

## RESUME

December 2020

### **Personal Details**

Full Name Sagi Dalyot  
Identity No. 029054640  
Affiliation Environmental Crowdsourcing Laboratory  
Mapping and Geoinformation Engineering  
Faculty of Civil and Environmental Engineering  
Technion - Israel Institute of Technology  
Haifa 3200003, Israel  
Homepage <http://ecsl.net.technion.ac.il/>  
Email dalyot@technion.ac.il

### **Academic Degrees**

2010 Ph.D., Geoinformation Engineering, Faculty of Civil and Environmental Engineering, Technion – Israel Institute of Technology, Israel.  
2000 M.Sc. Geodetic Engineering (*Cum Laude*), Faculty of Civil and Environmental Engineering, Technion – Israel Institute of Technology, Israel.  
1997 B.Sc. Geodetic Engineering (*Cum Laude*), Faculty of Civil and Environmental Engineering, Technion – Israel Institute of Technology, Israel.

### **Academic Appointments**

2016- Senior Lecturer, Mapping and Geoinformation Engineering, Faculty of Civil and Environmental Engineering, Technion – Israel Institute of Technology.  
2013-2016 Lecturer, Mapping and Geoinformation Engineering, Faculty of Civil and Environmental Engineering, Technion – Israel Institute of Technology.  
2010-2013 Postdoctoral research fellow, Institute for Cartography and Geoinformatics (IKG), Leibniz University Hannover, Germany.  
2011-2013 Adjunct lecturer, Institute of Water Resources Management, Hydrology and Agricultural Hydraulic Engineering, Leibniz University Hannover, Germany.  
2007-2010 Adjunct lecturer, Urban and Regional Planning, Faculty of Architecture and Town Planning, Technion – Israel Institute of Technology.  
2004-2010 Teaching instructor, Mapping and Geoinformation Engineering, Faculty of Civil and Environmental Engineering, Technion – Israel Institute of Technology.  
2000 Research Assistant, the Department of Geophysics and Planetary Sciences, Tel-Aviv University, Israel.  
1997-2000 Teaching assistant, Mapping and Geoinformation Engineering, Faculty of Civil and Environmental Engineering, Technion – Israel Institute of Technology.

### **Professional Experience**

2000-2004 Project Manager and System Analyst, Taldor  
Leading, managing and assimilating R&D and GIS projects.  
2007-2010 Senior expert, Standards Department, the Ministry of Defense, Israel.

### **Research Interests**

- Participatory Mapping, Volunteered Geographic Information (VGI), User-Generated Content (UGC).
- Navigation, Mobility and Location Based Services (LBS), focusing on people with physical disabilities.
- Crowdsourcing and Citizen Science.
- Spatial Data Infrastructure (SDI) and environmental information.
- Spatial data integration, interpretation, mining, and modeling.

## **Teaching Experience**

### **Technion, Mapping and Geoinformation Engineering**

#### ***Undergraduate courses***

- C1. Fundamentals in Mapping and Surveying 1 (#014841/#0148881), 2013 – present
- C2. Geodetic Mapping Project (#014867), 2014 - present
- C3. Digital Mapping Project (#014869), 2014 - present
- C4. Seminar in Digital Mapping (#014866), 2014 – present
- C5. Surveying Camp (#014863), 2014 - present

#### ***Graduate courses***

- C6. Geographic Information Systems (#01680398, #01680395), 2015 - present
- C7. Geocomputation and Quantitative Geography (#016831), 2014 - present

### **The Ben-Gurion University of the Negev, the Academic Program for the IAF Pilot Course**

#### ***Undergraduate courses***

- C8. Geodesy, Mapping and Navigation (#185-1-009), 2014-2016

### **Leibniz University Hannover, Institute of Water Resources Management**

#### ***Graduate courses***

- C9. Environmental Data Analysis – Introduction to GIS (#1.5), 2011-2013
- C10. Environmental Data Analysis – GIS in Hydrology and Water Management (#2.8), 2011-2013

### **Technion, Urban and Regional Planning**

#### ***Undergraduate courses***

- C11. Advance Planning Methods (Geographic Information Systems) (#207020), 2007-2010

Upgrading 5 courses: C1, C4, C6, C9, C11

Developing 3 new courses: C7, C8, C10

## **Departmental Activities**

- D1. Academic Secretary, Transportation and Geoinformation Department (2016 – 2018)
- D2. The representative of the Transportation and Geoinformation Department at the Teaching Committee of the Civil and Environmental Engineering Faculty (2017 – present)
- D3. The representative of the Civil and Environmental Engineering Faculty at the Faculty of Architecture and Town Planning (Technion) faculty meetings (2017 – present)
- D4. Consultant, Mapping and Geoinformation, bachelor students with a bad academic condition (2019 – present)

## **Public Professional Activities**

### **Member**

2009-2010	Committee Consultant – GIS The Standards Institution of Israel (SII)
2011-2014	Vice-Chair of Administration FIG (International Federation of Surveyors) Commission 3 - Spatial Information Management
2015-2018	Chair of Working Group 3.4 - Crowdsourcing and VGI FIG (International Federation of Surveyors) Commission 3 - Spatial Information Management
2019-2022	Chair of Working Group 3.3 - User-Generated Spatial Content Empowering Communities FIG (International Federation of Surveyors) Commission 3 - Spatial Information Management
2018-	Commission Member International Cartographic Association (ICA) Commission on Location-Based Services (LBS)
2018-2022	Secretary WG IV/5: Indoor/Outdoor Seamless Modelling, LBS and Mobility ISPRS – International Society for Photogrammetry and Remote Sensing
2019-	Vice President The Israeli Society of Photogrammetry and Remote Sensing (ILSPRS)

### **Editorial Positions**

2016-2018	Editorial Review Board International Journal of 3-D Information Modeling (IJ3DIM), IGI Global
2018-2019	Special Issue Editor - Volunteered Geographic Information: Emerging Applications in Public Science and Citizen Participation, ISPRS International Journal of Geoinformation, MDPI
2019-	Editorial Board Member ISPRS International Journal of Geo-Information, MDPI
2020-	Editorial Board Member Geo-spatial Information Science, Taylor & Francis
2020-	Editorial Board Member Journal of Location-Based Services, Taylor & Francis

### **Review Work for Scientific Manuscripts (selected)**

- Transactions in GIS, Wiley
- Geodesy and Cartography Journal, Taylor and Francis
- Survey Review, CASLE
- CRC Press, Taylor and Francis
- FIG - International Federation of Surveyors
- Journal of Spatial Information Science
- Computers & Geosciences, Elsevier
- Remote Sensing, MDPI
- ISPRS International Journal of Geo-Information, MDPI
- International Journal of Geographical Information Science, Taylor and Francis
- Cartography and Geographic Information Science, Taylor and Francis
- International Journal of Digital Earth, Taylor and Francis
- Land Use Policy, Elsevier
- Networks and Spatial Economics, Springer
- Journal of Photogrammetry, Remote Sensing and Geoinformation Science, Springer
- Journal of Geographical Systems, Springer

- Computers, Environment, and Urban Systems, Elsevier
- IEEE Access, IEEE
- Transportation Research Part A: Policy and Practice, Elsevier
- PLOS One

#### **Organizing and program committee member (selected)**

- FIG Commission 3 Workshop 2011, organizing committee
- FIG Commission 3 Workshop 2012, organizing committee
- International Conference SDI & SIM 2013, scientific and organizing committee
- 6<sup>th</sup> ACM SIGSPATIAL Int. Workshop on Comp. Trans. Science 2013, scientific committee
- FIG Commission 3 Workshop 2014, scientific and organizing committee
- FIG Commission 3 and 7 Workshop 2015, Chair, scientific and organizing committee
- 11<sup>th</sup> 3D Geoinfo Conference 2016, scientific committee
- 5<sup>th</sup> International FIG Workshop on 3D Cadastres 2016, scientific committee
- 19<sup>th</sup> IEEE Intelligent Transportation Systems Conference 2016, scientific committee
- FIG Commission 3 Workshop 2017, Chair, scientific and organizing committee
- 12<sup>th</sup> 3D Geoinfo Conference 2017, scientific committee
- 13<sup>th</sup> 3D Geoinfo Conference 2018, scientific committee
- FIG LADM2018 workshop, scientific committee
- ISPRS Technical Commission IV Symposium 2018, scientific committee
- 14<sup>th</sup> 3D Geoinfo Conference 2019, scientific committee
- ISPRS Workshop Indoor 3D 2019, scientific and organizing committee
- Location Based Services Workshop 2019, scientific committee
- FIG Working Week 2020, scientific committee
- 15<sup>th</sup> 3D Geoinfo Conference 2020, scientific committee
- XXIV ISPRS Congress 2020, scientific and organizing committee
- Location Based Services Workshop 2020, scientific committee

#### **Session Chair**

- FIG Commission 3 Workshop 2014
- FIG Commission 3 and Commission 7 Workshop 2015
- The 44<sup>th</sup> Annual Conference for Science and Environment 2016
- XXIII ISPRS Congress 2016, FIG's Contributions to the Geo-Spatial Society (SpS13)
- FIG Working Week 2017
- FIG Commission 3 Workshop 2017
- ISPRS Technical Commission IV Symposium 2018
- FIG Commission 3 Workshop 2018
- Location Based Services Workshop 2019

#### **Honors, Awards and Fellowships**

- 1997 Cum Laude, B.Sc., Geodetic Engineering, Technion.
- 1999 Greenstein Prize for research excellence in "Precise GPS and geodetic control networks", Geo-Information Engineering, Technion.
- 2000 Cum Laude, M.Sc., Geo-Information Engineering, Technion.
- 2006 Second Best Paper - Oral Presentation, ISPRS Commission IV Symposium, 25-30 September, Goa, India.
- 2011 Best Paper - Oral Presentation, FIG Com. 3 Workshop, 25-28 October, Paris, France.
- 2014 Second Best Paper - Oral Presentation, FIG Commission 3 Workshop, 04-07 November, Bologna, Italy.
- 2014 Article of the Month, FIG (International Federation of Surveyors), December 2014
- 2015 Best Paper Award, IARIA, Geoprocessing 2015, 22-27 February, Lisbon, Portugal.
- 2015 Article of the Month, FIG (International Federation of Surveyors), December 2015
- 2020 A. Aranson prize for outstanding lecturer, Spring semester 2019, Civil and Environmental Faculty.

## **Graduate Students**

### **Post-Doc**

1. Dr. Lijuan Zhang (2015-2017), Enriching Maps for Pedestrian and Bicycle Navigation Using Crowdsourced Volunteered Geographic Information, Supervisor: Sagi Dalyot.
2. Dr. Gev Ben-Haim (2016), Algorithms Development for Managing Geospatial and Social Information in Environmental Crises, Supervisors: Sagi Dalyot, Shlomo Bekhor.

### **Ph.D Theses, Completed**

1. Gev Ben-Haim (2016), Local Accuracy Analysis of 3D Topographic Databases, Supervisors: Yerach Doytsher, Sagi Dalyot.
2. Yechezkel Sarid (2020), Hybrid Geoid in Israel, Supervisor: Sagi Dalyot.

### **Ph.D Theses, in Progress**

3. Talia Dror (2013- ), Crowdsourcing Geospatial Information: Developing Tools for Temporal-Based Accuracy Analyses, Supervisors: Yerach Doytsher, Sagi Dalyot (research proposal approved on 01.09.2015).
4. Ido Massad (2015- ), Optimal Fusion of Topographic Models, Supervisor: Sagi Dalyot (research proposal approved on 14.03.2017).
5. Ruba Jaljolie (2018- ), Topology Data Structure and Functionalities in Support of Information System for Management of Multi-Dimensional Land Registration, Supervisors: Sagi Dalyot, Yerach Doytsher (research proposal approved on 07.02.2018).
6. Matan Mor (2017- ), Automatic Computation of Touristic Routes based on WWW Geotagged Photos. Supervisor: Sagi Dalyot (research proposal approved on 14.05.2018).
7. Achituv Cohen (2017- ), Evaluating Accessibility of Urban Spaces for Visually Impaired Pedestrians, Supervisors: Sagi Dalyot, Asya Natapov (Loughborough University) (research proposal approved on 01.11.2018).
8. Dalit Lan (2019- ), The Development of Spatial Citizenship in the Framework of a Geographic Citizen Science Project at School and its Relevancy to Daily Life. Supervisors: Ayelet Baram-Tsabari, Sagi Dalyot (research proposal approved on 29.11.2020).

### **M.Sc. Theses, Completed**

1. Dagmara Wziątek (2013, Germany), Multi-Temporal Cliff Erosion Analysis Using Airborne Laser Scanning Survey: Rügen Island Case Study, Supervisor: Sagi Dalyot.
2. Ido Massad (2015), Applying Kalman Filter in Modeling Digital Terrain Models from Crowdsourced-based GPS Observations, Supervisor: Sagi Dalyot.
3. Shai Sosko (2016), Densifying Static Geosensor Weather Networks via Crowdsourcing of Mobile Sensor Observations, Supervisor: Sagi Dalyot.
4. Liat Mashiach (2016), Statistical-Based Method for Parking Search on the Way to Destination, Supervisors: Joshua Greenfeld, Sagi Dalyot.
5. Shay Benaim (2016), Hierarchical Approach for Extracting Road Network from Crowdsourced Data, Supervisor: Sagi Dalyot.
6. Jody Sultan (2016), Extracting Spatial and Temporal Patterns of Bicycle Rides from Crowdsourced Data, Supervisor: Sagi Dalyot.
7. Noa Binski (2016), Wikipedia as a Source of Landmarks for Enriching Car Navigation, Supervisor: Sagi Dalyot.
8. Ruba Jaljolie (2017), Topology Data Structure in Support of Three-Dimensional Cadastral Processes in Israel, Supervisors: Sagi Dalyot, Yerach Doytsher.
9. Achituv Cohen (2017), Building a Weighted Graph based on OpenStreetMap Data for Routing Algorithms for Blind Pedestrians, Supervisors: Sagi Dalyot, Shiri Azenkot (Cornell Tech, NY).
10. Eliana Bshouty (2018), Creation of LoD1 Buildings Using Volunteered Photographs and OpenStreetMap Vector Data, Supervisor: Sagi Dalyot.
11. Chen Shechter (2019), The Influence of Landmark Visibility on the Formation of a Mental Map during Car Navigation, Supervisors: Sagi Dalyot, Dafi Fisher-Gweritzman.

12. Tal Bauman (2020), Automatic Detection of Geospatial Changes based on Local Multi-Resolution Analysis of Digital Elevation Models Produced by Drone Imagery, Supervisors: Sagi Dalyot, Ophir Almog.
13. Ben Levy (2020), Traffic Anomalies Detection Using Artificial Intelligence, Supervisors: Sagi Dalyot, Jack Haddad.
14. Elias Issawy (2020), A Hybrid Model based on Machine Learning for Elevation Calculation in Smartphones, Supervisor: Sagi Dalyot.

### **M.Sc. Theses, *in Progress***

15. Eldar Lev-Ran (2020- ), Analyzing Route Preferences of Electric Scooters and Electric Bicycles based on Semi-Supervised Deep Learning Travel Mode Detection Model, Supervisor: Sagi Dalyot.

### **Research Grants**

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|-----------|---|
| 2020-2021 | Pedestrian walking patterns and traffic in Tel-Aviv, Israel, during COVID -19 quarantine and exit-quarantine policies, using BT sensor technology, Co-PI: S. Dalyot, Funding: The Israeli Center for Promoting Research in Smart Transportation, \$20,000                                 |
| 2020-2020 | Modelling Bicycle User Behavior and Preferences with Focus on E-bikes and Long Distance Bicycle Trips, CI: S. Dalyot, Funding: EIT Urban Mobility, \$230,000 (in cooperation with DTU)  |
| 2019-2020 | Blind Pedestrian Navigation App with Accurate Localization, PI: S. Dalyot, Funding: Israel Innovation Authority (Assistive Technologies), \$300,000 (in cooperation with Migdal-Or)   |
| 2018-2021 | Crowdsourced Geographic Data and Information: Development of Advanced Tools for Accuracy Analysis and Mapping Infrastructure Construction, PI: S. Dalyot, Matrix Defense Ltd. (funded by Mafat – Administration for the Development of Weapons and Technological Infrastructure, \$90,000 |
| 2018-2019 | Automatic Detection of Changes in the Built Environment based on the Multi-Resolution Analysis of Digital Elevation Models Produced from UAV Imagery, PI: S. Dalyot, Funding: The Center for Security Science and Technology, internal Technion grant, \$25,000                           |
| 2016-2017 | Crowdsourcing Assisted-GPS Sensor Ground Observations of Modern Smartphones for the Creation of Digital Terrain Models, PI: S. Dalyot, Funding: Mafat – Administration for the Development of Weapons and Technological Infrastructure, \$50,000  |
| 2016-2017 | Establishing a National Undulation Model for Israel, PI: S. Dalyot, Funding: Survey of Israel, \$40,000   |
| 2016-2018 | Information System for Management of Multi-Dimensional Land Registration (Cadastre), PIs: Y. Doytsher, S. Dalyot, Funding: Survey of Israel, \$50,000   |
| 2015-2019 | Topographic Models Integration and Geostatistical Analysis, PIs: S. Dalyot, Y. Doytsher, Funding: Rafael – Advanced Defense System Ltd., \$200,000  |
| 2015-2016 | Julia and Joshua Ruch Exchange Grant, PIs: S. Dalyot, S. Azenkot (Cornell Tech, NY), Funding: The Jacobs Technion-Cornell Institute, \$7,000  |
| 2015-2016 | Evaluation of Automatic and Semi-Automatic Technology for Classification of General Land Cover and Vegetation, PI: S. Dalyot, Funding: The Survey of Israel, \$50,000 (in cooperation with Hetz Hazafon, Israel)  |
| 2014-2016 | Formation of Hybrid Geoid Undulation Model in Israel, PIs: S. Dalyot, Y. Doytsher, Funding: The Survey of Israel, \$45,000  |
| 2014-2015 | Optimal Fusion of Topographic Models from Various Sources, PIs: S. Dalyot, Y. Doytsher, Funding: The Center for Security Science and Technology, internal Technion grant, \$32,000  |
| 2014      | 5DMuPLIS - 5D Multi-Purpose Land Information System, PIs: Y. Doytsher, S. Dalyot, Funding: Chief Scientist - Ministry of Industry, Trade and Labor, \$180,000 (academy-industry cooperation - Greece-Israel collaboration, in cooperation with Sivan Design, Israel)                      |

## **PUBLICATIONS**

Students under my supervision in *Italic*

### **Theses**

M.Sc. thesis, 2000, The Footprint Network as a Solution to the Representation Problem in Monitoring Deformations, Technion - Israel Institute of Technology. Supervisor: Associate Prof. Haim Papo.

PhD dissertation, 2010, Hierarchical Modeling and Integration of Topographic Databases: Algorithm Development and Geo-Spatial Analysis Capabilities, Technion - Israel Institute of Technology. Supervisor: Prof. Yerach Doytsher.

### **Refereed papers in professional journals**

#### **Published:**

1. Sagi Dalyot, Eran Keinan, and Yerach Doytsher, 2008. "Landslide Morphology Analysis Model Based on LIDAR and Spatial Topographic Datasets Comparison". *Surveying and Land Information Science (SaLIS)*, Vol. 68(3): 155-170.
2. David Siriba, Sagi Dalyot, and Monika Sester, 2012. "A Novel Approach for Geometric Quality Enhancement of Legacy Graphical Cadastral Datasets". *Survey Review*, Vol. 44(325): 91-101.
3. David Siriba, Sagi Dalyot, 2012. "Automatic Georeferencing of non- Geospatially Referenced Provisional Cadastral Maps". *Survey Review*, Vol. 44(325): 142-152.
4. Caroline Onyancha, Sagi Dalyot, David Siriba, and Monika Sester, 2012. "Modelling of Spatial and Temporal Variations in Groundwater Rest Levels In Nairobi City Using Geographic Information System". *Nile Water Science and Engineering Journal*, Vol. 5(1): 26-33.
5. Tobias Dahinden, Joachim Boljen, Nicole Ruhe, Sagi Dalyot, Malte Jan Schulze, and Monika Sester, 2013. "Geodatenintegration – Semantischer und Geometrischer Abgleich von Vektordaten". *Zeitschrift für Geodäsie, Geoinformation und Landmanagement (ZfV)* Vol. 138(1): 85-94.
6. Sagi Dalyot and Yerach Doytsher, 2013. "Multi-Temporal Time-Dependent Terrain Visualization through Localized Spatial Correspondence Parameterization". *ISPRS International Journal of Geo-Information*, 2(2): 456-479.
7. Sagi Dalyot, Tobias Dahinden, Malte Jan Schulze, Joachim Boljen, and Monika Sester, 2013. "Integrating Road Networks of Different Structural Geometric Primitives". *Survey Review*, Vol. 45(333): 428-440.
8. David N. Siriba, Jasper N. Mwenda, and Sagi Dalyot, 2013. "Time-Enabled Two-Dimensional Digital Cadastre: Case of the Kenyan Cadastre". *South-Eastern European Journal of Earth Observation and Geomatics*, Vol. 3(1): 109-121.
9. *Gev Ben-Haim*, Sagi Dalyot and Yerach Doytsher, 2014. "Triangulation-Based Topology Approach for 2D Point Sets Registration". *Survey Review*, Vol. 46(338): 355-365.
10. Sagi Dalyot, 2015. "Landform Monitoring and Warning Framework Based on Time Series Modeling of Topographic Databases". *Geosciences*, Vol. 5: 177-202.
11. *Ido Massad* and Sagi Dalyot, 2015. "Towards the Production of Digital Terrain Models from Volunteered GPS Trajectories". *Survey Review*, 47(344), 325-332.
12. *Talia Dror*, Yerach Doytsher, and Sagi Dalyot, 2015. "A Quantitative Evaluation of Volunteered Geographic Information Paradigms: Social Location Based Services Case Study". *Survey Review*, Vol. 47(344): 349 – 362.
13. David N. Siriba and Sagi Dalyot, 2017. "Adoption of Volunteered Geographic Information into the Formal Land Administration System in Kenya". *Land Use Policy*, Vol. 63: 279-287.
14. *Shay Sosko* and Sagi Dalyot, 2017. "Crowdsourcing User-Generated Mobile Sensor Weather Data for Densifying Static Geosensor Networks". *ISPRS International Journal of Geo-Information*, 6(3): 61.
15. *Jody Sultan*, *Gev Ben-Haim*, Jan-Henrik Haunert and Sagi Dalyot, 2017. "Extracting spatial patterns in bicycle routes from crowdsourced data". *Transactions in GIS*, 21(6): 1321–1340.
16. Keren Dalyot and Sagi Dalyot, 2017. "Towards the Use of Crowdsourced GIS Data to Georeference Child Well-Being Globally". *Social Indicators Research*, 139(1): 185-204.
17. *Ruba Jaljolie*, Peter Van Oosterom, and Sagi Dalyot, 2018. "Spatial Data Structure and Functionalities for 3D LADM System Implementation". *ISPRS International Journal of Geo-Information*, 7, 10.

18. *Ido Massad* and Sagi Dalyot, 2018. "Towards the Crowdsourcing of Massive Smartphone Assisted-GPS Sensor Ground Observations for the Production of Digital Terrain Models". *Sensors*, 18(3), 898.
19. Pawel Terefenko, Dagmara Zelaya-Wziątek, Sagi Dalyot, Tomasz Boski, Francisco Pinheiro and Lima-Filho, 2018. "High-Precision Lidar-Based Method for Surveying and Classifying Coastal Notches". *ISPRS International Journal of Geo-Information*, 7, 295.
20. *Noa Binski*, Asya Natapov, and Sagi Dalyot, 2019. "Retrieving Landmark Saliency Based on Wikipedia: An Integrated Ranking Model". *ISPRS International Journal of Geo-Information*, 8(12), 529.
21. *Eliana Bshouty*, Alexander Shafir, and Sagi Dalyot, 2020. "Towards the Generation of 3D OpenStreetMap Building Models from Single Contributed Photographs". *Computers, Environment, and Urban Systems*, 79: 101421.
22. *Achituv Cohen* and Sagi Dalyot, 2020. "Route Planning for Blind Pedestrians using OpenStreetMap." *Environment and Planning B: Urban Analytics and City Science*, 2399808320933907.
23. *Achituv Cohen* and Sagi Dalyot, 2020. "Machine-learning Prediction Models for Pedestrian Traffic Flow Levels: Towards Optimizing Walking Routes for Blind Pedestrians." *Transactions in GIS* 24 (5), 1264-1279.

### **Refereed Book Chapters**

#### Published:

1. Sagi Dalyot and Yerach Doytsher, 2009. "Hierarchical Modelling of Multi- Geospatial Databases as Basis for Geo-Oriented 3D Analysis Capabilities". In: *Lecture Notes in Geoinformation and Cartography*, Springer, pp. 301-318, ISBN: 978-3-540-87394-5.
2. Sagi Dalyot and Yerach Doytsher, 2009. "A Hierarchical Approach Toward 3-D Geospatial Data Set Merging". In: *Representing, Modelling and Visualizing the Natural Environment: Innovations in GIS 13*, CRC Press, pp. 195-220, ISBN: 978-1-4200-5549-8.
3. Yerach Doytsher, Sagi Dalyot, and Yaron Katzil, 2009. "Digital Terrain Models: A Tool for Establishing Reliable and Qualitative Environmental Control Processes". In: *GeoSpatial Visual Analytics, NATO Science for Peace and Security Series C: Environmental Security*, Springer Science and Business Media, pp. 215-234, ISBN: 978-90-481-2898-3.
4. Sagi Dalyot, Ariel Gershkovich, and Yerach Doytsher, 2012. "Hierarchical Approach for an Accuracy-Based Conflation of Multi- Topographic Databases". In: *Advances in Geo-Spatial Information Science, International Society for Photogrammetry and Remote Sensing (ISPRS) Book Series*, Taylor & Francis, CRC Press, pp. 155-174, ISBN: 978-0-415-62093-2.
5. Lijuan Zhang, Sagi Dalyot, and, Monika Sester, 2013. "Travel-Mode Classification for Optimizing Vehicular Travel Route Planning". In: *Progress in Location-Based Services (9th Symposium on Location Based Services, Munich, Germany)*. Krisp, Jukka M. (Ed.). Series: *Lecture Notes in Geoinformation and Cartography*, Springer, pp. 277-296, ISBN: 978-3-642-34202-8.
6. "The Surveyor's Contribution to Monitoring, Mitigating, and adapting to Climate Change", 2014. FIG Climate Change Task Force. Contributors: Isaac Boateng, Sagi Dalyot, John Hannah, David Mitchell, Paul van der Molen, Martinus Vranken. FIG Publication No. 65, ISBN 978-87-92853-26-4 (76 pages).
7. Monika Sester and Sagi Dalyot, 2015. "Enriching Navigation Instructions to Support the Formation of Mental Maps". In: *Advances in Spatial Data Handling and Analysis (Select Papers from the 6th IGU Spatial Data Handling Symposium, Toronto, Canada)*. Harvey, F.; Leung, Y. (Eds.). Series: *Advances in Geographic Information Science*, Springer, pp. 15-33, ISBN: 978-3-319-19949-8.
8. *Gev Ben-Haim*, Sagi Dalyot, and Yerach Doytsher, 2015. "Polygonal Quality-Dependent Approach for Digital Terrain Models Accuracy Computation". In: *Advances in Spatial Data Handling and Analysis (Select Papers from the 6th IGU Spatial Data Handling Symposium, Toronto, Canada)*. Harvey, F.; Leung, Y. (Eds.). Series: *Advances in Geographic Information Science*, Springer, pp. 209-225, ISBN: 978-3-319-19949-8.
9. "New Trends in Geospatial Information: The Land Surveyors Role in the Era of Crowdsourcing and VGI ", 2019. FIG Report. Contributors: Vlado Cetl, Charalabos Ioannidis,



- Sagi Dalyot, Yerach Doytsher, Yaron Felus, Muki Haklay, Hartmut Mueller, Chryssy Potsiou, Enrico Rispoli and David Siriba. FIG Publication No. 73, ISBN 978-87-92853-85-1 (124 pages).
10. *Talia Dror*, Yerach Doytsher and Sagi Dalyot. "Investigating the Use of Historical Node Location Data as a Source to Improve OpenStreetMap Position Quality". In: *Open Source Geospatial Science for Urban Studies: The Value of Open Geospatial Data*, 55. (pp. 55-73). Springer, Cham.

### **Refereed papers in conference proceedings**

#### **Published:**

1. Sagi Dalyot, Yerach Doytsher, 2007. "A New Concept for Dynamic Handling of Localized Georegistration Parameters between Two Geospatial Datasets", in proc. International Conference on Information Reuse and Integration, IRI 2007, IEEE, 13-15 Aug., pp. 429-435, ISBN: 1-4244-1500-4, Las Vegas, NV, USA.
2. Sagi Dalyot, Ariel Gershkovich, and Yerach Doytsher, 2010. "A Hierarchical Quality-Dependent Approach toward Establishing a Seamless Nationwide Topographic Database", Joint International Conference on Theory, Data Handling and Modelling in GeoSpatial Information Science, May 26-28, Hong Kong, China.
3. Caroline Onyancha, David N. Siriba, Sagi Dalyot, and Monika Sester, 2011. "Spatial Modeling of Groundwater Conditions in Nairobi City using Geographic Information System", 15th International Conference for Women Engineers and Scientists (ICWES15), 19-22 July, Adelaide, Australia.
4. Sagi Dalyot and Yerach Doytsher, 2011. "A Hierarchical Approach toward Time-Dependent Topographic Visualization", 14th AGILE Conference on Geographic Information Science, 18-21 April, Utrecht, The Netherlands.
5. David N. Siriba and Sagi Dalyot, 2011. "Automatic Geo-referencing of Provisional Cadastral Maps: Towards a Survey-accurate Cadastral Database for a National Spatial Data Infrastructure". FIG Commission 3 Workshop, Paris, France. Best Paper Award.
6. Sagi Dalyot and Daniel Eggert, 2012. "Octree-Based SIMD Strategy for ICP Registration and Alignment of 3D point clouds". ISPRS Annals of Photogrammetry, Remote Sensing and Spatial Information Sciences, vol. I-3, p. 105-110.
7. Sagi Dalyot, Tobias Dahinden, Malte Jan Schulze, Joachim Boljen, and Monika Sester, 2012. "Geometric adjustment Towards the Alignment of Vector Databases". ISPRS Annals of Photogrammetry, Remote Sensing and Spatial Information Sciences, vol. I-4, p. 13-18.
8. Gev Ben-Haim, Sagi Dalyot, and Yerach Doytsher, 2012. "Localized Accuracy Assessment of Topographic Databases: ASTER Case Study". 15th International Symposium on Spatial Data Handling, Bonn, Germany.
9. Gev Ben-Haim, Sagi Dalyot, and Yerach Doytsher, 2013. "Geostatistical Approach for Computing Absolute Vertical Accuracy of Digital Terrain Models". 2013 Fourth International Conference on Computing for Geospatial Research and Application (COM.Geo), p. 32 – 39.
10. Gev Ben-Haim, Sagi Dalyot, and Yerach Doytsher, 2013. "2D Point Sets Registration: Aggregative Triangle-based Voting Algorithm". International Conference SDI and SIM 2013, Skopje, Macedonia.
11. *Shai Sosko* and Sagi Dalyot, 2015. "Towards the Use of Crowdsourced Volunteered Meteorological Data for Forest Fire Monitoring". Geoprocessing 2015, the 7th International Conference on Advance Geographic Information Systems, Applications, and Services, Lisbon, Portugal, pp.127-132. Best Paper Award.
12. *Jody Sultan*, *Gev Ben-Haim*, Jan-Henrik Haunert and Sagi Dalyot, 2015. "Using Crowdsourced Volunteered Geographic Information for Analyzing Bicycle Road Networks". Joint FIG Commission 3 & 7 Meeting on "Crowdsourcing of Land Information", St. Julius, Malta.
13. *Noa Binski*, *Lijuan Zhang* and Sagi Dalyot, 2016. "Wikipedia Entries as a Source of Car Navigation Landmarks". ISPRS XXIII Congress, Prague, Czech Republic. ISPRS Annals of Photogrammetry, Remote Sensing and Spatial Information Sciences, Volume III-2, 2016, pp.45-52.
14. *Ruba Jaljolie*, Peter Van Oosterom, and Sagi Dalyot, 2016. "Systematic Analysis of Functionalities for the Israeli 3D Cadastre". 5th International Workshop on 3D Cadastres, pp. 447-471.

15. *Matan Mor* and Sagi Dalyot, 2018. "Computing Touristic Walking Routes using Geotagged Photos from Flickr". In Adjunct Proceedings of the 14th International Conference on Location Based Services (pp. 63-68). ETH Zurich.
16. *Achitav Cohen* and Sagi Dalyot, 2019. "Pedestrian Traffic Flow Prediction based on ANN Model and OSM Data". In Proceedings of the XX<sup>th</sup> International Cartographic Conference, Vol.2, Tokyo, Japan.
17. Dafna Fisher-Gewirtzman, Roei Yosifof, and Sagi Dalyot, 2019. "Visual Experience Route Planning for Urban Environments". Proceedings of the 12<sup>th</sup> Space Syntax Symposium, Beijing, China.
18. *Eliana Bshouty* and Sagi Dalyot, 2019. "Calculating OpenStreetMap Building Heights from Single User-Generated Photographs." In IGARSS 2019-2019 IEEE International Geoscience and Remote Sensing Symposium. IEEE, Yokohama, Japan.
19. *Matan Mor*, Dafna Fisher-Gewirtzman and Sagi Dalyot, 2019. "Using Geotagged Photos to Study Visitors Mobility in Urban Parks during Shadow". In Adjunct Proceedings of the 15<sup>th</sup> International Conference on Location Based Services, p.219, Vienna, Austria.
20. *Ben Levy*, Jack Haddad, and Sagi Dalyot, 2019. "Automatic Incident Detection along Freeways using Spatiotemporal Bluetooth Data". In Adjunct Proceedings of the 15<sup>th</sup> International Conference on Location Based Services, p. 153, Vienna, Austria.
21. *Matan Mor*, Johannes Oehrlein, Jan-Henrik Haunert and Sagi Dalyot, 2020. "Whom to Follow? A Comparison of Walking Routes Computed Based on Social Media Photos from Different Types of Contributors", AGILE: GIScience Series 1: 1-19.
22. *Matan Mor* and Sagi Dalyot, 2020. "Enriching Walking Routes with Tourism Attractions Retrieved from Crowdsourced User-Generated Data", ISPRS Annals of the Photogrammetry, Remote Sensing and Spatial Information Sciences 5: 95-102.

## **Conferences**

### **Invited Talks:**

1. "GPS routes based on crowdsourcing - extracting infrastructural information about location and time". Geospatial Crowdsourcing and VGI: Establishment of SDI & SIM, FIG Commission 3 Workshop and Annual Meeting, November 7<sup>th</sup>, 2013, Bologna, Italy.
2. "5D MpLIS - 5D Cadastre GIS". 4<sup>th</sup> National Congress of Rural and Surveying Engineering, September 26<sup>th</sup>, 2014, Thessaloniki, Greece.
3. "3D Cadastral System Functionalities for 5D Multi-Purpose LIS". 4<sup>th</sup> National Congress of Rural and Surveying Engineering, September 26<sup>th</sup>, 2014, Thessaloniki, Greece.
4. "Automatic Classification of Travel-Modes towards Multimodal Traffic Control". Israeli Association for Automatic Control (IAAC) workshop on Traffic Control: Theory and Applications, March 16<sup>th</sup>, 2015, Herzliya, Israel.
5. "Functionalities Required of 5D LIS". 5DMuPLIS workshop, September 10<sup>th</sup>, 2015, Athens, Greece.
6. "Development of apps for revealing bicyclist behaviour". Nordic Perspective Summit, October 13<sup>th</sup>, 2020, Copenhagen, Denmark (online).
7. "Heighting with GNSS using Geoidal Model – Experiences from Israel". 5<sup>th</sup> Africa Regional Conference, December 4<sup>th</sup>, 2020 (online).

### **Invited Seminars:**

1. "Weather Data Geosensor Static Network Densification through the Crowdsourcing of Smartphone Sensors". April 30<sup>th</sup>, 2017, Ben-Gurion University, Israel.
2. "User-oriented Map Services in the Age of Citizens as Sensors". May 21<sup>st</sup>, 2018, Tel-Aviv University, Israel.
3. "Automatic Detection of Environmental Changes based on the Multi-Resolution Analysis of Digital Elevation Models Produced by UAV Imagery". September 25<sup>th</sup>, 2018, University of Iceland, Iceland.
4. "Route Planning for Blind Pedestrians". July 27<sup>th</sup>, 2019, Ogata Lab of Human and Environmental Studies, Kyoto University, Japan.

5. "3D OpenStreetMap Building Models from Single Contributed Photographs". August 2<sup>nd</sup>, 2019, Sekimoto Lab of Human Centered Urban Informatics, Tokyo University, Japan.
6. "Blind Pedestrians Route Planning - The Potential of Crowdsourced Maps". November 14<sup>th</sup>, Department of Geography, University Zurich, Switzerland.
7. "Route Planning for Blind Pedestrians - Using and Enriching Crowdsourced Maps". December 31<sup>st</sup>, 2019, the Department of Environmental Physics and Solar Energy, Ben-Gurion University, Israel.