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## **Welcome Address**

Dear colleagues and friends,

Welcome to Israel. For many of you this is the first time and I hope you will serve as good will ambassadors of our Country after you'll find some of your premonitions will be negated and the positive ones will be amplified.

Welcome to Haifa, the city of pluralistic views and way of life, where the three monotheistic religions live together in addition to other sects and denominations, the beautiful city where the Carmel Mountain drops into the Mediterranean Sea. Welcome to the young University of Haifa where over 16,000 students from all over the area are studying and research grants awarded to faculties, sky rocketed and doubled in the last 3 years.

Welcome to the ISPRS Joint Workshop on: "Core Spatial Databases - Updating, Maintenance and Services - from Theory to Practice". I'm pretty sure it will be our pleasure and privilege to discuss the presentations, analyze the results and deduct the right conclusions concerning solutions. It seems also that the seed of cooperation planted here will support future efforts for such widely joined ISPRS Workshops.

Enjoy your stay in Haifa. I hope you'll carry good and pleasant memories of the Workshop sessions, Coffee line discussions, and social events as well.

*Ammatzia Peled*

*Workshop Director*

## **Sponsors**

**UNIVERSITY OF HAIFA**

**ISPRS** - International Society for Photogrammetry and Remote Sensing

**SURVEY OF ISRAEL**

**ILCA** - Israel Society for Cartography and GIS

**ISA** - Israel Space Agency

**ESRI**

**SYSTEMATICS** - Systematics Technologies

**ATOS** - Haifa Conventions Bureau

**OFEK** - Ofek Aerial Photo

**IMAGESAT** - Imagesat International

**ILSPRS/IFHAM** - Israel Society for Photogrammetry & Remote Sensing

## **Conference Director**

**Ammatzia Peled**

Universality of Haifa

2<sup>nd</sup> Vice -President, Haifa, Israel

## **Organizing committee**

<b>Dan Blumberg</b>	IFHAM
<b>Haim Srebro</b>	Survey of Israel
<b>Joseph Forrai</b>	Survey of Israel
<b>Ron Adler</b>	Survey of Israel
<b>Ayellet Pelled</b>	University of Haifa

## **Scientific Program Committee**

### **Chairman**

**Ammatzia Peled** ISPRS 2<sup>nd</sup> Vice-President, Haifa, Israel

### **Co-Chairs**

<b>Orhan Altan</b>	ISPRS President, Istanbul, Turkey
<b>Gottfried Konecny</b>	ISPRS Honorary Member, Hannover, Germany
<b>Marguerite Madden</b>	President ISPRS Commission IV, Athens, GA, USA
<b>Haruhisa Shimoda</b>	President ISPRS Commission VIII, Tokyo, Japan
<b>Wenzhong (John) Shi</b>	President ISPRS Commission II, Hong Kong, China
<b>Haim Srebro</b>	Director General, Survey of Israel, Tel Aviv, Israel
<b>Piero Boccardo</b>	ITHACA & Politecnico di Torino Ditag, Torino, Italy
<b>Costas Armenakis</b>	Toronto, Ontario, Canada
<b>JIANG Jie, Beijing</b>	Chair ISPRS WG IV-1, China
<b>Christian Heipke</b>	Hannover, Germany
<b>Sisi Zlatanova</b>	Delft, The Netherlands
<b>Alfred Stein</b>	Enschede, The Netherlands

## **Conference Secretary**

Workshop Team and secretariat [icwgiv-viii@geo.haifa.ac.il](mailto:icwgiv-viii@geo.haifa.ac.il)

## **Core Spatial Databases Updating, Maintenance and Services, from Theory to Practice**

Photogrammetry and Remote Sensing is the art, science, and technology of obtaining reliable information from noncontact imaging and other sensor systems about the Earth and its environment, and other physical objects and processes through recording, measuring, analyzing and representation.

The Workshop: "Core Spatial Databases - Updating, Maintenance and Services - from Theory to Practice", is organized by six Working Groups.

Among the themes of the Workshop are: Automatic and Autonomous Updating of Core Spatial Data Bases; Updating urban databases; Regional, National and international Mapping Agencies Practices; Spatial Data Infrastructure (SDI); Temporal GIS Modeling; Versioning; Disaster Management, e-services; and Data Alignment.

The Workshop will bring together researchers, scholars, students, professionals, vendors, users, managers and decision makers to present, exhibit and discuss the issues and latest trends in the Maintenance, Updating and Services of core spatial data bases.

Credible classification of remotely sensed data is currently one of the most challenging facets of geo-information sciences. The significant advance we have been witnessing in remotely sensed data quality and the similar progress we are seeing in computing power enable us today to simultaneously study a large number of spatial phenomena. Rapid increase in available data sources (more satellites, new airborne sensor systems, advanced ground scanners and in situ observations) and the multi-source complex data they generate calls for the automatization of image understanding processes. Automatization becomes fundamental to ensure spatial data bases remain relevant and responsive to modern processing and product requirements. From location definition, phenomenon description and decision making, spatially structured and textured data serve as a source for intelligent, timely and effective answers.

Each of the six contributing ISPRS Working Groups will organize special sessions that will complement our jointly organized theme sessions. Also offered during the Workshop are technical and social events and "Holy Land" tours after the Workshop

## How to get around

Haifa has two main kinds of public transportation: Buses and "service taxis" (minibuses which are numbered the same as busses, drive through the same route and are priced similarly)  
\*both cost around 6 NIS.

\* To get to the University from your hotel, you can also use a private taxi that costs around 40 NIS.

\*busses don't run after midnight.

**Hof HaCarmel** Central train/bus station to **Dan Panorama & Dan Carmel** hotel:  
Buses # **133, 3, 99**.

**Dan Carmel** hotel to the **University of Haifa**:  
Bus or service taxi # **37**.

**Dan Panorama** hotel to the **University of Haifa**:  
Bus or service taxi # **37** or **30**.

**Nof** hotel to the **University of Haifa**:  
Bus # **30**.

**Hof HaCarmel** Central train/bus station to the **University of Haifa**:  
Buses # **46** and **146**

Bus #30: 13:05 every hour until 18:05 (final bus)

Bus #37: 6:10 every 20 minutes until 23:00 (final bus)

Bus #46: From c.station to the university. 6:50 around every hour until 11:20

From the university to c.station, 13:50 around every hour until 20:00

Bus #146: From c.station to the university. 6:30 around every hour until 19:30

From the university to c.station, 7:00 around every hour until 20:00

Buses to University of Haifa

[http://www.haifa.ac.il/html/html\\_eng/bus\\_lines.html](http://www.haifa.ac.il/html/html_eng/bus_lines.html)

Haifa info map

[http://www.virtual-rehab.org/2009/downloads/haifa\\_area\\_map.pdf](http://www.virtual-rehab.org/2009/downloads/haifa_area_map.pdf)

## General Information

### Conference venue

University of Haifa, Rabin building, 5<sup>th</sup> floor, room 5009

Official Language for the conference is English

### Registration and secretariat desk

Registration will be located at the 5<sup>th</sup> floor of The Rabin Building from the opening hour till the closing hour, each day of the conference.

### Opening hours

Sunday 14 8:30-17:30

Monday 15 8:30-17:30

Tuesday 16 8:30-17:30

Wednesday 17 8:30-17:00

### Name badges

You will receive a participant tag with your name at the registration desk  
Take the time for registering under consideration.

### Ice breaker 15.3

Will be held at the Rondo Restaurant, in Dan Carmel Hotel

### Workshop Dinner 16.3

Will be held at the Isabella restaurant which is located in Carmel Center, 8<sup>th</sup> Mahanaim street, a walking distance from your hotels  
We will see you there at 19:00

## Useful Information

### Banks and currency

Each bank has different hours of operation. However, all banks are open Sunday - Friday 8:30 AM- 12:30 PM, and all are closed on Saturday.

Most banks have ATMs.

The currency used here is the NIS (New Israeli Shekel)

1.00 USD ~ 3.7 ILS

1.00 EUR ~ 5.1 ILS

### Dress code

Dress code is informal both during the workshop and the receptions

### Electricity

The voltage requirements in Israel are: 230 V; 50 Hertz.

You'll need a voltage converter, and plug adapter in order to use 110V appliances.

### Emergency

In case of emergency, dial from any phone:

100 for the police

101 for hospital & ambulance services

### Phone service

The international phone access code to **Israel** is +972

The city code for **Haifa** is 04, **Tel Aviv** 03, **Jerusalem** 02

To call Haifa from abroad +972-4-1234567

To call abroad from Israel first dial 00, 012, 013 or 014

#### Post office

There is a post office at the University of Haifa, located in the

#### Public transport to airport

BGA is located 110 km from Haifa, approx 1.5 hr  
Distance from Jerusalem: 50.4 km, approx 45 minutes.  
Distance from Tel-Aviv: 19.4 km, approx 18 minutes.

The 3 means of transportation to and from the airport are:

1. **Train**

The train station at the airport operates 24 hours a day but they STOP their service from Friday noon and resume to function only on Saturday evening around 20:00

2. **Private taxi**

The Taxi companies at Ben-Gurion Airport operate under supervision of the Israel Airports Authority. The Taxi Stations and dispatcher's counter at Terminal 3 are located on Level G of the Multi Level Road.

Taxis charge extra payment for luggage, extra persons or reservation by phone. We advise you to always ask the driver to use the taximeter.

3. **"Sherut Amal" (service taxi).**

"Amal taxis" is a company that operates transport to and from the airport. It is a shared van that will take you to your hotel, for a fixed fee of 65 NIS.

The only downfall is that at certain times, you will have to wait until all 10 seats are occupied.

#### Restaurants

Restaurants operate all week, usually opening around 9:00 and close around 24:00

#### Shops

Stores in Israel are open daily from Sunday through early Friday afternoon. Some observe a "siesta" from 1pm to 4pm, reopening until 7pm. Malls close later in the day and are open on Saturday nights.

#### Time

The time zone for Israel is GMT + 2  
Latitude 32° 49' North  
Longitude 34° 59' East

#### Tipping

When tipping, pay in cash, not credit. In restaurants it is custom to give a tip between 12-15%, depending on how you enjoyed the service.  
However some automatically include a 12.5% service charge in the tab.

#### V.A.T

There is a value added tax (V.A.T) on most goods and services in Israel. At retail stores, this tax is always included in the price.

## Information for Presentations

#### General information for speakers

A projector and laptop are available in each conference room. Presentations should be ready on CDs or USB pen drivers and loaded in the session's room **at least 30 minutes** before it begins.

Presentations to be loaded on the pc available in the conference rooms must be prepared in Microsoft PowerPoint (Windows XP 2007 Version) or Acrobat Reader Pdf.

Macintosh computers are not available

CDs and Pen drivers will have to be collected immediately after each session.

#### Conference themes

Papers are solicited on all topics to the workshop theme and the terms of reference commissions IV, VIII and II such as:

Automated and autonomous updating of geospatial data

Strategy and processes for efficient maintenance of spatial data bases

Incremental updating and versioning of spatial databases and products

Synchronization of disparate geospatial resources

Models for maintaining spatial database subsets for disaster response; recovery efforts; search and rescue operations

3D data models, algorithms and standards for integration of data from different domains and for management of geo-sensor data.

Data models allowing for efficient 3D visualization

Multi-modal images for dynamic updating of geospatial data

Creating, accessing, indexing and analyzing spatiotemporal image databases

Change detection, update, refinement and quality control of spatial data and databases

**Workshop program**  
**Monday, March 15, 2010**

**10:30 - 11:45 Plenary Session 1**  
**5009**

**Rabin,**

Chair: Ammatzia Peled, University of Haifa

**Welcome Addresses**

**Ammatzia Peled** Workshop director

**Deborah F. Shmueli** Head, Department of Geography and Environmental studies.

**Orhan Altan**, ISPRS president

**Yossi Kraus**, Head, Association of Licensed Surveyors in Israel

**Haim Srebro**, Director General Survey of Israel.

**11:45 - 12:30 Plenary Session 2**  
**5009**

**Rabin,**

Chair: Ammatzia Peled, University of Haifa

From Paper Maps to SDI

*Altan O.*

Project Haiti ISPRS Test

*Peled A., Boccardo P.*

**14:00 – 15:30 TS-1.1 Updating Core spatial databases 1**  
**5009**

**Rabin,**

Chair: Christian Heipke, University of Hannover

Classification of Farmland Using Multitemporal Aerial Images

*Müller S. Heipke C. Pakzad K.*

Knowledge-Based Classification of Land Cover for the Quality Assessment of GIS Database

*Peled A. Gilichinsky M.*

Parcel-Based Image Classification as a Decision-Making Supporting Tool for The Land Bank of Galicia (Spain)

*Hermosilla T. Díaz-Manso J.M. Ruiz L.A. Recio J.A. Fernández-Sarría A. Ferradáns-Nogueira P.*

**16:00-17:30 TS-1.2 Disaster management**

Chair: Piero Boccardo, University of Torino

Integrated System of Early Warning, Monitoring and Drought Risk Analysis for Romania

*Savin E. Mihailescu D. Oancea S. Diamandi A. Caian M. Nertan A. Poenaru V.*

Ontology-Based Query of Two Dutch Topographic Data Sets: An Emergency Response Case

*Zlatanova S. De Vries M. Van Oosterom P.J.M.*

Enhancement of Spatial Database Archive Services for Disaster Response  
*Savorskiy Y. Tishchenko Yu.*

## Tuesday, March 16, 2010

**09:00 – 10:30 Poster Session**      **5<sup>th</sup> floor Lobby, Rabin Bldg.**

**09:30 – 10:30 Exhibition: Haifa in the Image of time**  
**Hecht Museum Lobby, Main bldg.**

### **Inauguration**

Aharon Ben-Zeev, President, Haifa University  
Haim Srebro, General Director, Survey of Israel, Curator.  
Arnon Soffer  
Ron Kitri, Director, The "Reali" High School  
Ammatzia Peled, Workshop Director

**11:00 – 12:30 TS-2.1 Updating Core spatial databases 2**      **Rabin**  
**5009**

Chair: Don Sullivan, NASA

Addition of Geographic Ancillary Data for Updating Geo-Spatial Databases  
*Recio J.A. Hermosilla T. Ruiz L.A. Fernández-Sarría A.*

Detecting Man-Made Structure Changes To Assist Geographic Data Producers in  
Planning Their Update Strategy  
*Leignel C. Caelen O. Debeir O. Hanson E. Leloup T. Simler C. Beumier C.*  
*Bontempi G. Warzée N. Wolff E.*

National Topographic Database Information Measuring –Case Study in Global  
Mapping and Western Mapping Project  
*Wang H. Wang T. Su S. Li Y.*

**11:00 – 12:30 TS-2.2 Data alignment**      **Rabin, 5013**

Chair: Costas Armenakis, University of York

Co-Registration of Lidar and Photogrammetric Data for Updating Building Databases  
*Armenakis C. Gao Y. Sohn G.*

Integration of Old Cadastral Maps Into Up-to-date Geodatabases for Urban Planning  
*Brumana R. Cuca B. Oreni D. Prandi F. Scaioni M.*

Using Geographic Information System in a Multi-Agent System for Site Selection: An  
Application to Upcat Test Centers  
*Dela Cruz V.G. Figueroa L.L. Gonzalez R.M.*

**14:00 – 1530 TS-2.3 SDI**      **Rabin,**  
**5009**

Chair: Piero Boccoardo, University of Torino

New Initiatives in ISDI (Israeli NSDI)

*Srebro H. Felus Y. Tal Y.*

INSPIRE: targets, problems, implementation

*Konecny M.*

UN WFP Spatial Data Infrastructure

*Ajmar A. Boccardo P. Terzo O.*

**16:00 – 17:30 TS-2.5 Updating Urban Databases  
5009**

**Rabin,**

Chair: Hande Demirel, Istanbul Technical University

Automated Updating and Maintenance of 3D City Models

*Steinhage V. Behley J. Meisel S. Cremers A. B.*

Modelling Urban Dynamics Via Cellular Automata

*Demirel H. Cetin M.*

Updating of Vector Databases At The Institut Cartografic De Catalunya

*Pla M. Lleopart A*

**16:00 – 17:30 TS-2.6 GIS Analises**  
**5009**

**Rabin,**

Digital Terrain Model estimation from stereoscopic images thanks to image intensity, gradient and histogram

*Beumier C.*

Measurements of Morphometric Parameters From Digital Elevation Models

*Gilichinsky M. Melnikov D. Melekestsev I. Zaretskaya N. Inbar M.*

Impacts of Land Use on Quantity and Quality of Urban Runoff (Herzliya and Ra'Anana Case Study)

*Garzuzi J. Goldshleger N. Ben-Dor E. Asaf L. Ben-Yamin R.*

## **Wednesday March 16, 2010**

### **09:00 – 10:30 TS-3.1 NMA Practices 1 Rabin 5009**

Chair: Costas Armenakis

Data Upgrading for on-line Geo-spatial Information Services -- Case in National Geomatics Center of China

*Jiang J. Huang W. Wang Q. LU W.*

Updating Topographic Reference Data (Processes, Methods, Needs, Research): Progress Report in the Belgian NGI-IGN

*Bayers E.*

3D GIS Data Model Using Open Source Software

*Scianna A. Ammoscato A.*

### **09:00 – 10:30 TS-3.2 NMA Practices 2 Rabin 5009**

Chair: Jiang Jie, China SBSM

Land Cover Data Operations and Maintenance: The National Land Cover Database of the United States

*Smith J. H.*

Automated Recognition of Urban Objects and Their Morphological Attributes Using GIS

*Peeters A. Etzion Y.*

Mobile Technologies for Modeling Urban Space Allocation in Real Time

*Szabó G. Czinkóczy A.*

### **14:00 – 16:30 TS-3.3 Temporal GIS**

Chair: Gottfried Meinel, Leibniz Institute for ecological and regional development

Monitoring of Settlement and Open Space Development on the Basis of Topographic Spatial Data – Concept, Realization and First Results

*Meinel G.*

Concept of a Spatio-Temporal Geoinformation System of The Bible Events - Database Approach

*Linsenbarth A.J.*

Multiple-Model Based Verification of Japanese Road Data

*Ziems M. Fujimura H. Heipke C. Rottensteiner F.*

### **9 TS-3.4 Incremental Updating and Versioning**

Chair: Ammatzia Peled, University of Haifa

Versioning Management – The Approach of the Survey of Israel

*Felus Y. Srebro H. Tal Y.*

A Snapshot Differences-Based Spatio-Temporal Data Model for Incremental Updating

*Chen J.*

Workshop Summary and Discussion  
*Peled A*

## Posters

Weeds Detection By Ground-Level Hyperspectral Data

*Shapira U. Herrmann I. Karnieli A. Bonfil J. D.*

Utilizing the Venus Red-Edge Bands for Assessing LAI in Crop Fields

*Herrmann I. Pimstein A. Karnieli A. Cohen Y. Alchanatis V. Bonfil J. D.*

Geometry Updating for Geospatial Data Integration

*Wadembere I. Ogao P.*

Contribution of Remote Sensing in the Study of the Evolution of a Shoreline:

Application to the Cameroonian Littoral Coast

*Fotsing J. Tonyé E. Tankam N.T. Kanaa T.F.N. Rudant J.P.*

A Deterministic Cellular Automata Model for Simulating Rural Land Use Dynamics: A Case Study of Lake Chad Basin

*Ozah A.P. Adesina F.A. Dami A.*

Prospects, Challenges and Strategies in the Implementation of The Nigerian

Computerized Mining Information System

*Ozah A.P. Wever T. Ghys L. Weissmann T.*

Application of National Forest Inventory for Remote Sensing Classification of Ground Lichen In Northern Sweden

*Gilichinsky M. Sandström P. Reese H. Kivinen S. Moen J. Nilson M.*

Aeolian Mobility and Stability of The Central Asian Ergs, A Study By Remote Sensing and Geographic Information Systems

*Maman S. Tsoar H. Blumberg D.G.*

Monitoring Surface Alterations in The Yamin Plateau By Spaceborne Imaging and Aerial Photography During 1945 To 2009

*Hetz G. Blumberg D.G. Avraham D. Cohen H.*

Estimation of Vegetation Parameters From Polarimetric SAR Data

*Hetz M. Blumberg D.G. Rotman S.R.*

E-Geos Capabilities in Rapid Emergency Response Two Case-Studies: L'Aquila Earthquake and Parma/Pepang Typhoon

*Flamini A. Grandoni D. Salvi F. Britti F.*

Total Least Squares Registration of Images for Change Detection

*Dogan S. Altan M.O.*

Subpixel High Accuracy Image Registration for Radar Interferometry Processes

*August Y. Blumberg D.G. Rotman S.R.*

Remote Sensing at Your Courtyard – a New Era of Privacy?

*Kirschner G. Forrai J.*