

NOVEMBER 23 – 24, 2016

## MoLaS Technology Workshop 2016

Key Technology Drivers in Mobile Laser Scanning

### Registration

Registration is possible starting March 1st, 2016.

Please, register online: [www.molas-workshop.org](http://www.molas-workshop.org)

### Participation fees

- »Early Bird« registration until August 31 st, 2016: 200 EUR
- Participants: 250 EUR
- Students: 150 EUR (valid student card required)

Payment upon invoice (for further details see our website).

### Accommodation

We have reserved a limited amount of single rooms for workshop participants from November 23 to 24, 2016.

- **Hotel Stadt Freiburg** | [www.hotel-stadt-freiburg.de](http://www.hotel-stadt-freiburg.de)  
Rooms at 88 EUR per person per night (incl. breakfast)
- **Best Western Premier Hotel Victoria**  
[www.hotel-victoria.de](http://www.hotel-victoria.de)  
Rooms at 104 EUR per person per night (incl. breakfast)
- **Hotel Rheingold** | [www.rheingold-freiburg.de](http://www.rheingold-freiburg.de)  
Rooms at 109 EUR per person per night (incl. breakfast)

Please book your room directly with the hotel (keyword »MoLaS«).

### Venue

Fraunhofer Institute for Physical Measurement Techniques IPM  
 Heidenhofstraße 8, 79110 Freiburg, Germany

### Chair

Heinrich Höfler, Fraunhofer IPM  
 Alexander Reiterer, Fraunhofer IPM

### Organization

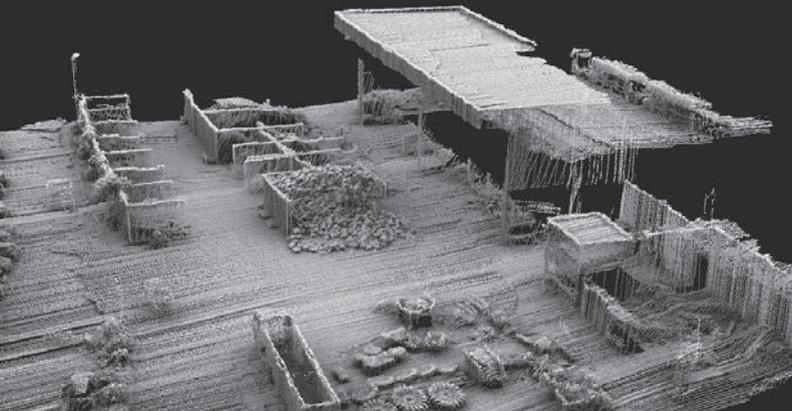
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### Directions

[www.ipm.fraunhofer.de/directions](http://www.ipm.fraunhofer.de/directions)

### Registration and further information

[www.molas-workshop.org](http://www.molas-workshop.org)



# PROGRAM

## Wednesday, November 23

## Thursday, November 24

### Technological Trends in Mobile Laser Scanning

Mobile laser scanning has evolved into one of the key technologies for fast and reliable 3D mapping. Today, a growing number of service providers capture geo-data in many different environments by means of mobile laser scanners. The scanners survey infrastructure such as roads, railroad, buildings and facilities from moving platforms. They provide valuable data for maintenance activities or construction planning.

The first MoLaS workshop in 2014 has shown that there is a growing interest, from both the scientific community and industry, in discussing technological aspects of mobile laser scanning. For the upcoming MoLaS Technology Workshop 2016 we have invited internationally renowned experts to present technological trends and key technology drivers in mobile laser scanning. Two key note addresses will give an idea of possible industrial applications of mobile laser scanning technology.

The workshop is aimed at scientists, representatives from industry and users of mobile laser scanning technology.

- ▶ Sensors
- ▶ Calibration
- ▶ Data Interpretation & Visualization
- ▶ Applications

13:00 h	Registration	
14:00 h	Opening	
14:15 h	The Development of Laser Scanning Systems from the Viewpoint of a Research Institute <i>Stefan Schwarzer, Department of Object and Shape Detection, Fraunhofer IPM, Freiburg</i>	Session I: Sensors and Calibration
14:45 h	Surface Side Influences on the Reflectorless Distance Measurement <i>Miriam Zámečnicková, Department of Geodesy and Geoinformation, Vienna University of Technology</i>	
15:15 h	Fusion of Laser- and Image-Based Data Sets – Concepts and Perspectives <i>Andreas Wagner, Chair of Geodesy, Technical University of Munich</i>	
15:45 h	Coffee Break / Poster Session	
16:30 h	Interaction of Laser Pulses with the Water Surface – Theoretical Aspects and Experimental Results <i>Gottfried Mandlbauer, Department of Geodesy and Geoinformation, Vienna University of Technology</i>	
17:00 h	Strategy for Calibration of Multi-Sensor Systems <i>Harald Sternberg, Chair of Engineering Geodesy, HafenCity University Hamburg</i>	
17:30 h	Key Note Address I 3D Reconstruction in Project Tango <i>Jürgen Sturm, Google Germany GmbH, Munich</i>	Key Note I
18:15 h	Get-together	

08:30 h	Key Note Address II Requirements and Visions for 3D-Sensing in Automotive Applications <i>Matthias Butenuth, IAV GmbH, Active Safety &amp; Driver Assistance, Munich</i>	Key Note II
09:15 h	Hand-held Mobile Laser Scanning – Investigation and Evaluation in Complex Environments <i>Erica Nocerino, Bruno Kessler Foundation (FBK) – 3D Optical Metrology unit (3DOM)</i>	Session II: Applications
09:45 h	Optimal Acquisition of Laser Scan Data <i>Andreas Nüchter, Informatics VII – Robotics and Telematics, Julius-Maximilians-University Würzburg</i>	
10:15	Rail Track Diagnostics Based on Mobile Laser Scanning Data <i>Joël Braun, iNovitas AG</i>	
10:45 h	Coffee Break / Poster Session	
11:30 h	Laserscanning and Multi-Spectral Imaging from UAV for Evaluating the Condition of Vegetation <i>Simon Stemmler, Chair of Remote Sensing and Landscape Information Systems FeLiS, University of Freiburg</i>	Session III: Data Interpretation and Visualization
12:00 h	New Methods of Visualizing 3D-Data Sets – From Reality to Virtuality <i>Christoph Müller, Faculty of Digital Media, Furtwangen University</i>	
12:30 h	FP7 IQmulus enabled efficient extraction of tree parameters in huge mobile mapping point clouds <i>Roderik Lindenbergh, Department of Geoscience and Remote Sensing, Delft University of Technology</i>	
13:00 h	Concluding Remarks / Evaluation	
13:15 h	Workshop End	