

**IEEE GRSS Drone Sensor Deployment Workshop Agenda**  
**18-22 November 2019**  
**in partnership with ACEIoT and RIT**

- Day 1 Monday
  - Introduction to resources useful for sensing from drones
    - IEEE Geoscience and Remote Sensing Society
    - The primary journals publishing drone remote sensing articles
    - Online training and tutorial Web resources
  - Introduction to the workshop activities – sensor deployment on a drone
    - Description of the sensor circuit board kit
      - Power options – external battery v. drone battery
      - Sensor connections
      - Sensor descriptions, e.g., thermistors, radiometers, GPS, etc.
      - Data storage
      - Programming requirements
    - Practical – Connect the sensors to the circuit board, test basic operation
- Day 2 Tuesday
  - Program the circuit board
    - Program sensor data collection – timing options
    - Program for multiple data streams
    - Format data storage – metadata and data
    - Practical – Program and test the data stream
- Day 3 Wednesday
  - Practical – Sensor testing and calibration
    - Ground testing of sensor operation – is the device working as planned?
    - Sensor calibration – standards, gains and biases, and/or calibration curves
    - Calibration options – on board adjustments v. post processing
  - Drone flight considerations
    - Weight calculation
    - Power consumption and flight time
    - Flight regulations – what types of experiments are possible?
    - GPS and Inertial Measurement Unit – when is an IMU needed?
- Day 4 Thursday
  - Attach sensors and simulate a drone data collection
  - Process the data
    - Consideration of processing workflow
    - The importance of metadata
    - Archiving considerations
- Day 5 Friday
  - Presentation of data collection results
  - Wrap-up