Yannick Curnel
Walloon Agricultural Research Centre (CRA-W)

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Walloon Agricultural research Center (CRA-W)

- Regional public body
- **Role**: To carry out fundamental and applied agricultural research programs and service activities

- **CRA-W in figures**: 450 staff (>150 scientists), *about 300 ha* (experimental plots, orchards, laboratories, etc.), 3 sites and more than 150 research projects at regional, national and European level

- **Multidisciplinary organization**: The range of services and analyses provided by the Centre covers main aspects of agriculture and agri-business
SAR-based monitoring of grasslands

- Context: PhD (UCL – ELIE)
- Monitoring of grassland:
  - Mowing vs Grazing
  - Detection of mowings
- Objectives:
  - Recalibration of grassland growth models;
  - Monitoring of grassland use intensity;
  - (Control activities).
SAR-based monitoring of grasslands

- ERS-2
- Why SAR?
  - Mowings are punctual events
  - Belgian cloud conditions

Revisit time over Europe in summer with 2 satellites (Sentinel-2) (Martimort, 2009)
SAR-based monitoring of grasslands

• Based on the distribution of backscattering coefficients (Mowing vs Grazing) and on the differences of backscattering coefficients between 2 consecutive acquisition dates (considering the effect of soil moisture on backscattered signal).
  • ~ 80 % of overall classification accuracy
  • ~ 50 % of mowings unambiguously identified
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- Validation of the results based on SENTINEL-1 data (Master thesis at UCL)

- Use of other SAR technics
  - Polarimetry
  - Interferometry
Thank for your attention!