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## 1SC2692 – Classification of agricultural areas

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**Department:** DOMINANTE - PHYSIQUE ET NANOTECHNOLOGIES  
**Language of instruction:** FRANCAIS  
**Campus:** CAMPUS DE PARIS - SACLAY  
**Workload (HEE):** 40  
**On-site hours (HPE):** 27,00

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### Description

Detailed and accurate knowledge of land cover is crucial for many scientific and operational applications, and as such, it has been identified as an essential climate variable. Iota2 is the processing chain that enables the fully automatic production of country-wide land cover maps using time series of high-resolution optical images that are based on supervised classification and use the basics of existing data as reference data for training the models and their validation. This chain is triggered once a year in the CNES data center to produce the land use maps.

### Quarter number

ST2

### Prerequisites (in terms of CS courses)

none

### Syllabus

autonomous research (library and visualizations) on the different sources and platforms for downloading data and on spectral indices  
To identify the physical characteristics of signals from different land covers.  
Propose and test classification algorithms.  
To model the performances

### Grading

The session will be evaluated with an oral presentation.  
Skills C4, C7 and C8 are evaluated during the oral defense.

### Resources

ESA computing platform



### **Learning outcomes covered on the course**

autonomous research (library and visualizations) on the different sources and platforms for downloading data and on spectral indices

To identify the physical characteristics of signals from different land covers.

Propose and test classification algorithms.

To model the performances

### **Description of the skills acquired at the end of the course**

C4-1 Identify and reformulate the need

C4-2 Define and present one or more solutions

C7-1 Structure your ideas and arguments, be synthetic (assumptions, objectives, expected results, approach, and value created)

C7-2 Understand in an evolving way the needs and expectations of your interlocutors. Encourage interactions, be an educator, and create a climate of trust.

C7-4 Master spoken, written, and body language and master basic communication techniques