



# Vision Lab – Remote Sensing

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# Remote Sensing Research: Analysis of Multi-and Hyperspectral Images; the machine learning and signal processing approach

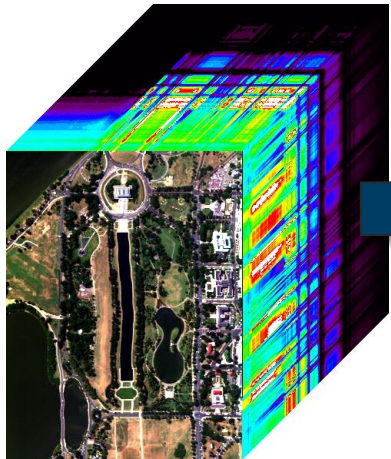


Image Processing: restoration, denoising, compression, segmentation

Image fusion, feature fusion, decision fusion

Machine Learning: classification, landcover mapping, parameter estimation

Spectral Unmixing



# Remote Sensing Research Projects, related to vegetation monitoring

- FWO Fundamental Research Projects:
  - nonlinear spectral unmixing (Partner Ugent)
  - data fusion in remote sensing (Partner: KULeuven)
- Belspo Stereo II (Habistat, Hypermix, Re-Learn), Stereo III (Geomix)  
(Partners: Vito, Inbo, VUB, Alterra Wageningen, EPFL Lausanne, University of Massachusetts)
- IMEC ICON projects (Partners: university research groups, VIB and companies)



# Applications related to vegetation monitoring

- Habitat quality monitoring
- Orchard disease detection
- Biomonitoring of urban vegetation
- Plant phenotyping



# Potential for CAPSAT

- Seeking partners to implement/integrate algorithms into products
- USE CASE 2. Checking presence of greencover  
USE CASE 3. Checking presence of Fabaceae  
USE CASE 4. Crops yield/loss estimation
- Useful expertise:
  - Enhancing of available multispectral imagery or obtained landcover maps by fusion
  - Generating landcover maps by machine learning methods, spectral unmixing