

# Programme

Multiray Photogrammetry Meets Advanced LiDAR

53<sup>rd</sup> Photogrammetric Week

### Multiray Photogrammetry Meets Advanced LiDAR

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

### 53rd Photogrammetric Week in Stuttgart from Monday, September 5 to Friday, September 9, 2011.

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 Series enjoys international recognition as an upgrading seminar and a platform for the exchange of experience. It attracts since many years more than 500 participants from more than 60 countries.

The Photogrammetric Week Series is unique – the single track scientific program in the mornings is conducted by internationally recognized Keynote and Invited Speakers only, the well-selected OpenPhowo Partners demonstrate their latest technologies in Photogrammetry, Remote Sensing and Geoinformatics in the afternoons.

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

- Digital Mapping Camera Evolution
- Point Cloud Generation and Processing
- Towards 3D Augmented Worlds

The presentations will be in English. Sufficient time will be allocated for discussions. The scientific program and the demonstrations will be supplemented by fringe events in the evenings to offer sufficient opportunity for personal contacts and to renew friendship.

In addition, a tutorial on "All About Point Clouds – Generation, Processing and Management" will be held by the Institute for Photogrammetry (ifp), University of Stuttgart, on Sunday, September 4, 2011.

We look forward to meeting you in Stuttgart.

Stuttgart, April 2011

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

### Monday, September 5, 2011

from 7:30	Registration of participants
9:00	<b>Opening of the 53<sup>rd</sup> Photogrammetric Week</b> <b>Music, Welcome Addresses</b>
9:30	<b>Allan Carswell, Optech Inc, Toronto, Canada</b> Lidar Imagery – From Simple Snapshots To Mobile 3D Panoramas
10:15	Break
	<b>Brief Lectures by the OpenPhowo Partners</b>
11:00	<b>Jack Ickes, Hexagon Geosystems, Heerbrugg, Switzerland</b> Hexagon Geosystems – A Solution for Every Application!
11:20	<b>Ralph D. Humberg, Trimble Germany GmbH, GeoSpatial Division, Stuttgart, Germany</b> High Performance Photogrammetric Production
11:35	<b>Hubert Minten, IGI mbH, Kreuztal, Germany</b> News from IGI
11:45	<b>Alexander Wiechert, Vexcel Imaging/Microsoft, Graz, Austria</b> UltraCam and UltraMap – Towards All in One Solution by Photogrammetry
11:55	<b>Susanne Becker, ifp, University of Stuttgart, Stuttgart, Germany</b> Towards Complete LOD3 Models – Automatic Interpretation of Building Structures
12:15	<b>Carl Pulfrich Award 2011 Ceremony</b> - Jack Ickes, Hexagon Geosystems, Heerbrugg, Switzerland (Introduction) - Carl Pulfrich Laureate
12:30	<b>Announcements</b> Lunch Break
14:30	<b>Demonstrations</b> in groups according to separate schedule (in D & E)
17:00	
17:30	<b>Ice Breaker Party</b> in the Conference Building K2 (Foyer Lecture Hall)
20:00	

## Tuesday, September 6, 2011

### 1<sup>st</sup> Topic: Digital Mapping Camera Evolution

- 8:30 **Michael Cramer, ifp, University of Stuttgart, Stuttgart, Germany**  
Geometry Perfect – Radiometry Unknown?
- 9:00 **Ruedi Wagner, Hexagon Geosystems, Heerbrugg, Switzerland**  
Leica ADS80 and Leica XPro: A Total Solution for Photogrammetric Mapping
- 9:30 **Klaus Neumann, Hexagon Geosystems, Aalen, Germany**  
The Z/I DMC II - "Imaging Revolution"
- 10:00 Break
- 10:30 **Michael Gruber, MS Vexcel, Graz, Austria**  
UltraCam, a Brand for Continuous Developments
- 11:00 **Bernd Eissfeller, Univ. Federal Armed Forces Neubiberg, Munich, Germany**  
Online GNSS Data Processing – Status and Future Developments
- 11:30 **Werner Mayr, GERMATICS GmbH, Schorndorf, Germany**  
Unmanned Aerial Systems in Use for Mapping at Blom
- 12:00 **Henri Eisenbeiss, ETH Zurich, Zurich, Switzerland**  
The Potential of Unmanned Aerial Vehicles for Mapping
- 12:30 Lunch Break
- 14:30 -  
17:00 **Demonstrations**  
in groups according to separate schedule (in D & E)
- 18.00 **Reception by the City of Stuttgart**

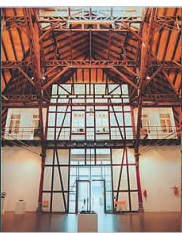


## Wednesday, September 7, 2011

- 8:30 **Jens Kremer, IGI mbH, Kreuztal, Germany**  
Power Line Mapping: Data Acquisition with a Specialized Multi-Sensor Platform
- 9:00 **Marco Weber, Infoterra GmbH, Friedrichshafen, Germany**  
TANDEM-X: A New Area of Global Digital Elevation Data
- 9:30 **Konrad Schindler, ETH Zurich, Zurich, Switzerland**  
Improving Wide-Area DEMs Through Data Fusion - Chances and Limits
- 10:00 Break
- 2<sup>nd</sup> Topic: Point Cloud Generation and Processing
- 10:30 **Heiko Hirschmueller, DLR Oberpfaffenhofen, Gilching, Germany**  
Semi Global Matching - Motivation, Developments and Applications
- 11:00 **Norbert Haala, ifp, University of Stuttgart, Stuttgart, Germany**  
Multiray Photogrammetry and Dense Image Matching
- 11:30 **Tobias Heuchel, Trimble Germany, GeoSpatial Division, Stuttgart, Germany**  
Towards a Next Level of Quality DSM/DTM Extraction with MATCH-T
- 12:00 **Juha Hyyppä, Finnish Geodetic Institute, Helsinki, Finland**  
State of the art in Laser Scanning
- 12:30 Lunch Break
- 14:30 -  
17:00 **Demonstrations**  
in groups according to separate schedule (in D & E)

## Thursday, September 08, 2011

- 8:30 **Andreas Ullrich, RiegI, Horn, Austria**  
Echo Digitization and Waveform Analysis in Airborne and Terrestrial Laser Scanning
- 9:00 **Lewis Graham, GeoCue Inc., Madison, USA**  
Aerial and Mobile Point Cloud Integration – An Industrial Perspective
- 9:30 **Ron Roth, Hexagon Geosystems, Heerbrugg, Switzerland**  
Leica ALS70 – Point Density Multiplication for High Density Surface Acquisition
- 10:00 Break
- 10:30 **Panel Discussion**  
Multiray Photogrammetry Meets Advanced LiDAR
- Panel Chair: **Dieter Fritsch, ifp, University of Stuttgart**
- Panelists:
- **Allan Clarswell, Optech**
  - **Lewis Graham, GeoCue**
  - **Heiko Hirschmueller, DLR Oberpfaffenhofen**
  - **Juergen Dold, Hexagon Geosystems**
  - **Norbert Haala, ifp, University of Stuttgart**
  - **Juha Hyyppä, Finnish Geodetic Institute, Helsinki**
- 12:30 Lunch Break
- 14:30 -  
17:00 **Demonstrations**  
in groups according to separate schedule (in D & E)
- Evening: **Get-Together Night at Alte Kelter in Fellbach**  
18:00 Busses will leave for Reception and Phowo Dinner Party  
18:30 Reception and Phowo Dinner Party, Alte Kelter, Fellbach  
Return at about 22:30



Friday, September 09, 2011

### 3<sup>rd</sup> Topic: Towards 3D Augmented Worlds

- 9:00 **Jan-Michael Frahm, Computer Science, University of North Carolina, Chapel Hill, USA**  
State of the Art and Challenges in Crowd Sourced Modeling
- 9:30 **Doug Pritchard/Chris McGregor, Glasgow School of Arts/ Historic Scotland, Glasgow, United Kingdom**  
Two Avenues for Data: Rosslyn Chapel as a Terrestrial Scanning Case Study
- 10:00 **Bart Beers, Cylomedia Technologies, Waardenburg, The Netherlands**  
Collection and Application of 2D and 3D Panoramic Imagery
- 10:30 Break
- 11:00 **Christoph Strecha, Computer Vision Laboratory, EPF Lausanne, Switzerland**  
The Accuracy of Automatic Photogrammetric Techniques on Ultra-Light UAV Imagery
- 11:30 **Florian Siegert, 3D Reality Maps GmbH, Munich, Germany**  
Very Advanced 3D Landscape Models
- 12:00 **Dieter Fritsch, ifp, University of Stuttgart, Stuttgart, Germany**  
Multi-Sensors and Multiray Reconstruction for Digital Preservation

### Closing address, Music and Farewell Drink

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

- A** Can the Pixel do it All? Generating High Density Point Clouds from Imagery and LiDAR (**Hexagon**)
- B** A Sensor for Every Application - Choosing the Right Sensor from the Hexagon Geosystems Product Portfolio (**Hexagon**)
- C** Erdas Apollo - From Data to Information to the World (**Erdas**)
- D** Trends in Digital Photogrammetry from Hexagon - Processing in the Cloud (**Hexagon**)
- E** End-to-End Solutions for High Efficiency Mapping (**Trimble**)
- F** Model the World by Image Processing Technologies (**Trimble**)
- G** UltraCam and UltraMap, Towards All in One Solution by Photogrammetry (**Vexcel Imaging/Microsoft**)
- H** IGI Aerial Survey Platforms and Components (**IGI**)

### Extra Demonstration

- I** SOCET GXP® - the Future of SOCET SET® (**BAE Systems**)

### Site of the seminar

Lectures and discussions will be held in the in the auditorium H 1 in the basement of building K 2 , University of Stuttgart, Keplerstrasse 17, 70174 Stuttgart. The demonstrations will also take place in the seminar rooms of building K1 & K2, Keplerstrasse 11/17.

### Duration of the seminar

Beginning: Monday, September 5, 2011  
End: Friday, September 9, 2011

### 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. Demonstrations will be offered in English and German.

### 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

### Registration and fees

Please use the registration form <http://www.ifp.uni-stuttgart.de/phowo/registration.pdf>  
Registration for the 53rd Photogrammetric Week should be addressed to:  
Institute for Photogrammetry (ifp)  
Universität 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  
www: <http://www.ifp.uni-stuttgart.de>

The participation fee is 450,00 Euro for registration and payment by **June 30, 2011** 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.

