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#ERATOSTHENES CARO



ATARRI Project Newsletter

Vol.1: Oct. 2024 – Sept. 2025



ATARRI Twinning GA No 101160258

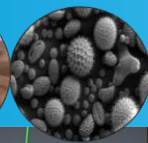


Cloud base



CEILOMETER

Aerosols



Wind



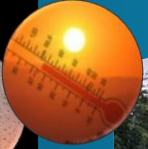
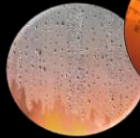
DOPPLER WIND LIDAR

STREAMLINE XR | Snoopy



AEROSOL LIDAR | POLLY^{XT}

Humidity, Temperature



MICROWAVE RADIOMETER

HATPRO-G5

Precipitation



DISDROMETER | PARSIVEL²

Clouds



CLOUD RADAR |

MIRA35

Aerosols



SUN/SKY PHOTOMETER | CIMEL

AERONET network



ATARRI Kick-off meeting | 03-04 October 2024

On 3 and 4 October 2024, the ATARRI (ATmospheric and SolAR Research and Innovation) project was officially launched, marking a major step forward in atmospheric and solar research. This ambitious initiative, funded by the EU's Horizon Europe programme, brings together a diverse group of partners, including Ciencias uLisboa, GRASP SAS, Observatorium Davos PMOD and World Radiation Center WRC, Barcelona Supercomputing Centre CNS, ARMINES, Mines Paris - PSL, and FCiencias ID. Led by the Cyprus Observatory for Atmospheric Remote Sensing (CARO) and the Eratosthenes Centre of Excellence, the project aims to strengthen atmospheric research with a focus on dust modelling and prediction, characterisation of aerosol microphysics, dust effects on radiation and solar radiation, and solar energy applications. This collaborative effort is laying the groundwork for pioneering developments in atmospheric science and sustainable solar energy solutions.





Open day ERATOSTHENES CoE | 11 November 2024

On 14 November, we were delighted to open the doors of the national

CARO infrastructure, welcoming more than 200 students from seven schools across Cyprus for an inspiring Information Day organized by the ERATOSTHENES Centre of Excellence.

This initiative aimed to engage and inform the public about the innovative activities and contributions of the Centre. The ATARRI project also played a key role in the event, presenting CARO's innovative infrastructure and informing

attendees about the project's objectives and advances in atmospheric and solar research. It was an inspiring experience to engage young minds, share knowledge about our work and highlight the impact of the ATARRI project on future scientific and environmental efforts.



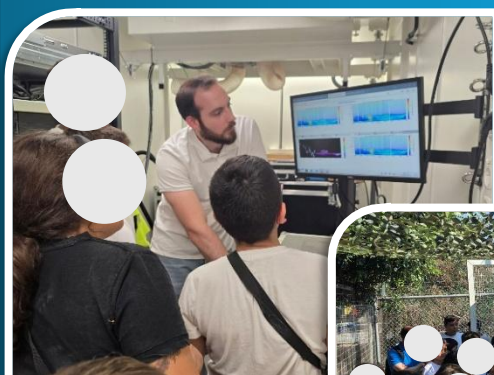


High-school visit at CARO Station | 11 April 2025

As part of the ATARRI research project, on Friday, April 11, 19 students from Agia Fylaxi high school visited the Cyprus Atmospheric Remote Sensing Observation (CARO) in Limassol, operated by the ERATOSTHENES Centre of Excellence. During the visit, students were introduced to the station's scientific instruments used for observing aerosol particles, wind and clouds, in the atmosphere over Limassol. Through guided tours and presentations, the students explored modern technologies for monitoring air pollution and climate change, while strengthening their environmental awareness and scientific curiosity.

School visit – World Environment Day 2025 | 5 June 2025

To celebrate World Environment Day 2025, members of the ATARRI project welcomed students from local schools for a hands-on dive into atmospheric science at the Eratosthenes CARO National Facility of Eratosthenes Centre of Excellence. The students toured our facilities, guided by researchers and ATARRI members, learned about aerosol and cloud remote sensing, and discovered how tiny particles shape clouds and climate. They attended interactive presentations on the environment, pollution, and the critical role of atmospheric research—and got hands-on by conducting a fascinating experiment demonstrating aerosol-cloud interactions!



Harmonia-COST WG3 meeting | 16-17 June 2025

On 16–17 June 2025, the Eratosthenes Centre of Excellence proudly hosted the Harmonia-COST WG3 meeting in Limassol. PI of the ATARRI project, Dr. Rodanthi-Elisavet Mamouri, welcomed the participants and presented the ATARRI project, highlighting also the ERATOSTHENES CoEs role in the EarthCARE satellite validation. Other members of the project as MS Georgia Charalambous also shared insights into Eratosthenes CAROs station advanced solar radiation measurements. We were also pleased to be joined by partners from Observatorium Davos PMOD and World Radiation Center WRC whose presence further enriched the scientific dialogue and exchange. This participation strengthens ECoE's visibility and fosters new collaborations, reinforcing CARO as a key Mediterranean partner in EO and atmospheric



CUT Summer Camp 2025 | 18 July 2025

On July 18, 2025, researchers from the Eratosthenes Centre of Excellence and members of the ATARRI project presented their work to 80 students aged 9 to 13 as part of the CUT Summer Camp 2025. They introduced the research and vision of the Eratosthenes Centre of Excellence, along with the importance of remote sensing techniques and their real-world applications. The work of the Cyprus Atmospheric Remote Sensing Observatory was also presented; with explanations of the types of atmospheric observations it conducts. To bring science to life, the students observed a hands-on experiment demonstrating cloud formation.





European researchers' night 2025 | 26 September 2025

The Cyprus Atmospheric Remote Sensing Observatory (CARO) of the ERATOSTHENES Centre of Excellence proudly joined the European Researchers' Night 2025 on 26 September in Nicosia!

Our team engaged with the public through interactive activities, including: An experiment on aerosol–cloud interactions. A fun game on natural vs. anthropogenic aerosols. Talks about the different types of clouds and their role in our atmosphere. Insights into the ATARRI_EU Project, highlighting our ongoing research on atmospheric processes. It was an inspiring evening where science met curiosity, and we were excited to share how our work helps us better understand the atmosphere and its impact on climate and society.



Webinar – Invited speaker- Dr. Leonardo Micheli - Tackling Photovoltaic Soiling: Monitoring, Mitigation, and Future Directions, | 24 July 2025

On July 24th, the ATARRI project hosted a highly engaging and informative webinar exploring one of the solar energy sector's most overlooked yet impactful challenges: photovoltaic (PV) soiling. The session, titled “Tackling Photovoltaic Soiling: Monitoring, Mitigation, and Future Directions,” attracted a diverse audience. We were honored to welcome Dr. Leonardo Micheli, Associate Professor at Sapienza University of Rome and a recognized authority in PV system optimization and climate-adapted design. Dr. Micheli shared valuable insights from his latest research on how dust, dirt, and environmental conditions affect solar panel performance. The highlights covered were how the soiling impacts PV system output, key monitoring and mitigation methods and future-focused strategies for resilient solar tech.



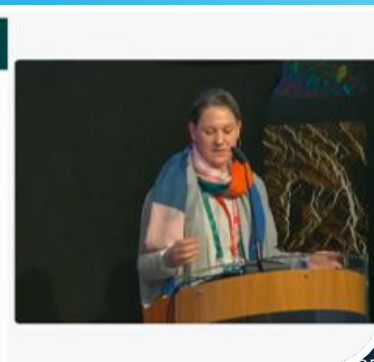
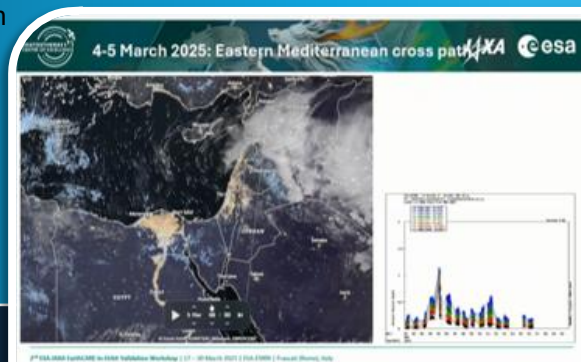


ATARRI at RSCY2025 | 17-19 March 2025

The ATARRI Project was prominently featured at RSCY2025 (March 17–19, Paphos, Cyprus), showcasing its contributions to climate and atmospheric research in the Eastern Mediterranean. FS presented the project's objectives, research focus, and European collaborations, emphasizing advances in remote sensing of solar radiation and aerosols. His talk outlined ATARRI's structured work packages on instrumentation, data integration, and solar-aerosol interactions. Other ATARRI team members also contributed to the conference through key presentations related to wind analysis, satellite validation, and aerosol-cloud studies—highlighting the project's multidisciplinary strength and alignment with the goals of the ERATOSTHENES Centre of Excellence.

2nd ESA-JAXA EarthCARE In-Orbit Validation Workshop | 17-20 March 2025

From March 17 to 20, 2025, Dr. Rodanthi-Elisavet Mamouri, Researcher at the Eratosthenes Centre of Excellence, visited the ESA Earth Observation Center (ESRIN) in Frascati, Italy, to participate in the 2nd in orbit EarthCARE CAL/VAL workshop, a joint mission of the ESA - European Space Agency and JAXA(宇宙航空研究開発機構) space agencies. Dr. RM, Head of the Atmospheric Sector and PI of the Atmospheric Remote Sensing Observatory National Facility (CARO-NF), gave a presentation titled: "EarthCARE Aerosol Products Intercomparison with CARO Polly Lidar in Limassol, Cyprus." In her talk, she presented the results of satellite data validation by comparing them with ground-based measurements from the CARO station of the ERATOSTHENES Centre of Excellence in Limassol, Cyprus. With the active participation of the ERATOSTHENES CoE in the activities of the EarthCARE satellite, the CARO team is contributing to shaping the future of atmospheric science!



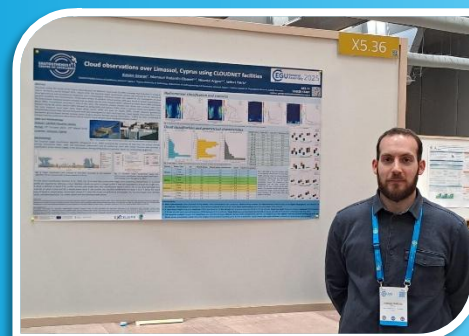
ISPRS Geo-Spatial Week (GSW 2025), “Photogrammetry and Remote Sensing for a Better Tomorrow”, Dubai | 06-11 April 2025



Participation of Dr. Hossein Panahifar at the ISPRS Geo-Spatial Week (GSW 2025) conference in Dubai 06-11 of April 2025 with poster presenting “Synergistic use of ground-based multi-instrument platforms and satellite recordings to investigate the aerosol-cloud-dynamic interaction in Cyprus”.

EGU General Assembly 2025 | 27-April – 2 May 2025

Dr. Giorgos Kotsias member of CARO participated in the EGU General Assembly 2025 in Vienna, Austria on 27 April –02 May 2025 presenting his work “Cloud observations over Limassol, Cyprus using CLOUDNET facilities”.



EarthCARE Experimental Campaign, Thessaloniki | 24 April - 21 May 2025

Completion of the EarthCARE Experimental Campaign for the Study of the Earth Atmosphere

During the campaign, Georgia Charalambous, Maria Poutli and Athina Savva -members of the Eratosthenes CARO (Cyprus Atmospheric Remote Sensing Observatory) team and the ATARRI project- were in Thessaloniki and actively contributed with ground-based radiation measurements. The experimental campaign of the ESA - European Space Agency (ESA) EarthCARE (Cloud, Aerosol and Radiation Explorer) space mission was successfully completed, with the participation of the team of the ERATOSTHENES Centre of Excellence. As part of the satellite data validation campaign, measurements were carried out at three ground stations in Thessaloniki: Epanomi, Thermi - KEDEK and Aristotle University of Thessaloniki. The main ground measurements of radiation, clouds and aerosols were successfully completed during the first two overpasses of the satellite on 25 April and 20 May. In addition, the calibration of low-cost sensors and portable instruments was carried out at the Laboratory of Atmospheric Physics of the Aristotle University of Thessaloniki, in the framework of the HARMONIA COST project, in collaboration with the ERATOSTHENES Centre of Excellence. Other members of the ATARRI, the Observatorium Davos PMOD and World Radiation Center WRC (Switzerland), and Harmonia cost are collaborating with Eratosthenes Centre of Excellence team in the EarthCARE campaign. The following research and academic institutions also participated, Laboratory of Atmospheric Physics - AUTH, Universität Zürich (Switzerland), Εθνικόν Αστεροσκοπείον Αθηνών NOA - ReACT National Observatory of Athens, Πανεπιστήμιο Πατρών University of Patras



ESA Living Planet Symposium 2025 - | 23-27 June 2025

Dr. Rodanthi-Elisavet Mamouri and Constantinos Chrysostomou members of the ATARRI project at the ESA Living Planet Symposium 2025, held in Vienna, Austria, from June 23–27. This major international event brought together leading scientists, Earth observation experts, and institutional stakeholders from around the globe to discuss how satellite data can support a better understanding of our planet and its changing climate. During the symposium, our team had the valuable opportunity to engage in person with key ATARRI partners from: GRASP SAS (France) - Dr. Anton Lopatin, Dr. Masahiro Momoi, and Marcos Herreras-Giralda, Observatorium Davos PMOD and World Radiation Center WRC (Switzerland) - Dr. Stelios Kazadzis, MINES Paris – PSL (France) - Dr. Lionel Menard. These interactions strengthen the collaborative links within the ATARRI consortium and facilitate meaningful discussions on synergistic use of ground-based, satellite data, and models to achieve the goal of scientific excellence and application development in the atmospheric research, while enhancing the Earth Observation R&I and modeling capacities of Eratosthenes Centre of Excellence.

During this prestigious event—Europe’s flagship Earth observation conference—they presented three scientific posters highlighting CARO’s vital role in climate research and its contributions to EarthCARE satellite CAL/VAL activities:



- The potential of the ERATOSTHENES Cyprus Atmospheric Remote Sensing Observatory in the EMMENA region: First observations during EarthCARE overpasses over Cyprus.
- Study of Aerosol-Cloud Interaction in the Eastern Mediterranean: Long-term lidar Observations over Cyprus.
- Monitoring Atmospheric 3D Winds with the HALO Doppler Wind Lidar at the CARO National Facility in Limassol, Cyprus.

These contributions showcase the cutting-edge capabilities of CARO and its strategic importance in the Eastern Mediterranean & Middle East & North Africa (EMMENA) region.

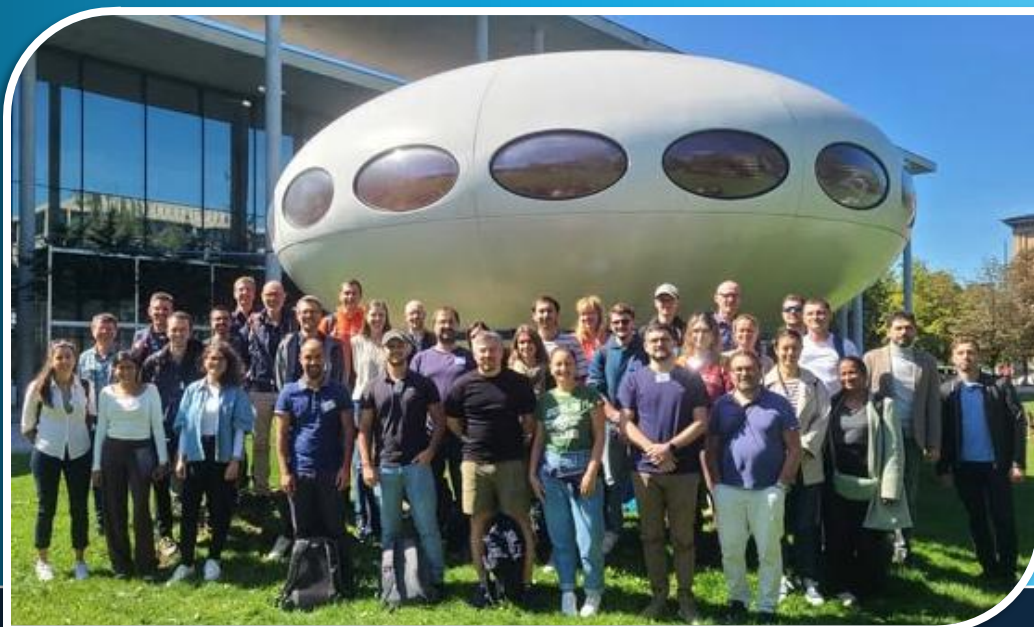
ESA European Aerosol conference | 31 Aug. - 5 Sept. 2025

The Eratosthenes Centre of Excellence proudly participated in the European Aerosol Conference (EAC 2025), held in Lecce, Italy from August 31 – September 5, 2025. Researchers from the Cyprus Atmospheric Remote Sensing Observatory (CARO) presented their latest scientific findings, showcasing CARO's vital role in atmospheric monitoring and aerosol research in the Eastern Mediterranean region. Our team contributed with the following scientific poster presentations: Hossein Panahifar – Advancing Atmospheric Research in the Eastern Mediterranean: Insights from the Cyprus Atmospheric Remote Sensing Observatory (presented by A.Savva) Athina Savva – Synergy of PollyXT lidar & sun/sky photometer to retrieve aerosol properties utilizing the GRASP algorithm in Limassol, Cyprus. Francesco Scarlatti – Climatology of aerosol optical properties in Cyprus based on aerosol type classification from AERONET and lidar data. Beyond the scientific sessions, the CARO team had the opportunity to meet with people from the ACTRIS community, strengthening collaborations and exploring new synergies within the European Research Infrastructure for atmospheric research. These contributions and interactions highlight CARO's growing impact on aerosol science, climate research, and international collaboration, further cementing its strategic role in the Eastern Mediterranean & Middle East & North Africa (EMMENA) region.



ACTRIS CCRES/CLU Training School | 9-12 Sept. 2025

From September 9–12, PhD student, Konstantinos Chrysostomou took part in the ACTRIS CCRES/CLU Training School at Ludwig-Maximilians-Universität München in Munich. This international training brought together experts and young researchers to focus on cloud and precipitation research, combining lectures with hands-on sessions. The program covered: Calibration and operation of key instruments such as Doppler lidars, cloud radars, microwave radiometers, disdrometers, and ceilometers. Processing and analysis of Doppler spectra, ABL height retrievals, and CloudNet products. Practical sessions on instrument intercomparisons, calibration techniques, and data quality control. Insights into Cal/Val activities linked to satellite missions like EarthCARE. For the Cyprus Atmospheric Remote Sensing Observatory (CARO), this training was particularly important. It strengthens the team's capacity to calibrate and fully operate advanced instruments used for atmospheric monitoring, ensuring high-quality data for cloud and precipitation research in the Eastern Mediterranean. Konstantinos' participation reflects CARO's ongoing commitment to excellence within ACTRIS, contributing to both scientific advancement and the European research infrastructure.





European Lidar conference | 10 - 12 September 2025

We had the pleasure of participating in the ELC 2025 Conference in Warsaw, Poland (10–12 September), hosted by the Faculty of Physics, University of Warsaw/ Uniwersytet Warszawski/ Uniwersytet Warszawski. Dr. Rodanthi-Elisavet Mamouri contributed as chair to the session 5 “Lidar synergy with other instruments”. The CARO team of Eratosthenes Centre of Excellence also participated with both presentations and posters: [Constantinos Chrysostomou, Phd Candidate]: "Dual-Field-of-View Depolarization approach using the PollyXT Raman Lidar: Characterization of aerosol-cloud interactions in the semi-arid climate of Cyprus" [Maria Poutli, Phd Candidate]: “Investigating smoke optical properties in Eastern Mediterranean: Lidar observations in Cyprus” [Dr. Rodanthi-Elisavet Mamouri]: "The potential of the ERATOSTHENES CARO National Facility in the EMMENA region: A Holistic Approach for aerosol and cloud profiling over Limassol, Cyprus" [Athina Savva, Phd Candidate]: "Arabian and Saharan Dust Optical and Microphysical Properties: Synergy of CARO Limassol PollyXT Lidar, and Sun Photometer observations using GRASP algorithm" (presented by M. Poutli & C. Chrysostomou) It was a fantastic opportunity to share our work, engage in discussions, and learn from outstanding research in the field. Many thanks to the organizers for such a well-

ATARRI



EARLINET General Assembly | 9 September 2025

On 9 September 2025, the CARO team of the Eratosthenes Centre of Excellence—including Dr. Rodanthi-Elisavet Mamouri, Phd student Constantinos Chrysostomou and Phd student Maria Poutli attended the EARLINET General Assembly in Warsaw, Poland. The meeting marked an important milestone, celebrating 25 years of EARLINET and setting the stage for the future. Discussions focused on: Strengthening international collaborations, The launch of EARLICOST, Planning future joint research efforts.



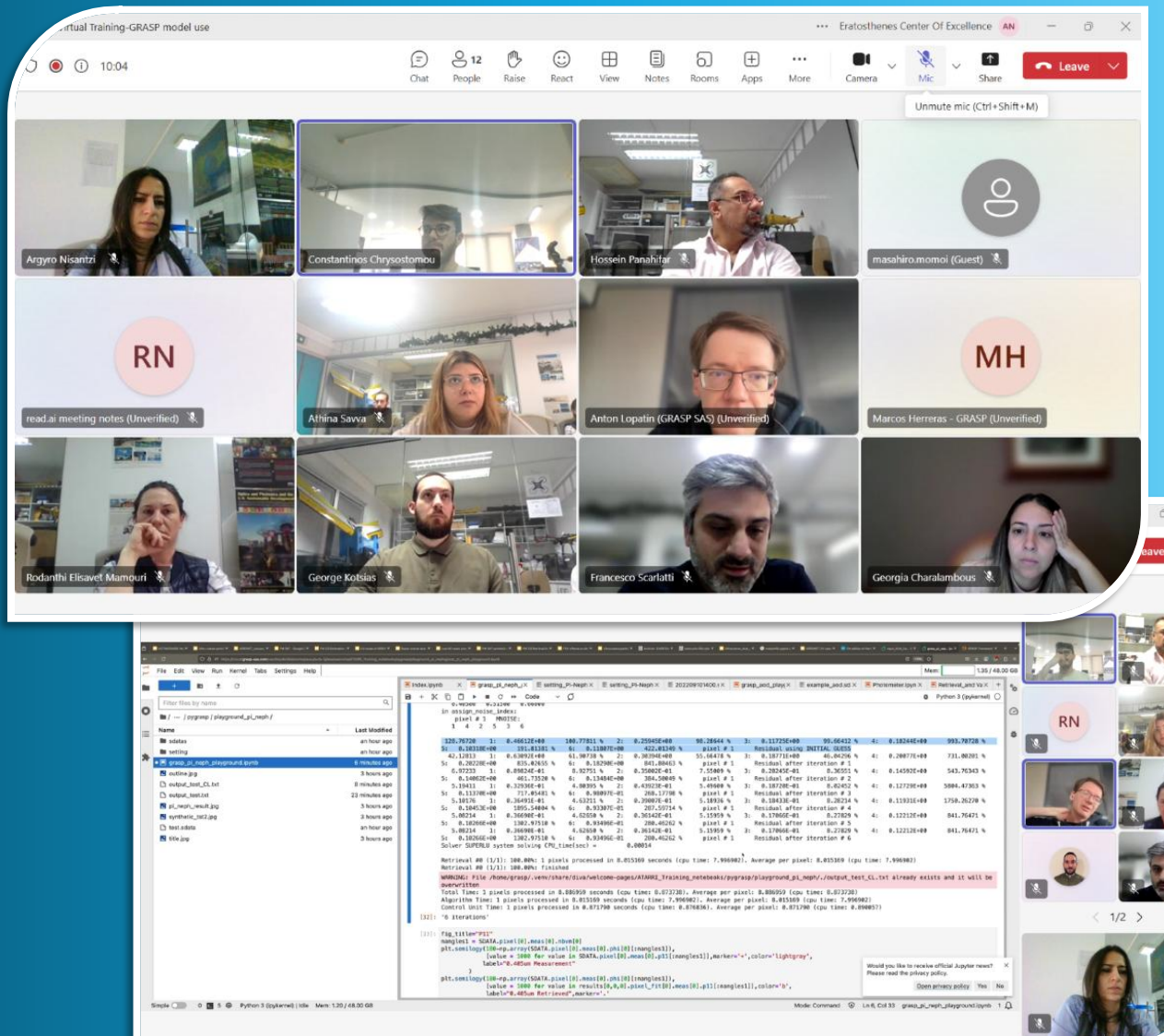


Pangea4calval Summer School | 21-24 July 2025

CC, Assistant Researcher and member of the Cyprus Atmospheric Remote-Sensing Observatory (CARO) Eratosthenes Centre of Excellence, had the opportunity to participate in the Pangea4calval Summer School on Aerosol, Cloud, and Precipitation Remote Sensing that took place in Athens between 21st –24th of July! This workshop was an incredible chance to dive deep into satellite remote sensing and Cal/Val activities, alongside a vibrant group of researchers and experts. Each day also included hands-on training sessions where the attendees worked directly with real satellite and ground-based data— exploring topics such as aerosols, clouds, and EarthCARE mission products. The summer school offered a perfect mix of theory, hands-on practice, and collaboration—a unique opportunity for researchers to deepen their knowledge, sharpen their skills, and connect with inspiring experts and fellow researchers!

1st GRASP Virtual Training | 28 March 2025

On March 28, 2025, in the framework of the ATARRI project the atmospheric cluster of the ERATOSTHENES Centre of Excellence team was successfully implemented. This initial training focused on the fundamentals of the GRASP algorithm, including the structure and configuration of input files and the photometer data, specifically from the CIMEL sun photometer of the AERONET network. Participants gained a solid understanding of the GRASP code framework and essential setup procedures. This session laid the groundwork for future trainings and marked a significant step toward building the team's technical expertise in aerosol retrieval techniques.

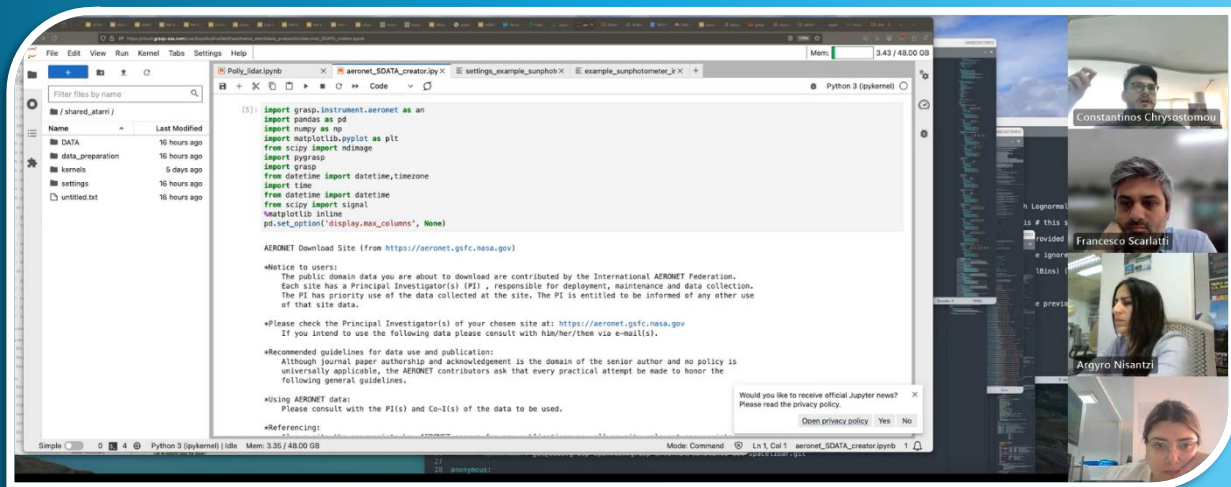


The screenshot shows a virtual training session. The top part is a Zoom meeting window with participants: Argyro Nisantzi, Constantinos Chrysostomou, Hossein Panahfar, masahiro.momoi (Guest), RN, Athina Savva, Anton Lopatin (GRASP SAS) (Unverified), Marcos Herreras - GRASP (Unverified), Rodanthe Elisavet Mamouri, George Kotsias, Francesco Scarlatti, and Georgia Charalambous. The bottom part is a code editor showing the output of the GRASP model. The output includes a table of aerosol properties and a summary of the retrieval process.

Size	SSA	ASD	ASD _{0.44}	ASD _{0.67}	ASD _{0.88}	ASD _{1.02}	ASD _{1.24}	ASD _{1.46}	ASD _{1.68}	ASD _{1.90}	ASD _{2.12}	ASD _{2.34}	ASD _{2.56}	ASD _{2.78}	ASD _{3.00}	ASD _{3.22}	ASD _{3.44}	ASD _{3.66}	ASD _{3.88}	ASD _{4.10}	ASD _{4.32}	ASD _{4.54}	ASD _{4.76}	ASD _{4.98}	ASD _{5.20}	ASD _{5.42}	ASD _{5.64}	ASD _{5.86}	ASD _{6.08}	ASD _{6.30}	ASD _{6.52}	ASD _{6.74}	ASD _{6.96}	ASD _{7.18}	ASD _{7.40}	ASD _{7.62}	ASD _{7.84}	ASD _{8.06}	ASD _{8.28}	ASD _{8.50}	ASD _{8.72}	ASD _{8.94}	ASD _{9.16}	ASD _{9.38}	ASD _{9.60}	ASD _{9.82}	ASD _{10.04}	ASD _{10.26}	ASD _{10.48}	ASD _{10.70}	ASD _{10.92}	ASD _{11.14}	ASD _{11.36}	ASD _{11.58}	ASD _{11.80}	ASD _{12.02}	ASD _{12.24}	ASD _{12.46}	ASD _{12.68}	ASD _{12.90}	ASD _{13.12}	ASD _{13.34}	ASD _{13.56}	ASD _{13.78}	ASD _{14.00}	ASD _{14.22}	ASD _{14.44}	ASD _{14.66}	ASD _{14.88}	ASD _{15.10}	ASD _{15.32}	ASD _{15.54}	ASD _{15.76}	ASD _{15.98}	ASD _{16.20}	ASD _{16.42}	ASD _{16.64}	ASD _{16.86}	ASD _{17.08}	ASD _{17.30}	ASD _{17.52}	ASD 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_{34.68}	ASD _{34.90}	ASD _{35.12}	ASD _{35.34}	ASD _{35.56}	ASD _{35.78}	ASD _{36.00}	ASD _{36.22}	ASD _{36.44}	ASD _{36.66}	ASD _{36.88}	ASD _{37.10}	ASD _{37.32}	ASD _{37.54}	ASD _{37.76}	ASD _{37.98}	ASD _{38.20}	ASD _{38.42}	ASD _{38.64}	ASD _{38.86}	ASD _{39.08}	ASD _{39.30}	ASD _{39.52}	ASD _{39.74}	ASD _{39.96}	ASD _{40.18}	ASD _{40.40}	ASD _{40.62}	ASD _{40.84}	ASD _{41.06}	ASD _{41.28}	ASD _{41.50}	ASD _{41.72}	ASD _{41.94}	ASD _{42.16}	ASD _{42.38}	ASD _{42.60}	ASD _{42.82}	ASD _{43.04}	ASD _{43.26}	ASD _{43.48}	ASD _{43.70}	ASD _{43.92}	ASD _{44.14}	ASD _{44.36}	ASD _{44.58}	ASD _{44.80}	ASD _{45.02}	ASD _{45.24}	ASD _{45.46}	ASD _{45.68}	ASD _{45.90}	ASD _{46.12}	ASD _{46.34}	ASD _{46.56}	ASD _{46.78}	ASD _{47.00}	ASD _{47.22}	ASD _{47.44}	ASD _{47.66}	ASD _{47.88}	ASD _{48.10}	ASD _{48.32}	ASD _{48.54}	ASD _{48.76}	ASD _{48.98}	ASD _{49.20}	ASD _{49.42}	ASD _{49.64}	ASD _{49.86}	ASD _{50.08}	ASD _{50.30}	ASD _{50.52}	ASD _{50.74}	ASD _{50.96}	ASD _{51.18}	ASD _{51.40}	ASD _{51.62}	ASD _{51.84}	ASD _{52.06}	ASD _{52.28}	ASD _{52.50}	ASD _{52.72}	ASD _{52.94}	ASD _{53.16}	ASD _{53.38}	ASD _{53.60}	ASD _{53.82}	ASD _{54.04}	ASD _{54.26}	ASD _{54.48}	ASD _{54.70}	ASD _{54.92}	ASD _{55.14}	ASD _{55.36}	ASD _{55.58}	ASD _{55.80}	ASD _{56.02}	ASD _{56.24}	ASD _{56.46}	ASD _{56.68}	ASD _{56.90}	ASD _{57.12}	ASD _{57.34}	ASD _{57.56}	ASD _{57.78}	ASD _{58.00}	ASD _{58.22}	ASD _{58.44}	ASD _{58.66}	ASD _{58.88}	ASD _{59.10}	ASD _{59.32}	ASD _{59.54}	ASD _{59.76}	ASD _{59.98}	ASD _{60.20}	ASD _{60.42}	ASD _{60.64}	ASD _{60.86}	ASD _{61.08}	ASD _{61.30}	ASD _{61.52}	ASD _{61.74}	ASD _{61.96}	ASD _{62.18}	ASD _{62.40}	ASD _{62.62}	ASD _{62.84}	ASD _{63.06}	ASD _{63.28}	ASD _{63.50}	ASD _{63.72}	ASD _{63.94}	ASD _{64.16}	ASD _{64.38}	ASD _{64.60}	ASD _{64.82}	ASD _{65.04}	ASD _{65.26}	ASD _{65.48}	ASD _{65.70}	ASD _{65.92}	ASD _{66.14}	ASD _{66.36}	ASD _{66.58}	ASD _{66.80}	ASD _{67.02}	ASD _{67.24}	ASD _{67.46}	ASD _{67.68}	ASD _{67.90}	ASD _{68.12}	ASD _{68.34}	ASD _{68.56}	ASD _{68.78}	ASD _{69.00}	ASD _{69.22}	ASD _{69.44}	ASD _{69.66}	ASD _{69.88}	ASD _{70.10}	ASD _{70.32}	ASD _{70.54}	ASD _{70.76}	ASD _{70.98}	ASD _{71.20}	ASD _{71.42}	ASD _{71.64}	ASD _{71.86}	ASD _{72.08}	ASD _{72.30}	ASD _{72.52}	ASD _{72.74}	ASD _{72.96}	ASD _{73.18}	ASD _{73.40}	ASD _{73.62}	ASD _{73.84}	ASD _{74.06}	ASD _{74.28}	ASD _{74.50}	ASD _{74.72}	ASD _{74.94}	ASD _{75.16}	ASD _{75.38}	ASD _{75.60}	ASD _{75.82}	ASD _{76.04}	ASD _{76.26}	ASD _{76.48}	ASD _{76.70}	ASD _{76.92}	ASD _{77.14}	ASD _{77.36}	ASD _{77.58}	ASD _{77.80}	ASD _{78.02}	ASD _{78.24}	ASD _{78.46}	ASD _{78.68}	ASD _{78.90}	ASD _{79.12}	ASD _{79.34}	ASD _{79.56}	ASD _{79.78}	ASD _{80.00}	ASD _{80.22}	ASD _{80.44}	ASD _{80.66}	ASD _{80.88}	ASD _{81.10}	ASD _{81.32}	ASD _{81.54}	ASD _{81.76}	ASD _{81.98}	ASD _{82.20}	ASD _{82.42}	ASD _{82.64}	ASD _{82.86}	ASD _{83.08}	ASD _{83.30}	ASD _{83.52}	ASD _{83.74}	ASD _{83.96}	ASD _{84.18}	ASD _{84.40}	ASD _{84.62}	ASD _{84.84}	ASD _{85.06}	ASD _{85.28}	ASD _{85.50}	ASD _{85.72}	ASD _{85.94}	ASD _{86.16}	ASD _{86.38}	ASD _{86.60}	ASD _{86.82}	ASD _{87.04}	ASD _{87.26}	ASD _{87.48}	ASD _{87.70}	ASD _{87.92}	ASD _{88.14}	ASD _{88.36}	ASD _{88.58}	ASD _{88.80}	ASD _{89.02}	ASD _{89.24}	ASD _{89.46}	ASD _{89.68}	ASD _{89.90}	ASD _{90.12}	ASD _{90.34}	ASD _{90.56}	ASD _{90.78}	ASD _{91.00}	ASD _{91.22}	ASD _{91.44}	ASD _{91.66}	ASD _{91.88}	ASD _{92.10}	ASD _{92.32}	ASD _{92.54}	ASD _{92.76}	ASD _{92.98}	ASD _{93.20}	ASD _{93.42}	ASD _{93.64}	ASD _{93.86}	ASD _{94.08}	ASD _{94.30}	ASD _{94.52}	ASD _{94.74}	ASD _{94.96}	ASD _{95.18}	ASD _{95.40}	ASD _{95.62}	ASD _{95.84}	ASD _{96.06}	ASD _{96.28}	ASD _{96.50}	ASD _{96.72}	ASD _{96.94}	ASD _{97.16}	ASD _{97.38}	ASD _{97.60}	ASD _{97.82}	ASD _{98.04}	ASD _{98.26}	ASD _{98.48}	ASD _{98.70}	ASD _{98.92}	ASD _{99.14}	ASD _{99.36}	ASD _{99.58}	ASD _{99.80}	ASD _{100.02}
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2nd GRASP Virtual Training | 11 April 2025

On April 11, 2025, the 2nd virtual training session by GRASP Earth in the framework of the ATARRI project to the atmospheric cluster of the ERATOSTHENES Centre of Excellence team was successfully implemented. This session focused on the input data files and configuration requirements for integrating nephelometer measurements into the GRASP algorithm. Additionally, participants started learning how to create the SADATA input file, which combines data from the CIMEL sun photometer of the AERONET network and the PollyXT Polarization Raman lidar of the Cyprus atmospheric remote sensing observatory. The session contributed to building foundational knowledge in preparing multi-instrument datasets for aerosol property retrieval using GRASP.



3rd GRASP Virtual Training | 5 May 2025

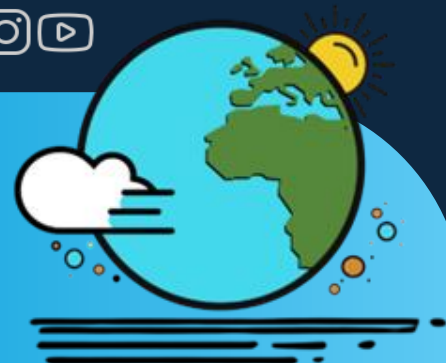
On May 5, 2025, the 3rd virtual training session by GRASP Earth in the framework of the ATARRI project to atmospheric cluster of ERATOSTHENES Centre of Excellence team was successfully implemented. The training focused on the creation of input files for the GRASP algorithm using data from Synergy instruments: CIMEL sun photometer of AERONET network and PollyXT Polarization Raman lidar of Cyprus atmospheric remote sensing observatory of Eratosthenes Centre of Excellence. This training is a key step in enhancing our capacity to retrieve aerosol microphysical properties with greater precision and gaining valuable insights and practical knowledge about the application of the software.



Hands-On Proposal Development Workshop by BSC/CNS | 15 October 2025

On 15 October 2025, the Barcelona Supercomputing Center (BSC/CNS) led an in-person hands-on session in Limassol, Cyprus, focused on drafting and evaluating proposal ideas as part of the ATARRI project. The session kicked off with a presentation of the ECoE team's proposal idea, which served as the basis for collaborative discussions. Participants received expert feedback on objectives, context, state of the art, project outcomes, business planning, and dissemination strategies. Throughout the day, attendees worked together to refine their proposals, guided by direct input from experts. The session concluded with a Q&A and discussion of next steps. Organized by BSC, this session strengthened proposal design skills, knowledge exchange, and collaboration among ATARRI partners.

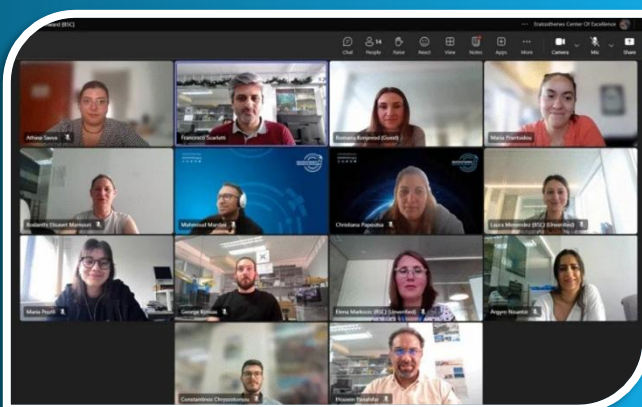




1st Virtual Training on Project Management by BSC-CNS | 15 May 2025

On May 15, 2025, a virtual training session was successfully implemented as part of the ATARRI Project, led by the Barcelona Supercomputing Center – Centro Nacional de Supercomputación (BSC-CNS). This session marks the beginning of a series of Project Management trainings aimed at strengthening the operational and strategic management capacity of the ERATOSTHENES Centre of Excellence (ECoE). As part of the project, ECoE staff will receive expert-led training from BSC-CNS on best practices in project planning, management, and service coordination—specifically tailored to enhance the governance and activities of CARO (Cyprus Atmospheric Remote

Sensing Observatory). The training program includes four virtual training (VT) sessions, each focused on a key aspect of project management. The first of these sessions, VT5-1: Pre-Award I – Project Management, Exploitation, and Dissemination, was delivered by BSC-CNS experts and covered crucial pre-award processes and strategies for maximizing project impact and visibility.



2nd Virtual Training on Project Management by BSC-CNS | 19 June 2025

On June 19, 2025, the second virtual training session under the ATARRI Project was successfully conducted by the Barcelona Supercomputing Center – Centro Nacional de Supercomputación (BSC-CNS), continuing the effort to build project management capacity at the ERATOSTHENES Centre of Excellence (ECoE). This session, titled VT5-2: Pre-Award II – Preparing a Proposal, focused on equipping ECoE staff with the knowledge and tools necessary to develop competitive project proposals. It covered essential topics such as requirements and support materials, administrative aspects of proposal implementation, and best practices for writing strong Impact, Exploitation, and Dissemination sections. This session marks another key milestone in supporting CARO's operational development and strengthening ECoE's strategic capabilities through expert-led training.



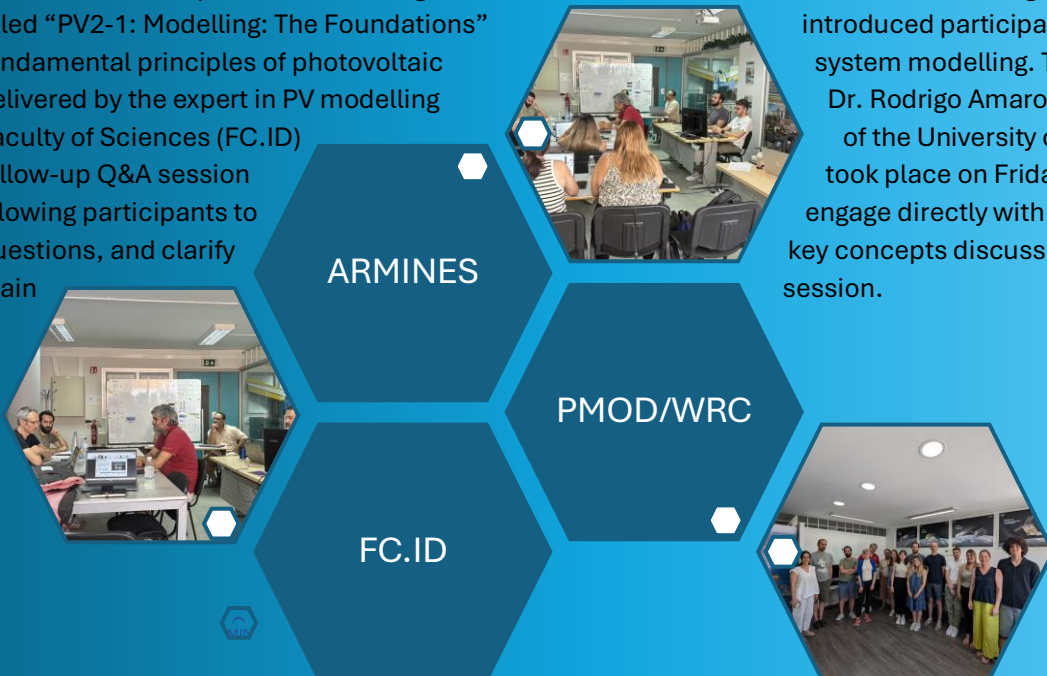


ATARRI

Workshop on WS3 – Solar Energy Modelling at Urban Scales by ARMINES, PMOD/WRC, and FC.ID | 18 June 2025

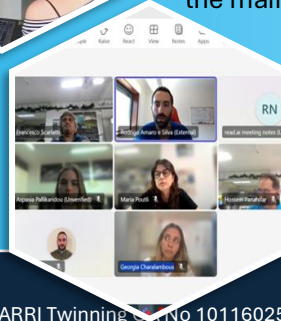
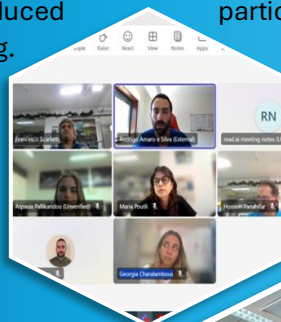
On Wednesday, July 23rd, we kicked off the first virtual training in a new series of online sessions under the ATARRI project of the ERATOSTHENES Centre of Excellence—part of our ongoing Knowledge Transfer Plan to expand our knowledge in the fields of solar cadastre and solar modelling. The session titled “PV2-1: Modelling: The Foundations” introduced participants to the fundamental principles of photovoltaic system modelling delivered by the expert in PV modelling Faculty of Sciences (FC.ID) follow-up Q&A session allowing participants to questions, and clarify main

introduced participants to the system modelling. The training was Dr. Rodrigo Amaro e Silva from the of the University of Lisbon. A took place on Friday, July 25th, engage directly with the trainers, ask key concepts discussed during the session.



1st FC.ID Virtual Training on PV2-1: Modelling: The Foundations | 23, 25 July 2025

On Wednesday, July 23rd, we kicked off the first virtual training in a new series of online sessions under the ATARRI project of the ERATOSTHENES Centre of Excellence—part of our ongoing knowledge transfer Plan to expand our knowledge in the fields of solar cadastre and solar modelling. The session titled “PV2-1: Modelling: The Foundations” introduced participants to the fundamental principles of photovoltaic system modelling. The training was delivered by the expert in PV modelling Dr. Rodrigo Amaro e Silva from the Faculty of Sciences the University of Lisbon. A follow-up Q&A took place on Friday, July 25th, allowing to engage directly with the trainers, ask and clarify key concepts discussed during session.





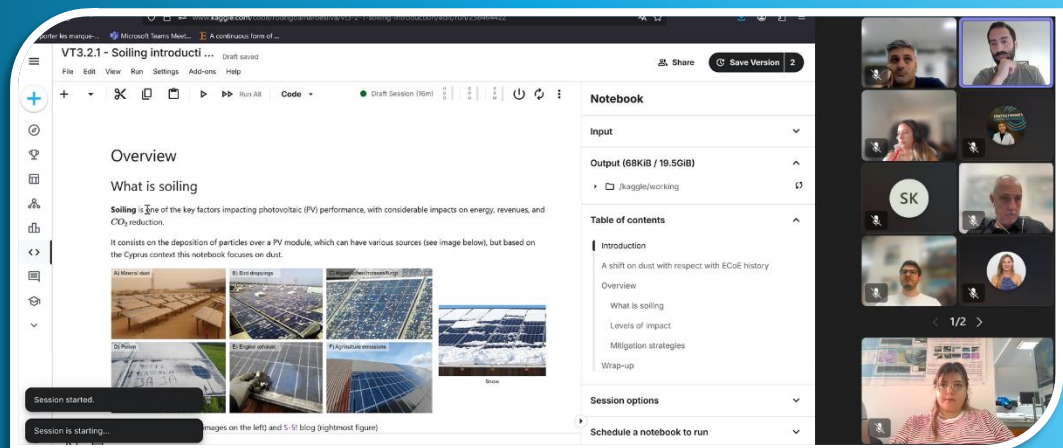
ATARRI

2nd FC.ID Virtual Training on VT3.2: Soiling in Photovoltaics | 28 August 2025

On Thursday, August 28th, 2025, we continued our series of virtual trainings under the ATARRI project of the ERATOSTHENES Centre of Excellence—part of our ongoing Knowledge Transfer Plan to expand expertise in photovoltaic (PV) performance, soiling effects, and modelling. The session titled “VT3.2: Soiling in Photovoltaics” was structured into three main parts:

- VT3.2.1 – Soiling Introduction: An overview of dust soiling in photovoltaics, its impacts on energy yield, and the main environmental and operational drivers behind the phenomenon.
- VT3.2.2 – Soiling Fundamentals & VT3.2.3 – Soiling Monitoring: A discussion of the fundamental principles of soiling, followed by an introduction to soiling monitoring methods, including key metrics and the types of sensors used in the field.
- VT3.2.4 – Soiling Modelling: Practical insights into how soiling is modelled, relevant variables, and real-world examples of implementation.

The training was delivered by Dr. Rodrigo Amaro e Silva from the Faculty of Sciences of the University of Lisbon (FC.ID / Faculdade de Ciências da Universidade de Lisboa) background and complemented it with practical examples. The session also included an interactive discussion, where participants explored case studies, shared regional challenges related to soiling in PV, and reflected on how monitoring and modelling approaches could be adapted to different contexts.

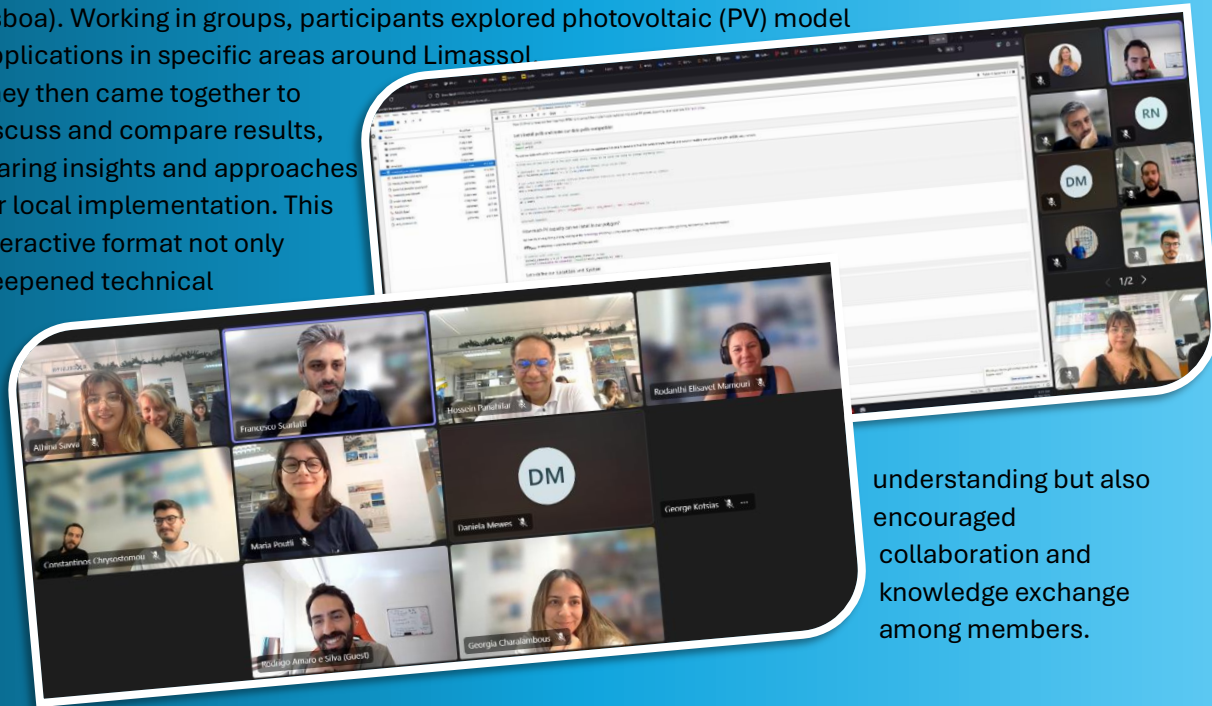




3rd FC.ID Virtual Training on PV shading modelling | 18 September 2025

On 18 September, ATARRI members took part in a hands-on virtual training within the ATARRI Project of the ERATOSTHENES Centre of Excellence. This training was guided by Dr. Rodrigo Amaro e Silva from the Faculty of Sciences of the University of Lisbon (FC.ID / Faculdade de Ciências da Universidade de Lisboa). Working in groups, participants explored photovoltaic (PV) model applications in specific areas around Limassol.

They then came together to discuss and compare results, sharing insights and approaches for local implementation. This interactive format not only deepened technical



understanding but also encouraged collaboration and knowledge exchange among members.