



WE ARE MOVING!

FRAUNHOFER INSTITUTE FOR  
PHYSICAL MEASUREMENT TECHNIQUES IPM

NOVEMBER 11–12, 2020

## MoLaS Technology Workshop 2020

Key Technology Drivers in Mobile Laser Scanning

### Registration

Please register online as of March 1, 2020 at  
[www.molas-workshop.org](http://www.molas-workshop.org)

### Participation fees

- »Early Bird« registration until Sept.18, 2020: 200 EUR
- Participants: 250 EUR
- Students: 150 EUR (valid student card required)

Payment upon invoice.

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

### Freiburg – »Green City«

Freiburg, internationally known as »Green City«, has a long tradition in sustainability. The city is also known for its scientific excellence. It is home to the renowned University of Freiburg and numerous research institutes. With a local staff of 2500, Freiburg is the largest Fraunhofer location in Germany.

*Beautiful landscape • Historic old town • Scientific excellence*

The capital of the Black Forest offers a multitude of sights and attractions. Visitors will find a rich and varied landscape in the vicinity, delicious regional food at one of Europe's loveliest markets, and architectural treasures such as the Cathedral, one of Germany's preeminent churches.

### Venue

Fraunhofer Institute for Physical Measurement Techniques IPM  
**Our new address as of summer 2020:**  
**Georges-Köhler-Allee 301, 79110 Freiburg, Germany**

### Chair

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)



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German Society for Photogrammetry, Remote Sensing and Geoinformation (DGPF) e.V

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Key notes on  
**Low-cost LiDAR**  
Autonomous  
Driving



# PROGRAM

WEDNESDAY, NOVEMBER 11

THURSDAY, NOVEMBER 12

## Technological trends in mobile laser scanning

Mobile laser scanning technology has been conquering more and more areas of application in recent years. Significantly smaller systems enable airborne laser scanners, for example. They have proved to be a valuable tool for surveying various types of infrastructure. It is becoming apparent that LiDAR technology is well on its way to become a key enabler for Building Information Modeling and autonomous driving. New strategies for data evaluation play a decisive role in this process.

At the 4th International MoLaS workshop, eleven internationally renowned experts will present key technology drivers and future applications in mobile laser scanning. Four sessions cover the entire spectrum of laser scanning technology:

- ▶ Trends
- ▶ Applications
- ▶ Autonomous driving
- ▶ Data interpretation

The workshop is aimed at scientists, service providers, manufacturers and users of the technology.

**We are looking forward to meeting you at MoLaS 2020!**

12:30 h Registration

13:30 h	Opening <i>Alexander Reiterer, Fraunhofer IPM</i>	Trends
13:45 h	Current trends in LiDAR sensor technologies – an overview <i>Gottfried Mandlbauer, Vienna University of Technology</i>	
14:30 h	Leaking? Simultaneous moisture and shape detection via multispectral laserscanning <i>Valentin Vierhub-Lorenz, Fraunhofer IPM</i>	

15:00 h Coffee break / Poster session

15:45 h	Extrinsic self-calibration of LiDAR-based mapping systems by means of geometric 3D features <i>Boris Jutzi, Karlsruhe Institute of Technology KIT</i>	Applications
16:15 h	SLAM-based indoor scanning <i>Andreas Wagner, ANGERMEIER INGENIEURE</i>	
16:45 h	Fusion of 2D image and 3D point cloud mobile mapping data for monitoring the state of the road environment <i>Roderik Lindenbergh, Delft University of Technology</i>	
17:15 h	Making 3D LiDAR suitable for mass production <i>Florian Petit, Blickfeld GmbH</i>	Keynote I

18:00 h Get-together / Finger food

9:00 h	Going scale — challenges of mass production for autonomous driving with machine learning algorithms <i>Alexander Braun, Hochschule Düsseldorf</i>	Keynote II
9:45 h	LiDAR sensors for automated driving <i>Christoph Stiller, Karlsruhe Institute of Technology KIT</i>	Autonomous driving
10:15 h	Development of low-cost mobile mapping systems for challenging environments <i>Michael Bleier, University of Würzburg</i>	

10:45 h Coffee break / Poster session

11:30 h	Semantic segmentation in point clouds – geometric approaches vs machine learning <i>Moritz Roetner, Fraunhofer IPM</i>	Data interpretation
12:00 h	Analysis and interpretation of 3D point clouds with deep learning <i>Rico Richter, Hasso Plattner Institute</i>	
12:30 h	Concluding remarks <i>Alexander Reiterer, Fraunhofer IPM</i>	

12:45 h Workshop end