

February 2018

## CURRICULUM VITAE

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Place of birth: Haifa, Israel

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### 1. EDUCATION

**2008, Ph.D** The urban and regional planning program at the Technion, IIT, Supervision of Prof.

Maxim Shoshany, Prof. Amnon Frenkel

**2004, M.Sc** The urban and regional planning program at the Technion, IIT, Supervision of

Assistant Prof. Danny Czamanski, Prof. Lucien Benguigui

**2001, B.Sc** Environmental Sciences, Technion IIT,

### 2. APPOINTMENTS

#### 2.1 Academic

Since 2018: Full Time Lecturer, Faculty Member, School of Education, Head of the Specialization of Environmental Education, The College for Academic Studies (Or Yehuda) (by the National Council for Higher Education).

Since 2016: Full Time Senior Lecturer, Faculty Member, School of Education, The College for Academic Studies (Or Yehuda) (by the National Council for Higher Education). Director of the Specialization of Environmental Education

Since 2016: Senior Lecturer, Faculty of Architecture and Town Planning, Technion, IIT

2013-2018: Full Time Lecturer, Faculty Member, School of Education, The College for Academic Studies (Or Yehuda) (by the National Council for Higher Education). Director of the Specialization of Environmental Education

Since 2012: Senior Researcher, Center for Urban and Regional Studies, Technion, IIT

2010 - 2012: Post-Doc Position, Environmental Simulation Laboratory, Geography Department, Tel Aviv University (Host: Prof. Yuval Portugali).

2009-2016: Adjunct Lecturer, Faculty of Architecture and Town Planning, Technion, IIT

2003-2012: Researcher, Center for Urban and Regional Studies, Technion, IIT

2003 - 2009: Adjunct Teacher, Faculty of Architecture and Town Planning, Technion, IIT

### 3. TEACHING

#### 3.1 Courses Designed

- Environmental and Community Planning, Graduate Course in Environmental Education (Or Yehuda). An innovative course on the relationship between the urban environment and communities
- Water, Energy and Ecosystem Services, Graduate Course in Environmental Education (Or Yehuda). An innovative course on the ecosystem services in our neighborhoods
- Introduction to environmental thinking, Undergraduate course in Education (Or Yehuda).
- Research Seminar, Graduate Course in Environmental Education (Or Yehuda).

### 3.2 Courses taught

- Studio of Metropolitan Planning, Graduate Course in Town Planning (Technion, IIT).
- Studio of Town Planning, Graduate Course in Town Planning (Technion, IIT).
- Introduction of computerized mapping and GIS: Undergraduate Course in Geo-Information Engineering (Technion, IIT).

## 4. Research Interest

- GIS and Spatial Temporal analysis
- Analysis of population Migration with Social Network Analysis and Mathematical Modeling
- Urban and regional Planning and Analysis
- Urban Regeneration- Building Pattern Recognition
- Ecosystem Services Mapping and Public Participation GIS
- Strategic regional planning with Socio-Spatial Capital

### 4.1 Sponsored Research

2018: Israel 100, **Senior Researcher**, a masterplan of Israel for the year 2048. PI Professor Shamay Assif

A joint-venture of seven research universities regarding the spatial policy and planning policy issues for the state of Israel in its 100 anniversary.

2015: Ecopotential, **Senior Researcher**, P.I. Dr. Daniel Orenstein \$50,000, fund by the EU H2020 program

Our part in this research explores landscape preferences of the public in the desert area of Israel

2015: The Impact of the new Emek railway on the city of Beit Shean and the regional council of Emek HaMaayanot, **Senior Researcher**, P.I. Prof. Amnon Frenkel \$25,000, Funded by NGO. Bridge to the Future

This research assesses the direct and indirect impacts of the new railway connection between Haifa and Beit Shean on the city of Beit Shean and the regional council of Emek HaMaayanot.

2015: "The New Israeli Project", **Research Leader**, P.I. Visiting Prof. Shamay Assif \$30,000, funded by the Jewish National Fund

This research addresses the redevelopment of degraded urban areas and delineate renewal potential of urban sites

2014: Residential Embedded Cost, **Research Leader**, P.I. Visiting Prof. Shamay Assif \$15,000, funded by **the Jewish National Fund**

This research addresses the economic costs of residential development for the local municipality and to develop a residential embedded cost model.

2014: Accessibility, variety and choice – the role of variety in the spatial pattern of regions, **Research Leader**, Visiting Prof. Shamay Assif \$10,000, funded by the Jewish National Fund

This research develops indicators for measuring the levels of accessibility, to variety of amenities. These indicators are based on real travel speed at rush hour, and are sensitive to travel time from cities, towns and villages to four types of essential services: urban CBDs, employment areas, hospitals, and high education institutions.

2013-2016: Israel Marine Spatial Planning, **Head of the GIS and Mapping aspects of the project**, P.I. Visiting Prof Shamay Assif 1,600,000\$, funded by the Yad Hanadiv

This project initiates a spatial plan and a policy plan for the Israeli territorial waters and the Exclusive Economic Zone in the Mediterranean Sea.

2010-2013: Networked Cities, **Post-Doc Research**, Complex Networks Approach for Urban Dynamics, P.I. Prof. Juval Portugali, \$100,000, Funded by the ISF research grant

This research aims to developing urban simulation model representing the evolution and dynamics of systems of cities

Since 2011: Spatial capital integrative model for local strategic planning, **Senior Researcher**, P.I. Prof. Amnon Frenkel \$200,000, funded by the NGO. Bridge to the Future

This research develops a multi-criteria analysis of local municipalities based on benchmark analysis and spatial capital theory for providing a place based strategic planning to help local and regional municipalities in their strategic thinking processes

2011-2012: Master Plan for Spatial Distribution of Fire Stations, **Research Leader**, P.I. Prof. Maxim Shoshany \$120,000, funded by the National Firefighting Commission

This Research project analyzed alternatives for National Fire Fighting stations' distribution, and their manpower and equipment implications.

2006- 2009: Dynamic Data Mining and Knowledge Discovery, **Research Leader**, Prof. Maxim Shoshany, \$150,000, funded by MFAT- IDF R&D

The aim of this research was to merge exploratory spatial statistics with Geographic Information Systems (GIS) for risk assessment. The research was conducted in the Remote Sensing Laboratory, Faculty of Civil & Environmental Engineering, Technion.

2001-2003: Complex City models, **Researcher**, P.I. Associate Prof. Danny Czamanski & Prof. Lucien Benguigui, \$100,000, Funded by ISF research grant

This research develops dynamic models for urban self-organization description, fractal dimension and the complex morphology of urban core centers and urban spatial dynamics analysis models.

## 5. PROFESSIONAL PRACTICE

### 5.1 Planning/consulting

2016: Population and employment forecasts for Israel's northern region, **Consultant** in Project, Head Amnon Frenkel, YefeNof, Transportation, Infrastructure, construction LTD

2016: Incentives of local authorities to authorize residential development, **Consultant** in Project, Head Shamay Assif and Amnon Frenkel, Israel Lands Authority.

2016: New metropolitan area in the north of Israel, **Consultant** in Project, Head Shamay Assif and Amnon Frenkel, ministry of Construction and Housing

2012- 2013: Spatial economic analysis for Kibutz Shaar HaAmakim, **Consultant**, with CityLink LTD.

2011: Rashi Foundation, **Lecturer**, Spatial-Social Capital workshop.

2010-2011: Megido regional council: Entitlement for residential benefits, **Expert Opinion**, with Amnon Frenkel

2009-2010: Bet Hannanya, relocation of road #2, **Expert Opinion**

2009 – 2010: Yahud-Monoson: **Consultant**, for opposition initiative for assessing the city

2008 – 2009: Municipal boundaries' committee between Bat Yam, Holon and Rishon Le-Ziyyon- **Expert Opinion** representing Bat Yam

### 5.2 Public Professional Service

Since 2016: **Audit Committee** of the Israeli Section of the European Regional Science Association

2009-2014: Qiryat Tiv'on: **member** in a long term planning and master plan steering committee.

## 6. PUBLICATIONS

### 6.1 Theses

PhD Thesis: Spatio-temporal polycentricity analysis of re-urbanization: the case study of the built area of Tel Aviv (Under the Supervision of Prof. Maxim Shoshany and Prof. Amnon Frenkel).

MSc Thesis: Spatial order inside Cities- The Case of Cultural Centers in the Tel-Aviv Area (Under the Supervision of: Associate Prof. Danny Czamanski and Prof. Lucian Bengigui)

### 6.2 Refereed publications (journals)

1. Frenkel A, **Porat I**, 2017, "An Integrative Spatial Capital-Based Model for Strategic Local Planning", Planning Practice & Research, DOI: 10.1080/02697459.2017.1279929
2. **Porat I**, Benguigui L, 2016, "Global migration topology-analysis and modeling of flow network 2006-2010" Europhysics Letters 115, 18002
3. Shach-Pinsly D, **Porat I**, 2016, "Multi-identity planning process in a studio course; integrative planning in multi-identity environments" Frontiers of Architectural Research 5(3) 279-289
4. **Porat I**, L Penguigui, 2014, "World Migration Degree Global migration flows in directed networks" arXiv arXiv:1511.05338
5. **Porat I**, Shoshany M, Frenkel A, 2012, "Two phase Temporal-Spatial Autocorrelation of Urban Patterns: Revealing focal areas of Re-Urbanization in Tel Aviv-Yafo" Applied Spatial Analysis and Policy, 5 (2) 137-155
6. **Porat I**, Shoshany M, Frenkel A, 2008, "Residential and nonresidential construction initiations in Tel Aviv-Yafo: autocorrelation analysis of urban structure evolution", Environment and Planning B: Planning and Design, 35, pages 535 – 551

**Submitted:**

**Porat I** Shach-Pinsly D, Delineating urban sites of mass post-WWII public housing for urban renewal potential: Developing a pattern recognition-based model for generalizing building and defined urban fabric, **Cities**

**Refereed Conference Proceedings:**

1. **I Porat**, D Shach-Pinsly, 2015, Multi-identity planning process in a studio course; How to combine different ideologies/identities in integrative coherent planning?, Association of European Schools of Planning conference papers
2. **I Porat**, L Benguigui, 2014, "World migration degree", European Regional Science Association conference papers
3. **I Porat**, M Shoshany, A Frenkel, 2006, "Dynamic Spatial Confluence of Residential Construction Initiations Autocorrelation in Tel Aviv-Yafo 1976-2003", European Regional Science Association conference papers

### 6.3 Research reports

1. Assif S, Frenkel A, **Porat I**, 2016, New metropolitan area in the north of Israel
  2. Assif S, **Porat I**, Shach Pinsly D, 2015, The new Israeli project, building pattern recognition for sporting urban renewal processes, [http://www.kkl.org.il/files/HEBREW\\_FILES/machon-mediniut-karkait/karka-73/karka-73-2016-1.pdf](http://www.kkl.org.il/files/HEBREW_FILES/machon-mediniut-karkait/karka-73/karka-73-2016-1.pdf)
- Adler E, Assif S, Cohen Y, Portman M, **Porat I**, Taff Y, Perelman A, Catz B, 2015, Israel Marine Spatial Plan, stage 1-Current Situation of the Sea

3. Assif S, **Porat I**, Yafe I, Dombrovski D, 2014, Examination of incentives to encourage local authorities for residential construction and attracting population
4. Assif S, **Porat I**, Golan L, Polinov S, 2014, Examination of deployment patterns of towns depending on accessibility to public services centers, employment, health and education
5. Frenkel A, **Porat I**, 2014, Spatial Capital Assessment of Bet-Shean and Emek HaMaayanot (update)
6. Frenkel A, Israel E, **Porat I**, 2013 Spatial Capital diagnosis for Bet Shean
7. Frenkel A, Israel E, **Porat I**, 2013 Spatial Capital diagnosis for Emek Hamaynot
8. Frenkel A, **Porat I**, Israel E, 2013, Strategic Engines for Regional development in Emek HaMaayanot
9. Frenkel A, **Porat I**, Israel E, 2013, Strategic Tourism Engines for Beit Shean
10. Shoshany M, Bechor S, **Port I**, Aminov R, 2012, Assessment of alternatives for National Fire Fighting stations' distribution, and their Man Power and Equipment implications
11. Frenkel A, **Porat I**, 2012, Spatial Capital Assessment of Bet-Shean and Emek HaMaayanot
12. Frenkel A, **Porat I**, 2011, Spatial Capital Model for Local Strategic Planning, Methodology report.
13. Alterman R, Plaut P, **Porat I**, 2008, Planning report for Hatzor HaGlilit and participation in a special conference on Hatzor's long range planning, The Center for Urban and Regional Studies

## 7. CONFERENCES

### 7.1 Presentations

#### International:

1. **I Porat**, L benguigui, 2017, The form and function of global migration network: Analysis and modeling of bilateral flow network 2006-2010, NetSci-X Tel Aviv
2. **I Porat**, L Benguigui, 2016, Global migration topology-analysis and modeling of flow network 2006-2010, European Regional Science Association Congress, Vienne
3. **I Porat**, 2016, Public participatory GIS for mapping urban ecosystem services - a dynamic and effective tool for community building and environmental education, International Association People-Environment, Lund
4. **I Porat**, D Shach-Pinsly, 2015, Multi-identity planning process in a studio course; How to combine different ideologies/identities in integrative coherent planning?, Association of European Schools of Planning Annual Congress, Prague
5. **I Porat**, 2015, Public Participation GIS for mapping urban ecosystem services – implementations for community building and environmental education teaching, 8<sup>th</sup> World Environmental Education Congress, Gothenburg
6. **I Porat**, S Asiff L Golan, S Polinov, 2015, Accessibility availability and diversity - analysis of transportation networks from the perspective of service areas, European Regional Science Association Congress, Lisbon

7. **Porat I**, Benguigui L, 2014, "World Migration Degree, Global migration flows in directed networks, European Regional Science Association Congress, St Petersburg
8. **Porat I**, Benguigui L, 2011, "Inner migration Networks in Israel", Complexity- Architecture, Design and Urban Planning workshop, Tel Aviv University
9. **Porat I**, Shoshany M, and Frenkel A, 2008 "Spatio-temporal patterns of re-urbanization: geo-statistical analysis of construction initiation in Tel Aviv-Yafo" Proceedings of the European Regional Science Association, Liverpool
10. **Porat I**, Shoshany M, and Frenkel A, 2006, "Dynamic spatial confluence of residential construction initiations: autocorrelation in Tel Aviv-Yafo 1976-2003", Proceedings of the European Regional Science Association, Volos

**National:**

1. **Porat I**, Shach-Pinsly D, Assif S, 2017, Delineating urban sites of mass post-WWII public housing for urban renewal potential Israeli Regional Science Association Congress,
2. **Porat I**, Benguigui L, 2016, Global migration topology-analysis and modeling of flow network 2006-2010, Israeli Regional Science Association Congress,
3. **Porat I**, Assif S, Shach-Pinsly D, 2016, The New Israeli Project, Israeli Regional Science Association Congress,
4. **Porat I**, Assif S, Golan L, Polinov S, 2015, Examination of deployment patterns of towns depending on accessibility to public services centers, employment, health and education, Israeli Regional Science Association Congress, Israel
5. **Porat I**, 2015, Public Participation GIS for mapping urban ecosystem services – implementations for community building and environmental education teaching, the 15<sup>th</sup> Annual Congress for Environmental Education
6. **Porat I**, Frenkel A, 2010, "Re-urbanization- development patterns, implementation potential and strategic actions" Proceedings of the Israeli Regional Science Association
7. **Porat I**, Frenkel A, Shoshany M, 2008, "Assessment of the contribution of urban planning to development directing in Tel Aviv-Yafo", Proceedings of the 016, Israeli Regional Science Association Congress, Israel
8. **Porat I**, Frenkel A, Shoshany M, 2008, "Reurbanization spatial pattern analysis- application of spatio-temporal methods", Proceedings of the Israeli Regional Science Association
9. **Porat I**, Shoshany M, Frenkel A, 2006, "The dynamic changes of Building starts spatial patterns in Tel Aviv-Yafo: 1976-2003", Israeli Regional Science Association

**8. HONORS AND AWARDS**

2009: Gerhard Karplus Memorial Prize, for **Outstanding Excellence in Doctoral Research** in Urban and Regional Planning

2007: **Excellence in Research Achievements** Faculty of Architecture and Town Planning, Technion -Israel Institute of Technology

**9. MEMBERSHIPS (IN PROFESSIONAL ORGANIZATIONS)**

European Regional Science Association

Israeli Regional Science Association

Israel Planners Association