



Programme

From High Definition Point Clouds to 3D Virtual Reality Models

54th Photogrammetric Week

From High Definition Point Clouds to 3D Virtual Reality Models

The Institute for Photogrammetry of the University of Stuttgart and the OpenPhoWo partners would like to give notice of the

54th Photogrammetric Week in Stuttgart from Monday, September 9 to Friday, September 13, 2013.

This regular event was initiated by Carl Pulfrich as a "vacation course in photogrammetry" in 1909; since 1973 it has been held at the University of Stuttgart. Today, the Photogrammetric Week enjoys international recognition as an upgrading seminar and a platform for the exchange of experience.

Due to their close connection with photogrammetry, the aspects of geoinformatics have firmly established themselves among the topics of this event, which has been directed by Professor Dieter Fritsch, Stuttgart, since 1992.

The lectures by experts from Germany and abroad will be focused on the following topics:

- Data Collection From Air, Space and Ground — An Update
• Advanced Methods of Computer Vision and Photogrammetry
• Solving the Future Mapping Problem, All About 3D Modelling

The presentations will be in English. Sufficient time will be allocated for discussions.

The program will be supplemented with demonstrations and comments on practical examples in the afternoons. The fringe events will offer sufficient opportunity for personal contacts.

In addition, a tutorial on "All About 3D Modelling — From 2.5D Meshes to 3D Virtual Reality Models" will be held by the Institute for Photogrammetry (ifp) on Sunday, September 8, 2013.

We look forward to meeting you in Stuttgart.

Stuttgart, April 2013

Handwritten signature of Dieter Fritsch

Prof. Dr.-Ing. Dieter Fritsch
Institute for Photogrammetry
University of Stuttgart

Monday, September 9, 2013

Table with 2 columns: Time and Event. Rows include: 7:30 Registration of participants; 9:00 Opening of the 54th Photogrammetric Week; 9:30 Uwe Franke, Daimler Research, Stuttgart/Germany; 10:15 Break, Conference Photo; 11:00 Jack Ickes, Hexagon Geospatial Division, Heerbrugg/Switzerland; 11:15 Ralph Humberg, Trimble, Munich/Germany; 11:25 Albrecht Grimm, IGI, Kreuztal/Germany; 11:35 Alexander Wiechert, Microsoft Vexcel, Graz/Austria; 11:45 Stewart Walker, BAE Systems, San Diego/USA; 11:55 Yaron Vilan, VisionMap, Tel Aviv/Israel; 12:05 Konrad Wenzel, ifp Univ. Stuttgart, Stuttgart/Germany; 12:30 Announcements; 14:30 Demonstrations; 17:00 Ice Breaker Party.

## Tuesday, September 10, 2013

### 1<sup>st</sup> Topic: "Data Collection From Air, Space and Ground - An Update"

- 8:30 **Dieter Fritsch, ifp Univ. Stuttgart/Germany**  
Oblique Image Data Processing – Potential, Experiences and Recommendations
- 9:00 **Ruediger Wagner, Hexagon, Heerbrugg/Switzerland**  
Urban Mapping Applications
- 9:30 **Yuri Raizman, VisionMap, Tel Aviv/Israel**  
High Throughput Aerial Photography, Ortho & 3D Processing
- 10:00 Coffee Break
- 10:30 **Michael Gruber, MS Vexcel, Graz/Austria**  
Oblique Image Collection - Challenges and Solutions
- 11:00 **Jens Kremer, IGI Kreuztal/Germany**  
The IGI Quattro DigiCAM Oblique Camera System - Architecture and Projects
- 11:30 **Peter van Blyenburgh, UVS International, Paris/France**  
RPAS - The European Approach & The Way Forward
- 12:00 **Werner Mayr, GerMAP GmbH**  
Unmanned Aerial Systems – for the Rest of Us
- 12:25 **Michael Cramer, ifp Univ Stuttgart/Germany**  
The UAV@LGL BW Project - A NMCA Case Study
- 12:50 Lunch break
- 14:30 **Demonstrations**  
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17:00 in groups according to separate schedule (in D & E)
- 19.00 **Reception** (Formal Dress Code desired)



## Wednesday, September 11, 2013

- 8:30 **Andreas Schilling, Comp. Science, Univ Tuebingen/Germany**  
Another Step towards Measuring the World from the Air:  
Model-Based 3D Real-Time Simulation of Micro-UAV
- 9:00 **Uwe Soergel, IPI Leibniz Univ Hannover/Germany**  
The TanDEM X Mission: Data Collection and Deliverables
- 9:30 **Juha Hyypä, FGI Helsinki/Finland**  
Unconventional LiDAR Mapping from Air, Terrestrial and Mobile
- 10:00 Coffee Break
- 2<sup>nd</sup> Topic: "Advanced Methods of Computer Vision and Photogrammetry"
- 10:30 **Luc van Gool, Univ. Leuven/Belgium**  
Image-based 3D City Modeling and Mobile Mapping
- 11:00 **Martin Schaich, Arctron, Althann/Germany**  
Combined 3D Scanning and Photogrammetry Surveys with 3D Database Support for Archaeology & Cultural Heritage. A Practice Report on ArcTron's Information System aSPECT3D
- 11:30 **Andreas Ullrich, Riegl, Horn/Austria**  
Sampling the World in 3D By Airborne LiDAR - Assessing the Information Content of LiDAR Point Clouds
- 12:00 **Carl Pulfrich Award 2013 Ceremony**  
- Jürgen Dold, Hexagon Geosystems, Heerbrugg, Switzerland (Introduction)  
- Carl Pulfrich Laureate
- 12:30 Lunch Break
- 14:30 **Demonstrations**  
-  
17:00 in groups according to separate schedule (in D & E)

## Thursday, September 12, 2013

- 8:30 **Samuel Bärish, GAF, Munich/Germany**  
Dense 3D Photogrammetry
- 9:00 **Nobert Haala, Inst. Photogrammetry, Univ. Stuttgart/Germany**  
The Landscape of Dense Image Matching Algorithms
- 9:30 **Philippe Simard, SimActive, Montreal/Canada**  
Dense DSM Generation Using the GPU
- 10:00 Break
- 10:30 **Panel Discussion**  
"From High Definition Point Clouds to 3D Virtual Reality Models"
- Panel Chair: **Dieter Fritsch, ifp, University of Stuttgart**
- Panelists:
- Samuel Bärish, GAF
  - Jürgen Dold, Hexagon Geospatial Division
  - Luc van Gool, Univ Leuven
  - Juha Hyypä, FGI Helsinki
  - Daniel Thalmann, EPFL, Lausanne
  - Andreas Ullrich, Riegl
- 12:30 Lunch Break
- 14:30 **Demonstrations**  
-  
17:00 in groups according to separate schedule (in D & E)
- Evening: **Get-Together Night at Bürgerhaus in Maichingen**  
18:00 Busses will leave for Get-Together and Phowo Dinner Party  
19:00 Get-Together Night and Phowo Dinner Party, Bürgerhaus, Maichingen  
Return at about 22:30



Friday, September 13, 2013

**3<sup>rd</sup> Topic: "Solving the Future Mapping Problems. All About 3D Modelling"**

- 9:00 **Daniel Thalmann, EPFL, Lausanne/Switzerland**  
Towards Virtual Life in 3D Cities
- 9:30 **Martin Fellendorf, Inst. Strassen- und Verkehrswesen, TU Graz, Graz/Austria**  
Digital Terrain Models for Road Design and Traffic Simulation
- 10:00 **Martin Ritz, Fraunhofer Institute for Computer Graphics Research IGD, Darmstadt/Germany**  
CultLab3D – Fast and Economic, High Quality 3D Digitization of Cultural Heritage Artifacts
- 10:30 Coffee Break
- 11:00 **Livio de Luca, CNRS (UMR MAP), Marseille/France**  
3D Modeling and Semantic Enrichment in Cultural Heritage
- 11:30 **Marinos Ioannides, Cyprus Technical University, Limassol/Cyprus**  
From Point Clouds to Triangular Meshes
- 12:00 **Stephen Lawler, Microsoft, Redmond/USA**  
3D Mapping and Photogrammetry
- 12:30 **Wrap-up, Music and Farewell Drink**

**Demonstrations of the OpenPhoWo Partners**  
(in groups according to separate schedule)

- A** Hexagon Geospatial Solutions Sensor Portfolio ([Hexagon](#))
- B** Hexagon Geospatial Solutions ([Hexagon](#))
- C** The Hexagon Cloud: A Dynamic Network of Content, Software and Solutions ([Hexagon](#))
- D** Connecting the Dots and Points in the Geospatial World ([Trimble](#))
- E** IGI Mobile Data Acquisition Systems ([IGI](#))
- F** UltraCam and UltraMap ([Vexcel Imaging/Microsoft](#))
- G** Rising productivity with BAE Systems' GXP Xplorer® and SO CET GXP®: SO CET SET® eclipsed ([BAE Systems](#))
- H** VisionMap Sensors and Systems ([VisonMap](#))

**Site of the seminar**

Lectures and discussions will be held in the basement auditorium of building K2 of the University of Stuttgart, Keplerstrasse 17. Rooms for demonstrations are available in buildings K1 and K2.

**Duration of the seminar**

Beginning: Monday, September 9, 2013  
End: Friday, September 13, 2013

**Lectures and discussions**

As in the past, the lectures and discussions will be held in the morning. The conference language will be English.

**Demonstrations of instruments and systems**

Demonstrations are scheduled for the afternoons. Working groups will be formed in accordance with the particular interests of each participant and the language spoken.

**Fringe programme**

A fringe programme will give all participants the opportunity for personal contacts and individual discussions.

**Accommodation**

Accommodation can directly be booked at Stuttgart Marketing GmbH by either  
Fax +49 711 22 28 251  
email: [hotels@stuttgart-tourist.de](mailto:hotels@stuttgart-tourist.de)

**Registration and fees**

Registration for the 54<sup>th</sup> Photogrammetric Week should be addressed to:  
Institute for Photogrammetry (ifp)  
University of Stuttgart  
Geschwister-Scholl-Str. 24(D)  
D-70174 Stuttgart  
Phone: +49 711 685 83201, Fax: +49 711 685 83297  
email: [martina.kroma@ifp.uni-stuttgart.de](mailto:martina.kroma@ifp.uni-stuttgart.de)  
www: <http://www.ifp.uni-stuttgart.de>

The participation fee is 450,00 Euro for registration and payment by **June 30, 2013** and 500,00 Euro after that date. For daily admission it is 200,00 Euro.

For participation in the tutorial there is a charge of 200,00 Euro.

Stuttgart is the state capital of Baden-Württemberg. It has a population of about 590000. Situated in the valley of Neckar river, between the hills of the Swabian Alb and the Black Forest, it is often called "the city between forests and vineyards". A large number of cultural highlights are to be found in the city including opera, ballet, theatres, concert and music halls, art galleries, and various famous museums. There is also a rich variety of sports events as well as many possibilities for individual activities such as mountain biking and hiking. Due to Stuttgart's central location, it is easy to visit neighboring countries like France, Switzerland, Italy, Austria, Czech Republic, Belgium and the Netherlands.

The Stuttgart region is one of the most attractive regions in Germany. It is well known for its high-tech industries such as car manufacturing, environmental technologies, machining tools, electronics and information and communication technology. Many internationally renowned companies such as DaimlerChrysler, Porsche, Bosch, HP and IBM Germany have their headquarters and factories in the Stuttgart region. In addition, numerous smaller and medium sized technology-oriented companies are making their mark on the industrial and business environment.

