

# Chair of Agrimechatronics Lehrstuhl für Agrarmechatronik



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# Research topics of Agrimechatronics

## Intelligent Machines for Agriculture

- Autonomous agricultural work machines
- Computational fluid dynamics, applications
- Control engineering, applications
- Control of electro-hydraulic systems
- Dynamics modeling, e.g. vehicle dynamics
- Fast control prototyping
- HIL simulation
- ISOBUS automation
- ISOBUS protocol
- Mechanical-hydraulic-electric systems
- Multi-robot systems
- Path planning algorithms
- Perception in (semi)autonomous vehicles
- Positioning and navigation algorithms
- Robotic manipulation of biomaterials
- Sowing and tillage mechatronics
- Standardization
- Tractor user interfaces
- Tractor-implement interface

# Lectures provided by Agrimechatronics at TUM

- Tractor-Implement Communication Technology "ISOBUS"
  - Positioning and Navigation in Off-road Vehicles "GPS"
  - Fundamentals of Tractor Design "Renius"
  - ..?
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- The trend is towards more engineering lectures
  - Lectures designed for both Weihenstephan and Garching students

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