measurements 2) Investigating the Effect of Light Pollution on the Incidence of Breast Cancer in Israel (with I. Kloog & A. Haim)

May, 29 <sup>th</sup> -30 <sup>th</sup> 2006	1 <sup>st</sup> Israel Real Estate and Urban Economics Symposium	Technion, Haifa	Reinvestment Motives of Homeowners and House Prices: Jerusalem and Haifa as Case Studies
June 26-27 <sup>th</sup> , 2006	34 <sup>th</sup> Annual Conference of Israel Ecological Association	Technion, Haifa	On Ecological Fallacy and Other Aggregation Errors: Hadera Region as a Case Study (with J.Dubnov and M.Barchana)
July 4 <sup>th</sup> , 2006	Information Day on 'Real Estate, Environment & Businesses'	University of Haifa	1) MBA Program in Real Estate Valuation and Management – Structure and Basics 2) Practice of Real Estate Valuation and Management – Traditional Paradigms Re-examined.
December 18 <sup>th</sup> , 2006	2006 Conference of Israel Geographical Association	Tel Aviv University	Railroad Development and its Effect of Fiscal Performance of Local Authorities (with A.Vaturi)
April 15 <sup>th</sup> , 2008	Annual Conference of Israel Regional Science Association	Ben-Gurion University, Be'er Sheva	Location Package as a Factor of Urban Growth
May 26 <sup>th</sup> , 2008	Information day on energy production, air quality and public health	Ashkelon	Summary of Epidemiological Studies Carried out in the Region around Hadera Power Station
June 1 <sup>st</sup> , 2008	Information day on real estate and environment	University of Haifa	Factors Influencing Investment Decisions of Residential Property Owners
November 11 <sup>th</sup> -14 <sup>th</sup> , 2007	22 <sup>nd</sup> Annual Conference of Israel Real Estate Association	Eilat	Investments of Property Owners in their Apartment and Houses and the Influence of these Investment Decisions on House Prices: Haifa and Jerusalem as Case Studies
November 27 <sup>th</sup> , 2008	Interdisciplinary seminar on the Human & Environmental Cost of Air Pollution	Technion, Haifa	Studying the Association between Air-Pollution and Lung Cancer Incidence in a Large Metropolitan Area Using a Kernel Density Function
December, 28 <sup>th</sup> -30 <sup>th</sup> , 2008	Annual Conference of Israel Regional Science Association	Bar-Ilan University, Ramat Gan	Location Relativity – Spatiotemporal Dimension: Some Evidence from Swiss Municipalities, 1950-2000
December 14 <sup>th</sup> , 2009	Annual Conference of Israel Geographical Union	University of Haifa	1) Minimizing the Effect of Exposure Misclassification by Voronoi Polygon Rezoning



			2) Global Co-distribution of Light-at-Night (LAN) and Cancers of Prostate, Colon, and Lung in Men (with Itai Kloog)
January 10 <sup>th</sup> , 2010	Annual Conference of Israel Regional Science Association	Tel Aviv University	Does Gibrat's Law Hold when Location Counts?
February, 23 <sup>rd</sup> , 2010	Annual Public Health Conference on "Disease without Borders, Global and Regional Aspects of Health"	Hadassah Hospital, Hebrew University of Jerusalem	High Prevalence of Childhood Asthma in Northern Israel is Linked to Air Pollution and Obesity (with J. Dubnov et al.)
November 28 <sup>th</sup> , 2010	Israel Regional Science Association Annual Conference, "Regional Challenges in the Time of and Economic Crisis"	University of Haifa	The Effects of Economic and Political Externalities on Local and Foreign Tourism in Israel during 2006-2009
May 25 <sup>th</sup> , 2011	Neuro-Psycho-Immunology Conference	Tel Aviv-Yaffo Academic College	Light at Night (LAN) and its Links with Hormone-Dependent Cancers Worldwide ( <b>Invited Plenary Lecture</b> )
May 8 <sup>th</sup> , 2012	Annual Conference of Israel Ministry for Environmental Protection	Porter School, Tel Aviv University	<b>Invited talk:</b> Environmental Causes of Non-cancer Adult Morbidity in the Haifa Metropolitan area in 2005-2009: Investigation of Daily Admissions to the Emergency Department of the Rambam Medical Center
*September 3 <sup>rd</sup> , 2012	Information day on, "Health and Environment: National Vision, Local Efforts and Air Quality in the Haifa Bay Area"	Israel Ministry of Environmental Protection, Mt. Carmel Hotel, Haifa	<b>Invited talks:</b> 1) Environmental Causes of Non-cancer Adult Morbidity in the Haifa Metropolitan area in 2005-2009: Investigation of Daily Admissions to the Emergency Department of the Rambam Medical Center. 2) Investigating the Effects of Air Pollution on Childhood Morbidity using the Individual Exposure Estimates (IEE) Approach.
*January 30 <sup>th</sup> , 2013	Annual Conference of Israel Regional Science Association on "New Regional	Ben-Gurion University, Be'er-Sheva	Diminishing Returns to Location: Evidence from Swiss Municipalities, 1950-2000

	Challenges and Innovations"		
*February 10 <sup>th</sup> , 2015	Annual Conference of Israel Regional Science Association on "Human Capital, Innovation and Regional Development"	Technion, Haifa	1) Artificial Light At Night And Breast Cancer Incidence Worldwide: An Early Study Revisited (with N. Rybnikova) 2) Using Light-At-Night Satellite Data For Identifying Clusters Of Economic Activities In Europe (with N. Rybnikova)
*June 22 <sup>nd</sup> , 2015	Research conference of Israel Ministry of Environmental Protection	Sea Hotel, Neve Ilan	Stimulating Green Construction in Israel by Influencing Decision-making of Main Players
*December 13-14 <sup>th</sup> , 2015	Annual Israel Geography Association Conference	Hebrew University of Jerusalem, Jerusalem	Session chairman, four separate presentations with MA and PhD students in specially organized session on Space and Health: New Investigation Approaches
*February 2 <sup>nd</sup> , 2016	Israel Regional Science Association Annual Conference, 'New Challenges in Regional and Urban Studies'	Tel Aviv University	Session chairman, three separate presentations with MA and PhD students
*May 19 <sup>th</sup> , 2016	Israel Statistical Society Conference	Ramat Efal	Invited talk
*December 17 <sup>th</sup> , 2017	Annual Conferences of Israeli Geographers	Ben Gurion University of the Negev, Beersheba	Session chairman, five separate presentations with MA and PhD students
*January 28 <sup>th</sup> , 2018	Information day on works of Prof. Amnon Frenkel	Technion, Haifa	Invited presentation
*February 12 <sup>th</sup> , 2018	Annual Meeting of Israel Regional Science Association: "Between Entrepreneurship, Innovation and Regional Development"	Ben Gurion University of the Negev, Beersheba	Session chairman, three separate presentations with MA and PhD students

**C) Organization of Conferences or Sessions**

<b>Date</b>	<b>Name of Conference</b>	<b>Place of Conference</b>	<b>Subject of Lecture/ Discussion/Comments</b>
June 21 <sup>st</sup> , 2005	Israel Regional Science Association Annual Conference, 'New Directions in Regional Research'	University of Haifa	Session Chairman
July 4 <sup>th</sup> , 2006	Information Day on 'Real Estate, Environment & Businesses'	University of Haifa	-"-
June 1 <sup>st</sup> , 2008	Information day on "Real Estate and Environment"	University of Haifa	Conference Organizer
August 27 <sup>th</sup> – 31 <sup>st</sup> , 2008	48 <sup>th</sup> Congress of the European Regional Science Association	Liverpool, UK	Session Chairman
25 <sup>th</sup> – 29 <sup>th</sup> , August 2009	49 <sup>th</sup> European Congress of the Regional Science Association International	Lödzt, Poland	-"-
July 9 <sup>th</sup> -11 <sup>th</sup> , 2010	International Geographical Union (IGU) Globility Commission 2010 Conference on the Human Mobility in the Time of a Global Economic Crisis	University of Haifa	Conference Organizer
November 28 <sup>th</sup> , 2010	Israel Regional Science Association Annual Conference, "Regional Challenges in the Time of and Economic Crisis"	-"-	-"-
*March, 24 <sup>th</sup> , 2015	Haifa Bay Area (HBA) Health Monitoring Project	-"-	Information day organizer
*August ,25 <sup>th</sup> -28 <sup>th</sup> 2015	55 <sup>th</sup> ERSAs Congress on World Renaissance: Changing roles for people and places (forthcoming)	Lisbon, Portugal	Special session organizer, "Urban Environment and Human Health: Novel Investigation and Monitoring Approaches"
*December 13-14 <sup>th</sup> , 2015	Annual Israel Geography Association Conference	Hebrew University of Jerusalem, Jerusalem	Special session organizer, "Urban Environment and Human Health: Novel Investigation and Monitoring Approaches"

Date	Name of Conference	Place of Conference	Subject of Lecture/ Discussion/Comments
May 19 <sup>th</sup> , 2016	Israel Statistical Society Conference	Ramat Efal Congress Center	<b>Invited lecture</b> , Alternative Approaches to the Investigation of Population Morbidity Patterns in a Large Metropolitan Area
*29 <sup>th</sup> -31 <sup>st</sup> of August, 2017	57th ERSA CONGRESS "Social Progress for Resilient Regions"	Groningen, the Netherland	Session Chairman
*December 17 <sup>th</sup> , 2017	Annual Conferences of Israeli Geographers	Ben Gurion University of the Negev, Beersheba	Session Chairman
*February 12 <sup>th</sup> , 2018	Annual Meeting of Israel Regional Science Association: "Between Entrepreneurship, Innovation and Regional Development"	Ben Gurion University of the Negev, Beersheba	Session Chairman
*June 21 <sup>st</sup> -23 <sup>rd</sup> , 2018	VI International Scientific Conference on "Space, Society, Politics"	Ivane Javakhishvili Tbilisi State University, Tbilisi, Georgia	Session Chairman
*16 <sup>th</sup> -20 <sup>th</sup> of July, 2018	1 <sup>st</sup> International Symposium on "Life-course Epidemiology and Spatial Science" (ISLES)	Lorentz Center, Leiden, the Netherlands	Session Chairman
*26 <sup>th</sup> -31 <sup>th</sup> of August, 2018	58 <sup>th</sup> ERSA congress	University of Cork, cork, Ireland	Session on Regional Health Outcomes, Session Chairman

## 7. Invited Talks and Lectures

Date	Place of Lecture	Name of Forum	Presentation/Comments
April, 1999	Norwegian Social Science Data Services, Norway	NSSDS Research forum	<b>Invited lecture</b> , 'Challenges of Urban Clustering.'
-"-	University of Bergen, Norway	Departmental seminar	-"-
May, 2001	Statistics Canada, Ottawa	Statistics Canada Research Forum	<b>Invited Talk</b> : 'Urban Location and Urban Clusters.'
May 2002	Department of Natural Resources and Envi-	Departmental seminar	<b>Invited lecture</b> , 'Urban Clustering'

Date	Place of Lecture	Name of Forum	Presentation/Comments
	ronmental Management, University of Haifa		
December, 2002	Israel Central Bureau of Statistics, Jerusalem	ICBS Research Forum	<b>Invited lecture</b> , 'Investigation of the Patterns of Regional Inequality in Israel Using Census Data.'
October, 2003	Tel Aviv University, Department of Geography	--	<b>Invited Lecture</b> , 'Introduction to the Theory of Urban Clustering.'
October, 2003	Ort College, Carmiel	--	<b>Invited Lecture</b> , 'Interregional Inequalities in Israel.'
March, 2005	Technion, Department of Architecture and Urban Planning	--	<b>Invited Lecture</b> , 'Benefits and Drawback of Urban Location.'
November, 2006	Graduate School of Management, University of Haifa	Departmental seminar	<b>Invited Presentation</b> , 'Real Estate Management & Valuation: Traditional paradigms Revisited'
November 6 <sup>th</sup> , 2006	Ben-Gurion University, Sede-Boker Campus	International Conference on Deserts & Desertification: Challenges and Opportunities	<b>Plenary Session Address</b>
November, 2008	Technion, Haifa	Interdisciplinary seminar on the Human & Environmental Cost of Air Pollution'	<b>Invited lecture</b> , ' Studying the Association between Air-Pollution and Lung Cancer Incidence in a Large Metropolitan Area Using a Kernel Density Function'
December 8 <sup>th</sup> , 2008	Department of Social Development, National Dong Hwa University, Taiwan (Republic of China. R.O.C.)	Departmental seminar	<b>Invited lecture</b> , 'On the Importance of Location package for Urban Growth'
February 24 <sup>th</sup> , 2010	Ministry of Environmental Protection, Haifa Regional Office	Research seminar	<b>Invited talks:</b> 1) Analysis of the Influence of Air Pollution on Lung Function Development in

Date	Place of Lecture	Name of Forum	Presentation/Comments
			<p>Children Using Individual Exposure Estimate Method.</p> <p>2) Investigating the Environmental causes of Non-cancer Illnesses among Adults in the Haifa Bay Area in 2005-2006 according to the Analysis of Daily Hospital Admissions</p>
September 16 <sup>th</sup> -18 <sup>th</sup> , 2010	University of Mauritius, Reduit, Mauritius	3 <sup>rd</sup> International Congress of Environmental Research	<b>Invited plenary session talk</b> , 'Desert Urbanization: Status, Prospects and Environmental Impacts.'
May 7 <sup>th</sup> , 2011	School of Public Health, University of Connecticut Health Center	School seminar	<b>Invited lecture</b> , 'Exploratory Spatial Data Analysis in Environmental Epidemiological Studies.'
May 25 <sup>th</sup> , 2011	Tel Aviv-Yafo Academic College	Neuro-Psycho-Immunology Conference	<b>Invited plenary lecture</b> , 'Light at Night (LAN) and its Links with Hormone-Dependent Cancers Worldwide'
December 5 <sup>th</sup> , 2011	Institute of Epidemiology and Preventive Medicine, the National Taiwan University, Taipei, R.O.C.	Institute seminar	<b>Invited lecture</b> , 'Investigating Environmental Factors of Childhood Asthma in the Greater Haifa Metropolitan Area, Israel Using Geographic Information Systems (GIS) and Spatial Analysis Tools'
December 16 <sup>th</sup> , 2011	The National Dong Hwa University, Taiwan, R.O.C.	School of Management, Department of Finance	<b>Invited lecture</b> , 'Housing Modifications and Housing prices: Traditional Approaches Revisited'
December 26 <sup>th</sup> , 2011	The National Dong Hwa University, Taiwan, R.O.C.	Department of Business Administration	<b>Invited lecture</b> , 'New Approaches to Real Estate Valuation and Management.'
May 8 <sup>th</sup> , 2012	Annual Conference of Israel Ministry for Environmental Protection	Porter School, Tel Aviv University	<b>Invited talk</b> , Environmental Causes of Non-cancer Adult Morbidity in the Haifa Metropolitan area in 2005-2009:

Date	Place of Lecture	Name of Forum	Presentation/Comments
			Investigation of Daily Admissions to the Emergency Department of the Rambam Medical Center
May 18 <sup>th</sup> , 2012	Institute for the Advanced Studies, Vienna	Center for Cooperative Eurasia Studies and Surveys	<b>Chairmanship of the workshop and invited lecture</b> , 'Concept of H-Bubbles Project and its Practical Implications'
*September 3 <sup>rd</sup> , 2012	Israel Ministry of Environmental Protection	Information Day on Air Pollution in the Haifa Bay Area	<b>Invited talks:</b> 1) Environmental Causes of Non-cancer Adult Morbidity in the Haifa Metropolitan area in 2005-2009: Investigation of Daily Admissions to the Emergency Department of the Rambam Medical Center. 2) Investigating the Effects of Air Pollution on Childhood Morbidity using the Individual Exposure Estimates (IEE) Approach.
*May 1 <sup>st</sup> , 2013	Hebrew University of Jerusalem	Departmental Seminar, Department of Geography	<b>Invited lecture</b> , "The Dark Side of Light: Light Pollution and its Known Health Effects"
*March 9 <sup>th</sup> , 2014	Ben-Gurion University of the Negev	Departmental Seminar, Department of Geography and Environmental Development	<b>Invited lecture</b> , "Light Pollution and its Known Health Effects: Summary of Empirical Evidence and GIS Analysis."
*November 5 <sup>th</sup> -7 <sup>th</sup> , 2014	International Conference on Sustainable Lighting and Light Pollution - SLLP 2014	Seoul, Republic of Korea	<b>Invited keynote speaker:</b> "Using Light-At-Night (LAN) Satellite Data for Epidemiological Studies of Cancer and Economic Analysis (with A. Haim and N. Rybnikova)"
*February 18 <sup>th</sup> , 2015	Haifa Bay Area Association of Towns for Environmental Protection	Professional Environmental Health Monitoring Committee	<b>Invited presentation:</b> "Basics of the Research Project on the Epidemiological Health Monitoring in the

Date	Place of Lecture	Name of Forum	Presentation/Comments
			Haifa Bay Area, 2015-2020”
*March 1 <sup>st</sup> , 2015	Israel Ministry of Environmental Protection, Haifa Regional Office	Annual Meeting on the Environmental Conditions in the Haifa Bay Area	<b>Invited presentation:</b> “Research Project on the Epidemiological Health Monitoring in the Haifa Bay Area, 2015-2020”
*April 15 <sup>th</sup> , 2015	Sea Hotel, Neve Ilan	Professional Forum of the Israel Ministry of Environmental Protection	<b>Invited lecture:</b> “Research Project on the Epidemiological Health Monitoring in the Haifa Bay Area, 2015-2020”
*June 22 <sup>nd</sup> , 2015	Sea Hotel, Neve Ilan	Research conference of Israel Ministry of Environmental Protection	<b>Invited presentation:</b> "Stimulating Green Construction in Israel by Influencing Decision-making of Main Players"
*October 18 <sup>th</sup> , 2015	Ministry of Environmental Protection, Jerusalem Office	Ministry of Environmental Protection – Special session	<b>Invited lecture:</b> “Research Project on the Epidemiological Health Monitoring in the Haifa Bay Area, 2015-2020” – 1 <sup>st</sup> Year main findings
*October 19 <sup>th</sup> , 2015	Knesset, Jerusalem	Meeting with MP	<b>Invited presentation:</b> “Research Project on the Epidemiological Health Monitoring in the Haifa Bay Area, 2015-2020” – Project methodology
*November 1 <sup>st</sup> , 2015	Ministry of Environmental Protection, Jerusalem Office	Ministry of Environmental Protection CEO meeting	-“-
*November 8 <sup>th</sup> , 2015	Haifa Municipality	Haifa Municipality CEO meeting	-“-
*December 8 <sup>th</sup> and December 14 <sup>th</sup> , 2015	Haifa Bay Area Association of Towns for Environmental Protection	Professional Environmental Health Monitoring Committee	<b>Invited presentations (2):</b> “Research Project on the Epidemiological Health Monitoring in the Haifa Bay Area, 2015-2020” – 1 <sup>st</sup> Year main findings
*February 2 <sup>nd</sup> , 2016	Ministry of Health, Division of Public Services, TA	CEO Meeting	<b>Invited presentation:</b> “Research Project on the Epidemiological Health



Date	Place of Lecture	Name of Forum	Presentation/Comments
			Monitoring in the Haifa Bay Area, 2015-2020” – 1 <sup>st</sup> Year main findings
*February 2 <sup>nd</sup> , 2016	Haifa Municipality, Haifa	Emergency Session with Participation of Health and Environmental Protection Ministers	<b>Invited talk:</b> “Research Project on the Epidemiological Health Monitoring in the Haifa Bay Area, 2015-2020” – 1 <sup>st</sup> Year main findings
*February 8 <sup>th</sup> , 2016	Israeli Parliament, Jerusalem	Emergency Session of Knesset’s Interior and Environmental Protection Committee with participation of health and Environmental Protection Ministers	<b>Invited presentation:</b> “Research Project on the Epidemiological Health Monitoring in the Haifa Bay Area, 2015-2020” – 1 <sup>st</sup> Year main findings.
*February 10 <sup>th</sup> , 2016	Ministry of Health, Haifa District Office	CEO Meeting	<b>Invited presentation:</b> “Research Project on the Epidemiological Health Monitoring in the Haifa Bay Area, 2015-2020” – 1 <sup>st</sup> Year main findings.
*May 19 <sup>th</sup> , 2016	Ramat Efal Congress Center	Israel Statistical Society Annual Conference	<b>Invited lecture:</b> “Alternative Approaches to the Investigation of Population Morbidity Patterns in a Large Metropolitan Area”
*December, 4 <sup>th</sup> , 2016	Hebrew University of Jerusalem, the Rehovot Campus	Department of Agricultural Economics	<b>Invited lecture:</b> "Light at Night and its Environmental Effects"
*16 <sup>th</sup> -20 <sup>th</sup> of July, 2018	1 <sup>st</sup> International Symposium on “Life-course Epidemiology and Spatial Science” (ISLES)	Lorentz Center, The University of Leiden, the Netherlands	<b>Invited panel talk:</b> ”Estimating and Ranking Geographic Mortality Gradients in Europe”

## 8. Research Grants

### A) Grants Awarded

(PI=Principal investigator; CI=Cooperative investigator)

<b>Role in Research</b>	<b>Co-Researchers</b>	<b>Topic</b>	<b>Funded by</b>	<b>Amount</b>	<b>Year</b>
PI	-	Compensating Renewal of Historical Wooden Houses	Soros Foundation	US\$ 25,000	1989-1993
PI	-	Transport & Planning Concept of a New Town in the Norilsk Industrial Region	Norilsk Metallurgical Plant, Russia	US\$ 100,000	1989-1992
PI	V.P. Maslovskiy	Evaluation of Urban Land Attractiveness and Real Estate Value in the City of Krasnoyarsk, Russia	Krasnoyarsk Land Authority, Russia	US\$ 10,000	1993-1995
PI	-	Urban Land Evaluation under the Period of Transition from a Planned to Market Economy; Fulbright Program grant - Freedom Support Act Research Program	Foolbright		1994-1995
PI	V.P. Maslovskiy	Computerized System of Land Appraisal for the City of Barnaul	Barnaul Land Authority, Russia	US\$ 15,000	
CI	Y. Etzion and E. Erell	Mapping the Potential for Green Construction in Israel	Israel Ministry of the Environment	NIS 150,000	1997-1999
PI	-	Investigating the Patterns of New Immigrant Distribution in Israel Following the 1989-1991 Immigration Wave	Israel Ministry of Absorption	NIS 100,000	1995-1998
CI	Y. Etzion, E. Erell and D.Pearlmutter	A Computerized System for Recording Changes in Planning layouts and Building in Ministry of Residential Neighborhoods	Israel Ministry of Construction and Housing	NIS 150,000	1998-1999
PI	-	Investigating the Effect of Remoteness and Isolation on Sustainable Population Growth	Norwegian Social Science Data Service/ EC Large Scale	US\$ 8,000	1999

Role in Research	Co-Researchers	Topic	Funded by	Amount	Year
		of Small Urban Communities: A Comparative Analysis of Israel and Norway	Facility for European Research and Data Analysis		
PI	W.G.Deddis and W.McClunsky	Testing a GIS-based Computer Assisted Mass Appraisal System (GIS/CAMA) for Urban Settlements in the Negev	Jacob Blaustein Institute for Desert Studies/LSF Grant	US\$ 5,000	1999
PI	-	Interregional Migration Patterns in Israel and Japan: Employment-Housing Paradigm	Israeli Ministry of Science and Japanese Society for the Promotion of Science	US\$ 10,000	2000
PI	-	Interregional Inequalities in Israel in 1948-1995	Israel Foundations Trustees (Keren H'Hinuch)	NIS 100,000	2000-2001
PI	-	Success and Failure of Israel's Development Towns: Does Location Matter? (Seed Money Grant)	Ben-Gurion University of the Negev (Research & Development Authority)	NIS 40,000	2001-2002
PI		Development Interdependency in Urban Clusters: Evidence from Canada (2001 Faculty Research Award)	Israel Association for Canadian Studies	US\$ 5,000	2001
CI	Y. Etzion and I.Meir	Mapping the Tourist Potential of the Negev in the GIS Framework	Israel Ministry of Tourism	NIS 50,000	2002-2003
PI		Investigating the Effects of Employment-housing Change on Internal Migration: The Case of Israel (Seed Money Grant)	Ben-Gurion University of the Negev (Research & Development Authority)	NIS 20,000	2002-2003
PI	H.Bibi, J.Dubnov and M.Bar-chana	Evaluating the Effects of Air-Pollutants on Respiratory Diseases in Israel Using Individual Exposure Estimates	Israel Ministry of Health and Ministry of Environmental Protection	NIS 187,450	2008-2009

<b>Role in Research</b>	<b>Co-Researchers</b>	<b>Topic</b>	<b>Funded by</b>	<b>Amount</b>	<b>Year</b>
CI	-“-	The Effect of Air Pollution on Children's Health in Haifa Bay Area	Israel Ministry of Health and Ministry of Environmental Protection	NIS 182,000	2008-2009
CI	M.Barchana and J.Dubnov	Measurements of Soil Contaminants for Quantification, Mapping and Estimation of Population's Exposure to Contaminants Originating from Ramat Hovav Industrial Area	Israel Ministry of Health	NIS 200,000	2009-2011
CI	R.Carel and I.Karakis	Evaluation of Health Status of Employees and Retirees of the Industrial Park Ramat-Hovav	Israel Ministry of Health	NIS 75,000	2009-2010
PI	S.Linn	Environmental Factors Affecting Morbidity and Mortality in the Haifa Region of Israel	Israel Ministry of Health and Ministry of Environmental Protection	NIS 138,600	2010-2012
PI	M.Barchana and J.Dubnov	Soil Testing for Oil Pollution in the Ashqelon Industrial Area for the Investigation of Health Related Effects	Israel Gas and Oil Industries	NIS 150,000	2010-2012
CI	E. Dan, J. Dubnov and M. Barchana	Estimating Cancer Risk Attributed to Living in Proximity to Large Petroleum Storage Tanks	Joint University of Haifa and Technion Fund	\$10,000	2010-2012
*PI	E.Erell (BGU)	Promoting Energy-Saving Behavior in Residential Buildings in Israel	Israel Ministry of Energy and Water	NIS298,721	2013-2015
*PI	N. Kheir	Environmental, Demographic and Economic Factors Affecting Land Price Trends in the Arab Sector in Israel	Israel National Fund (JNF)	NIS 25,000	2014-2015
*Project leader, PI-in-charge	R.Corel and S.Linn	Continuous Prospective Health Status Monitoring of the	Haifa Municipal Associa-	NIS 4,000,000	2015-2017

Role in Research	Co-Researchers	Topic	Funded by	Amount	Year
		Haifa Bay Residents: Multi-source Approach (Haifa Bay Area (HBA) Health Monitoring Project)	tion for Environmental Protection		
*PI	S. Akron	Stimulating Green Construction in Israel by Influencing Decision-making of Main Players	Israel Ministry of Environmental Protection	NIS182,850	2015-2017
*PI	-	Socio-demographic and Environmental Factors Affecting Real Estate Prices in Jewish-Arab Mixed Cities in Israel	Center for Arab-Jewish Cooperation, University of Haifa	NIS20,000	2015-2016
*PI	T. Trop	Modelling the Perceived Quality of Public Space Lighting: An Interactive User-Oriented Approach	Israel Science Foundation (ISF)	NIS570,000	2018-2021

**B) Grant Proposals Scored "Very Good" but Not Funded**

Role in Research	Co-Researchers	Topic	Funding agency	Year	Score
PI	-	Success and Failure of Israel's Development Towns: Does Location Matter?	Israel Science Foundation	2001	Very Good
PI	-	Investigating the Effects of Employment-housing Change on Internal Migration: The Case of Israel	Israel Science Foundation	2002	Very Good
PI	I.Benenson	Upgrade, Sell, or Rent? A Model of Single-property Owners' Residential Behavior in Israel's Cities	Israel Science Foundation	2004	Very Good
PI	S.Linn, S.Paz	Investigating the Relationship between Meteorological Conditions, Particulate Matters (PM10) and the Number of Visits to Emergency Rooms in the Haifa Metropolitan Area	Environment and Health Fund	2007	Very Good

Role in Research	Co-Researchers	Topic	Funding agency	Year	Score
PI (Consortium as a whole)	Consortium of 9 European teams, including University of Haifa	Forward-looking Tools for Timely Identification and Management of Major Housing Market Dysfunctions	EU Program: FP7-SSH-2012-2 Theme 8 / Socio-economic Sciences and Humanities	2012	The proposal passed all evaluation thresholds with the resulting total score of 12 out of 15.

### C) Grant Proposals Under Review

Role in Research	Co-Researchers	Topic	Funding agency	Amount	Year

## 9. Scholarships, Fellowships, Awards and Prizes

- 1986 Honor Diploma from Ukraine State Committee of Town-Building, Kiev/Ukrainian Republic;
- 1989 All-Union Architectural Competition 2<sup>nd</sup> Award, Moscow;
- 1993 Gelsenkirchen Municipality, Germany, Redesigning of Gelsenkirchen Industrial district (Summer School Award);
- 1994 Russian Ministry of Higher Education, Increasing Land Use Effectiveness under Transition to a Market-Oriented Society (Award for federal text-book writing);
- 1999-2001 Deichmann Scholarship in Desert Studies;
- 2000 Best Paper Award on 2000 PLEA Conference on 'Architecture and City Environment,' University of Cambridge, UK (with Y. Etzion and E. Erell);
- 1998-2001 Israel Central Bureau of Statistics, Interregional Inequalities in Israel: 1948-1995 (Award for monograph writing)
- 2001-2003 Gilladi Scholarship;
- 2006 Sheikh Zayed Prize in Environmental Studies (with other authors contributed to the UN Millennium Ecosystem Assessment Report);
- 2006 Excellent Thesis Supervisor Award (University of Haifa);
- 2011 Ministry of Foreign Affairs, Republic of China - Taiwan Research Fellowship; research project title: 'Investigating the Effect of the Recent Global Economic Crisis on the Taiwan Tourist Industry';
- \*2014 Best Paper Award at the 1<sup>st</sup> International Conference on Sustainable Lighting and Light Pollution - SLLP 2014, Seoul, Korea.

## 10. Teaching

### A) Courses Taught in Recent Years

Year	Name of Course	Place	Type of Course	Degree	No of students
1987-1988	Regional Planning	Odessa Civil Engineering Institute, USSR	Frontal; compulsory	M.A.	20-30
1988-1995	Architectural & Urban Design Practice	Krasnoyarsk Civil Engineering Institute, Krasnoyarsk, Russia	Workshop	M.A.	20-30
1988-1995	Basics of Urban and Regional Planning	Krasnoyarsk Civil Engineering Institute, Krasnoyarsk, Russia	Frontal; compulsory	M.A.	30-35
1990-1995	Social Aspects of Urban and Regional Planning	Krasnoyarsk Civil Engineering Institute, Krasnoyarsk, Russia	Frontal; compulsory	M.A.	30-35
1992-1995	Research Methods in Urban & Regional Planning	Krasnoyarsk Civil Engineering Institute, Krasnoyarsk, Russia	Frontal; compulsory	M.A.	30-35
2000-2002	Basics of Urban & Regional Planning for Arid Zones	Albert Katz International School for Desert Studies, Ben-Gurion University of the Negev	Frontal; elective	M.A.	20-25
Since 2002	Geographic Information Systems (GIS) in Regional & Environmental Planning - Basic Course	University of Haifa; University of Ben-Gurion, 2000-2002	Frontal; elective + lab	M.A.	15-20
Since 2002	3D Analysis in GIS – Advanced Course	University of Haifa; since 2002; University of Ben-Gurion,	Frontal; elective	M.A.	10-20
Since 2002	Basics of Sustainable Development in Regional & Environmental Planning	University of Haifa;	Frontal; elective	M.A.	10-25
Since 2003	Environmental Aspects of Planning/Urban Environment	Department of Natural Resources & Environmental Management, University of Haifa	Frontal; compulsory	M.A.	20-35
Since 2003	GIS in Environmental Studies - Introductory lecture	-“-	Frontal; compulsory	M.A.	20-35
Since 2003	Regional & Business Location	-“-	Frontal; elective	M.A.	10-15
Since 2007	Urban & Regional Planning for Real Estate Appraisers & Managers	Graduate School of Management, University of Haifa	Frontal; compulsory	M.B.A.	30-35

Since 2007	Geographic Information Systems (GIS) for Real Estate Appraisers & Managers	-“-	Frontal; compulsory	M.B.A.	30-35
Since 2007	Sustainable Development and Real Estate Practice	-“-	Frontal; compulsory	M.B.A.	30-35
Since 2007	Research Methods A (advanced course)	Department of Natural Resources & Environmental Management, University of Haifa	Frontal; compulsory	M.A.	20-30
Since 2008	GIS in Public Health Studies	Department of Public Health, University of Haifa	Frontal; elective + lab	M.A. and Ph.D.	10-12
Since 2008	Environmental Epidemiology – Research Methods	-“-	Frontal; elective	M.A. and Ph.D.	10-12
Since 2009	Energy & Environment (Introductory Lecture on Urban Environment & Regulation)	Department of Natural Resources & Environmental Management, University of Haifa	Frontal; compulsory	M.A.	20-25
2011-2012	Urban & Regional Planning	Department of Sociology and Public Affairs, Taiwan National Dong Hwa University.	Frontal; elective	M.A. and Ph.D.	6
2011-2012	Geographic Information Systems (GIS)	Department of Taiwan and Regional Studies, Taiwan National Dong Hwa University.	Frontal; elective	M.A.	6
*Since 2014	Statistical Methods for GIS Analysis	Department of Natural Resources & Environmental Management, University of Haifa	Frontal; elective	M.A., PhD	8-10
*Since 2015	Doctoral Research Seminar	-“-	Frontal; compulsory for PhD students	PhD	15-20

#### A) Supervision of Graduate and Post-graduate Students

##### B.1) Ph.D. and PostDoc Students

Name of Student	Title of Thesis	Degree	Date of Completion	Joint publications
Asher Vaturi	Health Effects of Climate Change	PostDoc	2012	
Asher Vaturi	Migration and Financial Performance of Local Authorities: Greater Tel Aviv	Ph.D.	2009	D42, D69 and E29



Name of Student	Title of Thesis	Degree	Date of Completion	Joint publications
	Metropolitan Area as a Case Study			
Itai Kloog	Investigating the Link between Light at Night and Breast Cancer Incidence Rates	Ph.D.	2010	D62, D64, D72, D73, D83
Marina Zik-Zusman	Estimating Cancer Risk Attributed to Living in Proximity to Large Petroleum Storage Tanks	Ph.D.	2014	D85 (School of Management 2013 Best paper award); D88 (Faculty of Management 2014 Best paper award)
*Nili Greenberg	Investigating the Association Between Acute Exposure to Ambient Air Pollution and Asthma Prevalence among Young Adults in Israel	Ph.D.	2017	D93, D102, D116
*Natalya Rybnikova	Using Light-At-Night (LAN) For Identifying Industrial And Commercial Clusters	Ph.D.	2018	D92 (Faculty of Management 2015 Best Paper Award); D94; D95; Ramon Scholarship; D99; D103; D104; D105; D108; D109; D110
Tami Yogev-Bagio	Evaluation of the Effects of Air-Pollutants on Respiratory Diseases in Israel Using Individual Exposure Estimates	Ph.D.	In progress	D68 (School of Management 2012 Best paper Award); G2
Iris Atzmon	Prevalence of Cancer in the Vicinity of Transmission Antennas: The Village of Issifya as a Case Study	Ph.D.	Submitted in 2018	D75, D93, D100, D101
Bella Berezanskiy (Genkin)	Application of the Subjective Estimate Approach to Property Price Modeling in	Ph.D.	In progress	

Name of Student	Title of Thesis	Degree	Date of Completion	Joint publications
	the Greater Haifa Metropolitan Area			
*Liran Raz	Effects of non-ionizing low frequency radiation from power lines on the wellbeing and health of nearby residents	Ph.D.-track	In progress	
*Nisim Zror	Investigation the Effectiveness of Public Policy on Illegal Waste Dumping in Israel	Ph.D.	In progress	D91, D119
*Wasim Sabbagh	Investigating Morbidity among Christian Arabs in the Galilee Attributed to Light at Night (LAN) Exposure	Ph.D.	In progress	
*Alina Svechkina	Developing Geo-Statistical Methods for Spatial Identification of Environmental Health Hazards: The Greater Haifa Metropolitan Area as a Case Study	Ph.D.	In progress	D113, D114, D121, D123, D127
*Nasr Khe'ir	Factors Affecting Housing Prices in the Arab Sector in Israel	Ph.D.	In progress	D97 (Faculty of Management 2016 Best Paper Award)
*Samya Abu Raya	Study of the Relationship Between Air Quality and Growth Indicators Among the Newborn in the Haifa Bay area	PhD	In progress	
*Roman Fishtansky	Air Pollution and NHL Incidence in the Haifa Bay Area	PhD	In progress	
*Anna Krupoderova	Assessing the Effectiveness of Environmental Innovations on the Regional and Local Levels	PhD	In progress	
*Yossi Borochoy	The Effect of Environmental and Security Risk Factors on Financial Survival of Mortgage Borrowers in Israel	PhD	2018	D126
*Itai Malik	Reproductive and Body Mass Responses to Exposure of Australian Budgerigars	PhD	2018	

Name of Student	Title of Thesis	Degree	Date of Completion	Joint publications
	(Melopsittacus Undulatus) to Short Wavelength Artificial Light at Night			

**B.2) M.A. Students**

Name of Student	Title of Thesis	Degree	Date of Completion	Joint publications
Madhav Adhikari	GIS as a Tool of Urban Planning (thesis)	M.A.	2004	D55
Tzur Shoham	Modelling Housing Prices in Haifa in the GIS Framework (research project)	M.A.	2004	
Ayman Sheih-Muhammad	Public Awareness about the Importance of Open Spaces in the City of Carmiel (research project)	M.A.	2004	
Shlomo Katz, Yael Atar and Eti Tziler	Sustainability Criteria for Local Authorities: Environmental Dimensions (research project)	M.A.	2004	
Yael Waksler and Sergey Maislin	Links between Land use and Energy Consumption in Two Haifa Neighborhoods (research project)	M.A.	2004	
Liron Shapira	Environmental Factors Affecting Tamarisk Growth around the Tel-Baruch Lake (thesis)	M.A.	2005	
Itai Kloog	Investigating the Links between Artificial Light Pollution and Breast Cancer Rates: A GIS-assisted Study (thesis; Rector's 2005 Best Thesis Award)	M.A.	2005	D59
Tzur Abels and Gal Lenderer	Indicators of Sustainable Growth for Local Municipalities (research project)	M.A.	2005	
Reutal Vinshtok	Analysis of the factors affecting the spatial behaviour of cows in the water shed area of the sea of Galilee (thesis)	M.A.	2007	
Shi Assaeg	Location, Upkeep and the Patterns of Use of Public	M.A.	2007	

Name of Student	Title of Thesis	Degree	Date of Completion	Joint publications
	Parks in Haifa (thesis; <u>Excellence Award</u> )			
Oded Yakobi	Energy Conscious Building as a Tool of Energy Saving (thesis)	M.A.	2007	
Tami Yogev-Bagio	Investigation the Effect of Air Pollution from the <i>Hedera</i> Power Station on the Change of Lung Function in Children (thesis; <u>Dean's Excellence Award</u> )	M.A.	2007	
David Sadkovich	Testing the Correspondence between the Spatial Patterns of Air Pollution in the Gush Dan Region and the Local Air Monitoring System (thesis)	M.A.	2008	
Samya Naffar	Rural-Urban Migration of Arab Citizens in Israel: Analysis of Environmental 'Push-Pull' Factors (thesis)	M.A.	2008	
Yossi Hazan	Water consumption in Israel and Sustainable Development Goals (research project)	M.A.	2008	
Eli Gadir	Environmental Damage as a Result of Illegal Construction in Galilee Villages (research project)	M.A.	2008	
Jonathan Gilben	Ecological Footprint as a Tool for Sustainable Urban Management: A Case Study of Two Residential Neighborhoods in the City of Herzliyya (thesis)	M.A.	2008	
Bella Genkin (Berezansky)	Objective vs. Perceived Air Pollution as Factor of House Pricing: Haifa as a Case Study (thesis; <u>Dean's Excellence Award</u> )	M.A.	2009	D67, D70
Daud Abu-Daud	Examination of the Operation Modes of Non-governmental Environment-protection Organizations in Egypt and Jordan (thesis)	M.A.	2009	

Name of Student	Title of Thesis	Degree	Date of Completion	Joint publications
Eran Lerner & Liran Shweitzer	Bicycle Infrastructure in Haifa: Needs, Feasibility and Implementation Strategies (research project)	M.A.	2009	
Rebecca Bareli & Tova Grushko	Investigating the Link between Radon Exposure and Lung Cancer Incidence in Haifa Neighborhoods (thesis)	M.A.	2010	
Salim Saadiya	Factors Affecting and Gasoline-saving Behavior Drivers in the Egged Ltd. (thesis)	M.A.	2010	D77
Orna Woolfson, Ayelet Dagan & Tal Amitai	Studying the Association between Obesity, Air Pollution and the Prevalence of Childhood Asthma in Grater Haifa Metropolitan Area (research project; Orna Woolfson and Ayelet Dagan – excellence award)	M.A.	2010	
Nisim Zror	Investigation the Effectiveness of Vehicle Confiscation Policy on Illegal Garbage Dumping in the Haifa Region (thesis; excellence award)	M.A.	2011	
Vered Zaidman	Investigating the Link between Air Pollution by PM <sub>10</sub> Particulate Matters and the Number of Visits to Hospital Emergency Rooms in the Greater Haifa Metropolitan Area (thesis)	M.A.	2011	
Igor Grushko, Tatjana Grushko and Orna Wolfson	Air Pollution and Child Birth Characteristics in the Greater Haifa Metropolitan Area (research project)	M.A.	2011	
Hannah Akons	Exposure to Air Pollution during Pregnancy and Post-birth Child Development: The Case of Haifa, 2007-2009 (thesis)	M.A.	2011	

Name of Student	Title of Thesis	Degree	Date of Completion	Joint publications
*Evyatar Kipnis, Oded Egozi and Iddo Sukker	Environmental Justice: Investigating the Link between the Location of Coal-fired Power Stations and Socio-economic Status of Surrounding Residential Areas (project)	M.A.	2013	
*Nimrod Langa, Hen Weiss and Eliad Israel	Locational Choices of Recycling Facilities in Residential Areas (project)	M.A.	2014	
*Moran Mizrahi	The Presence of Lead in Soil and its Association with Birth Weight of New Born in Haifa (project)	M.A.	2014	
*Efrat Kerem	Effects of Light at Night (LAN) on St. Peter's Fish in the Lake of Galilee (project)	M.A.	2014	
*Nasr Khe'ir	Factors Affecting Housing Prices in the Arab Sector in Israel	M.A. (Ph.D.-track)	2015	D97
*Eran Kadush, Dror Greenberg and Daniel Gilad	Analysis of the Contribution of Environmental Factors to the Image of the City of Haifa	M.A. (research project)	2015	
*Nina Lehmann	The Role of Rural Area's Environmental Image in Preventing the Rural-to-Urban	M.A. (Ph.D.-track)	2016	
*Khitam Dalashi	Assessment of Potential Health Hazards from the Asphalt Facility in the <i>Buaina</i> village	M.A.	2017	
*Ofer Steinberg	Comparison of Statistical Methods for the Analysis of Spatial Patterns of Childhood Asthma in the Greater Haifa Metropolitan Area	M.A.	2016	
*Wail Kaban and Elior Levi	Using GIS Tools for the Analysis of Spatial Patterns of Public Complain about Environmental Conditions in Haifa	M.A. (project)	2016	

Name of Student	Title of Thesis	Degree	Date of Completion	Joint publications
*Arin Zubeidat, Sohar Zabeidat and Hiam Zabeidat	Schoolchildren's Attitude Toward Environmental Pollution: A Comparison Between Arab and Jewish Sectors	M.A. (project)	2016	
*Nir Itzkovich, Tal Bar and Ada Larin	Links between Air Pollution and Real Estate Prices in Haifa	M.A. (project)	2016	
*Jennifer Russell	Green Building and Environmental Justice at the Local Level (M.A. Program in Peace and Conflict Management Studies; Faculty of Social Sciences thesis)	M.A.	2017	
*Shoshi Ofek	Homeowners' and developers' willingness to pay for environmentally-friendly home	M.A.	2017	
*Sarit Davrashvilly	Studying the Association between Cancer Incidence in the Haifa Bay Area and Air Pollution (Local Analysis and Comparison with Other Metropolitan Areas in Israel)	M.A.	2017	D106
*Tamir Gadot	Association between Artificial Light and Obesity	M.A.	2017	Dean excellence award
*Najowa Basis	Smoking among Druze Men: Environmental and Socio-economic Aspects	M.A.	2017	
*Eyal Lahiani and Anaya Abed Algani	Environmental Awareness of Workers	M.A. (project)	2017	
*Yossi Borochoy	Implications of Security Risk Factors on Financial Survival of Mortgage Borrowers in Israel	M.A. (PhD supplementary study track)	2018	D126
*Harold Shipp	Investigating the Statistical Properties of the Double Kernel Density Estimator and its Applicability to a Multivariate Analysis of Real World Health Data	M.A.	2018	

Name of Student	Title of Thesis	Degree	Date of Completion	Joint publications
*Rotem Arad, Ariel Agibaev and Noah Robinson	Socio-economic Inequalities in Urban Areas and Green Building Proliferation	M.A. (project)	2018	
*Galit Maoz and Amir Ali	Breast Cancer Rates and Nighttime Light Pollution in Israel	M.A. (project)	2018	
*Sahil Amar and Mahmud Taha	Factors affecting Illegal Construction Waste Dumping in Villages of Azeir and Sha'av	M.A. (project)	2018	
*Itai Malik	Reproductive and Body Mass Responses to Exposure of Australian Budgerigars ( <i>Melopsittacus Undulatus</i> ) to Short Wavelength Artificial Light at Night	M.A. (PhD supplementary study track)	2018	
*Yaniv Ruben	Investigating the Relationship between Air Pollution and Morbidity in the Hod Ha'Carmel Neighborhood (Denia) in Haifa: A Case-Control Study	M.A.	Submitted in 2018	
*Yoav Hilel	Using Nighttime Satellite Images for Monitoring the Spatial Dynamics of Open Areas	M.A.	In progress	
*Irit Rotlevi	Cost – Benefit Analysis of Transition from Conventional to LED-Based Lighting: Application to Residential Areas in Israel	M.A.	In progress	
*Riky Levin	Investigating the Relationship between Precipitation and Grey Water Collection from Urban Localities	M.A.	In progress	



## **K. Synopsis of Current Research**

The current research covers six interrelated aspects of environmental studies, population geography, and urban & regional planning: 1) Environmental Epidemiology; 2) Environmental Factors of Real Estate Appraisal; 3) Urban Clustering; 4) Internal Migration; 5) Interregional Inequality; and 6) Sustainability of Urban Growth in Peripheral Areas. A short description of research in these fields is as follows.

### **Environmental Epidemiology**

This is a relatively new field of research for me (my first articles on the topic were published in 2006, see #53-54 in the refereed papers section), but appears to be very promising. My past experience with exploratory spatial data analysis (that is, the analysis of geographically referenced information) led to the development of a novel exposure evaluation method, termed the ‘individual exposure estimate’ (IEE) approach. The proposed approach was found to be an efficient tool for the estimation of the effects of environmental exposures for both respiratory and cancer related morbidity. In particular, this method helps to detect health effects associated with relatively low levels of ambient exposure, generally undetectable by traditional ‘aggregation’ or ‘zonal’ approaches. According to the latter methods the same average levels of exposure are assigned to all residents of relatively large geographic regions within which individual exposures may substantially differ, thus leading to the so called ‘exposure misclassification bias.’ A successful application of the proposed approach was demonstrated by the analysis of association between Light at Night (LAN) exposure, estimated from satellite maps and field measurements, and cancer morbidity (#59, 62-64, 73), the field in which my studies with my students and colleagues are of a pioneering nature. To date, the research resulted in several refereed papers, which attracted fairly large mass media attention, and resulted in several research grants; it is also published as an entry in an encyclopedia. The proposed research approach of individual exposure estimates is currently advanced by my MA and PhD students, and our results appear in jointly authored papers (see the corresponding sections of this CV).

### **Environmental Factors of Real Estate Appraisal**

The relationship between three groups of variables - environmental conditions in residential neighborhoods, post-occupancy housing modifications, and the market values of residential properties - are investigated. While the traditional hedonic modeling assumes the existence of direct links between environmental factors (viz., landscape views, proximity to open areas, etc.) and property values, we suggest that such links are indirect and work through the investment decisions of local homeowners. In particular, according to my research hypothesis, favorable environmental conditions in residential neighborhoods encourage property owners (*ceteris paribus*) to invest more in their properties – in renovations, gardening, and cleaning. As a result, with the passage of time, the neighborhood appearance improves overall, while property prices remain stable or may even rise. The same link may also work in the opposite direction: If environmental conditions in a neighborhood are unfavorable (e.g., the neighborhood is situated on low elevations, deprived of green views, surrounded by noisy roads or incorporates other environmental disamenities, either existing from the outset or added later on), the local homeowners may see little value in investing in the maintenance and modification of their properties, assuming that such investment is unlikely to pay off in the future. As a result, individual properties in the neighborhood deteriorate, and property prices drop. To verify these links, recent housing transactions in Haifa, have been analyzed. The analysis indicates a strong association between environmental conditions and the incidence of post-occupancy changes and modifications in residential neighborhoods. The study thus points out at an extra benefit of improving the environment, due to the dynamic process that may cause further investment.

## Urban Clustering

Until recently urban clustering was the major thrust of my research (after which my main research focus has been gradually switched to environmental epidemiology and real estate issues – see above. However, the research on this topic is still ongoing). Conceptually, an ‘urban cluster’ (UC) is defined as a group of towns located in close proximity to each other and connected by strong functional links. It should be noted that there are *two* basic schools of thoughts on urban clusters, which do not necessary concur with each other. One school of thoughts is largely supported by urban economists and considers urban clusters as *clusters of firms*. Concurrently, the second school of thoughts (supported primarily by urban and regional planners) considers urban clusters as *clusters of urban places* (that is, cities and towns), which host both firms and other urban features, such as residential neighborhoods and transportation hubs. In my view, the latter approach is more inclusive and promising and is, as such, incorporated in the book I authored on the topic (Portnov and Erell, 2001), and in a series of research papers published in several refereed journals and book chapters (see the referred paper sections of this CV). In previous studies, the role of urban clustering on the long-term development of individual towns was investigated in a number of countries - Israel, Norway and Australia. These studies demonstrated that the location of a town in relation to other urban places and the degree of sustainability the town exhibits in its population growth and economic development are closely interlinked. In part, this may be attributed to the fact that being a part of an UC may provide a wider choice of employment opportunities, specifically for the residents of peripheral towns, creating an 'emergency buffer' and limiting emigration when economic circumstances become unfavorable.

## Internal Migration

In migration studies, a standard argument is that a region, which experiences above-average employment growth, attracts more migrants. An alternative argument is suggested: The response of migration to employment change depends largely on changes in housing prices: If accompanied growth in housing prices is considerable, it is likely to offset a positive 'appeal' of employment growth, and even cause net out-migration from the area. The validity of this concept is tested in three different countries – Israel, Japan and Norway. These studies demonstrated that the introduction of the combined effect of employment housing change makes it possible to improve considerable the performance of empirical migration models. Another important concept introduced in the studies of internal migration is that of 'migration neutrality.' Migration neutrality (MN) is referred to as the state of equilibrium in which a region or community neither gains nor loses its population in migration exchanges with other areas. Using preconditions for MN as a reference line, planners and decision-makers can determine regional policies aimed at a more balanced distribution of a country's population through generating a 'migration push' in overpopulated regions and encouraging inward migration to development areas in which this growth is desirable.

## Interregional Inequality

A predictive model of interregional inequality is proposed, which explains a spatial distribution of different income groups in a given population. According to this model, such a distribution is a function of the relation between the cost of living in a particular geographic area and actual income of its inhabitants. The applicability of this model to spatial inequalities in Israel was investigated, using data from five subsequent censuses of population and housing that are held since 1948. The analysis indicated that whereas development in the central part of Israel has tended to become more uniform over time, the country's peripheral regions have moved towards further polarization of their socio-economic development. As a result of the analysis, several strategies are proposed aimed at reducing the extent of spatial disparities.

### **Sustainability of Urban Growth in Peripheral Areas**

The research considered the factors and preconditions affecting the degree of sustainability exhibited by peripheral urban settlements in their population growth and economic development. The following issues were addressed: 1) core vs. periphery: inequalities and development needs; 2) development peculiarities of peripheral urban settlements; 3) criteria for sustainable urban growth; 4) factors influencing urban growth in peripheral areas, and 5) planning strategies for sustainable development in peripheral regions. Two major theoretical conclusions were reached. First, it was concluded that the sustainability of population growth in an urban locality could be determined primarily by the town's ability to attract newcomers and retain current residents (migration attractiveness), relative to its rate of natural growth. Second, it was shown that the patterns of development of peripheral towns are not identical to those in the core. In particular, the research indicated that, compared to centrally located settlements, peripheral towns tend to exhibit wider fluctuations of economic activity, unstable population growth, and an attenuation of general urbanization trends that manifest themselves elsewhere across the country.

### **Prospective Areas of Study**

The forthcoming research will develop along several major planes covered by the previous studies: *environmental epidemiology*; *environmental factors of real estate pricing*, *urban clustering*, *regional inequalities*, and *internal migration*. A particular emphasis will be put on two separate issues: a) verification of the generality of the proposed theoretical models (longitudinal research); and b) clarification of the issues insufficiently covered by previous studies (exploratory analysis). Thus, in the field of *environmental epidemiology*, particular attention will be given to the application of the proposed individual exposure estimate approach to various types of human morbidity (such as, e.g., asthma, obesity etc.), associated with artificial light exposure, air pollution exposure (both long term and short term effects), and to a relatively new field of studies dealing with health effects associated with soil contamination. Particular emphasis will also be given to the development of more sensitive exposure estimation approaches, such as double kernel density evaluation techniques, with several studies focusing on its use being currently under preparation. In my future studies of *urban clustering and urban location*, emphasis will be put on the investigation of the factors and forces affecting the spatial extent of urban clusters in different regions and countries, and on functional links in such clusters. Future studies of spatial inequalities will primarily be focused on *intra-urban* development disparities (incomes, welfare, ethnic makeup, etc.). Further studies of internal migration should expectedly result in the publication of the book entitled, *'Migration Neutrality: Theoretical Concept and Applications in Planning,'* which is currently under preparation. Less immediate plans include two other books, *'Planning Models,'* and *'Spatial Inequalities of Urban and Regional Development.'* The former book (Planning Models) is envisioned as a textbook for students of geography and planning, which will assist them in understanding the basic concepts and approaches to qualitative and quantitative modeling in urban & regional planning studies. Concurrently, the latter book (Spatial Inequalities) is envisioned as an in-depth analysis of factors and forces, affecting the inequality of spatial distribution of population and economic development, both across regions and among intra-city divisions.