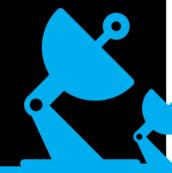


#### April 2024-November 2024 NEWSLETTER ISSUE #10





# Highlights 10th International Conference on Remote Sensing and Geoinformation of Environment (RSCY 2024) EXCELSIOR Review meeting More on this issue Latest news 4 Invited talks MOU Agreements of the ERATOSTHENES Centre of Excellence Recent publications 3 3 3 3 3 3 3 3 3 3 3 4



School/University visits

Distinctions

**EXCELSIOR Project in Media** 

34

35

37



#### HIGHLIGHTS

# 10th International Conference on Remote Sensing and Geoinformation of Environment (RSCY 2024)

The 10th International Conference on Remote Sensing and Geoinformatics of the Environment (RSCy 2024) took place on 8–9 April in Paphos. The event was organised by the ERATOSTHENES Centre of Excellence (CoE), the EXCELSIOR Project of the Cyprus University of Technology (CUT), and the Cyprus Remote Sensing Society, with valuable contributions and support from the Department of Electronic Communications of the Ministry of Research, Innovation, and Digital Policy, as well as the European Space Agency.

Delegates from 30 different countries participated in the conference, which featured distinguished speakers presenting the latest advancements across more than 22 thematic areas. These included cutting-edge applications of Satellite Data, Remote Sensing, Space Technologies, Earth Observation, Geoinformatics, and Artificial Intelligence (AI). These technologies were showcased in various domains such as agriculture, atmospheric studies, cultural heritage protection, blue development, maritime safety, natural disaster management (e.g floods, fires, earthquakes, landslides), meteorology, environmental protection, and climate change.

According to the Deputy Minister, tools such as satellite imagery, aerial photography, geographic information systems (GIS), and advanced analytical methods enable us to monitor and understand the complex interactions shaping our environment.

Find out more: https://eratosthenes.org.cv/rscv-2024





#### **HIGHLIGHTS**

#### **EXCELSIOR Review Meeting**

The EXCELSIOR Project meeting was held on 27–28 May 2024 in Limassol, Cyprus, with the participation of the Board of Directors and the International Advisory Committee. During the meeting, all stakeholders were briefed on the status of the EXCELSIOR Project and discussed key challenges and best practices. The meeting took place at the Cyprus University of Technology premises in Limassol.





#### Latest News

#### **MORE ON THIS ISSUE**

# Workshop on "The Use of Copernicus Data in the Maritime Sector and the Collaboration and Engagement of Stakeholders"

The Matchmaking Event and workshop on "Copernicus Uptake for the Maritime Sector" were held in Paphos on 8–9 April 2024 as part of RSCy 2024 and the FPCUP program. With 50 participants, the event featured presentations by Prof. Diofantos Hadjimitsis, Dr. Kyriakos Themistokleous, Ms. Polina Sokratous, and Mr. Georgios Nikola on Copernicus tools for ports, aquaculture, and fisheries.

The second day, held in collaboration with the EXCELSIOR Project, included talks by Associate Prof. Thomas Hasiotis on coastal risks, Mr. Stelios Zervos on coastal protection challenges, and PhD candidate Ms. Despoina Makri on seagrass mapping in Cyprus.



#### **ReSENSE Workshop 2024**

The ReSENSE Workshop, held on 8 April 2024 during the 10th International Conference on Remote Sensing and Geoinformation of the Environment, showcased innovative training practices in geoinformation and environmental monitoring for forestry and agriculture. Organized by the ReSENSE Consortium (ECECT.eu, ERATOSTHENES CoE, and Aristotle University of Thessaloniki) and cofunded by the EU, the workshop aims to equip industries in Cyprus, Greece, and across the EU with remote sensing skills to enhance efficiency and sustainability.









## **Students from Secondary Technical and Vocational Education from Greece attended RSCy 2024 in Paphos**

On 8 April 2024, students from the Secondary Technical and Vocational Education of Veria, Greece attended the 10th International Conference on Remote Sensing and Geoinformation of the Environment (RSCy2024), where they learned about climate change and the applications of remote sensing. The visit provided them with valuable insights into cutting-edge technologies and their role in addressing global environmental challenges.



## Second Workshop on Maritime Security, Surveillance, and Awareness

The Second Workshop on Maritime Security, Surveillance, and Awareness was held on 9 April 2024 during RSCy 2024. Organised by ERATOSTHENES CoE, DLR, and the CUT, and chaired by Dr. George Melillos, the workshop addressed key topics such as establishing a Satellite Data Acquisition Station (DAS) in Cyprus, integrating AI into maritime surveillance, and tackling challenges in maritime operations. The event featured contributions from both regional and international stakeholders.











## Second Workshop on Maritime Security, Surveillance, and Awareness

During RSCy2024, the workshop "ERATOSTHENES COE Living Labs & Opportunities and Challenges in Carbon Farming for a Success Story in Cyprus and the EU" was held on 9 April 2024. Chaired by Dr. Christiana Papoutsa and co-chaired by Dr. Ioannis Varvaris and Dr. Marinos Eliades, the event was organized by the EXCELSIOR and CARBONICA Projects.

Invited speakers from the European Commission (EC), including representatives from JRC, DG AGRI, DG CLIMA, ENOLL, ERATOSTHENES COE, and AUTH, discussed topics related to carbon farming and sustainable agriculture. Special thanks were extended to panel members and coordinators Dr. Giorgos Papadavid (ARI) and Prof. Andreas Anayiotos (ERATOSTHENES COE).





## Round Table: Earth Observation and Geoinformatics for the Protection of Cultural Heritage

During RSCy2024, a roundtable on "Earth Observation and Geoinformatics for the Protection of Cultural Heritage" brought together experts from the ERATOSTHENES COE, DLR, and Geosystems Hellas. They discussed projects such as EXCELSIOR, ENIGMA, TRIQUETRA, FPCUP, REVITALISER, and GLITSS, showcasing the role of remote sensing in safeguarding heritage sites. Participants emphasized the need for collaboration to enhance these technologies, further strengthening ERATOSTHENES COE's role in cultural heritage protection in Cyprus.







#### Research presentations and Awards at RSCy2024

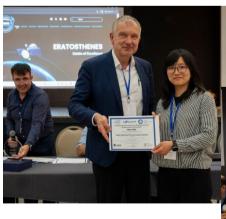
At the conclusion of the 10th International Conference on Remote Sensing and Geoinformation of Environment (RSCy2024), several outstanding research abstracts and poster presentations were recognized with awards.

#### The awarded **poster presentations** included:

- "Integrated application of geospatial technologies for digital twinning of urbanized territories for microscale urban planning" by Mr. S. Petrov, Dr. S. Dimitrov, and Dr. I. Ihtimanski.
- "Mapping ecosystem services trade-offs and synergies over pilot Natura 2000 sites in Greece" by Dr. I. Chrysafis et al.
- "Precision viticulture using multiple sensors and aerial robotics (VITISENSE) for better financial outcomes and disease management practices" by Dr. M. Tsiouni et al.

#### The awarded **abstract presentations** were:

- "Near real-time oil pollution monitoring using SAR for the southeastern Mediterranean Sea" by Ms. Y. Yang, C. Schnupfhagn, and S. S. Jacobsen.
- "Exploring the potential of spaceborne LiDAR data for forest biomass estimation in a complex-structured coniferous forest" by Dr. N. Georgopoulos et al.
- "Monitoring landscape restoration: from land use change methodologies to collaborative digital twin platforms in the context of locally driven implementations" by Dr. M. Gabriele et al.



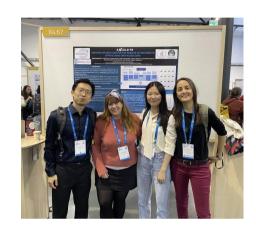






## **European Geosciences Union (EGU) 2024 General Assembly**

The study "Creation of Data Cube for the Analysis of Wildfires in Cyprus Using Open Access Data" was presented at the EGU 2024 General Assembly (14-19 April, Vienna) by the ERATOSTHENES CoE Disaster Risk Reduction sector collaboration with Beyond EO Centre NOA under the EXCELSIOR Project. Presented by Ms. Stella Girtsou and Ms. Mariza Kaskara (NOA), the work highlights transfer knowledge efforts. contributing team includes also Ms. Maria Prodromou, Mr. George Leventis, Mr. **Dimitrios** Koumoulidis, Marios Dr. Tzouvaras, Dr. Christodoulos Mettas, Mr. Alexis Apostolakis, Dr. Haris Kontoes, and Prof. Diofantos Hadiimitsis.



## Ms. Eleni Loulli Presents Radar & Vegetation Research at EGU2024

On 14-19 April 2024, our team member Ms. Eleni Loulli participated in the European Geosciences Union - EGU General Assembly (EGU2024) in Vienna with two presentations. One focused on her PhD research on meteorological radars, while the other explored the vegetation dynamics in Paphos District, Cyprus, as part of the GreenCarbonCy project.







## Contract sign between ERATOSTHENES CoE and Research and Innovation Foundation

On 18 April 2024, Dr. Maria Anastasiadou, Principal Investigator of the SmartPLAIGO Project and a researcher at the ERATOSTHENES (CoE), signed a €600,000 contract with the Research and Innovation Foundation (RIF) for the project titled "Advancing Public Health Services through AI-Driven GIS Optimization."

The SmartPLAIGO project aims to revolutionize emergency healthcare by optimizing ambulance dispatching and enhancing response times through the integration of Artificial Intelligence (AI), Geographic Information Systems (GIS), and advanced mathematical programming. Coordinated by the ERATOSTHENES CoE, the project brings together key partners, including the Cyprus University of Technology, Stremble Ventures Ltd., and the State Health Services Organization.

With funding from RIF, the initiative underscores Cyprus's role as a hub for innovation in healthcare technology.







The ERATOSTHENES CoE team, including Dr. George Mellillos, Ms. Despina Makri and Prof. Diofantos Hadjimitsis, participated in the Commonwealth Ministerial Meeting on Oceans, held on 18–19 April 2024 in Paphos.

Under the theme "Our Resilient Shared Ocean: From Cyprus to Samoa," the summit brought together ministers and officials to discuss priorities for a Commonwealth Declaration on Oceans. Additionally, the roadmap for its adoption at the Commonwealth Heads of Government Meeting (CHOGM) 2024 in Samoa was outlined.









#### **Carbonica EU project - Field visits**

The ERATOSTHENES CoE conducted field visits on 25–26 April 2024 as part of the Carbonica EU project. These visits aimed to inform stakeholders about carbon-based agriculture and to demonstrate a field diagnostic toolkit for monitoring sustainable agricultural practices.

The project involves the ERATOSTHENES CoE, Cyprus University of Technology, the Agricultural Research Institute, the Cyprus Panagrotikos Association, and the Cellock Ltd. By collaborating with key industry and research partners, the project seeks to promote innovative solutions for climate-smart agriculture and carbon sequestration.



#### **Europe Day 2024**

The ERATOSTHENES CoE participated in the major celebration for Europe Day and the 20th anniversary of Cyprus joining the EU, held in Limassol, Cyprus, on 11 May 2024.

The ERATOSTHENES CoE station was visited by the President of Cyprus, Mr. Nikos Christodoulides, who engaged with centre staff and was briefed on its progress in utilizing Remote Sensing and Earth Observation data across various areas of everyday life.

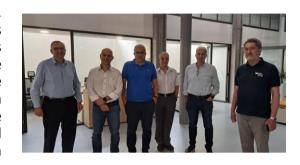






## Teaming together meeting at CYENS Centre of Excellence

Prof. Diofantos Hadjimitsis, Prof. Andreas Anayiotos, Silas Dr. Michaelides. and Dr. **Kvriacos** Themistocleous attended the 'Teaming Together' meeting at the CYENS Centre of Excellence in Nicosia, Cyprus on 10 May 2024. The event fostered collaboration and discussions on advancing innovation and research initiatives.



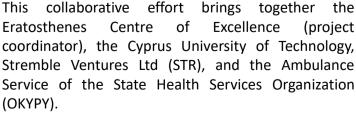
#### Agreement with SBLA on 24 May 2024

The ERATOSTHENES CoE signed an Agreement on 24 May 2024 with the Limassol Sewerage Board (SBLA) to provide services for the Project "Study of recording the existing state of processes, infrastructure and geographic data". This collaboration aims to enhance data management and infrastructure assessment, contributing to more efficient and sustainable urban planning in Limassol.



### Advancing Emergency Health Services: The SmartPLAIGO Initiative

A groundbreaking initiative, SmartPLAIGO, is set to revolutionize emergency health services through the integration of mathematical programming, algorithms, and GIS technology. The project aims to optimize ambulance dispatch systems, reduce response times. and enhance public health infrastructure.



The initiative recently took a significant step forward with a meeting at the Eratosthenes CoE, coordinated by Dr. Maria Anastasidou.







## **CERBERUS project at the ESA Agricultural Science Kick-off meeting**

Our team members, Ms. Eleni Loulli and Mr. Filippos Charalambous participated as part of the CERBERUS project team at the ESA Agriculture Science Cluster Kick-off meeting that took place on 16-17 May at ESA-ESRIN in Frascati, Italy.

The ESA Agriculture Science Cluster was recently launched to promote networking, collaborative research, and international collaboration in the domain of Earth Observation and Agriculture. It involves several projects and activities funded by ESA and the European Commission, bringing together different expertise, data, and resources in a synergistic manner to ensure that the result may be larger than the sum of its parts.



#### **ACTRIS Science Conference 2024**

ERATOSTHENES CoE researcher Mrs. Maria Poutli participated in the ACTRIS Science Conference, which took place in Rennes, France, from May 13 to 16, 2024. Her participation included a poster presentation relevant to LIDAR observations of wildfire smoke in Cyprus during 2021-2023 under the framework of the EXCELSIOR Project.







## **Euro-Mediterranean Conference for Environmental Integration (EMCEI-24)**

Ms. Eleftheria Kalogirou, a member of our Resilient Society sector specializing maritime safetv and security. participated in the Euro-Mediterranean Conference for Environmental Integration (EMCEI-24). The conference was held in Marrakech, Morocco, from to 18 May 2024. Her active participation contributed to advancing discussions on environmental integration and maritime safety, further demonstrating the ERATOSTHENES CoE's commitment resilient to fostering societies in the Euro-Mediterranean region.



#### **Ministry of Defense conference**

Dr. George Melillos and Mr. Nicos Christoforou, members of the ERATOSTHENES CoE, participated in the successful conference organized by the Ministry of Defense. The conference, which focused on defense and security research and innovation, took place at the Cyprus Chamber of Commerce and Industry (CCCI) on 21 and 22 May 2024.



#### Nostradamus project

The Nostradamus project, recently EU-funded under the coordination of the ERATOSTHENES CoE and in collaboration with 15 partners across Europe, aims to transform the agricultural sector and beyond through informed decision-making and policy shaping. Aligned with the Farm to Fork strategy, the Common Agricultural Policy, and the European Strategy for Data, the project will design, develop, and evaluate a scalable and robust platform for the online and real-time harvesting of valuable information from diverse data sources to support various agricultural applications.





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Read more: https://shorturl.at/VPJD6



#### InART2024 conference

On 4 June 4 2024, Dr. Dante Abate delivered a keynote at the InART2024 conference, hosted by the University of Oslo's Museum of Cultural History. His presentation, titled "Advanced and Intelligent Aerial and Space Techniques for the Protection of Archaeological Sites," highlighted innovative approaches to safeguarding cultural heritage.

Dr. Abate expressed gratitude to the organizers, particularly Prof. Lavinia de Ferri and Dr. Angeliki Zisi, for their warm hospitality. The conference provided an excellent platform for the ERATOSTHENES CoE to strengthen its research network, open new research opportunities, and reaffirm its dedication to protecting cultural heritage in Cyprus and beyond.

## **Advancing Digital Agriculture: CERBERUS Collaborates with Leading European Projects**

CERBERUS has collaborated with leading European initiatives, including the STELLA Horizon EU Project, SafeWax, and TALLHEDA, to advance digital agriculture and crop protection through shared expertise and cutting-edge technologies.

The STELLA project focuses on enhancing crop and pest management across diverse crops. SafeWax introduces a groundbreaking, plant-inspired wax coating with superhydrophobic, anti-adhesive, and self-cleaning properties, offering robust protection against fungi. Meanwhile, TALLHEDA fosters a long-term alliance for digital agriculture education, connecting institutions in Greece, Serbia, and Belgium.

Stay tuned for updates on these exciting partnerships.



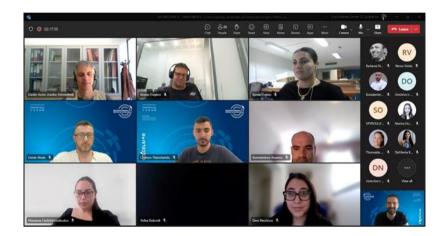
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# Webinar in the topic "Cross-cutting elements of Horizon Europe: Ethics, Social sciences and humanities"

Mr. Danilo Aceto Zumbo, Research Manager at the University of Rome Tor Vergata, delivered a webinar titled "Cross-cutting Elements of Horizon Europe: Ethics, Social Sciences, and Humanities." The session was part of the AI-Observer project, coordinated by the ERATOSTHENES CoE.

Around 30 members of the research and administrative staff participated, contributing to the establishment of a dedicated research project support office.



#### **ERATOSTHENES CoE enters CAMS community**

Dr. Silas Michaelides, Chief Operating Manager of the ERATOSTHENES CoE, participated in the 8th General Assembly of the Copernicus Atmosphere Monitoring Service (CAMS) held from June 10–13, 2024. The event brought together experts and stakeholders from across Europe to discuss advancements in atmospheric monitoring and the development of innovative solutions for pressing environmental challenges.





# Upgrading of the Port Authority Warehouses in Latchi, Polis Chrysochous Municipality, into a Marine and Cultural Multi-Use Space

As part of the project "Upgrading and Beautification of the Port Authority Warehouses in Latchi, Polis Chrysochous Municipality, into a Marine and Cultural Multi-Use Space," stunning ground and aerial images were captured using autonomous flight systems (UAVs). These visuals are integral to creating an enhanced visitor experience at the revamped space.

The project incorporates cutting-edge technologies, including UAV and 3D area mapping, video walls, and advanced augmented and virtual reality (AR/VR) applications. These innovations aim to showcase the maritime history and cultural heritage of the region in a modern and engaging way, transforming the space into a dynamic hub for education and exploration.



## Participation in the International Radiation Symposium 2024 (IRS2024)

Ms. Georgia Charalampous, a team member of the ERATOSTHENES CoE, participated in the International Radiation Symposium 2024 (IRS2024). She presented the preliminary evaluation of the Cyprus Erythemal Forecasting System, comparing its forecasts with measurements from the Cyprus Solar Network.

In her presentation, Ms. Charalampous also introduced the innovative UVI Nexus application, showcasing its potential in environmental radiation research. Her participation highlights our dedication to advancing scientific understanding and solutions in the field of radiation and environmental monitoring.









## Meeting Between ERATOSTHENES CoE and Veterinary Services

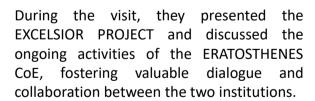
On 20 June 2024, the ERATOSTHENES CoE hosted a meeting with the Veterinary Services, including key participant Ms. Katerina Lemoniati. The discussion focused on exploring opportunities for future collaboration.



The meeting identified potential areas where geospatial technology and Earth Observation can enhance veterinary research, support disease monitoring, and promote environmental sustainability. This initiative underscores the ERATOSTHENES CoE's commitment to interdisciplinary collaboration and innovative solutions.

## Visit to the Temporary Premises of The American University of Beirut – Mediterraneo in Paphos, Cyprus

On 21 June 2024, representatives from the ERATOSTHENES CoE, including Prof. Diofantos Hadjimitsis, Dr. Kyriacos Themistocleous, and Dr. George Melillos, visited the temporary premises of the American University of Beirut – Mediterraneo in Paphos, Cyprus.





## Participation at the 43rd EARSeL Symposium in Manchester, UK

On 21 June 2024, Ms. Eleni Loulli participated in the 43rd EARSeL Symposium in Manchester, UK, to present recent educational activities in collaboration with the Beyond EO Centre NOA under the Space EDUnity ERASMUS+ project. Space EDUnity aims to create student communities focused on integrating crowdsourced data, remote sensing, and geoinformatics to address climate change.









#### **Secondment at Tor Vergata University in Italy**

Researchers from the ERATOSTHENES COE, Ms. Maria Prodromou, Ms. Eleftheria Kalogirou, and Mr. Stelios Neophytides, participated in a 5-day secondment at Tor Vergata University in Italy. This secondment was conducted as part of the 2nd Summer School organized within the framework of the Al-Observer project.

During their stay, they attended insightful presentations on operative chains and pipeline processes. Moreover, they engaged in one-on-one, hands-on training focused on the development of Neural Networks for specific applications.

A highlight of the secondment was the opportunity to visit the Φ-Lab and the Φ-Experience at the European Space Agency, providing an exceptional and inspiring experience for all participants.



#### **Honorary Plaque for Gunter Schreier's Retirement**

An honorary plaque was presented on 28 May 2024 in Limassol to Mr. Gunter Schreier by Dr. Nektarios Chrysoulakis, chairman of the ERATOSTHENES CoE, on behalf of the EXCELSIOR Project Consortium, the Advisory Board, and the Board of Directors of the ERATOSTHENES CoE. This recognition honors Gunter Schreier's invaluable contributions and long-standing support in advancing the mission of the ERATOSTHENES CoE and the EXCELSIOR Project.



#### **Baths of Aphrodite by the Eratosthenes CoE**

The ERATOSTHENES CoE is bringing augmented reality to the Baths of Aphrodite, using advanced methods and tools to enhance the visitor experience. This project will introduce an innovative and interactive way to explore the site's rich history, offering a modern approach to cultural heritage preservation and engagement.





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## **ERATOSTHENES CoE meets Phidias Panayiotou, Newly Elected Member of the EU Parliament**

On 26 June 2024, the ERATOSTHENES COE team member Dr. Christiana Papoutsa had the opportunity to meet Phidias Panayiotou, the newly elected Member of the European Parliament. The meeting served as an excellent occasion to present the center's mission, initiatives, and contributions to research and innovation.



## **Engineer 2nd Summer School at Tombs of the Kings, a UNESCO World Heritage Site**

The Engineer 2nd Summer School successfully concluded at the Tombs of the Kings, a UNESCO World Heritage Site. Experts from the Cyprus University of Technology, UCL, Universidade de Aveiro, Politecnico di Milano, and ERATOSTHENES collaborated on the detailed assessment of Tombs 4 and 7.

Utilizing state-of-the-art techniques such as photogrammetry, laser scanning, ground-penetrating radar (GPR), thermal imaging, and accelerometers, the team applied cutting-edge technology to enhance the preservation and study of cultural heritage. This initiative underscores the crucial role of innovation in safeguarding historical sites for future generations.



#### **ERATOSTHENES CoE in Japan**

Dr. Michalis Mavrovouniotis represented ERATOSTHENES CoE at the IEEE World Congress on Computational Intelligence (WCCI 2024), held in Yokohama, Japan, from 30 June to 5 July 2024. As part of the congress, Dr. Mavrovouniotis delivered a tutorial titled Tracking the Moving Optimum in Dynamic Optimization Problems, sharing his expertise and contributing to the global dialogue on computational intelligence.



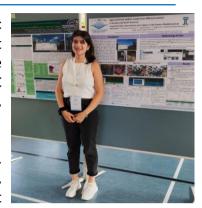




## **CARO Team at the 31<sup>st</sup> International Laser Radar Conference**

Ms. Maria Poutli from the Cyprus Atmospheric Remote Sensing Observatory (CARO) at ERATOSTHENES COE successfully participated in the 31st International Laser Radar Conference (ILRC 2024), held in the picturesque city of Landshut, Bavaria, from 23 to 28 June 2024.

The conference provided an excellent platform for Ms. Poutli to engage with the global lidar community, exchange insights, and explore the latest advancements in lidar remote sensing techniques and their diverse applications.



#### **ERATOSTHENES CoE at IGARSS 2024 in Athens**

ERATOSTHENES CoE actively participated in the 44th International Geoscience and Remote Sensing Symposium (IGARSS 2024), held in Athens, Greece, from 7 to 12 July 2024. Organized by the National Observatory of Athens, with support from the National Technical University of Athens and FORTH, the conference served as a key platform for advancing research in geoscience and remote sensing.

A team of 15 researchers from ERATOSTHENES CoE made a significant impact at the event, presenting 12 posters and delivering 5 presentations, contributing to the global exchange of knowledge and innovation in the field.





#### **ERATOSTHENES CoE at the NOA P4CV Cloud Workshop**

On 15 July 2024, the NOA P4CV Cloud Workshop was held at the National Observatory of Athens in Penteli, Athens, Greece. The workshop aimed to promote ReaCT/NOA activities and the PANGEA4CalVal projects, while also facilitating discussions on the EarthCARE mission, its products, and applications. A key focus was the EarthCARE radar Cal/Val procedure, addressing its requirements, challenges, and limitations.

Representing ERATOSTHENES CoE, Dr. Giorgos Kotsias and Dr. Rodanthi-Elisavet Mamouri actively participated in the workshop, contributing their expertise to the discussions.







## Workshop GOFC-Gold SCERIN and MedRIN Networks - NASA 2024

Prof. Diofantos Hadjimitsis, Dr. Andreas Christofe, and Mr. Vincent G. Ambrosia from the EXCELSIOR Project participated in the SCERIN-MedRIN NASA Workshop, held in Chania, Greece, on 16–17 July 2024.

During the workshop, Prof. Hadjimitsis delivered a presentation on "EO Activities and Challenges in EMMENA," showcasing key EU-funded projects such as AI-Observer and Carbonica. His talk also highlighted NASA STI activities, the achievements of ERATOSTHENES CoE, and the ongoing progress of the Cyprus Space Strategy.



#### MICROS II ESA REVIEW MEETING

The MICROS II ESA Review Meeting, held on 22 July 2024, featured a presentation highlighting the work conducted by ERATOSTHENES CoE on the project to date. With the participation of an ESA officer, the meeting served as a key opportunity to evaluate the project's progress and outcomes, ensuring alignment with the objectives set by the European Space Agency.

# Launch of the National Collaboration Programme with CAMS: Advancing Air Quality and Greenhouse Gas Reporting

The National Collaboration Programme with the Copernicus Atmosphere Monitoring Service (CAMS) was launched in July 2024 and will run for 18 months. Led by Dr. Silas Michaelides and Dr. Maria Anastasiadou, the programme aims to promote the use of CAMS products for national air quality and greenhouse gas reporting, raise awareness of CAMS services across government and industry, and strengthen collaboration with ECMWF and national authorities.

By integrating CAMS products into local and national systems, the programme ensures that these services not only support environmental monitoring but also contribute to shaping effective policies for sustainable development and climate action.









## SATCULT Project: Advancing Cultural Heritage Preservation through Satellite-Based Vocational Training

ERATOSTHENES CoE is excited to announce its involvement in the new ERASMUS+ KA210-VET SATCULT "Covering a knowledge gap through professional training on satellite-based services for preserving cultural heritage") project, in collaboration with media k GmbH (Project Coordinator, Germany) and CNR ISPC - Institute of Heritage Science (Italy). This project aims to bridge the knowledge gap in cultural heritage preservation through specialized vocational training in satellite-based services.

Dr. Dante Abate, leader of the Cultural Heritage cluster, will lead the contributions of ERATOSTHENES CoE to this innovative initiative, which seeks to enhance skills and expertise in leveraging satellite technologies for safeguarding cultural heritage.

## **ERATOSTHENES CoE Participation in SHAREN(E)ET Networking Skills Development Event**

Michalis Mavrovouniotis and Dr. Constantinos Panagiotou attended the "Networking SHAREN(E)ET Skills Event" organized Development bv Magnetar, which took place in Limassol on 26 July 2024. During the event, Dr. Mavrovouniotis presented ERATOSTHENES CoE and highlighted the training opportunities it offers as a member of the Copernicus Academy, with a particular focus on the application of Earth Observation data.



## **Cyprus Atmospheric Remote Sensing Observatory** (CARO-NF)

The establishment of CARO-NF marks a new milestone for the ERATOSTHENES CoE, thanks to the efforts of the TROPOS Remote Sensing Department and the CARO teams.

This development signifies a significant advancement in atmospheric research and fosters stronger international collaborations.









## Meeting for cultural heritage cluster joint activities with Association of Cypriot Archeologist

On 5 July 2024, the ERATOSTHENES CoE Cultural Heritage Cluster of the Resilient Society Department held a productive meeting with the Association of Cypriot Archaeologists board in Nicosia. The potential meeting explored ioint including activities, collaborative research and training programs, while also discussing shared interests in advancing archaeological studies through novel technologies in Cyprus.



## **Collaboration of the Cultural Heritage Cluster of ERATOSTHENES CoE with the Erimi Archaeological Project**

On 8 August 2024, a team from the Cultural Heritage Cluster of ERATOSTHENES CoE supported the Erimi Archaeological Project with a geodetic survey to map new findings at the renowned Bronze Age site. Despite challenges posed by a jammed GPS signal the area. the in successfully collected all data with This centimetric accuracy. collaboration will continue throughout the excavation season.



#### Collaborative Meeting with MountMed Institute: Exploring Synergies in Environmental Monitoring

A meeting with the MountMed Institute explored collaboration opportunities with the ERATOSTHENES CoE on environmental monitoring, climate change, and sustainable development. The discussion highlighted the potential for joint projects and knowledge exchange to address pressing environmental challenges, paving the way for future collaborations.









#### **New Erasmus Project "CHANGES" for the ERATOSTHENES COE**

The ERATOSTHENES CoE will coordinate a new Erasmus+ project, CHANGES, set to begin on 15 December 2024. Focused on Climate Change, Cultural Heritage, and Archaeology, the project is funded under KA220-HED with a €400,000 budget.

Bringing together nine institutions from Cyprus, Greece, Italy, Spain, and Poland, CHANGES will foster collaboration on crucial issues at the intersection of environmental challenges and cultural heritage preservation. The project will be led by Dr. Dante Abate, with research contributions from Universita degli Studi "Gabriele d'Annunzio", STARC at The Cyprus Institute, Uniwersytet Warszawski, Universitat Rovira i Virgili, ARU at the University of Cyprus, FORTH-Hellas, and JD ARCHPROSPECT.









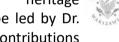


( Cultural Heritage and Archaeology for the study and dissemination of Natural, Geological Environmental and Social events due to climate changes in antiquity: learning from the past for a better awareness in the future)







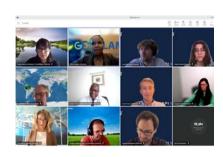






#### Participation of ERATOSTHENES CoE in ESPI workshop

Dr. Marios Tzouvaras and Dr. Ioannis Varvaris from the ERATOSTHENES CoE joined the European Space Policy Institute's workshop on "Space for Climate Resilience and Food Security in the Mediterranean Basin." Dr. Tzouvaras presented the EXCELSIOR Project and ERATOSTHENES CoE's role in Earth Observation for the EMMENA region, while Dr. Varvaris discussed space's role in food security during a panel session. The event fostered valuable discussions on leveraging space technologies to address regional climate and agricultural challenges.







## Participation in the European Meteorological Society Annual Meeting in Barcelona, Spain

Ms. Georgia Charalampous, a team member of ERATOSTHENES CoE, participated in the European Meteorological Society Annual Meeting 2024, held in Barcelona, Spain, from 2 to 6 September 2024. She presented the study "Assessment of Dust Impact on Shortwave Surface Irradiance: A Seven-Year Study at Agia Marina Xyliatou, Cyprus."



This research is a collaboration between CYI, NOA, the Academy of Athens, LOA, PMOD/WRC, CUT, and ERATOSTHENES CoE. The meeting served as an important platform for exchanging knowledge and fostering collaboration in the field of atmospheric research.

#### Workshop on research proposal preparation skills

From 24 to 26 September 2024, ERATOSTHENES CoE hosted a hands-on workshop on research proposal preparation skills at its premises. The workshop aimed to equip young researchers with essential skills while also enhancing the expertise of senior staff in securing funding from various sources. More than 20 researchers and administrative staff participated in this valuable training session.



#### **Meeting for SmartPLAIGO project**

A productive meeting for the SmartPLAIGO project brought together key team members and stakeholders to review technical aspects and plan the next steps. Discussions focused on Al-driven modelling, Evolutionary Computation, and GIS technology to optimize dynamic systems and ambulance dispatch. The session aligned team objectives and set a roadmap for future phases, with SmartPLAIGO committed to improving healthcare response times and efficiency across Cyprus and similar regions.







## **ERATOSTHENES CoE at the European Researchers' Night 2024**

The slogan "Mission: Possible" set the tone for this year's European Researchers' Night, held on 27 September 2024 at the Central Exhibition Fair in Nicosia, attracting over 3,000 students. The event featured more than 60 booths, showcasing high-tech experiments, scientific equipment, and interactive events that promoted research, innovation, and science.



ERATOSTHENES CoE, in collaboration with the Cyprus University of Technology, participated with two booths: "Earth from Above: Remote Sensing and Copernicus" and "Through the Eyes of a Satellite: Observing the Earth from Above". Additionally, Mr. Stelios Neophytides presented the AgriNexus Hub project, an integrated web app designed to optimize farming and irrigation management.









## The ERATOSTHENES CoE at the 21<sup>st</sup> Panhellenic Phytopathological Conference in Cyprus

The ERATOSTHENES CoE successfully participated in the 21st Panhellenic Phytopathological Conference, held in Paphos from 4 to 7 November 2024. Staff members from the "Environment and Climate" department shared the centre's initiatives on preventing and protecting against plant pathogens. The conference served as a valuable platform for collaboration among scientists, researchers, and agricultural professionals from Greece and Cyprus, emphasizing the importance of joint efforts to enhance plant health and agricultural productivity.









#### **Kick-off meeting for LANDSHIFT**

ERATOSTHENES CoE proudly coordinated the launch of the newly funded project, "LANDSHIFT: Community-Led Creation of Living Spaces in Shifting Landscapes for Climate-Resilient Land Use Management and Supporting the New European Bauhaus". The project, which involves 26 partners, has secured a total funding of almost €6 million under the HORIZON-CL6-2024-CLIMATE-01 initiative.

The kick-off meeting took place from 12 to 13 November 2024 at the Aliathon Resort Hotel in Paphos, Cyprus. During the meeting, there was an invited talk by Mr. Ruslan Nimchynskyi, Ambassador from the Embassy of Ukraine in the Republic of Cyprus.





#### kick-off meeting for CEOPS

We are excited to announce the successful kick-off meeting for the CEOPS (Cyprus Earth Observation for Public Sector) project, held in Limassol, Cyprus. This marks the beginning of an exciting collaboration with a talented group of CEOPS partners. The project will focus on fostering productive discussions, exploring fresh ideas, and developing innovative solutions as it progresses.









#### **Kick-off meeting for BorderForce Project**

The ERATOSTHENES CoE has joined the BorderForce Project, funded by the EU under HORIZON-CL3-2023-BM-01, aimed at enhancing security and surveillance at EU borders. Led by Dr. Michalis Mavrovouniotis, the ERATOSTHENES CoE team will contribute expertise in real-time surveillance using drone swarms.



Dr. Charalambos Chrysostomou represented ERATOSTHENES CoE at the project's kick-off meeting in Vienna (12-14 November 2024), where partners from across Europe gathered to discuss innovative solutions for border security, addressing evolving threats while ensuring freedom and safety.

#### **Open / Info Day for ERATOSTHENES CoE**

On 14 November 2025, the ERATOSTHENES CoE hosted a unique Open Information Day at the Cyprus University of Technology, welcoming over 200 students from seven schools across Cyprus, as well as the Cyprus University of Technology community and the public. The event provided a one-of-a-kind opportunity for all participants to engage with cutting-edge research and explore the Atmospheric and Solar Ground-Based Station, gaining hands-on insights into advanced scientific methodologies.

The audience was excited to take part in a diverse program that featured presentations on the Centre's departments, information kiosks, and live broadcasts from Mix FM Radio. The event highlighted ERATOSTHENES CoE's commitment to informing diverse audiences about the real-world applications of Remote Sensing, Geoinformation, and Space Technology in daily life.









#### **Strengthening Gender Equality in Science**

On 20 November 2024, ERATOSTHENES CoE hosted an event at the Cyprus University of Technology (CUT), dedicated to promoting gender equality in science, with a focus on Geoinformatics and Remote Sensing. The event brought together students, educators, and researchers, fostering discussions on inclusion and leadership in STEM fields.

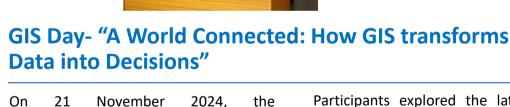
The event opened with remarks from representatives of the Ministry of Agriculture, the CUT Equality Committee, and the Technology Transfer Office. Key speakers explored critical topics such as gendered career paths, leadership roles, and overcoming academic barriers.

The event concluded with an engaging panel discussion featuring experts from academia and the ERATOSTHENES CoE, who shared insights on the challenges faced by women in science and strategies for driving meaningful change.









the ERATOSTHENES CoE, in collaboration with the Department of Civil Engineering and Geomatics at CUT and the Association of Surveyors of Cyprus, successfully co-organized GIS Day 2024 at the Cyprus University of Technology. Under the theme "A World Connected: GIS Transforms Data Decisions", the event brought together keynote speakers from leading universities, government agencies, and industry experts.

Participants explored the latest advancements in Geographic Information Systems (GIS), engaged in insightful discussions, and gained valuable knowledge on how GIS technology shapes decision-making processes across various sectors.





## AfroGrow: Advancing Agroforestry Innovation in Africa through Living Labs for Sustainable Development

AfroGrow The Project, coordinated ERATOSTHENES CoE with 25 partners, is dedicated to advancing agroforestry systems in Africa by creating a network of Living Labs-real-life environments where stakeholders collaboratively design, test. and implement sustainable agroforestry solutions. These Living Labs cater to diverse ecological and socio-economic contexts, ensuring localized and impactful interventions.

By fostering participatory research, capacity building, and inclusive decision-making, AfroGrow strengthens the Africa-EU partnership, promoting shared innovation and long-term sustainability in agroforestry practices.





#### **Secondment to German Aerospace Center (DLR)**

From 27 to 29 November 2024, the ERATOSTHENES CoE delegation visited the German Aerospace Center (DLR) in Neustrelitz as part of a secondment focused on Maritime Security applications. During the visit, the team reviewed software workflows, discussed the Data Acquisition Satellite Receiving Station (DAS) interface, and planned its implementation in Cyprus. This infrastructure will significantly support research in the EMMENA region. The collaboration allowed for valuable exchanges between ERATOSTHENES experts and DLR specialists, advancing the EXCELSIOR Project. We thank DLR for their hospitality and expertise.











#### **Invited Talks**

#### Invited talk by Prof. Philippe BLANC

On 30 September 2024, the EXCELSIOR Project, ERATOSTHENES CoE, and the Department of Civil Engineering and Geomatics at the Cyprus University of Technology (CUT) jointly organized a virtual invited talk by Professor Philippe Blanc, titled "Solar Resource Assessment and Forecasting Using Earth Observation and Data Sciences."".

Prof. Philippe BLANC is the head of the department Energy and Processes of MINES Paris - PSL and is a researcher (and the deputy head) of the center Observation, Impacts, Energy (OIE) (www.oie.minesparis.psl.eu). He is working on the modeling of solar radiation and its assessment and forecasting from in situ measurements, numerical weather models (NWP) or/and satellite images. His background is related to signal and image

processing, data sciences and applied mathematics. He is associate editor for the ISES Solar Energy journal (Elsevier) and he is the leader of the sub-task 2 'Enhanced data & bankable products' of the Task 16 'Solar resource for high penetration and large-scale applications' for the PVPS program of the International Energy Agency. He is also the showcase leader (PI) for Renewable Energy Showcase of the ongoing Horizon 2020 project e-shape (e-shape.eu).

The invited talk is available here.





#### **MoU Agreements**

#### **MoU Agreements of the ERATOSTHENES CoE**

On 9 April 2024, an MoU was signed between the ERATOSTHENES COE and the Regional Center for Remote Sensing of North Africa States C.R.T.E.A.N. On behalf of the ERATOSTHENES COE, the protocol was signed by the Managing Director, Prof. Diofantos Hadjimitsis, and on behalf of the Regional Center for Remote Sensing of North Africa States C.R.T.E.A.N by Dr. El Hadi Gashut, Director-General.





On 26 June 2024, an MOU was signed between the Limassol Municipality and the ERATOSTHENES CoE. The agreement was signed by Mr. Nicos Nicolaides, Mayor of Limassol, and Prof. Diofantos Hadjimitsis, Managing Director of the ERATOSTHENES CoE.



On 11 November 2024, an MoU was signed between the ERATOSTHENES CoE and the Association of Cypriot Archeologists (ACA). On behalf of the ERATOSTHENES CoE, the protocol was signed by the Managing Director, Prof. Diofantos Hadjimitsis, and on behalf of the Association of Cypriot Archeologists Dr. Maria Michael, President of ACA.











#### Recent Publications

#### **Journal Publications**

A new joint publication with our advanced partners, the Department of Forests of Cyprus and the Aristotle University of Thessaloniki, titled: "Forest Habitat Mapping in Natura2000 Regions in Cyprus Using Sentinel-1, Sentinel-2 and Topographical Features". The article results in significant implications for forest management, conservation efforts, and biodiversity preservation in Cyprus. You can access it online at: <a href="https://www.mdpi.com/2072-4292/16/8/1373">https://www.mdpi.com/2072-4292/16/8/1373</a>

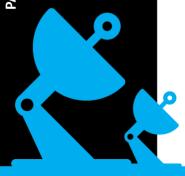
A new joint publication with our advanced partners, German Aerospace Center, DLR, Cyprus University of Technology, titled: "Understanding Tree Mortality Patterns: A Comprehensive Review of Remote Sensing and Meteorological Ground-Based Studies" by Filippos Eliades, a PhD student. This is the first global assessment and a historical perspective of forest tree mortality from a remote sensing perspective, alongside meteorological ground-based approaches. Hence, certain regions lack literature investigating the mortality of specific tree species using remotely sensed indicators. The most frequently used meteorological indicator, SPEI, has not been analyzed in South America and Oceania. To conclude, the analysis of remotely sensed thematic foci in Europe lacks detailed water response. You can access it online at: <a href="https://www.mdpi.com/1999-4907/15/8/1357">https://www.mdpi.com/1999-4907/15/8/1357</a>

The collaborative work of researchers from ERATOSTHENES CoE, Beyond EO Centre NOA and the National Technical University of Athens, in the framework of EXCELSIOR PROJECT, is now published at Remote Sensing MDPI, and available through the link below. This study presents a Multicriteria Criteria Decision Analysis model for Assessing Ground Swelling/Shrinking Risk in Cyprus through the integration of various remote sensing methodologies, using optical and SAR Copernicus satellite images, DEM and other auxiliary spatial datasets. You can access it online at: https://www.mdpi.com/2072-4292/16/17/3185

A new joint publication with our advanced partners, the University of Cyprus and INAT, titled "A Generalized Machine Learning Approach for Cost-Effective Monitoring of Irrigation Suitability: A Demonstration Case in El Fahs Aquifer (Tunisia)". This article is the result of collaborative research on sustainable groundwater management and has been published in Groundwater for Sustainable Development (Elsevier, IF: 5). The authors of the publication are Dr. Constantinos Panagiotou from ERATOSTHENES CoE, Dr. Charalampos Konstantinou, Ph.D. (University of Cyprus), and Professor Anis Chekirbane (INAT). You can access it online at: https://www.sciencedirect.com/science/article/pii/S2352801X24002479









#### School / University visits

## **ERATOSTHENES CoE introduces Space and Remote Sensing Applications to 4th Primary School of Polemidia**

A school visit of 50 enthusiastic 4thgrade students from the 4th Primary School of Polemidia was welcomed at the Tasos Papadopoulos Building at the Cyprus University of Technology. These young visitors had the opportunity to engage with researchers from the ERATOSTHENES CoE, including Ms. Kyriaki Fotiou, Ms. Despina Makri, and Ms. Athina Savva. Researchers shared fascinating information about Space, Satellites, Oceanography, Environment, Topography and Civil Engineering. Every time we host children, impressed with their interest, questions, and enthusiasm.



## **ERATOSTHENES CoE School visits during the Summer Months**

Students from Geri High School had the opportunity to tour the new state-of-the-art CARO national infrastructure of ERATOSTHENES COE and the Solar Radiation Station on 25 July 2024. The tours were conducted by researchers Ms. Maria Poutli and Ms. Georgia Charalambous.

Following the tours, researchers Ms. Eleni Loulli and Ms. Marianna Hadjichristodoulou delivered an interactive presentation, introducing students to the role of ERATOSTHENES CoE with a focus on its educational activities.









#### **EXCELSIOR Project in Media**

#### **ERATOSTHENES CoE new project SmartPLAIGO:** Interview with Dr. Maria Anastasiadou

On 22 December 2024, Dr. Maria Anastasiadou was interviewed by journalist Ms. Despina Roussou on the program Morning Itinerary of the Third Program of RIK. The discussion focused on the SmartPLAIGO project, which aims to optimize ambulance routes in Cyprus using Artificial Intelligence and GIS technology.

Listen the full interview here.



#### Atmospheric dust presentation: Interview with Dr. Rodanthi Elisavet Mamouri

On 21 May 2025 ERATOSTHENES CoE Dr. Rodanthi researcher Elisavet Mamouri spoke in the context of the show 'Morning Itinerary' of the third program of RIK for the Atmospheric Dust under the auspices of the EXCELSIOR PROJECT. Dr. Mamouri explained this phenomenon in detail to the host of the program, along with the technology used behind it.

Listen the full interview here.











#### Fire in the Agios Silas Area on TV

Ms. Maria Prodromou, a researcher at ERATOSTHENES CoE, was invited on the "Mera Mesimeri" show on ANT1 with Mr. Nikitas Kyriakou on 6 June 2024 to discuss the fire in the Agios Silas area of Limassol, which broke out on 31 May 2024. The fire has been assessed by the ERATOSTHENES CoE and have burned approximately 4.5 km². Notably, this marks the second fire in the area within just a few days.

Unfortunately, last year's prolonged heatwaves, which reached record temperatures, have turned vegetation into highly flammable material, significantly increasing the risk of fire outbreaks. Listen the full interview here.



#### **Interview with Dr. Kyriakos Themistokleous**

Dr. Kyriakos Themistocleous gave an extensive interview on the program "With the Air of the 1st Radio Programme" on RIK, where he discussed the activities of the ERATOSTHENES CoE, as well as the EXCELSIOR Project. The interview also covered the Centre's research areas, objectives, and goals.

Additionally, Dr. Themistocleous highlighted the role of remote sensing and satellite technology in advancing scientific research and innovation. Listen the full interview here.







#### Distinctions

## Dr. Silas Michaelides Recognized Among the World's Leading Scientists

The ERATOSTHENES CoE has achieved another notable distinction. Dr. Silas Michaelides, the Centre's Chief Operating Manager, has been recognized as one of the top scientists globally, ranking within the top 0.5% in the specialty of Artificial Neural Networks, according to the credible ScholarGPS platform.

The ScholarGPS platform indicates that Dr. Michaelides' research activities are predominantly aligned with Engineering and Computer Science, receiving recognition in the area of Artificial Neural Networks. His academic interests Earth also cover Observation, Meteorology, Meteorological Radar, Geospatial data analysis, and the development of innovative solutions to address environmental and climate challenges.



## Dr. Michalis Mavrovouniotis Ranked Among Top 0.05% Scientists Worldwide by ScholarGPS

Dr. Michalis Mavrovouniotis, Deputy Coordinator of the Big Earth Data Analytics Department at the ERATOSTHENES CoE, Cyprus University of Technology, has been honored as a Top 0.05% Scientist worldwide by the prestigious ScholarGPS platform. Ranked 6th globally in the field of Ant Colony Optimization — Swarm Intelligence, Dr. Mavrovouniotis is recognized as a highly ranked scholar in this area of Computer Science.









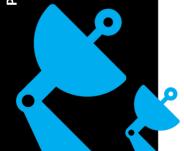


# Participation of Professor Diofantos Hadjimitsis in the Event: "UNIWACRIS – Academic and Research Activity Tracking Service of the University of Western Attica"

On 20 July 2024, the University of Western Attica honored Professor Diofantos Hadjimitsis, Vice President of the Cyprus Agency of Quality Assurance and Accreditation in Higher Education (DI.P.A.E) and Managing Director of the ERATOSTHENES CoE, with a commemorative plaque. This recognition was awarded for his significant contributions to ensuring quality levels and supporting processes aimed at the continuous improvement and upgrading of higher education institutions in Cyprus, their study programs, and Hellenism.









#### **Upcoming Events**

#### **HIGHLIGHTS**

## 11th International Conference on Remote Sensing and Geoinformation of Environment (RSCY 2025)

The Organizing Committee of the 11th International Conference on Remote Sensing and Geoinformation of Environment (RSCY 2025) is pleased to announce the event, taking place in Paphos, Cyprus, from 17 to 19 March 2025. The conference will provide a platform for networking with leading experts in the fields of Remote Sensing and Geo-information.

The conference is held under the auspices of H.E. the Deputy Minister for Research, Innovation, and Digital Policy.

With keynote speakers and a thought-provoking technical program, the event will foster the exchange of ideas and lay the groundwork for future collaboration and innovation. The technical program welcomes contributions on all topics related to Earth Observation, Remote Sensing, Geo-information of the Environment, and associated techniques and applications.

Find out more: <a href="https://rscy2025.com/">https://rscy2025.com/</a>





#### eratosthenes.org.cy

#### **ADDRESS**

82 Franklin Roosevelt, 3012, Lemesos, Cyprus

**CONTACT US** 

+357 25 002 908

contact@eratosthenes.org.cy

**f** (in **y** (in **o** @ERATOSTHENESCoE

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