

# Ninth International Conference on Remote Sensing and Geoinformation of Environment (RSCy 2023)



ERATOSTHENES Centre of Excellence has organized the 9<sup>th</sup> International Conference on Remote Sensing and Geoinformation on Environment (RSCy 2023) held at Adams Beach, Ayia Napa, Cyprus from 3<sup>rd</sup> to 5<sup>th</sup> April 2023. Our team had a strong participation with 10 presentations.



## NEWSLETTER

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## Gender, Science, and Earth Observation: Strategies to support gender responsive leadership



On 5<sup>th</sup> of October 2023 the Cyprus University of Technology, the Department of Electronic Communications of the Deputy Ministry of Research, Innovation and Digital Policy and the ERATOSTHENES Centre of Excellence organized an event on "Gender, Science and Earth Observation: Strategies to support gender responsive leadership".

The event hosted Prof. Maria Rentetzi, Head of the Chair of Science, Technology and Gender Studies, Friedrich-Alexander University, Erlangen-Nürnberg and Ms Barbara Ryan, Executive Director of the World Geospatial Industry Council (WGIC) and Member of the Board of Directors of the ERATOSTHENES Centre of Excellence for keynote speeches.

Prof. Rentetzi gave a historical overview of the role of gender in Science and Technology and Ms Barbara Ryan addressed the gender dimension in the field of Earth Observation.

The speeches were followed by a panel discussion on "Strategies to support gender responsive leadership at ERATOSTHENES Centre of Excellence".

Watch the event via YouTube: <https://youtu.be/CdH6df7J4h0>



ERATOSTHENES Centre of Excellence had a strong participation in EGU General Assembly 2023 in Vienna, Austria from 23<sup>rd</sup> to 28<sup>th</sup> of April 2023. Our team participated in the EGU23 with the following presentations:

## 1. Christos Theocharidis

- Satellite times-series analysis and assessment of the BFAST algorithm to detect possible abrupt changes in forest seasonality utilising Sentinel-1 and Sentinel-2 data. Case study: Paphos forest, Cyprus

## 2. Kyriaki Fotiou

- Demonstrating the enhanced research capacity of the ERATOSTHENES Centre of Excellence for detecting ground displacements in Cyprus using advanced SAR satellite image processing techniques

## 3. Maria Prodromou

- The synergy of Sentinel missions for fire damage assessment on land surface and atmosphere: the Arakapas village case study

## 4. Eleni Loulli

- Comparing reflectivity measurements between satellite- and ground-based radar observations: A case study for precipitation and drought monitoring in Cyprus

## 5. Kyriacos Themistokleous

- Monitoring natural and geo- hazards at cultural heritage sites using Earth observation: the case study of Choirokoitia, Cyprus

## 6. Marinos Eliades

- Afforestation in water scarce environment under Climate Change: Will trees survive and thrive?



## 7. Konstantinos Fragkos

- Modelled-based Photosynthetically Active Radiation climatology for Cyprus: Validation with measurements and trends

## 8. Ioannis Varvaris

- Modeling water flow dynamics in an agricultural field in Cyprus using image spectral data

## 9. Georgios Leventis

- Exploring the benefits of building a data cube towards the efficient risk monitoring and assessment of cultural heritage assets

## 10. Eleftheria Kalogirou

- Sea Surface Temperature and Ocean Wind Speed Data in the Cyprus region from Sentinel-3 using Sentinel Application Platform (SNAP) and Arc GIS Pro.

## 11. Konstantinos Panagiotou

- Earth observation: opportunities and environmental applications towards resilient society.

## 12. Silas Michaelides

- Precipitation: Measurement, Climatology, Remote Sensing, and Modelling.

- Satellite remotely-sensed data for studying the impact of climate change on crop evapotranspiration in Cyprus.

## 13. Soner Uereyen

- Earth observation time series for the monitoring of droughts in Cyprus: Patterns and drivers of vegetation dynamic.



## Ninth International Conference on Remote Sensing and Geoinformation of Environment (RSCy 2023)

The 9<sup>th</sup> International Conference on Remote Sensing and Geoinformation on Environment (RSCy 2023) was held at Adams Beach, Ayia Napa, Cyprus from 3<sup>rd</sup> to 5<sup>th</sup> April 2023. The Conference was organized by the ERATOSTHENES Centre of Excellence and hosted more than 100 participants from worldwide.



# 9<sup>th</sup> International Conference on Remote Sensing and Geoinformation of Environment (RSCy 2023)



Our team participated in the RSCy 2023 with the following presentations:

## 1. Stelios Neophytides

- Classification assessment of wheat plots in Peristerona, Cyprus with the use of multivariate statistical methods

## 2. Maria Prodromou

- The use of remote sensing data for the fire damage assessment and the monitoring of post-fire vegetation recovery in a burnt area in Cyprus

## 3. Marinos Eliades

- Mapping of the EMMENA region: Earth Observation applications and knowledge gaps

## 4. Eleni Loulli

- Comparing reflectivity measurements between GPM DPR and X-band dual polarization radars: a case study for precipitation and drought Monitoring in Cyprus

## 5. Maria Prodromou

- Detection and discrimination of apicultural plants using UAV multispectral imaging

## 6. Georgia Charalampous

- Satellite Ozone and UV measurements over Cyprus

## 7. Kostas Fragkos

- The solar radiation and energy laboratory of ERATOSTHENES Centre of Excellence: Establishment and research directions

## 8. Constantinos Panagiotou

- Assessing the groundwater quality of fahs aquifer (N E Tunisia) using unsupervised machine learning and geostatistical methods

- Quantitative microbial risk assessment applied to soil-aquifer passage to achieve health standards

## 9. George Melillos

- Ship detection at Cyprus coasts using SAR images based on YOLO (You Only Look Once)

## 10. Christos Theoharidis

- Comparative analysis of Sentinel-1 and planetscope imagery for flood mapping of Evros river, Greece

## 11. Athanasios Argyrou

- Impact assessment of the catastrophic earthquakes of 6 February 2023 in Turkey via the exploitation of satellite datasets

## 12. Eleftheria Kalogirou

- Wind speed and direction estimation from RADAR SAR using Sentinel -1 in the Cyprus region

## 13. George Leventis

- Enhancing risk assessment and monitoring for Cultural Heritage sites through data cubes: A multidimensional approach

## 14. Stelios Neophytides

- The data cube of ERATOSHENES Centre of Excellence to empower the space-based environmental monitoring in the EMMENA region

## GIS Day

In the context of World Geographic Information Systems Day, on 16<sup>th</sup> of November 2022, the ERATOSTHENES Centre of Excellence and the Cyprus University of Technology organized a conference dedicated to Geographic Information Systems entitled "GIS Day 2022: Services and Applications of Geographic Information Systems in the Public and Private Sectors of Cyprus". The conference focused on the significance of Geographical Information Systems and their diverse applications in both the public and private sectors of Cyprus.

**ERATOSTHENES 11 CENTRE OF EXCELLENCE** **EXCELSIOR**

### GIS Day 2022

“ Υπηρεσίες και Εφαρμογές Γεωγραφικών Συστημάτων Πληροφοριών στον Δημόσιο και Ιδιωτικό Τομέα της Κύπρου ”

**Εγγραφές:**

Αίθουσα Πρωτανείας ΤΕΠΑΚ  
16 Nov. 2022  
10:30 - 16:30

Παρακολουθήστε διαδικτυακά:  
<https://bit.ly/3hh0Rfz>  
\*Η εκδήλωση θα διεξαχθεί στην Ελληνική γλώσσα

Co-organised by  
Cyprus University of Technology DEC ERATOSTHENES 11

Consortium: Cyprus University of Technology, DLR, TROPOS, DEC, ERATOSTHENES 11, Affiliated Entities, CYRIC, pmod, wrc

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement to 857110. This project has received funding from the Government of the Republic of Cyprus through the Directorate General of the University Programmes, Contribution and Development.

## Sustain Valencia 2022 Conference: Sustainable Groundwater Management Conference

ERATOSTHENES Centre of Excellence Chief Operating Manager, Dr Silas Michaelides, participated on 6<sup>th</sup> to 8<sup>th</sup> of October 2022 at Sustain Valencia 2022 with a poster on “The development of a prototype living lab for sustainable agricultural applications in Cyprus using Remote Sensing.” and with a paper on “Tracking farm parcels in arid regions of Egypt to estimate groundwater use” it presented by Dr Mona Morsy.



## Meeting with the Faculty of Pure and Applied Science at the Open University of Cyprus

ERATOSTHENES Centre of Excellence team member Dr Konstantinos Panagiotou on 12<sup>th</sup> of October 2022 met with the Assistant Professor Marino Stylianou at the facilities of the Faculty of Pure and Applied Science at the Open University of Cyprus. Their meeting focused on exploring ideas for the initialization of a collaboration between the two organizations within the frame of Water Resources Management.



## Participation at 1<sup>st</sup> EUROPEAN Teaming Conference

ERATOSTHENES Centre of Excellence team participated on 20<sup>th</sup> of October 2022 at the closed meeting of European Teaming Club that brings together Centers of Excellence from throughout Europe for the first time, along with officials from the European Commission and the European Research Executive Agency. After the meeting, the delegation from the European Commission, Stefan Weiers, and the European Research Executive Agency (REA), Patricio Ortiz de la Torre, Minna Wilkki and Federica Roffi, together with

the representative from the Deputy Ministry for Research, Innovation and Digital Policy of Cyprus, Eleana Gabriel, visited our premises in Limassol and had the chance to get informed about our activities and discuss with our team about the future developments and challenges at the ERATOSTHENES Centre of Excellence. EXCELSIOR H2020 Teaming Project took the first award in the Teaming programme among the second generation of Teaming Projects.



## Participation at Info Day on EUSPA call for Proposals

On 20<sup>th</sup> of October 2022 ERATOSTHENES Centre of Excellence team members Dr Marios Tzouvaras and Ms Eleni Loulli participated at the Info day on EUSPA - EU Agency for the Space Programme call for Proposals. During the event, Dr Tzouvaras gave a pitch about the ERATOSTHENES Centre of Excellence and its activities. A meeting of ERATOSTHENES Centre of Excellence members with EUSPA officer Dr Vasilis Kalogirou was carried out to discuss on the upcoming call opportunities and ways to participate as ERATOSTHENES Centre of Excellence.





## Visit at the Proteas Research facilities of the Cyprus Institute at Pentakomo

Our team members Dr Argyro Nisantzi, Dr Konstantinos Fragkos and Dr Konstantinos Panagiotou on 21<sup>st</sup> of October 2022 visited the Proteas Research facilities of the Cyprus Institute at Pentakomo. The purpose of this visit was to learn about the research activities that take place in PROTEAS and explore ways for future collaboration between the two Institutes in the research field of Solar Energy.



## Participation at ACTRIS meeting in Prague

ERATOSTHENES Centre of Excellence team member Dr Rodanthi Mamouri participated on 2<sup>nd</sup> of November 2022 in person at the ACTRIS meeting that was held in Prague on the 2<sup>nd</sup> of November 2022. ACTRIS Centre for Aerosol Remote Sensing (CARS) and the Aerosol Remote Sensing unit of the ACTRIS Data Centre (ARES) organized a join workshop with the participation of the PIs of the future aerosol remote sensing National Facilities.



## Presentation at Ayios Neofytos Lyceum in Pafos

On 2<sup>nd</sup> of November 2022 our Managing Director Prof. Diofantos Hadjimitsis visited the Ayios Neofytos Lyceum in Pafos and presented the following:

1. ERATOSTHENES Center of Excellence and the EXCELSIOR H2020 Teaming Project for Schools initiative.
2. Satellite Remote Sensing Applications.
3. Employment opportunities through the ERATOSTHENES Center of Excellence of Cyprus University of Technology (CUT).



## Visit of Professor Kypros Pilakoutas at ERATOSTHENES Centre of Excellence

Professor Kypros Pilakoutas (The University of Sheffield (UoS), UK) visited the ERATOSTHENES CoE on 3<sup>rd</sup> and 4<sup>th</sup> November 2022 to discuss future collaboration between the two organisations, in the field of EO and RS as

well as within the framework of the EXCELSIOR H2020 Teaming Project, since the UoS has provided a commitment letter. Furthermore, the signing of an MoU was discussed in detail.

## Meeting with Geological Survey Department

ERATOSTHENES Centre of Excellence team members were hosted by the Cyprus Geological Survey Department in Nicosia, on the 4<sup>th</sup> November 2022. They discussed their needs and how they can be met by the ERATOSTHENES Centre of Excellence infrastructure of the Cyprus University of Technology.



## Participation at the 9<sup>th</sup> International Euro-Mediterranean Conference (EuroMed 2022)

ERATOSTHENES Centre of Excellence team member, Dr Kyriakos Themistocleous participates at the 9<sup>th</sup> International Euro-Mediterranean Conference (EuroMed 2022) on 7<sup>th</sup> of November 2022. The conference brings various stakeholders together to exchange their know-how and experiences in the Cultural Heritage research as well as the current and future worldwide developments on this area. The conference was supported by EXCELSIOR H2020 Teaming Project and ERATOSTHENES Centre of Excellence.



## Meeting with the Cyprus Telecommunication Authority (CYTA)

ERATOSTHENES Centre of Excellence team members were hosted by the Cyprus Telecommunication Authority, in their premises at Makarios Station on 8<sup>th</sup> of November 2022. They discussed our collaboration with the one of the main strategic partners.



## Meeting with Cyprus Civil Defense

A meeting between the ERATOSTHENES Centre of Excellence and the Civil Defense was held on 10<sup>th</sup> of November 2022. During the meeting we presented the activities of the ERATOSTHENES Centre of Excellence, and discussed, among other things, the needs of the Civil Defense and ways of cooperation between the two entities. From the ERATOSTHENES Centre of Excellence Dr Marios Tzouvaras, Dr Christodoulos Mettas, Ms Maria Prodromou and Mr Evagoras Evagorou (online) while from the Civil Defence representatives from the Limassol Civil

Defense District Office participated with physical presence, while the Civil Defense District Offices of Nicosia and Paphos participated online.



## Participation in Annual meeting of the Cloud Remote Sensing in Paris, France

From the 14<sup>th</sup> to 15<sup>th</sup> of November 2022 our team member Dr Rodanthi Mamouri participated in the Annual meeting of the Cloud Remote Sensing community of ACTRIS.

The topics of meeting were:

- New calibration transfer methodology for different radar frequencies;
- Status update of the Cloudnet data portal;
- Boundary layer characterization based on stability and turbulence measurements;
- Operational 3D-wind retrievals from scanning Doppler lidar and Doppler cloud radar;
- Overview and plans towards implementation of Microwave Radiometer (MWR) processing.

## Presentation of the ERATOSTHENES Centre of Excellence in the Greek Embassy of Abu Dhabi



Our team member Mr Christos Theocharidis visited the Embassy of Greece in the UAE on 17<sup>th</sup> of November 2022, where he informed the Ambassador Mr Antonis Alexandridis and the Head of Consular Office Mr Vasilis Theocharidis, about the activities and targets of ERATOSTHENES Centre of Excellence. The meeting took place in a hybrid format with the participation of representatives from the EXCELSIOR H2020 Teaming Project, including our strategic partners BEYOND Earth Observation (EO) Centre NOA. Managing Director Prof. Diofantos Hadjimitsis gave an online presentation about the vision of the project and

discussed ways of future collaboration with strategic partners and stakeholders in the MENA region with the ERATOSTHENES Centre of



## Training workshop on Solar Radiation/Energy measurements, modeling and applications in Davos, Switzerland

ERATOSTHENES Centre of Excellence staff participated in the Training workshop on Solar Radiation/Energy measurements, modeling and applications, on 17<sup>th</sup> to 18<sup>th</sup> of November 2022 organized by PMOD - World Radiation Center and took place in Davos, Switzerland. The purpose of the meeting was to discuss Solar radiation and atmosphere interactions, to have hands on applications on radiation modelling, and to have discussions about the demonstration project as well as future collaboration between ERATOSTHENES Centre of Excellence and PMODWRC.



## Participation in European Year of Youth – EURAXESS

ERATOSTHENES Centre of Excellence team members Ms Anthia Christofini, Ms Despoina Makri and Ms Iosifina Kountouri on 23<sup>rd</sup> November 2022 participated at the European Year of Youth Day in Limassol organized by EURAXESS Service Centre.



## Presentation in the 8<sup>th</sup> International Conference on Drylands, Deserts and Desertification

ERATOSTHENES Centre of Excellence team member, Mr Christos Theoharidis participated on 27<sup>th</sup> of November to 1<sup>st</sup> of December 2022 in the 8th International Conference on Drylands, Deserts and Desertification in the BIDR – The Jacob Blaustein Institutes for Desert Research of Ben – Gurion University of the Negev, Israel. Mr Theoharidis presentation was entitled “Monitoring Forest Health Through Remote Sensing Time Series Analysis to Assess the Effects of Extreme Drought Event in Forest Seasonality”.



## Workshop with Cyprus Geological Survey Department (GSD)

ERATOSTHENES Centre of Excellence team members Dr Konstantinos Panagiotou, Dr Marinos Eliades, Dr Athanasios Argyriou and Ms Eleni Loulli, on 8<sup>th</sup> of February 2023 along with the Hydrogeologist team of the Cyprus Geological Survey Department (GSD) (Dr Christos Christofi, Mr Michael Rigas, Ms Theodosia Irakleous), organized a workshop at the premises of the GSD in order to explore opportunities of scientific cooperation in fields of common interest. Eratosthenes Centre of Excellence team presented in detail the expertise and existing research activities within the different thematic areas of the centre. These presentations served as a basis for the following discussion that took place in order to identify areas of common interest. Furthermore, Dr Konstantinos Panagiotou presented the general concept, objectives and expected outcomes of the

Demonstration Project between Eratosthenes Centre of Excellence and Deutsches Zentrum für Luft- und Raumfahrt (DLR), with title "Assessment of Vegetation Dynamics and Drivers of Drought for the Republic of Cyprus".

Both teams agreed in a series of activities of mutual benefit that are expected to be implemented during the forthcoming months.



## Presentation at the Open University of Polis Chrysochous

On 22<sup>nd</sup> of February 2023, our Managing Director Prof. Diofantos Hadjimitsis presented at the Open University of Polis Chrysochous, Pafos. Prof. Hadjimitsis presentation was entitled ‘Applications of Remote Sensing’.



## Participation in the Career Fair of Polis Chrysochous

### Secondary School

On 26<sup>th</sup> January 2023, ERATOSTHENES Centre of Excellence team members participated in Career Fair of Poli Chrysochous Secondary School. We informed the students about the professions of Surveying and Geomatics Engineering and about the career opportunities the we offer in our Centre. Also, we discussed with the students about new disciplines in the fields of Geoinformatics, Earth Observation (EO) and Satellite Remote Sensing.



## Participation at the presentation of Global Entrepreneurship Monitor (GEM) Cyprus Report 2021-2022

ERATOSTHENES Centre of Excellence team member Dr Christiana Papoutsas participated on 3<sup>rd</sup> of March 2023 in the panel discussion and shared her insights on how to strengthen the resilience of the entrepreneurship ecosystem in Cyprus.



## Presentation at the Copernicus User Forum

ERATOSTHENES Centre of Excellence External Affairs & Business Development Director, Dr Kyriacos Themistocleous, on 16<sup>th</sup> of March 2023 attended at the Copernicus User Forum and presented the Earth observation activities of the ERATOSTHENES Centre of Excellence and EXCELSIOR H2020 Teaming Project.



## Participation at the 4<sup>th</sup> Atlas Georesources International Congress AGIC 2023

ERATOSTHENES Centre of Excellence team member, Dr Konstantinos Panayiotou participated at the 4<sup>th</sup> Atlas Georesources International Congress AGIC 2023 on 19<sup>th</sup> of March 2023 in Tunisia. This participation initiated new business and research collaborations in the EMMENA Region.



## Presentation at the 3<sup>rd</sup> International Conference TMM-CH Transdisciplinary Multispectral Modelling and Cooperation for the Preservation of Cultural Heritage

ERATOSTHENES Centre of Excellence participated in the 3<sup>rd</sup> International Conference Transdisciplinary Multispectral Modelling and Cooperation for the Preservation of Cultural Heritage (TMM-CH) - Recapturing the World in Conflict through Culture promoting mutual understanding and Peace. The Conference took place on 20<sup>th</sup> to 23<sup>rd</sup> March 2023 in Eugenides Foundation Athens, Greece.



# Invited talks



In the framework of the EXCELSIOR H2020 Teaming Project education activities, we organize invited talks on a monthly basis.

Date: 15/12/2022

Topic: "The Swiss Data Cube: EO Open Science for Environmental Monitoring"

Speaker: Dr Gregory Giuliani

Link: <https://youtu.be/ulBWQ-ktBdE>

Date: 02/02/2023

Topic: "Our urban world – Dynamics, dimensions, and forms of global urbanization processes."

Speaker: Prof. Dr Hannes Taubenböck

ERATOSTHENES CENTRE OF EXCELLENCE

**Invited Talk**  
**The Swiss Data Cube: EO Open Science for Environmental Monitoring**

**Dr. Gregory Giuliani**  
Senior Lecturer in Earth Observations - UNCOG  
Head of the Digital Earth Unit - UNCOG Geneva  
UNIVERSITÉ DE GENÈVE

December 16, 2022  
Thursday  
15:00 BST (10:00 CET)

REGISTRATION  
<https://bit.ly/3G46G3y>  
\*The talk will be in English

CONSORTIUM: ITC, CNRS, ETH, UNCOG, DPC, APOLLON, ENTITIES, CYRIC, D1000, ITC

ERATOSTHENES CENTRE OF EXCELLENCE

**Invited Talk**  
**Our urban world – Dynamics, dimensions, and forms of global urbanization processes**

**Prof. Dr. Hannes Taubenböck**  
Head of Department "Geomatics and Geo-Information"  
German Research Center (DFG) &  
Julius-Maximilians-Universität Würzburg

February 2, 2023  
Thursday  
11:00 BST (15:00 CET)

REGISTRATION  
<https://bit.ly/3wD6M>  
\*The talk will be in English

CONSORTIUM: ITC, CNRS, ETH, UNCOG, DPC, APOLLON, ENTITIES, CYRIC, D1000, ITC



# MoU Agreements of the ERATOSTHENES Centre of Excellence



## Alexander College

On the 4<sup>th</sup> of November 2022, the Managing Director of the ERATOSTHENES Centre of Excellence, Managing Director Prof. Diofantos Hadjimitsis, met Mr Andy Loppas, Director of Alexander College, in order to sign an MoU between the two entities. Mr Nicodemos Loizou and Mr George Palas participated in the meeting also on behalf of Alexander College.



## Municipality of Kato Polemidia

On 15<sup>th</sup> of December 2022, a Memorandum of Understanding signed between the ERATOSTHENES Centre of Excellence and the Municipality of Kato Polemidia. The MoU was signed on behalf of the Municipality of Kato Polemidia by the Mayor Nikos A. Anastasiou and on behalf of the ERATOSTHENES Center of Excellence by the managing director Prof. Diofantos Hadjimitsis and our team members Dr Christodoulos Mettas and Mr Evagoras Evagorou.



## Limassol Municipality

A cooperation protocol for the program for the European Mission: 100 Climate Neutral and Smart Cities by 2030" was signed by the Municipality of Limassol with the ERATOSTHENES Centre of Excellence. The collaboration was signed on 26<sup>th</sup> of January 2023 at the offices of the ERATOSTHENES CoE. The Cooperation Protocol was signed on behalf of the Municipality of Limassol by the Mayor of Limassol, Mr Nicos Nicolaides, and on behalf of the ERATOSTHENES Centre of Excellence by its Managing Director Prof. Diofantos Hadjimitsis.



## Department of Meteorology

On 20<sup>th</sup> of February 2023, a Memorandum of Understanding was signed between the ERATOSTHENES Centre of Excellence and the Department of Meteorology. The MoU was signed on behalf of the Department of Meteorology by the Director Dr Kleanthis Nicolaidis and on behalf of the ERATOSTHENES Center of Excellence by the Managing Director Prof. Diofantos Hadjimitsis and chief Operating Manager, Dr. Silas Michaelides.



## Magnetar Ltd

On 2<sup>nd</sup> of February 2023, a Memorandum of Understanding was signed between the ERATOSTHENES Centre of Excellence and the Magnetar Ltd. The MoU was signed on behalf of the Magnetar Ltd by the Managing Director Mr Victoras Iordanous and Mr Nikolas Iordanous and on behalf of the ERATOSTHENES Center of Excellence by the Managing Director Prof. Diofantos Hadjimitsis.



## University of Geneva

On 24<sup>th</sup> of February 2023, a Memorandum of Understanding was signed between the ERATOSTHENES Centre of Excellence and the University of Geneva. The MoU was signed on behalf of the University of Geneva Swiss Data Cube Dr Gregory Giuliani, Head of the Swiss Data Cube and on behalf of the ERATOSTHENES Center of Excellence by the Managing Director Prof. Diofantos Hadjimitsis and our team member Mr Stelios Neophytides.

### **The Cyprus Phassouri Plantations Co Ltd - Redseal**

On 28<sup>th</sup> of February 2023, Mr Christos Tsimon Managing Director of the The Cyprus Phassouri Plantations Co Ltd - Redseal signed a Memorandum of Understanding with Eratosthenes Centre of Excellence. Managing Director Prof. Diofantos Hadjimitsis signed the MOU on behalf of the Eratosthenes Centre of Excellence.



### **Phoenix Association**

On 6<sup>th</sup> of March 2023, a Memorandum of Understanding was signed between the ERATOSTHENES Centre of Excellence and the Phoenix Association. The MoU was signed on behalf of the Phoenix Association by its President, Pavlos Paradisiotis, and on behalf of the ERATOSTHENES Center of Excellence by the Managing Director Prof. Diofantos Hadjimitsis and Functional Areas Manager Prof. Andreas Anayiotos.



### **Pancyprian Farmers Union**

On 30<sup>th</sup> of March 2023, a Memorandum of Understanding signed between the ERATOSTHENES Centre of Excellence and the Pancyprian Farmers Union. The MoU was signed on behalf of the Pancyprian Farmers Union by Mr Christos Papapetrou, and on behalf of the ERATOSTHENES Center of Excellence by the Managing Director Prof. Diofantos Hadjimitsis. Pancyprian Farmers Union will participate in the EXCELSIOR H2020 Teaming Project and Eratosthenes Centre of Excellence Living Labs in Agriculture.



## Recent publications

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Morsy, Mona, Silas Michaelides, Thomas Scholten, and Peter Dietrich. 2022. "Monitoring and Integrating the Changes in Vegetated Areas with the Rate of Groundwater Use in Arid Regions." *Remote Sensing* 14 (22): 5767.  
<https://doi.org/10.3390/rs14225767>.

Panagiotou, Constantinos F., Phaedon Kyriakidis, and Evangelos Tziritis. 2022. "Application of Geostatistical Methods to Groundwater Salinization Problems: A Review." *Journal of Hydrology* 615 (December): 128566.  
<https://doi.org/10.1016/j.jhydrol.2022.128566>.

Papachristoforou, Alexandros, Maria Prodromou, Diofantos Hadjimitsis, and Michalakis Christoforou. 2023. "Detecting and Distinguishing between Apicultural Plants Using UAV Multispectral Imaging." *PeerJ* 11 (April): e15065.  
<https://doi.org/10.7717/peerj.15065>.

Themistocleous, Kyriacos, Evagoras Evagorou, Christodoulos Mettas, and Diofantos G. Hadjimitsis. 2022. "The Use of Digital Twin Models to Document Cultural Heritage Monuments." In *Earth Resources and Environmental Remote Sensing/GIS Applications XIII*, edited by Karsten Schulz, Konstantinos G. Nikolakopoulos, and Ulrich Michel, 13. Berlin, Germany: SPIE.  
<https://doi.org/10.1117/12.2636332>.

## Kick off Meeting of COST Action HARMONIA

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On 25<sup>th</sup> of November 2022, Dr Rodanthi – Elisavet Mamouri from the ERATOSTHENES Centre of Excellence participated in the 1<sup>st</sup> Management Committee Meeting of the COST Action HARMONIA: CA21119 – International network for harmonization of atmospheric aerosol retrievals from ground-based photometers. The objective of “HARMONIA” Action is to establish a network involving institutions, instrument developers, scientific and commercial end users, in order to improve and homogenize aerosol retrievals using mainly solar and sky but also lunar and

star photometers from different networks.

The meeting took place virtual via the ZOOM platform and the following points have been addressed:

- Information of the COST action and the possibilities within
- Presentation of Harmonia proposed action
- Getting to know each other
- Elections and Decisions where quorum (2/3 of the participating countries are needed to vote)

Rodanthi is member of the Management Committee and at the 1<sup>st</sup> meeting was acting as the representative for Cyprus.

## AI OBSERVER project kick-off meeting

Enhancing Earth Observation capabilities of the ERATOSTHENES Centre of Excellence on Disaster Risk Reduction through Artificial Intelligence, funded under Horizon Europe-Twinning call (HORIZON-WIDERA-2021-ACCESS-03), officially started with the kick-off meeting on 26<sup>th</sup> of October 2022 that took place yesterday at the facilities of the ERATOSTHENES Centre of Excellence in Limassol, in hybrid format, with the participation of the project partners and the presence of a representative of the European Commission. The consortium consists of the ERATOSTHENES Center of Excellence (Project Coordinator) of the Cyprus University of Technology, the German Research Center for Artificial

Intelligence (Deutsche Forschungszentrum für Künstliche Intelligenz) from Germany, the University of Rome Tor Vergata (UNITOV) from Italy, and Cellock Ltd from Cyprus.



## Training on Crop Classification and the use of Sen4CAP

### platform for Cyprus Agricultural Payment Organization's (CAPO) staff

ERATOSTHENES Centre of Excellence team members trained the staff from Cyprus Agricultural Payment Organization on 9<sup>th</sup> to 10<sup>th</sup> of November 2022 on Crop Classification and the use of Sen4CAP platform. The training took place for two days. The schedule was following:

#### Day 1

- Presentation on Earth Observation for Agriculture and Crop Classification
- Presentation on the proceedings of Work Package 3 of the CROSS-II funded research project
- Demo preview of the Sen4CAP platform

#### Day 2

- Hands-on training on the use of Sen4CAP for Crop Classification and QGIS for results' analysis.



## Kick-off meeting for the Green – Holistic IoT platform for Forest Management and Monitoring (Green – HIT)

ERATOSTHENES Centre of Excellence team members participated in the kick-off meeting for the Green – Holistic IoT platform for Forest Management and Monitoring (Green – HIT). The meeting took place on Monday 6<sup>th</sup> of February 2023 at Frederick University Cyprus premises in Nicosia. Those funding was under the Research Innovation Foundation's CO-DEVELOP call. The consortium consists of Mobile Devices Laboratory, the project's coordinator, the Centre of Excellence in Risk & Decision

Sciences, Cyric, I.A.CO Ltd – Environmental & Water Consultants, and the ERATOSTHENES Centre of Excellence.



## Kick-off meeting for Carbonica EU project

ERATOSTHENES Centre of Excellence participated in the kick-off meeting of Carbonica EU project. The meeting took place on 8<sup>th</sup> and 9<sup>th</sup> of February 2023 in Thessaloniki, organized by the project coordinator Foodscale Hub. Fourteen partner from Greece, Cyprus and North Macedonia will collaborate for the establishment of the Carbonica Excellence Hub to align the innovation carbon farming ecosystems of the 3 widening countries. ERATOSTHENES Centre of Excellence, among other activities, will

lead the Cyprus Innovation Ecosystem and, with the help of all partners, will prepare a toolbox on carbon farming and sequestration solutions that can be adopted by farmers and other stakeholders in all 3 countries.



## Partners Meeting for Carbonica EU Project

ERATOSTHENES Centre of Excellence team members had a meeting for Carbonica EU project with the partners of the project, i-BEC, Interbalkan Environment Center and Agricultural Research Institute in Cyprus. The meeting was held in the RSCy Conference in Ayia Napa, Cyprus on 4<sup>th</sup> April 2023.



## GreenCarbonCY project

On 7<sup>th</sup> of December 2022, Managing Director Prof. Diofantos Hadjimitsis (Legal Representative) and Dr Marios Tzouvaras (Coordinator, PI) signed the contract of GreenCarbonCY Project, funded under the Research Innovation Foundation's CO-DEVELOP call. The project will officially kick-off in February 2023 and will deal with the transition to green agriculture by assessing and mitigating carbon emissions from agricultural land in Cyprus. Many thanks to our partners, Cellock, Agricultural Research Institute (Ministry of Agriculture, Rural Development and Environment), i-BEC, Interbalkan Environment Center and Green Growth Platform. Total funding: 599.550 euros.





### PAS-AGRO-PAS Project

The overall objective of the PAS-AGRO-PAS project is to increase productivity, adaptiveness, sustainability and profitability of agropastoral systems in eight Mediterranean countries, through a systemic approach leveraged on the multifunctionality of resilient agropastoralism. The systemic approach to be adopted consists of the integrated evaluation of both agro-ecosystems and socioeconomic systems to identify and overcome the stressors impacting on agro-pastoralists' viability, with views to implementing strategies that redirect agro-pastoralism from fragile, subsistence-oriented systems towards resilient, climate-change adaptive, more commercially-oriented systems. Multifunctionality alludes to the wide range of goods and services alongside food that will be addressed in this project, such as the maintenance of natural rangelands, the natural renewal of vegetation, the maintenance of ecological integrity, the preservation of endangered breeds, the valorization of typical products and the quality certifications derived thereof, and the protection of tacit knowledge on the functioning of local ecosystems, flocks and rangeland management, and processing skills. A network of 10 Mediterranean agropastoral systems – located in the Mediterranean and Atlantic biogeographical regions of Europe and in the arid and semi-arid regions of Northern Africa will be subject of investigation for coordinated activities of characterization and diagnostics, design and implementation of tailored strategies, data recording and analysis, and multi-actor knowledge exchange (i.e., agro-pastoralists, residents, decision-makers and researchers).

### Space EDUnity

Creating student communities for the integration of crowdsourcing data, remote sensing and geoinformatics aiming to mitigation of climate change. SPACE EDUnity aims to create student communities based on crowdsourcing for the prevention and mitigation of natural disasters, with the collection of in-situ data and satellite data. This information will be used by research groups to contribute to adaptation to the climate crisis. Another goal is to upgrade the existing services for the climate crisis, as well as the active participation of student communities that will lead to the spread of information through the local community.

The implementation is divided into four activities:

- 1) a strategic plan and student crowdsourcing communities will be developed,
- 2) the student communities will be introduced to the two institutions and will be trained with the appropriate material,
- 3) we will exchange experiences and good practices between the communities and
- 4) we will organize actions to disseminate the results that can be published, promoted and exploited.

## ENFIELD Project

ENFIELD project titled “European Lighthouse to Manifest Trustworthy and Green AI” was funded under Horizon Europe (HORIZON-CL4-2022-HUMAN-02) with a total budget of €11,262,750, will commence on 1 September 2023 and will last 36 months. The project is coordinated by the Norwegian University of Science and Technology, and will develop, maintain, scale-up and sustain a vibrant European network on AI composed of 30 consortium members from 18 countries, including top-level education and research organizations, large scale businesses, SMEs, and public sector representatives jointly addressing critical issues of research and innovation frontiers in this new topic of the European AI Lighthouse. The project will create a unique European Centre of Excellence that excels the fundamental research in the scientific pillars of Adaptive, Green, Human-Centric, and Trustworthy AI that are new, strategic and of paramount importance to successful AI development, deployment, and acceptance in Europe and will further advance the research within verticals of healthcare, energy, manufacturing and

space by attracting the best talents, technologies and resources from world-class research and industry players in Europe and by carrying out top-level research activities in synchronization with industry challenges to reinforce a competitive EU position in AI and create significant socio-economic impact for the benefit of European citizens and businesses. ENFIELD will provide high impact outputs such as >75 unique AI solutions (algorithms, methods, simulations, services, data sets and prototypes), 180 scientific high-impact publications and 200 peer-reviewed presentations, four strategic documents, namely the Common Research Roadmap and Vision, the dynamic Safety and Security Risk Assessment Framework, the White Paper and the Gender and Ethics Framework. The exchange and innovation schemes planned in Open Calls, which will grant financial support to >76 individual researchers and 18 small-scale projects, education, and training activities such as summer schools and hackathons, and a set of well-designed outreach methods and activities will further contribute to the ENFIELD community engagement, enlargement, and continuity.

### 4<sup>th</sup> International Virtual Workshop: Earth Observation Research Trends in the EMMENA region

The EXCELSIOR H2020 Teaming Project Consortium and the ERATOSTHENES Centre of Excellence of the Cyprus University of Technology organize the 4th International Virtual Workshop on Earth Observation Research Trends in the EMMENA region. This Workshop is a part of a series of annual workshops with participation of national and international stakeholders of EXCELSIOR, addressing all the different activities of ERATOSTHENES Centre of Excellence, i.e. infrastructure, research, education and innovation through entrepreneurship.

This year's virtual workshop will bring together experienced stakeholders from the EMMENA region that develop innovative applications using EO data.



The image shows a promotional card for the 4th Annual Virtual EXCELSIOR Workshop. The card features a dark blue background with a glowing Earth satellite image. A white box in the center contains the text "Earth Observation Research Trends in the EMMENA region". On the right side, there is a vertical sidebar with the ERATOSTHENES CENTRE OF EXCELLENCE logo, a calendar icon indicating the date "Wednesday July 5, 2023", a clock icon showing the time "10:00 – 15:00 EEST" and "07:00 – 12:00 UTC", a Zoom icon, and a QR code with the URL "https://cutt.ly/VwtN7QBq".

# EXCELSIOR

## CONSORTIUM



## AFFILIATED ENTITIES



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