



# FPCUP Summer-School and Workshop Copernicus for Cultural Heritage

July 15.-17. 2025 Oberpfaffenhofen

## **Program and practical information**

Welcome to the FPCUP Summer-School and Workshop “Copernicus for Cultural Heritage” at the German Aerospace Center (DLR) in Oberpfaffenhofen.

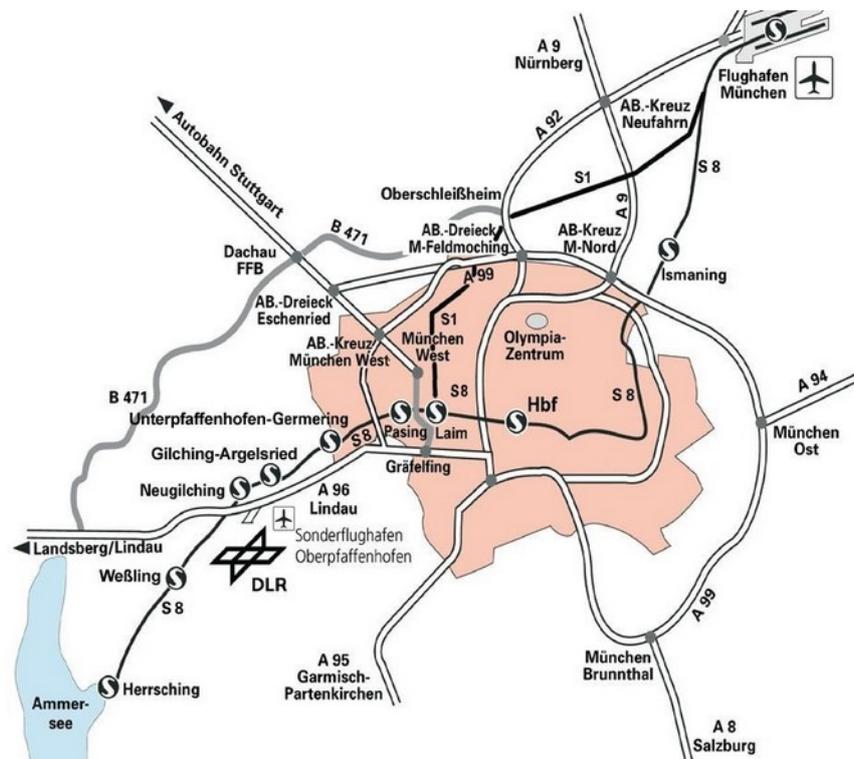
The Copernicus for Cultural Heritage Summer School Workshops provides three workshops over the summer of 2023 and 2025 in Rome (Italy), Oberpfaffenhofen near Munich (Germany) and Limassol (Cyprus). They are organized by the Eratosthenes Center of Excellence (ECoE), ISPRA (the Italian Institute for Environmental Protection and Research), and the DLR (German Aerospace Center). The Summer School Workshops are funded by the EU in the frame of the project FPCUP (“Framework Partnership Agreement on Copernicus User Uptake”, Action 2020-2-21) which aims at enhancing the user uptake of Copernicus data and products.

Each workshop targets local and regional experts, archaeologists and decision makers, authorities, companies, researchers and students providing training and exchange on usage of Copernicus data for Cultural Heritage monitoring and preservation.

Each of the workshops will include about two to three days of lectures, presentations of experts and show-cases by participants, one or two days of in-situ activities, exercises and hands-on-trainings, and one day of visits to cultural heritage sites. The participants are invited to share their experience and show-cases where they already use satellite or remote sensing data or work which may gain additional value through the use of satellite data.

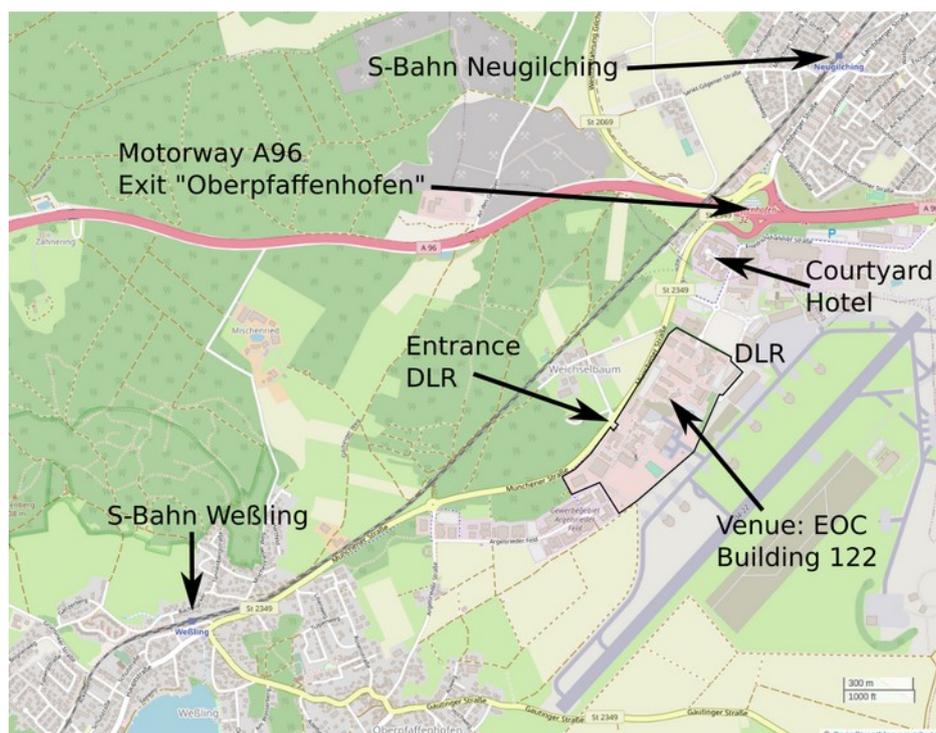
Attendance is free of charge and limited in number of participants on a first come first served basis. All coffee and lunch breaks in the program are paid for by DLR.

Attendees are responsible for their own travel and accommodation arrangements and payment.



## Venue

The workshop is held at the premises of the German Aerospace Center (DLR), Münchener Straße 20, 82234 Weßling (Germany) in the Earth Observation Center (Building 122). The DLR site Oberpfaffenhofen site is approximately 25 kilometres west of Munich near the Munich-Lindau motorway (A96). You will have to register at the entrance - there will be a list of all participants.



By car: take the motorway A96 (Lindau - Munich), exit "Oberpfaffenhofen". You may park at the entrance ("Besucherparkplatz") or ask after registration at the entrance for parking inside DLR.

By plane: Arrive at Munich (MUC), take the S-Bahn train S1 or S8. The S8 goes directly from the airport to stations "Neugilching" or "Weßling" (see below "by train"), taking the S1 you have to change in Laim for the S8 to "Herrsching". A taxi from the airport to DLR is about 80 €.

By train: Take the train to Munich main station (Hauptbahnhof), from there the S8 to "Neugilching" or "Weßling" (direction "Herrsching"). Both S-Bahn train stations are located about 30 min walk away from the DLR. There are no taxis at the train stations but some busses: bus 947 at 9:42, 10:42, 11:42, 12:42 from train station Neugilching and bus X910 at 10:07, 11:07, 12:07, 13:07 from train station Weßling. You may buy online-tickets at <https://www.mvv-muenchen.de/>. The single trip from Hauptbahnhof to DLR is 7,40 €, from airport 13 €, a full day-ticket 11 € (Hauptbahnhof-DLR, Zone M-2) or 14.80 € (airport-DLR, Zone M-5) respectively.

## Accommodation

Nearby is the hotel Courtyard by Marriott which offers rooms at DLR rates of about 90 € (about 1 km walk), next hotels are Seehof in Weßling (about 3 km, bus or walk) or hotels Zur Post or Seehof in Herrsching (about 15 km, S-Bahn and bus). Please ask for DLR-rates when booking.



# Detailed Program of the Workshop

**DLR Oberpfaffenhofen, Building 122 (EOC) Room Newton & Einstein**

**Tuesday, 15.07.2025**

**08:30 Arrival and Registration**

**09:00 Opening, Keynotes**

Welcome, structure of event and brief introduction of participants	Thomas Krauß, DLR
Overview of the Copernicus Program	Doris Klein, DLR
Copernicus World Heritage Hub	Chiara Solimini, EUSPA (online)
3D digitization of cultural heritage using remote sensing	Kyriacos Themistocleous, ECoE

**10:30 Coffee Break**

**11:00 Participant Session**

The World Heritage Site Roseninsel in Lake Starnberg	Stefan Plattner, DLR
Cultural Heritage for Earth Observation in Cyprus	Kyriacos Themistocleous, ECoE
Satellite Remote Sensing for Monitoring Cultural Heritage Sites: Insights from the TRIQUETRA Project at Smuszewo, Poland	Julia Holzner, DLR
Strengthening Digital GeoMedia Capabilities at UNESCO-designated Sites: Assessment and Pilot Course Review	Lasse Grimmer, Pädagogische Hochschule Heidelberg
Wissensplattform basierend auf offenen Standards zur Lagedarstellung im Kulturgüterschutz	Maximilian Zenner, Fraunhofer IOSB
EnMAP Mission Status	Emiliano Carmona, DLR

**12:30 Lunch Break**

**13:30 Lectures**

Introduction to Hyperspectral Imaging	Daniele Cerra, DLR
Introduction to SAR	Simon Plank, DLR
InSAR and European Ground Motion Service (EGMS)	Ramon Brcic, DLR

**15:00 Coffee Break**

**15:30 Participant Session**

Hyperspectral imaging for Cultural Heritage	Daniele Cerra, DLR
SATCULT: Good practices and transdisciplinary training - how to bring together cultural heritage protection and satellite-based services	Karin Drda-Kühn, SATCULT
Investigating the potential of Airborne SAR for detecting buried archaeological sites under moist soil in Bavaria	Roland Linck, BLFD Bayern
Ground motion monitoring on cultural heritage: Methods	Francesco Menniti, ISPRA
Ground motion monitoring on cultural heritage: Case study	Gabriele Leoni, ISPRA

**17:00 Ice-Breaker**

**20:00 End of day**

### Wednesday, 16.07.2025

08:30 Arrival and Registration

09:00 DLR-Workshop

Mastering Google Earth Engine (please bring your own laptop) Daniele Cerra, DLR

11:00 Coffee Break

11:30 Participant Session

Semi-automatic and AI-driven detection of illegal archaeological excavations using optical satellite imagery Dante Abate, EcoE

Scientific Discovery with AI through Remote Sensing Conrad Albrecht, DLR

Fire damage close to Cultural Heritage sites Daniele Cerra, DLR

Invasive Mussel spreading near CH sites Daniele Cerra, DLR

12:30 Lunch Break

13:30 DLR-Tour

15:00 Coffee Break

15:30 Closing

Summary of Summer School, Lessons learned Thomas Krauß, DLR

16:00 End of day

### Thursday, 17.07.2025

08:00 Arrival at DLR

08:30 Bus-Transfer to Augsburg

10:00 Overview World Heritage "Water System"

10:30 Guided Tour "Waterworks Rotes Tor"

12:00 Lunch "König von Flandern"

13:30 Guided Tour "Golden Age of Augsburg"

16:00 Bus-Transfer back to DLR

17:30 Arrival at DLR

### Posters (during Breaks and Ice-Breaker in the Atrium):

REVITALISER - Preventive Protection of Archaeological Sites in the EMMENA Region	Dante Abate, EcoE
SATCULT - Vocational Training Closing the Knowledge Gap on Satellite-based Services for Cultural Heritage Protection	Karin Drda-Kühn, SATCULT
GIS-based Attribute Mapping of UNESCO World Heritage Sites: A Case Study of the Baden-Württemberg Section of the „Prehistoric Pile Dwellings around the Alps“	Lasse Grimmer, Pädagogische Hochschule
Advancing the Monitoring of Traditional Meadow Orchards in Southern Germany: Current Approaches and Future Directions	Paul Joseph, Pädagogische Hochschule
Integration of DInSAR Satellite Techniques and Passive Geophysics for Landslide Risk Mitigation: The Case Study of San Vito Romano (RM)	Simona Marano, Sapienza University
Analyzing Climate Change Impacts on European Cultural Heritage Sites Using High-Temporal-Resolution Satellite Time Series	Marco Ottinger, DLR
The World Heritage Site Roseninsel in Lake Starnberg	Stefan Plattner, DLR

## **About FPCUP** (Framework Partnership Agreement on Copernicus User Uptake)

With a total of 219 actions, the EU-funded project aims at enhancing the user uptake of Copernicus data and products. It started in July 2018 and aims at increasing the number of Copernicus users and applications derived from Copernicus data or products by different actions. The project is led by the German Aerospace Center (DLR Space Agency). 50 partners from 23 European countries are part of the consortium comprising a broad expertise on national and international Copernicus user uptake. You can find more details on the corresponding FPCUP website at <https://www.copernicus-user-uptake.eu/user-uptake/details/copernicus-for-cultural-heritage-summer-school-workshops-449>

## **DLR at a glance**

DLR is the Federal Republic of Germany's research centre for aeronautics and space. We conduct research and development activities in the fields of aeronautics, space, energy, transport, security and digitalisation. The German Space Agency at DLR plans and implements the national space programme on behalf of the federal government. Two DLR project management agencies oversee funding programmes and support knowledge transfer. Climate, mobility and technology are changing globally. DLR uses the expertise of its 55 research institutes and facilities to develop solutions to these challenges. Our 10,000 employees share a mission - to explore Earth and space and develop technologies for a sustainable future. In doing so, DLR contributes to strengthening Germany's position as a prime location for research and industry.

## **Imprint**

Deutsches Zentrum für Luft- und Raumfahrt e. V. (DLR)

EOC - Earth Observation Center

Münchener Str. 20, 82234 Wessling/Oberpfaffenhofen

info@dlr.de - [www.DLR.de](http://www.DLR.de) (All images are property of DLR (CC-BY 3.0) unless otherwise stated)

For further questions contact us at [FPCUP-CHSummerSchool2025@dlr.de](mailto:FPCUP-CHSummerSchool2025@dlr.de)