



FAKULTÄT FÜR  
INFORMATIK

# Presentation Digital Engineering Project: Flying Swarm

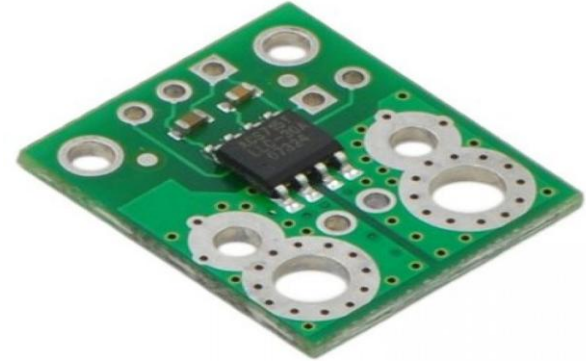
*Prof. Mostaghim, Christoph Steup*  
Chair of Intelligent Systems

# Organization

- Time and location:
  - Start: 20.10.2017
  - End: 15.02.2018++
  - Time: 13:00 (1:00 pm) (probably)
  - Place: G29-035
- Contact:
  - Christoph Steup: [steup@ovgu.de](mailto:steup@ovgu.de)
  - Sebastian Mai: [sebastian.mai@st.ovgu.de](mailto:sebastian.mai@st.ovgu.de)
- Meetings:
  - Individual meetings organized by Team Leader
- Web:
  - [DE Project Overview](#)

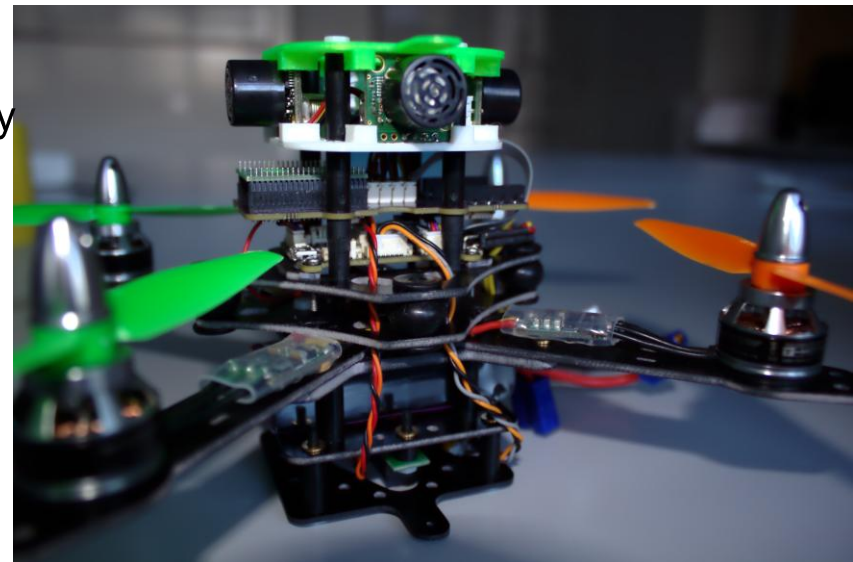
# Energy Awareness

- Currently Copters have no Energy Measurement Hardware
- Energy Model is important for Optimization
- Energy Model extends Life-Time Prediction
- Goal:
  - Provide Current Measurement
  - Integrate Current Sensors in SW
  - Evaluate Copter Behaviours regarding Energy
- We have:
  - Flying Copter
  - Current Sensors
  - Extensible Copter Software



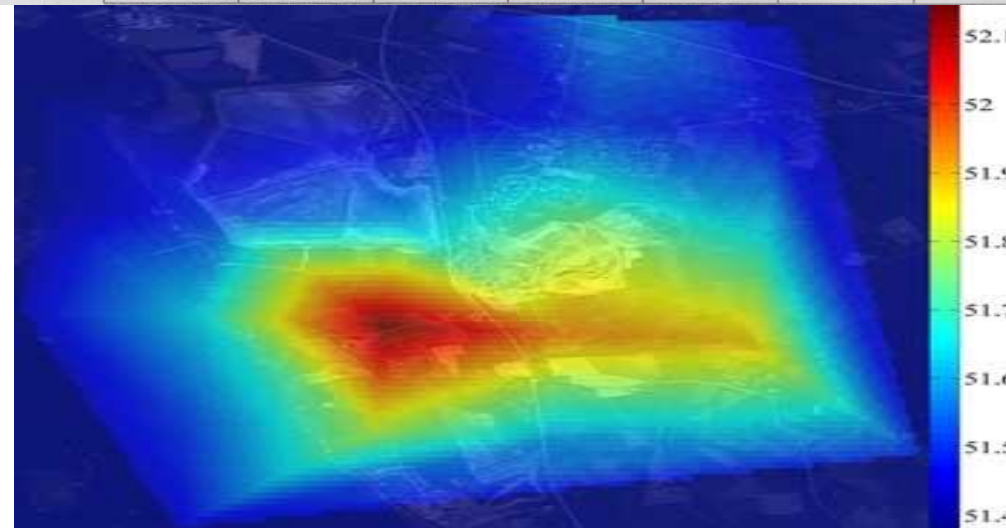
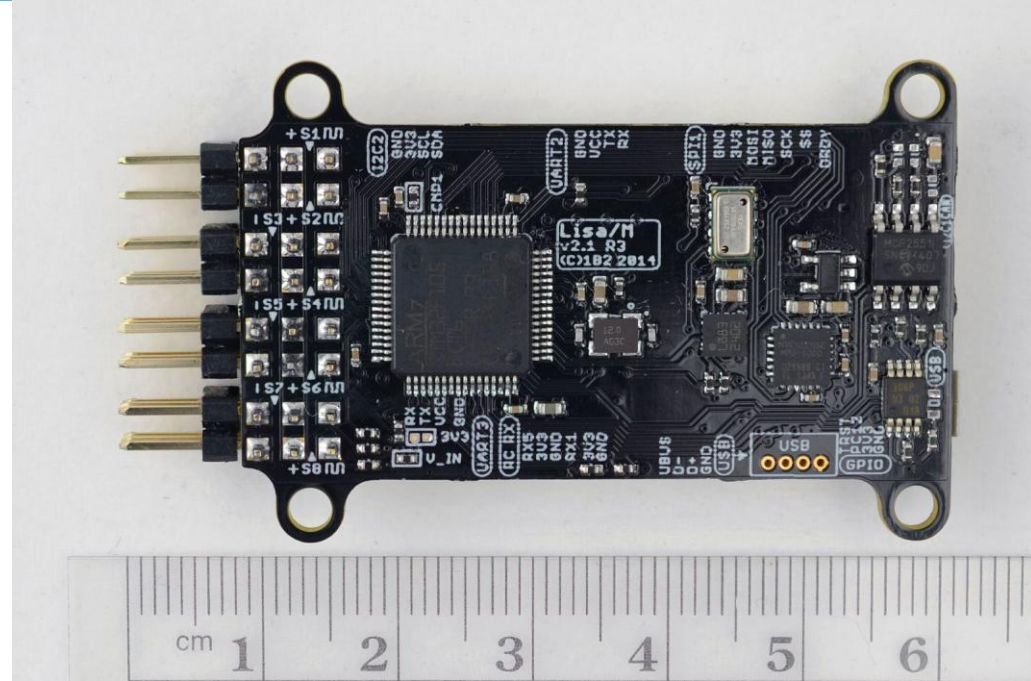
Source:

[http://www.robotshop.com/media/catalog/product/cache/1/image/900x900/9df78eab33525d08d6e5fb8d27136e95/p/o/pololu-30a-ac715-current-sensor\\_1.jpg](http://www.robotshop.com/media/catalog/product/cache/1/image/900x900/9df78eab33525d08d6e5fb8d27136e95/p/o/pololu-30a-ac715-current-sensor_1.jpg)



# 3D Magnetic Mapping

- Copters contain included 3-Axis Magnetometer
- Use Magnetometer to create 3D Map for Indoor Environments
- Enable Positioning
- Enable Compensation of Magnetomet Data
- Goal:
  - Evaluate Precision of Magnetometer
  - Create SW to aquire Map
  - Check Location Capability
  - Check Correction Capability



Source: