STUDY COPERNICUS & DIGITAL EARTH

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COPERNICUS MASTER
IN DIGITAL EARTH

Co-funded by
the European Union

Palacký University
Olomouc

Université Bretagne Sud

PARIS LODRON UNIVERSITY SALZBURG

https://master-cde.eu/programme/accreditation

AQ quality seal 2022-2028

After an intense procedure and overall fulfillment of all necessary requirements, the Agency for Quality Assurance and Accreditation Austria (AQ Austria) awarded the programme with a quality seal applicable for a period of six years. This was in compliance with the European Approach for the Quality Assurance of Joint Programmes (2015).

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Get acquainted with our faculty, current students and alumni as they share their insights and experiences. Discover their perspectives and find answers to questions that may pique your interest about the geospatial Master of Science. The Erasmus Mundus Joint Master (EMJM) is a scholarship programme proudly co-funded by the European Union.

Edition 1 students

Following a comprehensive selection process, 23 outstanding candidates, from a total of 360 applicants, have been chosen to receive full Erasmus+ scholarships for the Erasmus Mundus Joint Master (EMJM) Copernicus Master in Digital Earth – CDE programme starting in the 2024/2025 academic year.

The fully-funded scholarship students for this first CDE EMJM edition includes five students from programme countries, 13 students from partner countries (non-EU) and five students from countries under the NDICI category.

We eagerly anticipate their arrival at Paris-Lodron University Salzburg (PLUS), the starting place for this joint postgraduate programme. All students will meet for the Orientation Project during the fourth week of September 2024.

Application call open

The ‘Copernicus Master in Digital Earth – CDE’, co-funded by the European Union, is offering partial scholarships in form of tuition fee waivers. This new application **call** is open from the **15th of March till June 10, 2024** (23:59 CET).

Candidates who have the means to cover their living expenses for the duration of the two-year programme are encouraged to apply before the deadline.

Geospatial Hackathons

Nikola Vracevic, from the GeoData Science specialization track reports on his hackathon experience during his study at the Department of Computer Science, Mathematics and Statistics, **University of South Brittany, Vannes**.

*'I participated in the annual contest organized by IEEE GRSS. This year's topic was related to **Flood Rapid Mapping and Data Fusion**. The contest provides an opportunity for participants to showcase their skills and contribute to the advancement of the GeoAI field.*

Although participation was mandatory for students in Vannes, I would now consider trying similar challenges myself. I find the concept to be very interesting, offering more complex challenges compared to a typical classroom setting. This complexity pushes participants to explore advanced topics and thinking innovatively.

Lisah, Martin, Nikola (pc: Ch. Pelletier)

Furthermore, with a clean dataset, well-defined problem statement, clear evaluation metrics, and insights into other participants' progress, the hackathon provides a supportive environment for learning and growth.

I would encourage anyone interested in GeoAI, especially those who are not yet established professionals, to expand their expertise and participate in similar events.'

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#Copernicus #DigitalEarth #EO #GI #GeodataScience
Artificial Intelligence for Earth Observation #AI4EO
#Geovisualisation #Gecommunication

Student Activities

Digital Earth Citizens *a Blended Intensive Programme*

The Digital Earth Citizens BIP was hosted by **Palacký University, Olomouc, Department of Geoinformatics**. It was a week long event organized in cooperation with the **PLUS Department of Geoinformatics**, within a Blended Intensive Programme (BIP).

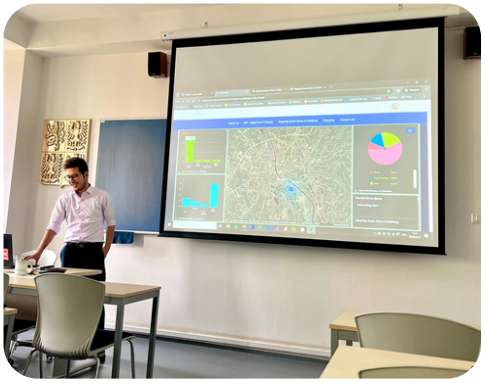
Gernot Nikolaus, a student from the CDE GeoVisualisation Track shares insights from his participation in the Digital Earth Citizens BIP. Below is a snippet from his LinkedIn post, highlighting his experience.

"*I had the chance to take part in the Blended Intensive Programme (BIP) Digital Earth Citizens in Olomouc... Different topics such as detailed explorations of the ArcGIS platform, (geo)-visualization techniques, user experience design, and Public Participation Geographic Information System (PPGIS) were covered*.

Gernot (pc: Rohit)

Undoubtedly, one of the highlights of this experience was the opportunity to connect with people from various countries and cultures. ..." ***Read more***.

Rohit Khati, a student from the CDE GeoDataScience Track also presented his work on 🌿 Mapping Green Gems of Salzburg: A Community-Driven Project 🌿 at the BIP programme.
Read his article on LinkedIn **here**.



Rohit (pc: Rohit)

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Celebrating CDE alumni and students

Cassini challenges

Tematics, a CDE alumni startup company by **Max Aragon**, **Carla Mae Arellano**, and **Jose Gomez**, emerged as a recipient of the **CASSINI Award** presented by EUSPA - the EU Agency for Space Programme. This was in recognition of their innovative project idea - 'Thermopolis' submitted for the **CASSINI Idea challenge**.

https://www.euspa.europa.eu/cassini-challenges-winners-2023

Honoring the 2024 Leading Women:

Cloud-Native Geo Pioneers in Earth Science

We proudly congratulate our alumna **Stephanie Tumampos** (pictured top right)\ for being recognized among the **Top 10 Women shaping the Earth Sciences by Radiant Earth**, in celebration of this year's International Women's Day.

https://radiant.earth/blog/2024/03/cloud-native-geo-pioneers-in-earth-science-honoring-the-2024-leading-women/

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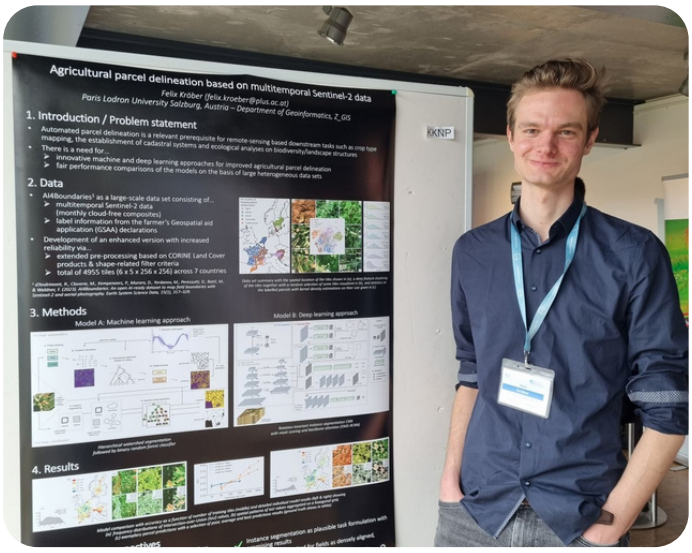
Celebrating CDE alumni and students

Young talent award

Karl-Kraus-Nachwuchsförderpreis 2024

Congratulations to our alumna **Felix Kröber**, who was awarded the prestigious and competitive **Karl-Kraus-young talent Award 2024.**



pc: PLUS, EO Analytics lab

The award was in recognition of his Master's Thesis research titled 'Agricultural parcel delineation based on multi-temporal Sentinel-2 data - a comparison of machine learning and deep learning approaches for instance segmentation', which he presented at the annual conference of the **German Society for Photogrammetry, Remote Sensing and Geoinformation (DGPF) 2024**.

Additional details regarding student and alumni involvement, global recognition, accomplishments, **CDE Student Awards** as well as **International Awards** can be found on the **CDE website**.

Student Awards

CDE & International Awards

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1st place ML4Earth Hackathon 2023

ML4Earth- Physics-aware Machine Learning Hackathon. Using physics-aware machine learning to model and forecast flood events. Sep 22 – 25, 2023,

Lisah Ligono, Yanika Dontong, Parinda Panoon

student testimonial

My name is **Parinda Pannoon**, and I'm currently pursuing my MSc degree in Copernicus Master in Digital Earth. My specialization track is Geovisualisation and Geocommunication. I earned my first degree in Geography and Geoinformatics from Thailand. After graduation, I worked as a GIS specialist and research assistant at Chulalongkorn University.

Do you have a special geospatial application interest or focus?

I have a strong interest in Geoinformatics and Cartography focusing on disaster management. I want to leverage geospatial data to create impactful geovisualizations which I believe is crucial for geospatial analysis and presentation.

How will you assess the role of the CDE programme in preparing you for hackathons and vice versa?

CDE allows me to explore geospatial technologies and various techniques such as GIS, remote sensing, and software development for geospatial applications that can be integrated within my hackathon projects. Furthermore, the Geovisualisation track improves my capacity to produce visually appealing and impactful projects.

With your active participation in Geo-hackathons, can you share your experience, how you access these opportunities, and team involvements ?

Participating in hackathons presents an excellent chance to apply the skills and knowledge acquired from coursework, while also refining them through the creation of innovations geared towards real-world challenges. It involves embracing new techniques and tools, offering a glimpse into the capabilities of technology and teamwork in practical settings.

I access the hackathon community through the 'Devpost' website which collects hackathons around the world and gathers people who have the same field of interest together.

One of my favorite challenges so far was the 'Disaster Mapping hackathon'. My team and I developed a web-based GIS application to suggest evacuation routes during flood events. I dived deeper into web cartography, GIS, and an open-source server for geospatial data known as 'Geoserver'. I really enjoyed creating interactive maps to visualize hurricane tracks in this challenge.

In terms of team collaboration, I will say that hackathons always brings people together. It is a great chance to work with creative people with incredible ideas.

Communication is key during hackathons. Hence, my team and I usually come together to discuss the project feasibility, what can be done within the limited time-frame and set sub-deadlines for each process. To do this, we create a channel for communicating to ensure that we all have good mutual understanding.

For people who are interested in joining hackathons, I will say go for it! It is a good opportunity to enhance your skills. Do not worry about the results, at least you will earn more skills than yesterday.

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*Congrats to Rufai, who **serves as Young Professional Ambassador,** IEEE Geoscience and Remote Sensing Society*

alumni testimonial

My name is **Rufai Balogun.** I am an EO Data scientist. I use my skill-set to drive sustainable development forward through topics such as disaster risk management and downstream hydrological issues. Currently, I work as a EO researcher.

What motivated you to apply for the CDE programme?

My fascination with weather as a teenager led me to study Meteorology and Climate science at the Federal University of Akure, Nigeria. However, during my undergraduate study, I developed an interest in Satellite meteorology. My professor then advised me to intern at the National Agency for Space Research and Development, Nigeria. It was during my internship that I learnt about the CDE first admission call.

My decision to apply for this joint postgrad programme was underpinned on two reasons. One, I wanted to be a data scientist. Two, one of the highlights of the programme was to equip students to not just become employees, but a geospatial leader in every respect.

What experience stands out the most during your Master's study?

If anything, it will be my colleagues, especially, in the second study year in France. The French programme was designed to bring students together in a cohesive way through collaborative class projects. My colleagues were super friendly, smart and helpful. As a group, we studied, cried, travelled and encouraged each other.

What were the challenges you faced during your study, especially studying in 2020?

COVID-19 was definitely a major challenge. It was a detour from the particular style of learning I was used to. It therefore required the development of many new skill-sets, especially adaptability.

Also, with CDE bringing a lot of really smart students together, I noticed that there was so much I needed to learn, even from my classmates. I had to cultivate the habit of asking questions when needed. I also had to learn how to collaborate with my colleagues so we could help each other. This meant scheduling calls with my classmates as much as possible to get a good hang of most lessons. The language was another challenge especially in France.

How valuable are your skills in the workspace?

Very valuable! During my first week at my current job, I was handed a large code base to tackle. Then it dawned on me that I no longer harbored the same fear I once did before my studies. The anxiety was gone.

However, the learning never ends. CDE gives enough breadth in geospatial knowledge. You are then, required to choose an area of interest and hone your skills in that regard.

Could you share a few tips to assist current CDE students and graduates in job searching, drawing from your experience?

Firstly, be confident in your skills. Know that there are opportunities but you just have to find them out.

I started job searching as soon as I started my thesis because I wanted to get familiar with the requirements of the job market. I noticed that Project Management was a required skill. Thankfully, this had been developed during my study through collaborative class projects I was involved in. I also found out that some soft skills I developed during my study, such as "intercultural intelligence" proved very essential in my job search.

I will say leverage on existing relationship with your colleagues and professors as much as possible. Also, as an international student, you will face visa requirements when job searching. The key is not to limit your applications to small companies. Consider applying to larger companies as well.

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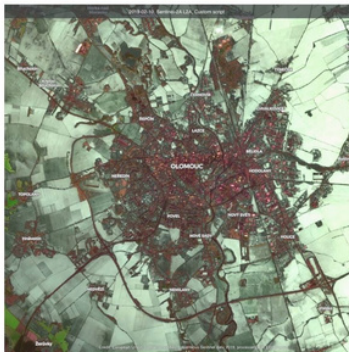

Salzburg, Vannes, Olomouc: contains modified Copernicus Sentinel data

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meet core faculty and project members

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Olomouc

Department of Geoinformatics

Geovisualisation & Geocommunication

ROSTISLAV NETEK

is an Assistant Professor who focuses on Web cartography, Geovisualization, and Open source technologies. He leads the Web Cartography (XGWC) course.

JAN BRUS

is as Assistant Professor responsible for teaching lectures in 3D visualization. His expertise is in 3D modelling and Printing, Environmental Analysis, and Advanced GIS Modelling.

RADEK BAVIR

is Assistant Professor specializing in advanced visualization. Teaches Principles of Geovisualization and Thematic Cartography. Research on enhancing Map Production Efficiency, Visualization, and Geospatial 3D printing.

STANISLAV POPELKA

PhD, teaches Cognitive Cartography. His expertise in eye-tracking technology aids in evaluating and optimizing map layouts for improved user comprehension and engagement. 3D modelling and Visualization.

JAKUB KONÍČEK

is cartographer and graphic designer, Modern Cartography Production, Infographics, and Data Visualization. Teaches Design in Geovisualization and Thematic Cartography, and is supporting CDE students.

DANA GRONYCHOVÁ

is study referent and International Exchange programmes coordinator at Faculty of Science, oversees all study duties and aids students with visas, insurance, living, and study responsibilities.

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Department of Geoinformatics

Geovisualisation & Geocommunication

VÍT VOZENÍLEK

Geoinformatics & Cartography Professor, founder of Department, chairs CDE selection committee. Research on Thematic and Systematic Cartography, atlas production. Teaches Principles of Geovisualization and Systematic Cartography.

ALENA VONDRÁKOVÁ

is a passionate cartographer and graphic designer, specializes in user aspects of Geovisualization, legal issues in GIScience, and Tactile Cartography. As Assistant Professor she introduces CDE students to Cartography, Graphic design, and DTP.

We proudly highlight the atlases produced by the cartography team of Palacký University, Olomouc, Czech Republic, have been honored with the Rector's Award, recognizing them as among the top academic publications of 2023. Congratulations to the entire team!

Prof. Vít Voženílek presents the award
(pc: UPOL: https://twitter.com/gis_upol/status/1760349877912182929)

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Erasmus Mundus Joint Master

Copernicus Master in Digital Earth (CDE) is proudly co-funded by the European Union under the Erasmus+ programme. For a second period of funding (2023-2029), in total 83 student scholarships can be provided, in addition the programme can support 34 self-paying students with a fee-waiver. For the programme's period 2018-2024 a total of 61 scholarships have been offered to international and European students.