

## Organization

### ■ Conference Directors

Prof. Dr. Stefan Böttinger, University of Hohenheim  
Prof. Dr. Volker Schwieger, University of Stuttgart

### ■ Conference Administration

Ms Bimin Zheng / Ms Elke Rawe

Institute of Engineering Geodesy  
University of Stuttgart  
Geschwister-Scholl-Str.24D  
70174 Stuttgart

E-Mail: [mcg2012@ingeo.uni-stuttgart.de](mailto:mcg2012@ingeo.uni-stuttgart.de)  
Homepage: [www.uni-stuttgart.de/mcg2012](http://www.uni-stuttgart.de/mcg2012)  
Tel.: +49-711-68584061 / +49-711-68584041

### ■ Scientific Committee

Prof. Dr. Frank Allgöwer, University of Stuttgart  
Prof. Dr. Hermann Auernhammer, TU Munich  
Prof. Dr. Sven Behnke, University of Bonn  
Mr. Michel Berducat, Cemagref Clermont-Ferrand  
Prof. Dr. Stefan Böttinger, University of Hohenheim  
Prof. Dr. Walter Fichter, University of Stuttgart  
Prof. Dr. Alain Geiger, ION Switzerland  
Prof. Dr. Hans W. Griepentrog, University of Hohenheim  
Prof. Dr. Hilmar Ingensand, IGP, ETH Zurich  
Prof. Dr. Heiner Kuhmann, University of Bonn  
Prof. Dr. Günter Kunze, TU Dresden  
Prof. Dr. Hansjörg Kutterer, University of Hannover  
Prof. Dr. Peter Schulze Lammers, University of Bonn  
Prof. Dr. Thorsten Lang, TU Braunschweig  
Prof. Dr. Henning Meyer, TU Berlin  
Prof. Dr. Arno Ruckelshausen, FH Osnabrück  
Prof. Dr. Oliver Sawodny, University of Stuttgart  
Prof. Dr. Volker Schwieger, University of Stuttgart  
Prof. Dr. Werner Stempfhuber, Berlin Technical  
University of Applied Sciences  
Prof. Dr. Thomas Wunderlich, TU Munich

## Planned Schedule

### 27<sup>th</sup> March 2012

10:00 am Conference start  
12:00 am Lunch  
10:00 am – 06:00 pm Sessions  
07:00 pm Icebreaker

### 28<sup>th</sup> March 2012

09:00 am – 06:00 pm Sessions  
12:00 am Lunch  
07:00 pm Social event

### 29<sup>th</sup> March 2012

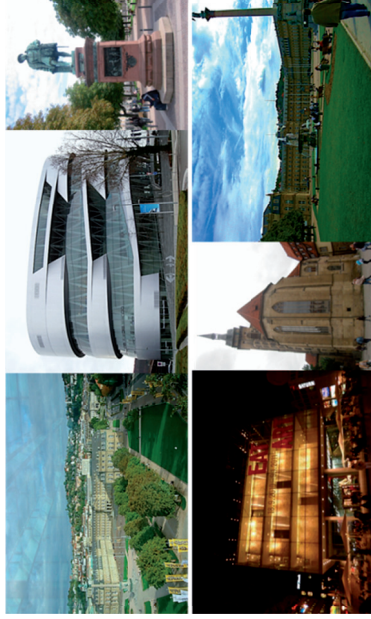
09:00 am – 12:00 am Sessions  
12:00 am Conference end

## Venue

GENO-Haus Stuttgart (City Centre), Heilbronner Str. 41,  
70191 Stuttgart



The GENO-Haus is located in the city centre of Stuttgart. The railway main station is only 5 minutes by foot away. Stuttgart



airport can be reached in 25 minutes by city railway. Numerous hotels and restaurants are within walking distance.

## Sponsored by



# 3<sup>rd</sup> International Conference on

# Machine Control & Guidance

27<sup>th</sup> - 29<sup>th</sup> March 2012

University of Stuttgart, Germany  
Institute of Engineering Geodesy

University of Hohenheim, Germany  
Institute of Agricultural Engineering



[www.uni-stuttgart.de/mcg2012](http://www.uni-stuttgart.de/mcg2012)

## General Information

3D-position and attitude sensors as well as their integration into closed-loop systems are of high importance for construction as well as for agricultural applications. This highly interdisciplinary field of machine guidance and control is driven by control engineers, mechanical engineers, electrical engineers, geodesists, computer scientists, agricultural experts as well as construction engineers.

The conference should bring together scientists, practitioners and development engineers from the fields of machine manufacturers, positioning system developers and agricultural and construction machine users.

The 1<sup>st</sup> Conference was initiated and successfully held at ETH Zurich in 2008 and the 2<sup>nd</sup> Conference was realized in 2010 at the University of Bonn with a high performance. Now new developments, research activities and application-related results can be presented and discussed at the 3<sup>rd</sup> Conference in Stuttgart. We invite you to join the conference, give presentations and participate in the discussions.

## Target Group

Researchers, academics, software developers, system and service providers as well as users.



Figure 1: Supported by Alexander Beetz

## Conference Topics

### ■ Kinematic Measurements & Sensor Technology

- GNSS and DGNSS
- Tracking Total Stations
- Additional Sensors (Slope- and Orientation Sensors, INS, Gyro, ...)
- Calibration
- Sensor Fusion
- Low-Cost Sensors

### ■ Control Methods and Algorithms

- Kalman Filter and Further Filter Algorithms
- Linear and Nonlinear Control
- Latency-System Reaction
- Predictive Control
- Learning Control
- Control Architectures

### ■ Data Processing / Data Flow

- Acquisition
- Standardization
- Geo-Referencing
- Visualization
- Quality Management and Assurance

### ■ Agricultural and Forestry Applications

- Control & Guidance for Precision Farming
- Mapping
- Path Planning and Automatic Steering Systems
- Field and Greenhouse Robotics
- Air-Vehicle-Applications (UAVs)

### ■ Construction Applications

- Control and Guidance Systems for Graders, Dozers, Pavers, Profilers, Excavators, Rollers
- Computer Integrated Construction (CIC)
- Building Robotics
- Building Site Management and Network
- Documentation/Acceptance/Verification Systems
- Airports, Tunnels, Railways, Highways, New Road and Maintenance Jobs

## Call for Papers and Posters

You are invited to contribute to the conference with an oral presentation or a poster to the topics mentioned before. The peer-review of the respective papers is voluntary. You can choose with or without peer-review. Both variants will be accepted.

### ■ Language

The official language will be English. Manuscripts and presentations should be written and presented in English.

### ■ Deadlines

- **27<sup>th</sup> June 2011:**  
Deadline for Abstracts
- **Mid of July 2011:**  
Notification of Acceptance
- **30<sup>th</sup> September 2011:**  
Deadline for Full Papers with Peer Review
- **26<sup>th</sup> November 2011:**  
Deadline for Non Peer Review Papers

All accepted papers and posters will be published in printed Conference Proceedings and on the homepage of the Conference.

## Templates

Templates for Abstracts, Papers and Posters are available on [www.uni-stuttgart.de/mcg2012](http://www.uni-stuttgart.de/mcg2012).