




PROF. YERACH DOYTSHER
CURRICULUM VITAE
2006

	<p>Date of Birth: October 10th, 1945 Place of Birth: Russia Nationality: Israeli (since 1950) Profession: Professor of Mapping and Geo-Information Position: Head, Transportation and Geo-Information Engineering Department, Technion – Israel Institute of Technology</p>
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Professor Yerach Doytsher was born in Russia (1945) and immigrated to Israel as a young child (1950). He studied at the Technion - Israel Institute of Technology, and obtained BSc in Civil Engineering - specializing in Surveying and Geodesy - Summa Cum Laude in 1967. In 1970 he was licensed for land surveying ("Israeli Licensed Surveyor"). Later, he received MSc (1972) and DSc (1979) in Geodetic Engineering also from the Technion.

He started his professional activity in the public sector and had worked for 8 years at the Survey of Israel (the governmental agency responsible for geodesy, mapping, cadastre and GIS). As head of the automation and computation division, he was involved in developing automation methods and techniques for plane and geodetic surveying, and in developing automation applications and projects for cadastral survey.

During the next 20 years he had worked in the private sector as a professional manager, mapping and GIS projects supervisor, and as a senior scientific consultant. He handled topographic and cadastral engineering projects; developed geo-referenced urban databases and automated methods for town planning projects; implemented analytical and digital photogrammetry for cadastral mapping and land management, and digital terrain models for automated topographic and highway design; and managed multi-layer wide range GIS projects. He had also acted during this period as a scientific and professional consultant to different domestic and international organizations in the fields of Geodesy, Photogrammetry, Computer Graphics, Automated Mapping, and Geographic Information Systems.

Simultaneously with his professional career, he had lectured since the 1970s as an adjunct associated professor at several universities (Technion, Tel-Aviv University, Bar-Ilan University), tutoring mapping and geo-information engineers, surveyors and geodesics, civil engineers, and geographers.

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The third period of Prof. Doytsher's career had started at 1996, when he was appointed as a faculty member at the Technion, where he is today a full Professor of Mapping and Geo-Information. He was responsible for updating and upgrading the previous geodetic curricula, with a significant transition from a limited geodetic program focusing mainly on geodetic aspects to a comprehensive and modern mapping and geo-information undergraduate and graduate programs. This transition was followed by a considerable increase in the number of undergraduate students, and a huge increase in the number of MSc & PhD students. In addition to teaching and research activities, he is currently the head of the Department of Transportation and Geo-Information Engineering (including heading the Mapping and Geo-Information Engineering undergraduate and graduate teaching programs). He is also heading the Geodesy and Mapping Research Center of the Technion.

Included within the research interests and expertise of Prof. Doytsher are: Geographic Information Systems in general and graphical-digital conversions in particular; Using non-linear transformation (rubber sheeting) algorithms and techniques for maps and database conversion; Conflation and merging of digital 2-D & 3-D information (maps and databases); Land information & management systems in general and digital cadastre and 3-dimensional cadastre in particular; Digital terrain models (DTMs and DSMs); Digital photogrammetry and LiDAR.

Prof. Doytsher published more than 200 papers and research reports in international technical journals, international and local symposia proceedings. He participated in more than 80 conferences and congresses, and gave more than 100 presentations on various topics of geodesy, surveying, cadastre, cartography, photogrammetry, mapping and GIS. He had supervised (and continue supervising) about 15 PhD and 30 MSc graduate students since the 1990s.

Since the mid 1990s he has been active in FIG, and for the last 10 years he is the Israeli national delegate to commission 3 (Spatial Information Management). During this period, he has participated very actively in most of the annual FIG conferences and congresses and in the annual commission 3 workshops, as well as in many other FIG events. His activity is expressed mainly in issues such as: land management, geospatial information, cadastre in general and digital and 3-dimensional cadastre in particular, etc.

Selected papers and presentations within FIG activity in the last 10 years:

- Doytsher Y., 1996. "Large Scale Multi-informational Urban Mapping", Surveying and Land Information Systems, Vol. 56(3), pp. 156-164.
- Doytsher Y., 1997. "Geometrical and Topological Improvement of Structures Measured from Photographs", Surveying and Land Information Systems, Vol. 57(1), pp.11-22.
- Fradkin K., Doytsher Y., 1998. "Establishing a Digital cadastre in Israel", 21st International Congress of Surveyors, Brighton, England.

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- Gelbman E., Doytsher Y., 1999. "Automatic Filtering and Classification of Raw Field Surveying Data". Surveying and Land Information Systems, Vol. 59(4), pp.231-240.
- Doytsher Y., Forrai J., Krupnik A., 1999. "The 1998 Israeli Regulations for Surveying and Mapping: Standards and Regulations of Spatial Information", 1999 FIG Commission 3 Annual Workshop and Seminar, Budapest, Hungary, CD Proceedings – session 4(3):1-5.
- Doytsher Y., 2000. "Spatial Information Infrastructures in Israel: Toward the 21st Century", 2000 FIG Commission 3 Annual Workshop and Seminar, Athens, Greece, CD Proceedings.
- Nimre S., Doytsher Y., 2000. "An Alignment Process of Master Plans at Large Scale in a GIS Environment", 2000 FIG Commission 3 Annual Workshop and Seminar, Athens, Greece, CD Proceedings.
- Doytsher Y., 2000. "Current Geospatial Projects in Israel", FIG Commission III&VII Newsletter, Newsletter 20, March 2000, pp. 21-24 (Invited Paper).
- Doytsher Y., 2000. "A Rubber Sheeting Algorithm for Non-Rectangular Maps". Computers & GeoSciences, Vol. 26(9), pp. 1001-1010.
- Doytsher Y., Forrai J., Kirschner G., 2001. "Initiatives toward a 3D GIS-Related Multi-Layer Digital Cadastre in Israel", FWW 2001, Seoul, Korea.
- Benhamu M., Doytsher Y. 2001, "Research toward a Multilayer 3-D Cadastre: Interim Results", International Workshop on "3D Cadastres", Delft, Netherlands.
- Fradkin K., Doytsher Y., 2002. "Urban Digital Cadastre: Analytical Reconstruction of Cadastral Boundaries". Computers, Environment and Urban Systems, Vol. 26(5), pp. 447-463.
- Croitoru A., Doytsher Y., 2002. "A Step Toward Accuracy-Based Vector-Data Prioritizing", 22nd International Congress of Surveyors, Washington DC, USA,.
- Gavish Y., Doytsher Y., 2002. "Analytical Cadastre in Israel: Restoring Land Boundaries Based On Photogrammetric Tools", 22nd International Congress of Surveyors, Washington DC, USA.
- Benhamu M., Doytsher Y., 2002. "A Multilayer 3-D Cadastre: Problems and Results", 22nd International Congress of Surveyors, Washington DC, USA.
- Abo Akel N., Zilberstein O., Doytsher Y., 2003. "Automatic DTM Extraction from Dense Raw LIDAR Data in Urban Areas", FIGWW 2003, Paris, France.
- Croitoru A., Doytsher Y., 2003. "Accounting for Discontinuities in Cadastral Data Accuracy: Toward a Patch-Based Approach", FIGWW 2003, Paris, France.
- Benhamu M., Doytsher Y., 2003. "Toward a Multi-Space 3D Cadastre in Israel". Computers, Environment and Urban Systems, Vol. 27, pp. 359-374.
- Nimre S., Doytsher Y., 2003. "A Line-based Alignment Process of Large-Scale Master Plans". Geomatica, Vol. 57(3), pp. 299-311.

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- Lichtenstein A., Doytsher Y., 2004. "Geospatial Aspects of Merging DTM with Breaklines", FIGWW 2004, Athens, Greece.
- Abo Akel N., Filin S., Doytsher Y., 2005. "From Airborne Laser Data to Spatial Information: Object Reconstruction and Accuracy Analysis", FIG Working Week 2005 and the 8th International Conference of GSDI, Cairo, Egypt.
- Safra E., Doytsher Y., 2006. "Using Matching Algorithms for Improving Locations in Cadastral Maps", 23rd International Congress of Surveyors, Munich, Germany (to be presented).