



FRENCH-UZBEKISTAN SUMMER SCHOOL on Remote Sensing

SAMARKAND STATE UNIVERSITY
6 & 12 JULY 2020

Dissemination and capacity-building
using Copernicus as well as Theia
data and value-added products

Samarkand State University
140104, University blv. 15,
Samarkand City, Samarkand region, Uzbekistan

Organizers

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Sponsors

FPCUP European program

French National Research
Institute for Agriculture, Food
and Environment

French Spatial Agency



GENERAL SCHEDULE

Each day, courses will start at 9:00 AM et finish at 17:00 with half-hour morning and afternoon breaks, scheduled at 10:30 AM and 15:30 respectively. Lunch breaks will be held from 12:30 to 14:00.

The following program will only detailed specific course organization.

DAY 1 | MONDAY, 6TH JULY 2020 >> PHYSICS OF MEASUREMENT, RADIATION, SATELLITE IMAGING: OPTICAL REMOTE SENSING

PRESENTER DR. CLÉMENT MALLET

DAY 2 | TUESDAY, 7TH JULY 2020 >> PHYSICS OF MEASUREMENT, RADIATION, SATELLITE IMAGING: RADAR REMOTE SENSING

PRESENTER DR. MEHREZ ZRIBI

DAY 3 | WEDNESDAY, 8TH JULY 2020 >> DOWNLOAD AND PREPROCESSING OF SENTINEL-2 AND SENTINEL-1 IMAGES

PRESENTERS DR. HASSAN BAZZI **AND** DR. NICOLAS BAGHDADI

09:00–12:30 (with a morning break)	SENTINEL-2 (OPTICAL): DOWNLOAD AND PREPROCESSING (ATMOSPHERIC CORRECTION)
14:00–17:00 (with an afternoon break)	SENTINEL-2 (RADAR): DOWNLOAD AND PREPROCESSING (ATMOSPHERIC CORRECTION)

DAY 4, THURSDAY, 9TH JULY 2020 >> PRACTICAL WORK ON IMAGE PROCESSING USING OPEN ACCESS SOFTWARE (QGIS AND OTB)

PRESENTERS DR. HASSAN BAZZI AND DR. HERVÉ YESOU

09:00–10:30	IMPORT/EXPORT, VISUALIZATION, CONTRAST
11:00–12:30	INTERPRETATION OF OPTICAL IMAGES
14:00–15:30	INTERPRETATION OF RADAR IMAGES
16:00–17:00	CREATING MAP LAYOUT

DAY 5, FRIDAY, 10TH JULY 2020 >> PRACTICAL WORK ON IMAGE PROCESSING USING OPEN ACCESS SOFTWARE SUCH AS QGIS AND OTB

PRESENTERS DR. HASSAN BAZZI AND MICHEL LE PAGE

09:00–10:30	DIGITIZING/VECTORISING
11:00–12:30	MATHEMATICAL OPERATIONS
14:00–15:30	SEGMENTATION
16:00–17:00	CLASSIFICATION

DAY 6, SATURDAY, 11TH JULY 2020 >> PRESENTATION OF A GENERAL OVERVIEW OF THE COPERNICUS SERVICES

PRESENTER DR. HERVÉ YESOU

09:00–10:30	VEGETATION PRODUCTS LAND COVER, VEGETATION CONDITION INDEX, VEGETATION PRODUCTION INDEX, BURNT AREA
11:00–12:30	CRYOSPHERE PRODUCTS SNOW COVER EXTENT AND SNOW WATER EQUIVALENT
14:00–15:30	WATER PRODUCTS (1/2) LAKE SURFACE TEMPERATURE & LAKE WATER QUALITY
16:00–17:00	WATER PRODUCTS (2/2) GLOBAL WATER SURFACE AND WATER HEIGHT

DAY 7, SUNDAY, 12TH JULY 2020 >> PARALLEL TUTORIAL SESSIONS

Each tutorial session will focus on a given theme. Each student will select one thematic session among the followings:

PRESENTER	THEMATIC SESSION
DR. CLÉMENT MALLET	LANDUSE AND LANDCOVER MAPPING USING SENTINEL-1/2 IMAGES
DR. CHRISTINA CORBANE	URBAN MAPPING
DR. HASSAN BAZZI AND DR. NICOLAS BAGHDADI	ESTIMATION OF SOIL MOISTURE IN AGRICULTURAL AREAS USING SENTINEL-1/2 IMAGES
DR. HERVÉ YESOU	DISASTER RAPID MAPPING FROM SPACE
DR. MICHEL LE PAGE AND DR. MEHREZ ZRIBI	DROUGHT ESTIMATION AND MAPPING

DAY 8, MONDAY, 13TH JULY 2020 >> CULTURAL TOUR



The FPCUP European program supports this initiative as pursuing the following Copernicus objectives:

- » 1. Increase socio-economic benefits by promoting the use of Earth observation in applications and services;
- » 2. Foster the development of a competitive European space and services industry;
- » 3. Increase demand for Copernicus data and Copernicus information;
- » 4. Promote the use of Copernicus data and Copernicus information by institutions and bodies, international organisations and European, national, regional or local authorities;
- » 5. Increase market penetration, including the expansion of the existing markets and creation of new markets and competitiveness of the European downstream operators;
- » 6. Demonstrate European added value.



Created in 2012 with the support of 12 French research organizations, Theia, the French continental surface data consortium, pursues four main objectives:

- » 1. Promoting and facilitating access to spatial Earth observation data;
- » 2. Developing value-added products for the scientific community and public stakeholders;
- » 3. Networking scientists and users;
- » 4. Promoting French research on a European and international scale.

Theia develops and distributes value-added products from high-resolution remote sensing: land use, snow cover, soil moisture, etc. Dedicated to land surfaces, these products are freely accessible to scientists and public and private actors.

Thanks to its scientific leadership, Theia is building a network of skills, in France and abroad. Theia is also now an active member of the Earth System Research Infrastructure, Data Terra.