

ERATOSTHENES Centre of Excellence and EARSeL co-organized the 41st EARSeL Symposium in Paphos, Cyprus

The 41st European Association of Remote Sensing Laboratories (EARSeL) Symposium on “Earth Observation for Environmental Monitoring” and the 6th EARSeL Workshop on Developing countries were held at the Aliathon Holiday Village in Paphos, Cyprus, from 13th to 16th of September 2022. The Symposium was organized by EARSeL and the ERATOSTHENES Centre of Excellence and hosted more than 130 participants from 18 countries from all over the world. The EARSeL Symposium focuses in highlighting the current trends in remote sensing and promotes the development of the association.



NEWSLETTER

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EXCELSIOR

Sixth European Space Generation Workshop 2022

The 6th European Space Generation Workshop was held from 9th to 10th of April 2022 at the premises of the Cyprus University of Technology, in Limassol, Cyprus. Experts and professionals from leading European companies, agencies and working groups participated and informed the audience about space-related topics. ERATOSTHENES Centre of Excellence Functional Areas Manager, Prof. Andreas Anayiotos held a presentation with title: “ERATOSTHENES Centre of Excellence of the Cyprus University of Technology is paving the way for Cyprus to enter the space arena through EXCELSIOR H2020 Teaming project”. The European Space Generation Workshop is an international event that aims to bring together students and young professionals to collectively create Europe’s future in the space domain. This workshop was a great opportunity for students and young professionals (18-35 years of age) to learn more about space and share ideas on sustainable space applications and the future space sector.



6th European Space Generation Workshop 2022



ERATOSTHENES Centre of Excellence becomes a member of the European Business and Innovation Centre Network



ERATOSTHENES Centre of Excellence was accepted as an associated member of the European Business and Innovation Centre Network (EBN). Our team member Dr. Kyriacos Themistocleous participated in the 2022 EBN Congress in Brussels from 24th to 25th of May 2022, where he met with the network and discussed opportunities for collaboration.

EBN is a non-profit organization that serves a European, global community of people that use innovative business as a driver for economic development.

EBN's initiatives include EU | BIC certification, development and distribution of quality business support programmes, facilitation and initiation of project collaborations, global networking and advocacy for excellent business support actors like the EU | BICs. EBN's team consists of professionals in business support, incubation, innovation management, project development and management, communication and general management. ERATOSTHENES Centre of Excellence is expected to benefit from the EBN network through support of innovation, entrepreneurship and incubation.



Third Virtual EXCELSIOR Workshop: “Entrepreneurship & Innovation in Earth Observation”



On the 21st June 2022, the EXCELSIOR H2020 Teaming project and the ERATOSTHENES Centre of Excellence, organized the Third Virtual International Workshop, on “Entrepreneurship & Innovation in Earth Observation”. The workshop was addressed by the Deputy Minister of Research, Innovation and Digital Policy, Mr. Kyriakos Kokkinos and the Chief Scientist for Research and Innovation, Dr. Nikolas Mastrogiannopoulos. It featured 14 invited talks by high caliber scientists and researchers. This Workshop was a part of series of annual workshops with participation of all national and international stakeholders of EXCELSIOR, addressing all the different activities of the ERATOSTHENES Centre of Excellence, such as infrastructure, research, education and innovation through entrepreneurship.

Prof. Diofantos Hadjimitsis emphasized that this workshop was held to bring together experienced stakeholders from the industry that developed innovative applications using Earth observation data, aiming to discuss future projects, provide scientific growth and enhance citizens’ quality of life.

The workshop can be accessed here: [Part I](#) and [Part II](#).



Consortium: This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 857510. This project has received funding from the Government of the Republic of Cyprus through the Directorate General of the European's Programmes, Coordination and Development



The 41st EARSeL Symposium on “Earth Observation for Environmental Monitoring” and the 6th EARSeL Workshop on Developing countries were held at the Aliathon Holiday Village in Paphos, Cyprus, from 13th to 16th of September 2022. The Symposium was organized by EARSeL and the ERATOSTHENES Centre of Excellence and hosted more than 130 participants from 18 countries from all over the world. EARSeL is a scientific network of European Remote Sensing Institutes, coming from both academia and the commercial industrial sector. Every year, EARSeL organizes thematic Workshops of Special Interest Groups (SIGs), but the main forum is the annual Symposium, which aims to project the current trends in remote sensing.

The Symposium hosted as keynote speakers Prof. Ioannis Gitas (Aristotle University of Thessaloniki), Prof. Maria Antonia Brovelli (Politecnico di Milano), Dr. Gilberto Camara (National Institute for Space Research, Brazil) and Dr. Hannes Taubenboeck (DFD-DLR, Germany).

During the Symposium, ERATOSTHENES Centre of Excellence organized a special session entitled “Earth Observation for Water Resources Management in the Eastern Mediterranean, Middle East and North Africa (EMMENA) region”, focusing on the use of remote sensing techniques in the sustainable management of water resources.



Our team participated in the Symposium with the following presentations:

1. **Maria Prodromou**

- Wildfire Damage Assessment Over Arakapas Village In Cyprus Using Sentinel-2 Imagery.

- The Implementation Of Forest Canopy Density Model In Cyprus Forests Using Landsat-8 and Sentinel-2 Satellite Data For The Assessment Of the Fire Impacts

2. **Christos Theocharidis**

- Correlation Of Abrupt Shifts In Forest Phenology With Amplitude Changes In Sentinel-1 SAR Data And Land Surface Temperature From Landsat-8

- Promoting The Benefits Of Observation In Secondary And Higher Education In Cyprus

3. **Eleftheria Kalogirou**

- Detecting ships in the Cyprus region using Sentinel-1 SAR data: A comparison of results using Sentinel Application Platform (SNAP) and Arc GIS Pro - deep learning.

4. **Iosifina Kountouri**

- Flood Risk Assessment in catchment areas in Cyprus using Earth Observation

5. **Dr. Marios Tzouvaras**

- The use of Sen4CAP in an attempt to perform Common Agricultural Policy monitoring in Cyprus

6. **Eleni Loulli**

- Comparison Of Rainfall Rate Retrieval Algorithms Using Ground-Based Radar Data, Intended For Drought Monitoring In Cyprus

- What Do The Male and Female Testimonials From the Women in Copernicus Survey Tell?

7. Dr. Ioannis Varvaris

- Use Of Remote Sensing For Assessing Water Quality In Open-Surface Water Systems In Cyprus

8. Dr. Chris Danezis

- The Establishment of the CyCLOPS Integrated Strategic Research Infrastructure Unit for Geohazard Monitoring Activities: Considerations, Performance Assessment and Initial Results

9. Nikolas Christoforou

- A Review Of Current GNSS Interference Detection And Localisation Techniques Towards The Development Of Resilient GNSS Strategic Infrastructure

10. Filippos Eliades

- Remotely Sensed Early Warning Signals of Critical Transitions of Forest Ecosystems

11. Stelios Neophytides

- Agricultural Land Use Forecasting, Preliminary Results for a Case Study in the Paphos district, Cyprus

12. Kyriaki Fotiou

- Satellite-based Monitoring of an Active and Fast-moving Landslide Using PSI and

DINSAR Analysis: The Case Study of Pissouri Village in Cyprus

- Potentiality of Landslide Detection in Open-pit Mines Using Satellite-Based Techniques: The Case Study Of Vasiliko Open-Pit Mine In Cyprus

13. Marina Pekri

- A Comparison Between Satellite Altimetry and Tide Gauge Observations in Monitoring Sea Level Changes in Cyprus

14. Dr. Konstantinos Fragkos

- Estimation of Solar Radiation at Ground Level using SENTINEL 3 data and - machine learning techniques: a case study in Cyprus.

15. Dr. Rodanthi Elisavet Mamouri

- What is the Role of Aerosol to the Cloud Formation and Evolution?



Participation with a booth at the European Researchers' Night 2022

The ERATOSTHENES Centre of Excellence, and the Department of Civil Engineering and Geomatics of the Cyprus University of Technology participated at the European Researchers' Night 2022.

The European Researchers' Night 2022 was organized by the Research and Innovation Foundation in Cyprus and took place at Eleftheria Square in Nicosia on the 30th September 2022.

The European Researchers' Night is a Europe-wide public event that aims to encourage the public to become familiar with the world of science and research and at the same time to strengthen the public image of researchers, whilst highlighting the important role they play in society.

Our team participated with the booth "It's Earth Observation o'clock", where people of all ages were informed about the science of Earth Observation and Remote Sensing.



Participation at SPIE Defense and Commercial Sensing 2022 3rd to 7th of April 2022

ERATOSTHENES Centre of Excellence team member Dr George Melillos participated at SPIE Defense and Commercial Sensing on the 6th April 2022. SPIE Defense and Commercial Sensing 2022 was held from 3rd to 7th of April 2022 at Gaylord Palms Resort & Convention Center Orlando, Florida, USA. SPIE Defense and Commercial Sensing is the Symposium for sensor research and technologies to enhance capabilities for defense and security applications. Dr George Melillos held a presentation on “Ship detection using SAR images based on YOLO at Cyprus coast”.



Secondment of our team member Eleni Loulli at TROPOS 6th to 20th of May 2022

ERATOSTHENES Centre of Excellence team member Eleni Loulli was hosted at the Leibniz Institute for Tropospheric Research (TROPOS) premises, from 6th to 20th of May 2022. During her stay, Eleni was trained on ground-based radar data processing under the supervision of Dr Johannes Bühl. This was the first secondment in ERATOSTHENES Centre of Excellence.



Internal Trainings on Entrepreneurship Mentality 18th and 22nd of May 2022

Our team had its first two internal trainings on Entrepreneurship Mentality by CyRIC. The trainings were held on the 18th and 22nd of May 2022 at ERATOSTHENES Centre of Excellence premises. CyRIC offers Research and Innovation Services to customers in the fields of engineering design and prototyping, electronics, communications and software solutions. During the training, our team members were introduced to the entrepreneurial mindset and then formed groups, focusing on ideation.



Participation in EGU General Assembly 2022 in Vienna 23rd to 27th of May 2022

ERATOSTHENES Centre of Excellence team members, Dr Silas Michaelides, Maria Prodromou and Eleni Loulli participated in person and online at the EGU22 and vEGU22, General Assembly. European Geosciences Union (EGU) General Assembly 2022 was held at the Austria Center Vienna, in Vienna and online, from 23rd to 27th of May 2022. The EGU General Assembly 2022 brought together geoscientists from all over the world to one meeting covering all disciplines of the Earth, planetary, and space sciences.

Dr Silas Michaelides participated as a convener of the session “Precipitation: Measurement, Climatology, Remote Sensing and Modelling”.

Our team members held the following presentations:

•**Maria Prodromou**: “The implementation of the Forest Canopy Density model for Coniferous ecosystems in Cyprus forests, using landsat-8 and Sentinel-2 satellite data”

•**Eleni Loulli**: “Precipitation classification and quantitative mapping using ground-based radar data, intended for drought monitoring in Cyprus”



ERATOSTHENES Centre of Excellence became a EURAXESS Service Network 6th of June 2022

On the 6th June 2022 our managing Director Prof. Diofantos Hadjimitsis signed an agreement with the Research and Innovation Foundation that incorporates our Centre into the EURAXESS Network. EURAXESS is a platform where researchers, entrepreneurs, universities and business can interact with each other and exchange information.

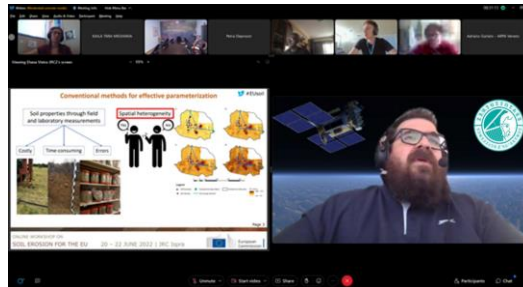


Participation at the Soil Erosion Workshop 22nd of June 2022

Dr Marios Tzouvaras and Dr Ioannis Varvaris, on behalf of our team, participated at the Soil Erosion Workshop, which was held on the 22nd of June 2022 by the EUSO Technical Working Group on Soil Erosion. During the workshop, Dr Tzouvaras and Dr Varvaris gave the following presentations respectively:

- "Monitoring and impact assessment of landslides using Earth Observation"

- "Soil spectroscopy models for the parameterization of hydrogeological models"



Second Review meeting and Plenary Technical Meeting 27th to 29th of June 2022

The Second Review meeting of the EXCELSIOR H2020 Teaming Project was held from 27th to 29th of June 2022 in a hybrid format; online and at Cyprus University of Technology premises in Limassol. During the Review meeting, the EXCELSIOR Consortium updated the reviewers on the status of all Work Packages and discussed about the ERATOSTHENES Centre of Excellence strategic plan and Sustainability, as well as the future plans of the project.



Internships at ERATOSTHENES Centre of Excellence

During summer 2022, we hosted the first interns of ERATOSTHENES Centre of Excellence, Eleni Charitonos, Stylianos Tsolakis and Anastasis Georgiou. Eleni worked together with our team member Eleni Loulli on radar applications for precipitation monitoring. Stylianos worked together with our team members Dr Rodanthi Mamouri and Dr Argyro Nisantzi on atmospheric remote sensing applications. Anastasis worked together with our team member Maria Prodromou on the use of remote sensing for forest fire monitoring and mapping.



Presentation at the Summer School of Cyprus University of Technology 26th of July 2022



On the 26th July 2022, our team member Kyriaki Fotiou was hosted by Cyprus University of Technology summer school for a presentation. Mrs. Fotiou held a presentation about the EXCELSIOR H2020 Teaming project and its activities.

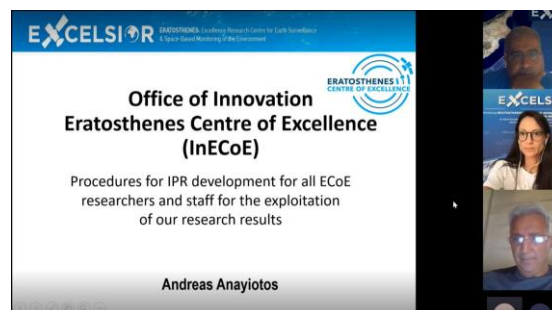
Earth Observation and applications developed within EXCELSIOR H2020 Teaming Project.

The audience of this presentation were primary school students, who had the unique opportunity to learn and familiarize themselves with the sciences of Surveying Engineering and Geomatics,



Internal seminar on IPR Basics 28th of July 2022

On the 28th July 2022, the Director of IP-research LTD, Mr Nicos Raftis and our Functional Areas Manager, Prof. Andreas Anayiotos announced the establishment of the Office of Innovation at ERATOSTHENES Centre of Excellence (InECoE). They presented the procedures for IPR development for the ERATOSTHENES Centre of Excellence staff.



Mr Nicos Raftis focused on key strategic decisions in the research, development and product planning.

Interview of Prof. Diofantos Hadjimitsis in Phileleftheros Newspaper 6th of August 2022

On the 6th August 2022, Prof. Diofantos Hadjimitsis, Coordinator of the EXCELSIOR H2020 Teaming Project, gave an interview to the journalist of Phileleftheros newspaper, Dora Christodoulou, about 'EXCELSIOR' Horizon 2020 Teaming Project and ERATOSTHENES Centre of Excellence.

Prof. Diofantos Hadjimitsis mentioned that the aim of the project is to create a Digital Innovation Hub for Earth observation, space technology and geospatial information and to be the reference centre in the Eastern Mediterranean, Middle East, and North Africa (EMMENA). The interview can be accessed [here](#).

Organization of the EXCELSIOR stakeholders' meeting 12th of September 2022

On the 12th September 2022, we organized a meeting with topic: “The ERATOSTHENES Centre of Excellence and the EXCELSIOR project meet the key stakeholders within Cyprus and the EMMENA region”. The meeting took place at Aliathon Holiday Village in Paphos and brought together stakeholders from both public and private entities from Cyprus and abroad.

EXCELSIOR Coordinator Prof. Diofantos Hadjimitsis gave a brief presentation on the importance of the EXCELSIOR Project in the EMMENA region. The attendees had the opportunity to present the main activities of their organizations. The meeting intended to establish the needs and interests of key stakeholders on Earth Observation and Remote Sensing, with emphasis on Cyprus and the EMMENA region (East Mediterranean, Middle East & North Africa).



Meeting with the Department of Meteorology 27th of September 2022

Our team members were hosted by the Director of the Department of Meteorology, Dr Kleanthis Nicolaidis and his team at Athalassa Radiosonde Station premises, on the 27th September 2022. Our PhD researcher Eleni Loulli presented the use of radar data of the Department of Meteorology, in the framework of her research. The presentation was followed by a discussion on opportunities for the expansion of the existing collaboration between our team and the Department of Meteorology.



Invited talks



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

Date: **13/04/2022**

Topic: **“Ocean monitoring using remote sensing platforms”**.

Speaker: **Dr Lohitzune Solabarrieta**

Link: <https://youtu.be/9HjZGu-qFjk>

Date: **18/07/2022**

Topic: **“Mediterranean forest map”**

Speaker: **Dr. Virginia Garcia Millan**

Link: <https://youtu.be/gE9wxP7EMes>

EXCELSIOR
ERATOSTHENES: Excellence Research Centre for Earth Surveillance and Space-Based Monitoring Of the Environment
www.excelstor2020.eu

Invited Talk
Ocean monitoring using remote sensing platforms

Lohitzune Solabarrieta
Researcher
Marine and Coastal Environmental Management
Operational oceanography systems, Observation and data

April 13, 2022
Wednesday
11:00 EET (10:00 CET)

REGISTRATION
<https://tinyurl.com/VECoH-AZT1>
*This talk will be in English

CONSORTIUM: Oceans of Technology, DLR, TROPOS, DEC, AFFILIATED ENTITIES: CYRIC, pmod, wrc

EXCELSIOR
ERATOSTHENES: Excellence Research Centre for Earth Surveillance and Space-Based Monitoring Of the Environment
www.excelstor2020.eu

Invited Talk
Mediterranean forest map

Dr Virginia Garcia Millan
Remote Sensing Expert
EUROPEAN TOPIC CENTRE - UNIVERSITY OF MALAGA

July 18, 2022
Monday
11:00 EET (10:00 CET)

REGISTRATION
<https://cutt.ly/WLb5oHw>
*This talk will be in English

CONSORTIUM: Oceans of Technology, DLR, TROPOS, DEC, AFFILIATED ENTITIES: CYRIC, pmod, wrc

MoU Agreements of the ERATOSTHENES Centre of Excellence



FOSS Research Centre for Sustainable Energy of the University of Cyprus

On the 4th April 2022, a Memorandum of Understanding was signed between FOSS Research Centre for Sustainable Energy of the University of Cyprus and the ERATOSTHENES Centre of Excellence. The Memorandum of Understanding aims to expand scientific and research collaboration, cultivate the relations between the two research institutions and the joint effort for mutual understanding and promotion of scientific and educational cooperation.



Aratos Group

On the 28th June 2022, a Memorandum of Understanding was signed between the Aratos Group and the ERATOSTHENES Centre of Excellence. The Memorandum of Understanding aims to expand scientific, research, educational and other cooperation between the two organizations. Both research institutions will work together in order to promote scientific and educational cooperation.



World Agroforestry Centre

On the 6th July 2022, a Memorandum of understanding (MoU) was signed between World Agroforestry Centre (ICRAF) and ERATOSTHENES Centre of Excellence. The signed Memorandum promotes a sustainable relationship between ICRAF and ERATOSTHENES Centre of Excellence. Both organizations are seeking to put in place cultural and scientific cooperation in the fields of remote sensing and soil and land health research, technological development and innovation.



CMMI-Cyprus Marine and Maritime Institute

On the 15th July 2022, a Memorandum of Understanding was signed, between the CMMI - Cyprus Marine and Maritime Institute and the ERATOSTHENES Centre of Excellence. The Memorandum of Understanding between the two organizations aims to expand scientific, research, and future collaboration.



Shipping Deputy Ministry of Cyprus

On the 27th September of 2022, a Memorandum of Understanding was signed between the Shipping Deputy Ministry of Cyprus and the ERATOSTHENES Centre of Excellence. The Memorandum of Understanding aims to expand the collaboration between the two organizations by providing: i) joint events and activities, ii) joint participation in research and development projects, iii) placement of students, iv) advisory-scientific services and studies and v) exchange of information and expertise on matters of common interest.



Recent publications



Adam, Mariana, Konstantinos Fragkos, Stavros Solomos, Livio Belegante, Simona Andrei, Camelia Talianu, Luminița Mărmureanu, et al. 2022. "Methodology for Lidar Monitoring of Biomass Burning Smoke in Connection with the Land Cover." *Remote Sensing* 14 (19): 4734. <https://doi.org/10.3390/rs14194734>

Polydorou, Thomaida, Nicholas Kyriakides, Andreas Lampropoulos, Kyriacos Neocleous, Renos Votsis, Ourania Tsioulou, Kypros Pilakoutas, and Diofantos G. Hadjimitsis. 2022. "Concrete with a High Content of End-of-Life Tire Materials for Flexural Strengthening of Reinforced Concrete Structures." *Materials* 15 (17): 6150. <https://doi.org/10.3390/ma15176150>.

Cerra, Daniele, Thomas Krauß, Maria Prodromou, and Kyriacos Themistocleous. 2022. "Feasibility of DESIS Imaging Spectrometer for the Detection of Burned Areas: The Case Study of Arakapas Fire in Cyprus 2021." In . Bonn, Germany. <https://elib.dlr.de/189914/>.

Prodromou, Maria, Ioannis Gitas, Kyriacos Themistocleous, and Diofantos Hadjimitsis. 2022. "The Implementation of the Forest Canopy Density (FCD) Model for Coniferous Ecosystems in Cyprus Forests, Using Landsat-8 and Sentinel-2 Satellite Data." EGU22-9865. Copernicus Meetings. <https://doi.org/10.5194/egusphere-egu22-9865>.

Panagiotou, Constantinos F., Catalin Stefan, Panos Papanastasiou, and Christoph Springer. 2022. "Quantitative Microbial Risk Assessment (QMRA) for Setting Health-Based Performance Targets during Soil Aquifer Treatment." *Environmental Science and Pollution Research*, September. <https://doi.org/10.1007/s11356-022-22729-y>.

Projects funded under the PRIMA Programme

AGREEMAR Project

On the 7th June 2022, the Managing Director of ERATOSTHENES CoE, Coordinator Prof. Diofantos Hadjimitsis and Dr Constantinos Panagiotou signed the contract of AGREEMAR project, funded under the PRIMA Programme (Partnership for Research and Innovation in the Mediterranean Area). The AGREEMAR consortium consists of Technische Universität Dresden (TUD) – Coordinator of the project, National Institute of Agronomy (INAT), Carthage University, adelphi research GmbH, Universitat Politècnica de Valencia (UPV), ERATOSTHENES Centre of Excellence and Laboratório Nacional de Engenharia Civil (LNEC). The total amount of funding of the consortium is € 1,100,000.

The AGREEMAR research project kicked-off on July 2022 and its implementation period is thirty-six (36) months. The project will focus on the integrated management of water resources, centered on optimizing the storage of water in the subsurface, with the aim of increasing water security in the Mediterranean region.



Projects funded under Horizon Europe

AI-OBSERVER Project

The AI-OBSERVER project titled "Enhancing Earth Observation capabilities of the ERATOSTHENES Centre of Excellence on Disaster Risk Reduction through Artificial Intelligence" was funded under the Horizon Europe call: HORIZON-WIDERA-2021-ACCESS-03 (Twinning) with an overall budget of €1,489,379. The ERATOSTHENES Centre of Excellence (Cyprus) is the project coordinator, and the rest of the consortium consists of the German Research Centre for Artificial Intelligence (Germany), the University of Rome Tor Vergata (Italy) and CELLOCK Ltd (Cyprus).

AI-OBSERVER project aims to significantly strengthen and stimulate the scientific excellence and innovation capacity, as well as the research management and administrative skills of the ERATOSTHENES Centre of Excellence. In this direction, several capacity-building activities will be carried out on Artificial Intelligence for Earth Observation applications in the Disaster Risk Reduction thematic area of the ERATOSTHENES Centre of Excellence, upgrading its current Resilient Society Department, and its Research Management and Administration Departments. The above will assist the ERATOSTHENES Centre of Excellence to reach its long-term objective of raised excellence on AI for Earth observation on environmental hazards.



ENGINEER project

The ENGINEER project titled "Civil Engineering and Geomatics innovative research on Heritage" was funded under the Horizon Europe call: HORIZON-WIDERA-2021-ACCESS-03 (Twinning) with an overall budget of €1,500,000, and its consortium consists of the Cyprus University of Technology, the Polytechnic University of Milan (Italy), the University of Aveiro (Portugal), the University College of London (UK) and the ERATOSTHENES Centre of Excellence (Cyprus).

The ENGINEER project aims to enhance the Department of Civil Engineering and Geomatics of the Cyprus University of Technology (CUT) research and innovation potentials through coordination and support actions provided by the Twinning call. The project's vision is to fill research gaps and extend knowledge into new innovative fields dealing with the monitoring, digitisation, visualization and preservation of cultural heritage, assisting towards their protection, promotion and safeguarding. The consortium members will work closely with the ERATOSTHENES Centre of Excellence through training research activities, mobility actions, networking and in-situ pilot applications. At the same time, the project will advance research management, administrative skills and promote industrial and knowledge transfer. The participation of the ERATOSTHENES Centre of Excellence will multiply the potential impact of the project, creating strong links with partners of the quadruple helix of the smart specialization, and will support commercialization and marketed aspects.

CARBONICA Project

The CARBONICA project titled "Carbon Initiative for Climate-resilient Agriculture" was funded under the Horizon Europe call: HORIZON-WIDERA-2022-ACCESS-04 (Excellence Hubs) with an overall budget of €4,985,250, and its consortium consists of 14 partners from Greece, Cyprus and North Macedonia.

The main objective of this project is to establish the CARBONICA Excellence Hub by connecting the innovation ecosystems of Cyprus, Greece and North Macedonia while enhancing their TRL as service providers, based on cutting-edge technologies (Earth Observation; in situ data; digital agriculture etc.) in carbon farming. The main scope is to establish access to excellence to all relevant stakeholders, as well as strengthen regional innovation capacity guided by long-term joint R&I strategy in the carbon farming field. To achieve these targets, an inter- and transdisciplinary approach is required to integrate the expertise and knowledge of all relevant stakeholders and a place-based perspective and design needs-based carbon farming solutions, as well as strict policies to foster shifts towards a Climate-resilient Agriculture. The ERATOSTHENES Centre of Excellence will offer its expertise on remote sensing and ground-based techniques for agriculture to the project consortium, and act as the coordinator of the Cyprus Innovation ecosystem. The ecosystem comprises the Agricultural Research Institute (Ministry of Agriculture, Rural Development and Environment), the Cyprus University of Technology, CELLOCK Ltd, and the Panagrotikos Association of Cyprus.

TRIQUETRA Project

The TRIQUETRA project titled "Assessing and mitigating Climate Change risks and natural hazards threatening cultural heritage monuments" was funded under the Horizon Europe call HORIZON-CL2-2022-HERITAGE-01 with an overall budget of €3,991,122, and its consortium consists of 21 partners from Greece, Cyprus, Germany, Italy, Poland, Austria and Switzerland.

The TRIQUETRA project aims at creating an evidence-based assessment platform that allows precise risk stratification and creates a database of available mitigation measures and strategies, acting as a Decision Support Tool towards efficient risk mitigation and site remediation. The project focuses on risk identification, risk quantification and risk mitigation, thereby creating a framework for risk assessment and risk mitigation, proposing a technological toolbox and methodological framework for tackling climate change risks and natural hazards threatening cultural heritage in the most efficient way possible. The ERATOSTHENES CoE will use its experience in Earth observation using Synthetic Aperture Radar (SAR) to monitor micro-movements in the Choirokoitia cultural heritage site as well as Augmented Reality and 3D modelling to create a citizen engagement framework and enable crowdsourced site monitoring, as well as help define and inform the novel in-situ and remote sensing systems specifications.

ENIGMA Project

The ENIGMA project titled "Endorsing safeguarding, protection, and provenance management of Cultural Heritage" was funded under the Horizon Europe call: HORIZON-CL2-2022-HERITAGE-01 with an overall budget of €3,993,500, and its consortium consists of 12 partners from Greece, Cyprus, Finland, Belgium, Malta, Switzerland and Spain.

The project aims to achieve excellence in the protection of cultural goods and artifacts from man-made threats by contributing to the identification, traceability, and provenance research of cultural goods as well as by safeguarding and monitoring endangered heritage sites.

The objectives of the ENIGMA project include how to assist the involved stakeholders better respond to this complex and multi-dimensional problem, leverage active collaboration by fostering and enabling the interlinking of databases, and evidence-based deployment of preventative measures. The ERATOSTHENES Centre of Excellence will be mainly involved in the monitoring of looting activity and other anthropogenic threats in CH sites through the exploitation of Big Earth data.



Projects funded under RESTART 2016 – 2020 Programme CO-DEVELOP of the Research and Innovation Foundation

GreenCarbonCY Project

GreenCarbonCY project titled "Transitioning to Green agriculture by assessing and mitigating Carbon emissions from agricultural soils in Cyprus" was funded under the RESTART 2016 –2020 CO-DEVELOP Programme of the Research and Innovation Foundation with an overall budget of €599,550. The ERATOSTHENES Centre of Excellence leads the specific project, with CELLOCK Ltd and the Agricultural Research Institute of the Ministry of Agriculture, Rural Development and Environment being the Cypriot partners, whereas the InterBalkan Environment Center from Greece and Green Growth Platform from North Macedonia will offer their expertise as Foreign Research Organisations.

The GreenCarbonCY project aims to develop an integrated and web-based decision support tool for soil health restoration, land management and greenhouse gas emissions control by utilizing Earth observation data and products of the Copernicus Climate Change Service hydrogeological models. The project will develop an integrated and participative methodology to assess and map the vulnerability of soil health to climate change and human activities in alignment with the principles of land and water management. The resulting information system will bridge between scientists and stakeholders for revising and adapting land management. The project will foster intercultural and multidisciplinary collaboration and transfer between countries. The developed solutions are expected to fulfil optimal land and water provisions for food security, agroeconomic systems, domestic services, and the preservation of natural ecosystems in Cyprus.

Green-HIT

Green-HIT project titled "A Green - Holistic IoT platform for Forest Management and Monitoring" was funded under the RESTART 2016 –2020 CO-DEVELOP Programme of the Research and Innovation Foundation with an overall budget of €599,851.36, and its consortium consists of Frederick Research Center, CYRIC Ltd, European University Cyprus Research Centre, ERATOSTHENES Centre of Excellence and I.A.CO Environmental and Water Consultants Ltd.

The Green-HIT project will develop a holistic IoT platform for forest management and monitoring using cutting edge Information and Communication Technologies to promote digital and green technology. The platform will support (a) prevention, detection, and reaction to forest fires, (b) afforestation and/or reforestation recommendations, (c) protecting forests from illegal logging and hunting, (d) monitoring forests and forest areas, and (e) forest mapping and inventory by collecting, combining and analyzing field data and remote sensed data. Green-HIT will fundamentally transform how forests are managed and monitored, supporting forest departments and dependent communities, scientific communities and regulatory authorities. The project will enhance the effective collaboration between enterprises and the research community. It will be implemented by a consortium that will utilize and improve existing links and synergies between partners, which have identified forest management challenges and will jointly develop a new cost-effective solution to address them.

Projects funded under ESA - PECS

EDAFOS Project

EDAFOS Project titled "Development and testing of desertification risk and pressures mapping and Assessment tool" was funded by the European Space Agency under the 5th ESA-PECS call with an overall budget of €160,717, and its consortium consists of ATLANTIS Environment and Innovation Ltd, ERATOSTHENES Centre of Excellence and the Department of Environment of the Ministry of Agriculture, Rural Development and Environment.

EDAFOS aims to develop a system that can facilitate desertification risk mapping and the analysis of individual parameters contributing to desertification to support monitoring, reporting and development of measures to combat desertification through scenario analysis.

The EDAFOS project will prepare, through data collection (e.g., Land use, Meteorology, Human activities, Population, and Geophysical parameters), processing and interpretation methodology of a Geographical Information System (GIS), a tool for the assessment of desertification and land degradation risk. In addition, it will provide scenario analysis for developing policies and measures to reduce risk and mitigate associated environmental and socioeconomic impacts.

The EDAFOS Toolbox will support National Competent Authorities in the implementation of the desertification directive, and in particular, it will enable the in-depth analysis of human-induced and natural pressures and will facilitate the design of measures for combating desertification and land degradation.

Fire Detection at Kalavastos and Mari

11th of June 2022

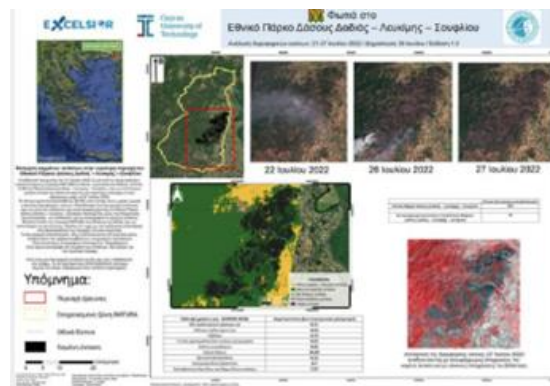
The ERATOSTHENES Centre of Excellence was able to monitor the fire that broke out on the 11th June 2022 near an old quarry between the Kalavastos and Mari communities, close to the Nicosia-Limassol highway. The fire was detected by MODIS and VIIRS NASA satellites around 2pm. The smoke spread North-East to Larnaca and Famagusta.



Catastrophic wildfire in the National Forest Park of Dadia-Lefkimi-Soufli

29st of July 2022

The ERATOSTHENES Centre of Excellence used high-resolution Planet Scope satellite images, before and after the catastrophic wildfire in the National Forest Park of Dadia-Lefkimi-Soufli, in order to identify and record the burnt areas with the ecological destruction in the biodiversity of the area being significant. The wildfire on 21st of July 2022 in one of the most important NATURA protected areas at the national, European and international level, the National Forest Park of Dadia–Lefkimi–Soufliou in Greece, resulted in a large part of the protected and wider coverage area being completely burnt until the 27th of July 2022.



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

5th of October 2022

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

SPEAKERS

- Prof. Dr. Maria Rentetzi**
Head of the Chair of Science, Technology and Gender Studies
FAU Erlangen-Nürnberg
- Mrs. Barbara Ryan**
Executive Director
World Geospatial Industry Council (WGIC)

PANEL MEMBERS

- Prof. Dr. Maria Rentetzi - Expert
- Mrs. Barbara Ryan - Expert
- Prof. Diofantos Hadjimitsis - ECoE Managing Director
- Prof. Andreas Anayiotos - ECoE Functional Areas Manager, former Rector of CUT
- Mrs. Anthia Christofini - ECoE HR Manager

Co-organized by: Cyprus University of Technology, DEC, ERATOSTHENES CENTRE OF EXCELLENCE

Watch live: <https://t.ly/qHQH>

Wednesday, 5th of October 2022, 17:00 EEST

Amphitheater 1, Tassos Pappadopoulos Building, Cyprus University of Technology

CONSORTIUM: Cyprus University of Technology, DLR, TROPOS, DEC, ERATOSTHENES CENTRE OF EXCELLENCE

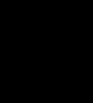
AFFILIATED ENTITIES: CYRIC, pmod, wrc

The project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 875115

The project has received funding from the Government of the Republic of Cyprus through the Directorate General of the European Programmes, Coordination and Development.



EXCELSIO**R**



CONSORTIUM



AFFILIATED ENTITIES



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