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## EXCELSIOR Project

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| Project acronym:                                       | <b>EXCELSIOR</b>   |
| Work Package:  | <b>WP9 Communication, Engagement and Networking</b>  |
| Deliverable:   | <b>D9.14 Report on the organisation of the annual ECoE International Workshop (RP3)</b>                              |
| Version:   | <b>Final D9.5</b>  |
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## Executive Summary

The consortium of the EXCELSIOR project has organised a series of Virtual Workshops with the participation of all national, EMMENA and international stakeholders. The workshops are organised annually, addressing all the different activities of the ERATOSTHENES Centre of Excellence, i.e., infrastructure, research, education, and innovation through entrepreneurship. The workshops aim to strengthen regional links, invest in the continuous interaction with the strategic user segments of the ERATOSTHENES CoE and sustain long-lasting relationships and partnerships in the region.



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## Abbreviations

|                  |   |
|------------------|---|
| CUT              | Cyprus University of Technology   |
| DMP              | Data Management Plan  |
| ECoE             | Eratosthenes Centre of Excellence   |
| EMMENA           | Eastern Mediterranean Middle East and North Africa  |
| EO               | Earth Observation   |
| ERATOSTHENES CoE | ERATOSTHENES Centre of Excellence   |
| EXCELSIOR        | Eratosthenes: Excellence Research Centre for Earth Surveillance and Space-based Monitoring of the Environment |
| RS               | Remote Sensing  |



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## 1 Introduction

This deliverable reports the Second, the Third and the Fourth International Virtual Workshops on 'Atmospheric & Climate Research in the EMMENA region', 'Entrepreneurship & Innovation in Earth Observation' and 'Earth Observation (EO) Research Trends in the EMMENA region' respectively. These workshops are part of a series of workshops that are organised annually, with the participation of all national, EMMENA<sup>1</sup> and International stakeholders, addressing all the various activities of the ERATOSTHENES CoE, i.e., infrastructure, research, education, and innovation through entrepreneurship and providing partners a forum to present their work and interest in collaborating with the ERATOSTHENES CoE. These three workshops are the continuation of the successful organisation of the first EXCELSIOR International Technical Workshop on 'Space Operations and Environmental Monitoring in Cyprus,' since the virtual organisation was adopted.

### 1.1 Primary goal and objectives

These annual virtual workshops aim to interact with existing and new stakeholders, strengthen regional links, invest in the continuous interaction with the strategic user segments of the ERATOSTHENES CoE and sustain long-lasting relationships and partnerships in the wider region. Furthermore, these workshops aim to support the ERATOSTHENES CoE in achieving its mission<sup>2</sup> and vision<sup>3</sup>.

The primary purpose of the 2<sup>nd</sup> Workshop on "**Atmospheric & Climate Research in the EMMENA region**" was to bring together researchers, scientists and stakeholders from the Eastern Mediterranean, Middle East, and North Africa to foster collaboration and advance understanding of the region's atmospheric and climate dynamics. The Workshop aimed to present the researcher's outcomes, share their latest findings and insights, discuss ongoing projects, and exchange knowledge and expertise in atmospheric and climate research within the EMMENA region. Highlighting the advancements made in the field, the workshop stimulated further research, identified potential areas for future investigation, and facilitated interdisciplinary collaborations among participants.

Continuing the extroversial policy of ERATOSTHENES CoE was the successful organisation of the 3<sup>rd</sup> Virtual EXCELSIOR Workshop entitled: "**Entrepreneurship & Innovation in Earth Observation**". This Workshop was held to bring together experienced stakeholders from the industry that developed innovative applications using Earth observation data, aiming to discuss future projects, provide scientific growth and enhance citizens' quality of life.

The 4<sup>th</sup> Annual Virtual EXCELSIOR Workshop entitled "**Earth Observation Research Trends in the EMMENA region**" aimed to explore and discuss the latest trends and advancements in Earth observation research specific to the Eastern Mediterranean, Middle East and North Africa (EMMENA) region. The Workshop allowed the researchers, scientists, and stakeholders to share their research findings, methodologies, and innovative applications of Earth observation data for various disciplines

<sup>1</sup> EMMENA: Eastern Mediterranean Middle East and North Africa

<sup>2</sup> The mission: To upgrade the existing Eratosthenes Research Centre into a self-sustainable Centre of Excellence in EO, recognised at an International level.

<sup>3</sup> The vision: Within the next seven years, the ECoE will become a world-class Digital Innovation Hub and a Research Competence Centre for Earth Observation and Geospatial Information by offering education, research, innovation and application services capable of sustaining Cyprus development and of actively contributing to the European Research Area (ERA) in Atmosphere and Climate, Resilient Society and Big Earth Data Management as well as becoming the reference EO/GI Centre for research and innovation in the EMMENA area.



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such as environmental monitoring, climate change analysis, natural resource management, and urban planning. It aimed to facilitate knowledge exchange, foster collaborations, and identify emerging research areas and challenges in utilising EO technologies and data within the EMMENA region. The Workshop also highlighted the importance of EO research for sustainable development, policy-making, and addressing regional environmental issues.

## 1.2 Venue of Workshops

All the Workshops were hosted through the ZOOM<sup>4</sup> video communication platform. A ZOOM educational license was utilised to ensure smooth and professional facilitation of the Workshop. This license was provided by the Cyprus University of Technology (CUT), having the advantage of hosting meetings with unlimited minutes for up to 300 participants and for up to 1000 view-only attendees on a webinar. This educational license proved its importance; for instance, during the 2<sup>nd</sup> Virtual EXCELSIOR Workshop, the platform hosted 210 unique viewers, with a maximum concurrent viewership of 105 individuals.

## 1.3 Workshops dissemination

The three workshops were successfully disseminated through multiple channels, ensuring maximum outreach and engagement. Our extensive subscription list, diverse network and active presence on social media played a decisive role in sharing information about the workshops. The Workshops invitation were promoted on the EXCELSIOR and ERATOSTHENES CoE websites<sup>5,6,7</sup>, as shown in Figure 1. For more effective dissemination, flyers for each Workshop were prepared as indicated in Figure 2, Figure 3 and Figure 4. These invitations, together with information about the EXCELSIOR virtual workshops, were sent to various contact points through our established networks. In particular, the networks through which we disseminated our virtual Workshop are listed below:

- Aegean University
- ARinfuse consortium
- Aristotle University of Thessaloniki
- CopHub.AC – Copernicus Academy Hub for Knowledge, Innovation and Outreach
- Councillor for Northern Africa, African Association of Remote Sensing of the Environment AARSE
- CUT ERATOSTHENES Stakeholder hub
- Cyprus Association of Civil Engineers
- Cyprus Association of Research and Innovation Enterprises
- Cyprus Energy Regulatory Authority
- Cyprus Scientific and Technical Chamber (ETEK)
- Cyprus University of Technology – School of Engineering and Technology
- CyRIC
- DEC Stakeholder database (more than 400 contacts)
- Department of Meteorology, Cyprus
- EARSeL - European Association of Remote Sensing Laboratories

<sup>4</sup> <https://zoom.us/>

<sup>5</sup> <https://EXCELSIOR2020.eu/event/second-virtual-EXCELSIOR-workshop/>

<sup>6</sup> <https://eratosthenes.org.cy/wp-content/uploads/2022/06/3rdWorkshopAgenda2106.pdf>

<sup>7</sup> <https://EXCELSIOR2020.eu/event/fourth-annual-virtual-EXCELSIOR-workshop/>



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- EURISY
- Forestry Department of Cyprus
- Foundation for Research and Technology - Hellas (Forth)
- GEO – Group on Earth Observation
- GEO-CRADLE Networking Platform
- I-BEC - Interbalkan Environment Centre
- Marie Skłodowska Curie Network - established through successful proposal writing (e.g. University Sheffield, Imperial University, University of Ghent, University of Salento, University of Minho, Universidad Politecnica de Madrid, Vilnius Gediminas Technical University, Technical University of Lisbon, Technical University Gheorghe Asachi Iasi, University of Zagreb)
- Mediterranean Agronomic Institute of Chania: CIHEAM IAMC
- MedRIN – Mediterranean Regional Information Network
- National Centre for Remote Sensing Lebanon
- NEREUS - Network of European Regions Using Space Technologies
- NetU Group
- PARSEC Accelerator
- PRIMA consortium (submitted a proposal with ECoE as a partner)
- Research Promotion Foundation
- Royal Center for Space Remote Sensing CRTS, Morocco
- Royal Jordanian Geographic Centre
- Senior Advisor on MENA Affairs
- SignalGeneriX Ltd
- Water Development Department of Cyprus



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

The main aim of this year's workshop is for distinguished academics and researchers located in institutions/organisations of the EMMENA region (Eastern Mediterranean, Middle East and North Africa) to share their valuable expertise and knowledge in the field of Earth Observation and Remote Sensing. These research topics are fully aligned with the European Union's Space Programme, EU Space Strategy and Agenda.

Registrations:  
[https://us02web.zoom.us/webinar/register/WN\\_EsqhN2v4SEST90a6U7kMRQ#/registration](https://us02web.zoom.us/webinar/register/WN_EsqhN2v4SEST90a6U7kMRQ#/registration)

[Click here to download the Agenda for Morning Sessions in pdf](#)

[Click here to download the Agenda for Afternoon Sessions in pdf](#)

Figure 1. Promotion of the Fourth Virtual EXCELSIOR Workshop on the EXCELSIOR Website

#### 1.4 Registration forms information

Registration to the EXCELSIOR workshops was free and possible through ZOOM. The registration forms had the following tasks:

1. First Name
2. Last Name
3. Email
4. Registration Time
5. Organisation Type
6. Country
7. I would like to receive updates from the EXCELSIOR H2020 Teaming Project and the ERATOSTHENES Centre of Excellence: (y/n)
8. I would like to receive updates from the EXCELSIOR H2020 Teaming Project and the ERATOSTHENES Centre of Excellence: (y/n)



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Figure 2. Invitation of the 2<sup>nd</sup> Virtual EXCELSIOR Workshop

Figure 3. Invitation of the 3<sup>rd</sup> Virtual EXCELSIOR Workshop



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**4<sup>th</sup> Annual Virtual EXCELSIOR Workshop**

Earth Observation Research Trends in the EMMENA region

ERATOSTHENES CENTRE OF EXCELLENCE

Wednesday  
July 5, 2023

10:00 - 15:00 EEST  
07:00 - 12:00 UTC

ZOOM

<https://cutt.ly/VwtN7QBq>

Figure 4. Invitation of the 4<sup>th</sup> Virtual EXCELSIOR Workshop



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## 2 Second Virtual EXCELSIOR Workshop

### 2.1 Workshop scientific program and presentations

The topic of the scientific program was “**Atmospheric & Climate Research in the EMMENA Region**”. The presenters comprised members of the EXCELSIOR consortium, stakeholders from Cyprus and the EMMENA region, as well as partnering institutions. The agenda of the Workshop is presented in **Appendix A – Additional material of the Second Virtual EXCELSIOR workshop**. The Workshop was organised by the EXCELSIOR Project Consortium and the ERATOSTHENES Centre of Excellence with the participation of national, EMMENA and International stakeholders. The Workshop was held online via the ZOOM platform on **8 June 2021**.

The screenshots taken during the Workshop were uploaded to the **Flickr**<sup>8</sup> account of the EXCELSIOR project, and the recording is available on the **EXCELSIOR YouTube channel**.<sup>9</sup>

### 2.2 Workshop Dissemination

Aside from the workshop invitations, promotional flyers were created for each speaker to enhance the promotional efforts and provide the audience with a comprehensive understanding of each speaker's background. These flyers aimed to inform the public about the presenters and their affiliations as well as the presentation title, as shown in the example of Figure 5. Additional promotional flyers and some presentation screenshots from the 2<sup>nd</sup> Virtual EXCELSIOR Workshop can be found in Appendix A. It should be mentioned that we had the consent of all the speakers to announce and promote their participation through social media.



Figure 5. Second Virtual EXCELSIOR Workshop Speaker announcement (example of Rob Koopman)

<sup>8</sup> <https://www.flickr.com/photos/187632056@N02/albums/72157719765653667>

<sup>9</sup> <https://www.youtube.com/channel/UC0hHy-5jxOMS-SP9Z6pPMwg>



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### 2.3 Workshop statistics

All registered participants were promptly emailed the invitation link to ensure seamless access to the Workshop. The final participant list comprised 148 registrations from 27 countries (Figure 6). The registered countries are shown in Table 1, where the blue box indicates the countries from the EMMENA region. Figure 7 presents the attendees of the Workshop per country. Based on the ZOOM report, 99 people from 18 countries attended the Workshop, whereas 4 of these countries are in the EMMENA region.

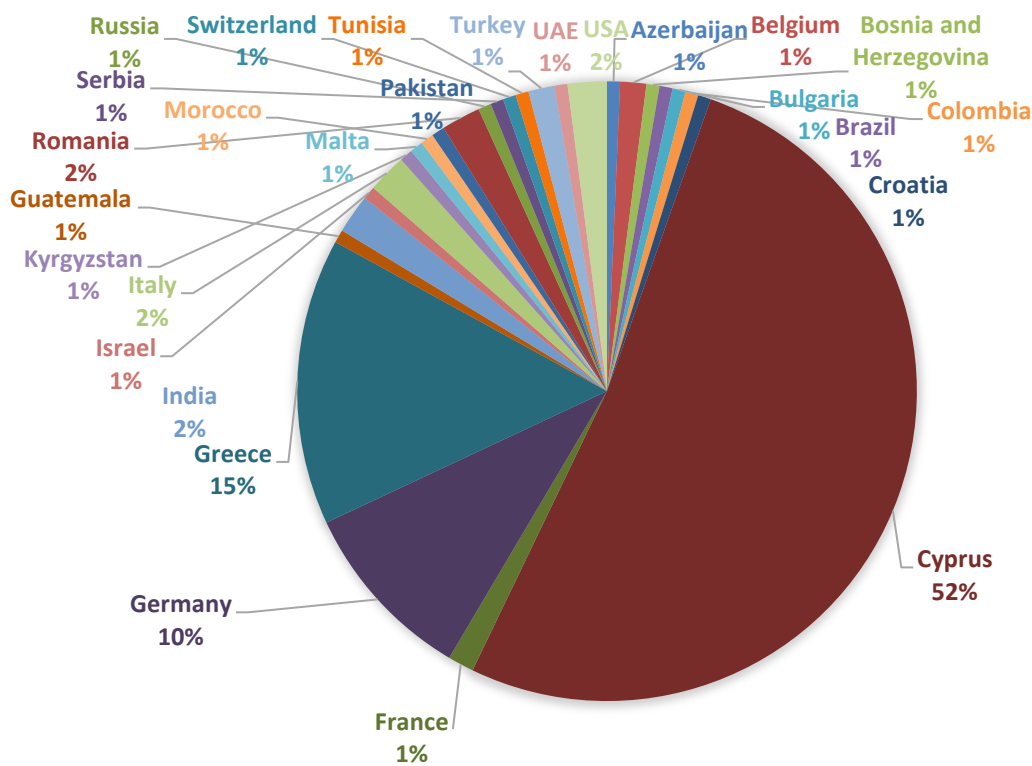


Figure 6. Registrations per Country (Second Virtual EXCELSIOR Workshop)



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Table 1. Registrations per Country (Second Virtual EXCELSIOR Workshop) / EMMENA Countries highlighted in blue)

| Registrations per Country |    |             |   |
|---------------------------|----|-------------|---|
| Cyprus                    | 77 | Colombia    | 1 |
| Greece                    | 22 | Croatia     | 1 |
| Germany                   | 14 | Guatemala   | 1 |
| India                     | 3  | Israel      | 1 |
| Italy                     | 3  | Kyrgyzstan  | 1 |
| Romania                   | 3  | Malta       | 1 |
| France                    | 2  | Morocco     | 1 |
| Turkey                    | 2  | Pakistan    | 1 |
| US                        | 2  | Russia      | 1 |
| Azerbaijan                | 1  | Serbia      | 1 |
| Belgique                  | 1  | Switzerland | 1 |
| Belgium/<br>Lebanon       | 1  | Tunisia     | 1 |
| Bosnia and<br>Herzegovina | 1  | UAE         | 1 |
| Brazil                    | 1  | USA         | 1 |
| Bulgaria                  | 1  |             |   |



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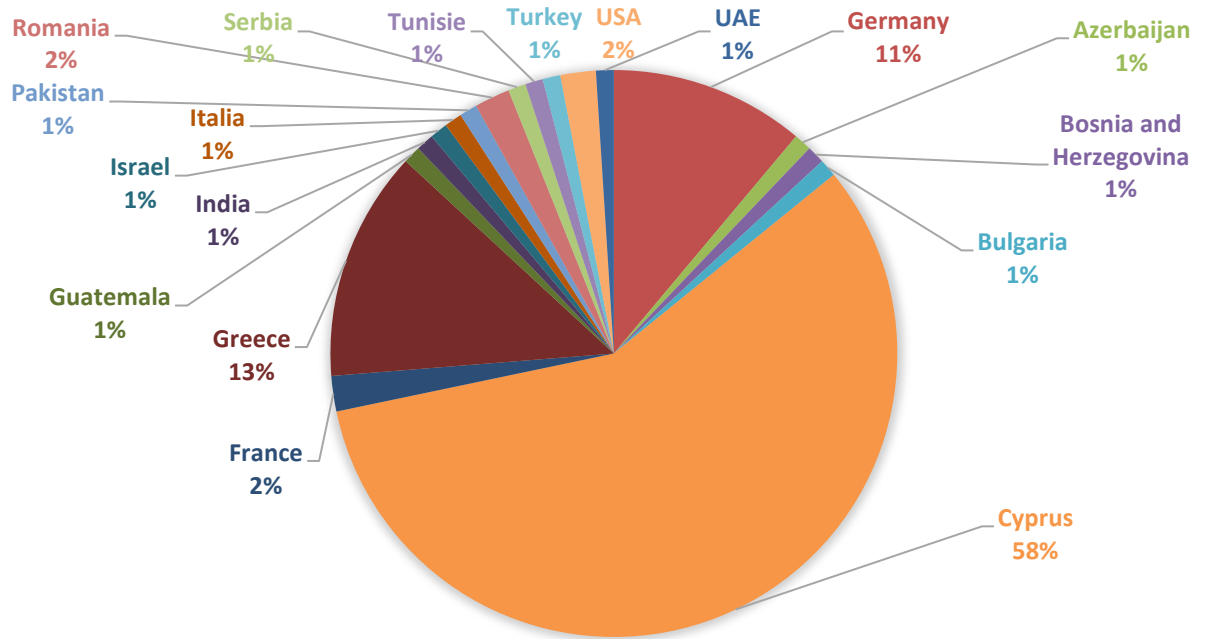


Figure 7. Attendees per Country in the Second Virtual EXCELSIOR Workshop.



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### 3 Third Virtual EXCELSIOR workshop

#### 3.1 Workshop scientific program and presentations

The topic of the Third Virtual EXCELSIOR Workshop focused on “**Entrepreneurship and Innovation in Earth Observation**”. In this Workshop, presenters from different European countries, members of the EXCELSIOR consortium, and various stakeholders from Cyprus and institutions. The agenda of this Workshop is detailed in **Appendix B – Additional material of the Third Virtual EXCELSIOR workshop**, together with additional screenshots from the Workshop. Organised by the EXCELSIOR Project and the ERATOSTHENES Centre of Excellence, the Workshop was held online via ZOOM on **21 June 2022**, and the recording is available on the **EXCELSIOR YouTube channel**<sup>10</sup>.

#### 3.2 Workshop Dissemination

Following the successful dissemination policy of the 2<sup>nd</sup> Workshop, the promotion of the 3<sup>rd</sup> Workshop was similarly carried out, with promotional flyers for each speaker to highlight the speakers' expertise and achievements and to foster the audience's anticipation (see example in Figure 8). These invitation flyers for each speaker and multiple screenshots during the 3<sup>rd</sup> Virtual EXCELSIOR Workshop can be found in Appendix B. It should be mentioned that we had the consent of all the speakers to announce and promote their participation through social media.

Figure 8. Third Virtual EXCELSIOR Workshop Speaker announcement (example of Monika Krzyżanowska)

#### 3.3 Workshops statistics

Analysing the Third Virtual EXCELSIOR Workshop, the statistics revealed a remarkable total of 122 registrations with 82 participants actively attending. This resulted in an impressive attendance rate of

<sup>10</sup> [https://www.youtube.com/watch?v=hIW3XyR9W2s&list=PLZKj43OK4VApiVKuwvpm0\\_rZ64zIMEFrG](https://www.youtube.com/watch?v=hIW3XyR9W2s&list=PLZKj43OK4VApiVKuwvpm0_rZ64zIMEFrG)



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68% and an actual workshop duration of 375 minutes. These numbers demonstrate a positive response to the Workshop, indicating strong interest from the community. In total, the Workshop had registrations from 24 different countries, where the distribution and the registration percentage per country are indicated in Figure 9 and Figure 10. Moreover,



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Table 2 presents the registrations per country highlighted in blue box seven countries from the 24 representing the EMMENA region, making registration “catching” the Workshop’s targets. Figure 11 shows the different types of organisations in percentage that have registered for the Workshop, where the highest rate is from organisations from the scientific community and the lowest from the policymakers and civil society. Furthermore, 96 of the 121 registered persons answered “Yes” to the question “Would you like to receive updates from the EXCELSIOR H2020 Teaming Project and the ERATOSTHENES Centre of Excellence?” and 26 answered “No”.

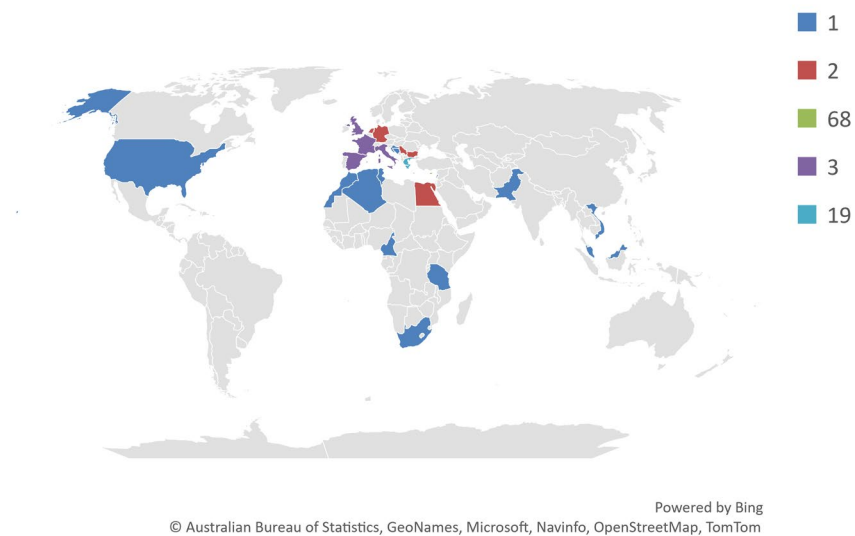


Figure 9. Countries distribution from which registrations have been made for the 3rd Virtual EXCELSIOR Workshop. The legend at the right indicates the number of registrations per country.





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Table 2. Registrations per Country (Third Virtual EXCELSIOR Workshop) / EMMENA Countries highlighted in blue)

| Registrations per Country |    |                        |   |
|---------------------------|----|------------------------|---|
| Cyprus                    | 68 | Tunisia                | 1 |
| Greece                    | 19 | USA                    | 1 |
| United Kingdom            | 3  | Croatia                | 1 |
| France                    | 3  | Lebanon                | 1 |
| Italy                     | 3  | Vietnam                | 1 |
| Spain                     | 3  | Tanzania               | 1 |
| Bulgaria                  | 2  | Algeria                | 1 |
| Egypt                     | 2  | Bosnia and Herzegovina | 1 |
| Germany                   | 2  | Morocco                | 1 |
| Netherlands               | 2  | Malaysia               | 1 |
| Serbia                    | 2  | Cameroon               | 1 |
| Pakistan                  | 1  | South Africa           | 1 |

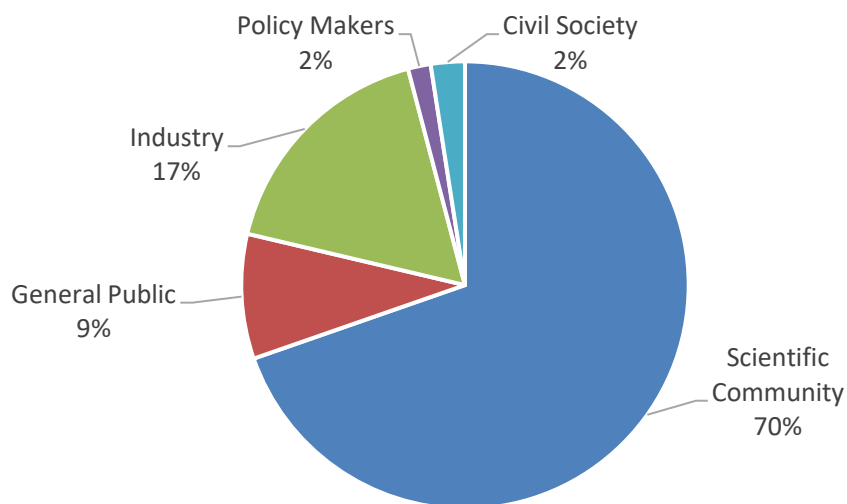


Figure 11. Type of organisation in percentage registered in the 3rd Virtual EXCELSIOR Workshop.



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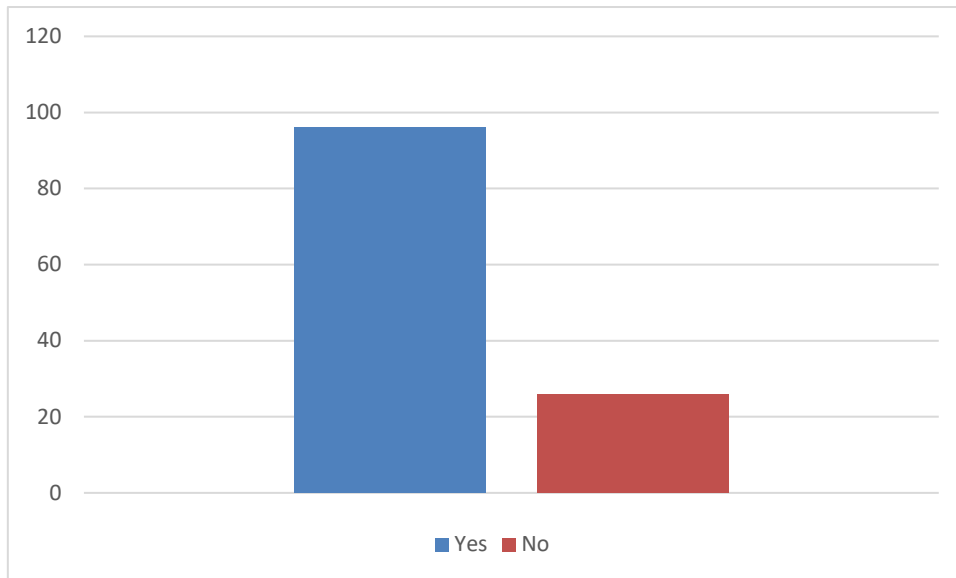


Figure 12. Total number of answers from the registrations when they asked if they would like to receive updates from the EXCELSIOR H2020 Teaming Project and the ERATOSTHENES Centre of Excellence.



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## 4 Fourth Virtual EXCELSIOR workshop

### 4.1 Workshop scientific program and presentations

The topic of the Fourth Virtual EXCELSIOR Workshop focused on “**Earth Observation Research Trends in the EMMENA region**”. Speakers from the EMMENA region presented Earth Observation current research trends being performed in their region and the wider Mediterranean region. The workshop agenda and screenshots during the Workshop can be found in detail in **Appendix C – Additional material of the Fourth Virtual EXCELSIOR workshop**. The Workshop was also organised on the Zoom platform on **5 July 2023**, and the recorded video is available on the **EXCELSIOR YouTube channel**.<sup>11</sup> It is worth mentioning that we made efforts to identify female researchers in the EMMENA and reach out to them to invite them as speakers in this workshop. To do so, we exploited the databases of networks such as Women in Geospatial<sup>12</sup>, Women in Copernicus<sup>13</sup> and Sisters of SAR<sup>14</sup>. Nevertheless, we still faced difficulties in having a gender-equal panel in our workshop, as EO research in the EMMENA region is strongly dominated by male scientists.

### 4.2 Workshop Dissemination

As in the 2<sup>nd</sup> and 3<sup>rd</sup> Workshop, so also in the 4<sup>th</sup> Annual Virtual EXCELSIOR Workshop, the workshop dissemination policy was the same: sharing with public flyers for each speaker highlighting their research work. The invitation flyers for the speakers who have agreed to promote them on our social media can be found in **Appendix C**. These flyers were created to highlight the speakers' expertise and achievements, aiming to build audience anticipation and excitement, as Figure 13 shows an example of a workshop's speaker promotion.

Figure 13. Fourth Virtual EXCELSIOR Workshop Speaker announcement (example of Hesham El-Askary).

<sup>11</sup> <https://www.youtube.com/watch?v=0DUoUJRYfdI>

<sup>12</sup> <https://womeningeospatial.org/>

<sup>13</sup> <https://womenincopernicus.eu/>

<sup>14</sup> <https://sistersofsar.wixsite.com/sistersofsar>



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### 4.3 Workshops statistics

Overall, a total number of 76 registrations were made where the 52 of them eventually attended the Workshop with an attendance rate of 68% and an actual workshop duration of 355 minutes. Figure 14 provides a clear overview of the distribution of countries from which participants registered for the Workshop. The diversity is evident, showcasing the global interest and reach of the event. Figure 15 indicates the percentage of registrations per country in the Workshop.



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Table 3 further details the registered countries, where the blue box indicates the countries from the EMMENA region. The involvement of countries from the EMMENA region reflects the Workshop’s efforts to foster collaboration and exchange of expertise in that particular area. Figure 16 presents the distribution of different types of organisations in percentage that have registered for the Workshop, where the majority also this time was organisations from the scientific community. It is worth mentioning that participants from 15 countries attended the Workshop, of which five countries are from the EMMENA region. From the 76 registrations, 65 answered “Yes” in the question if they would like to receive updates from the EXCELSIOR H2020 Teaming Project and the ERATOSTHENES Centre of Excellence, and 11 answered “No” indicating that they might already be well informed or have other preference for communication (Figure 17).

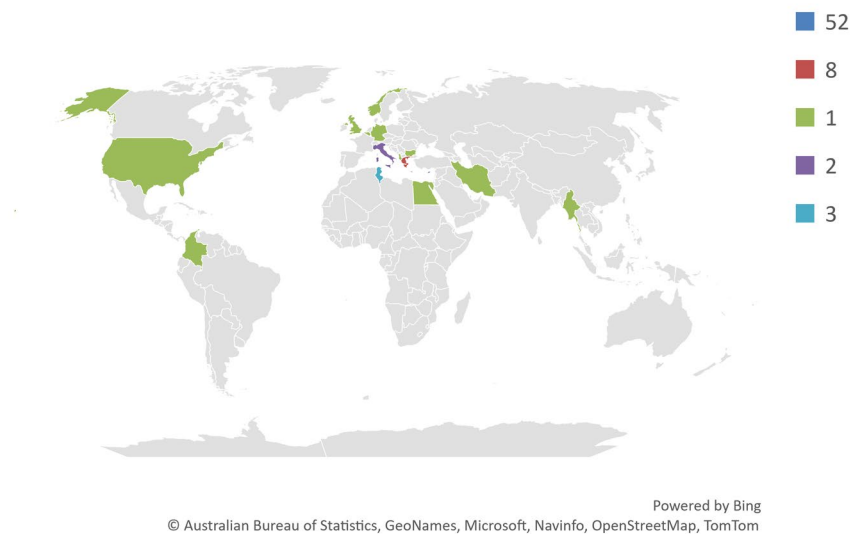


Figure 14. Countries distribution from which registrations have been made for the 4th Virtual EXCELSIOR Workshop. The legend at the right indicates the number of registrations per country.



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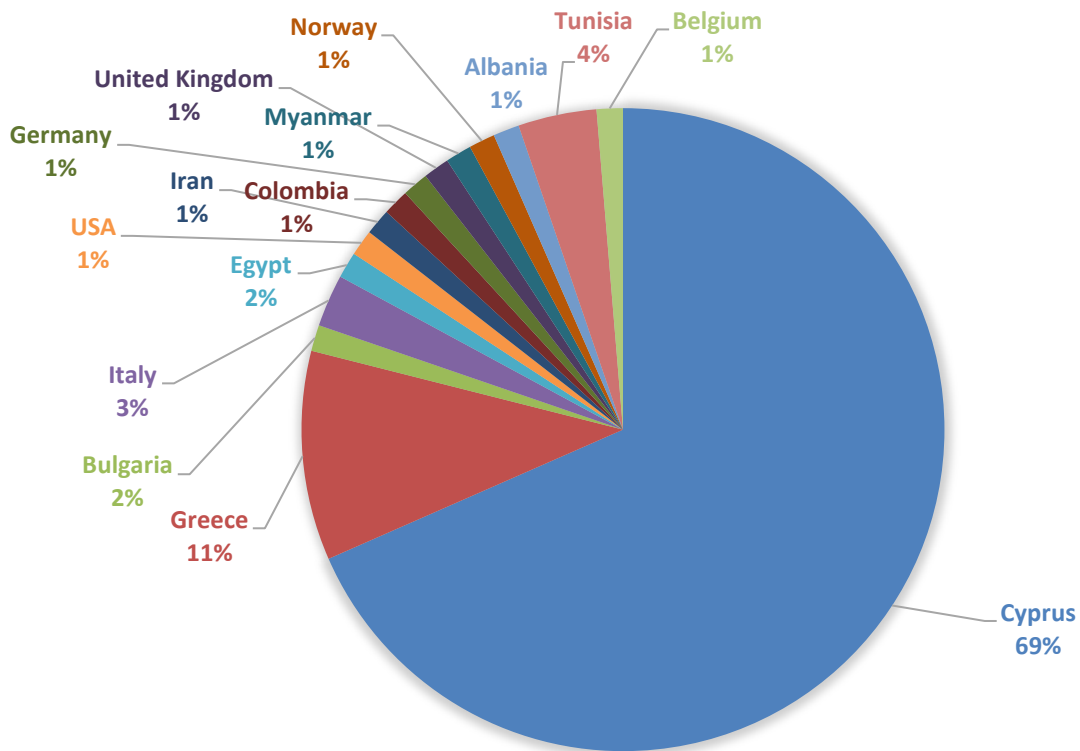


Figure 15. Registrations in percentage per Country in the 4<sup>th</sup> Virtual EXCELSIOR Workshop.



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Table 3. Registrations per Country (Fourth Virtual EXCELSIOR Workshop) / EMMENA Countries highlighted in blue)

| Registrations per Country |    |
|---------------------------|----|
| Cyprus                    | 52 |
| Greece                    | 8  |
| Tunisia                   | 3  |
| Italy                     | 2  |
| Bulgaria                  | 1  |
| Egypt                     | 1  |
| USA                       | 1  |
| Iran                      | 1  |
| Colombia                  | 1  |
| Germany                   | 1  |
| United Kingdom            | 1  |
| Myanmar                   | 1  |
| Norway                    | 1  |
| Albania                   | 1  |
| Belgium                   | 1  |

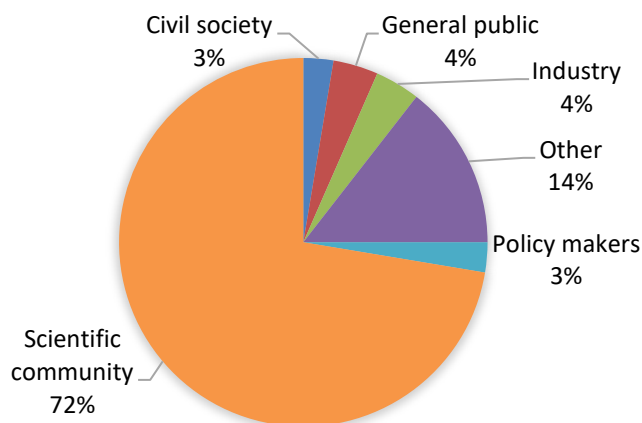


Figure 16. Type of organisation in percentage registered in the 4<sup>th</sup> Virtual EXCELSIOR Workshop.



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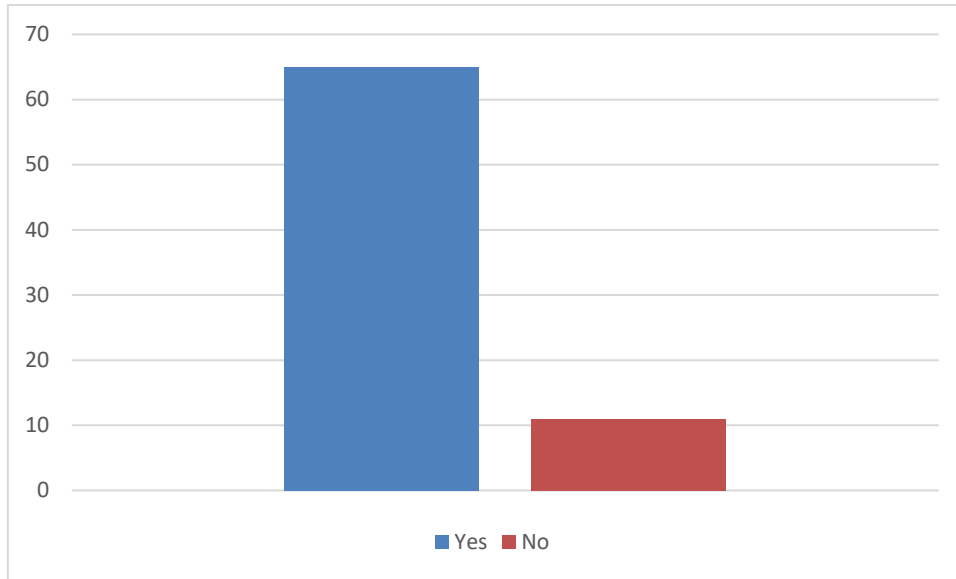


Figure 17. Total number of answers from the registrations when they asked if they would like to receive updates from the EXCELSIOR H2020 Teaming Project and the ERATOSTHENES Centre of Excellence.



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## 5 Discussion & Conclusions

The EXCELSIOR project has successfully accomplished its objectives by organising this series of virtual workshops under Work Package 9: Communication, Engagement, and Networking. These workshops served as effective platforms for knowledge exchange, collaboration, and engagement among Earth surveillance and space-based monitoring stakeholders in the EMMENA region. The participants' diversity and engagement were decisive in the Workshop's success.

Analysing and comparing the three workshops, it is clearly evident in Figure 18 that the scientific community prevails over all the other types of organisations. However, the number of participants from the scientific community decreased from the 2<sup>nd</sup> to the 4<sup>th</sup> Workshop since the total number of participants also decreased (Figure 19). It is interesting to note that there were no participants from the "Other" type of organisations; thus, it should further be explored to understand their interest and engagement. Participation from the industry increased significantly in the 3<sup>rd</sup> Workshop, which may have happened due to the topic of the Workshop that concerned Entrepreneurship & Innovation in Earth Observation and hosted a variety of satellite remote sensing (RS) technology-oriented companies. Participation from policy-making organisations was low in all three workshops, with no meaningful changes over time. New strategies may be explored to increase engagement with policymakers in future workshops. Regarding civil society, organisations remained relatively stable across the workshops, where on the other hand, the general public fluctuated in the workshops suggesting varying levels of interest or outreach effectiveness.

Policymakers' small participation in the workshops is a concerning issue. Policymakers are crucial in shaping environmental policies, regulations, and funding priorities. Their involvement in workshops like these is essential, and possible solutions have to be found to increase their number of participants. By actively involving policymakers in the workshops, the consortium can foster meaningful dialogue and collaboration between the scientific community, industry, and stakeholders, leading to more effective and informed decision-making in the realm of Earth surveillance and environmental monitoring.



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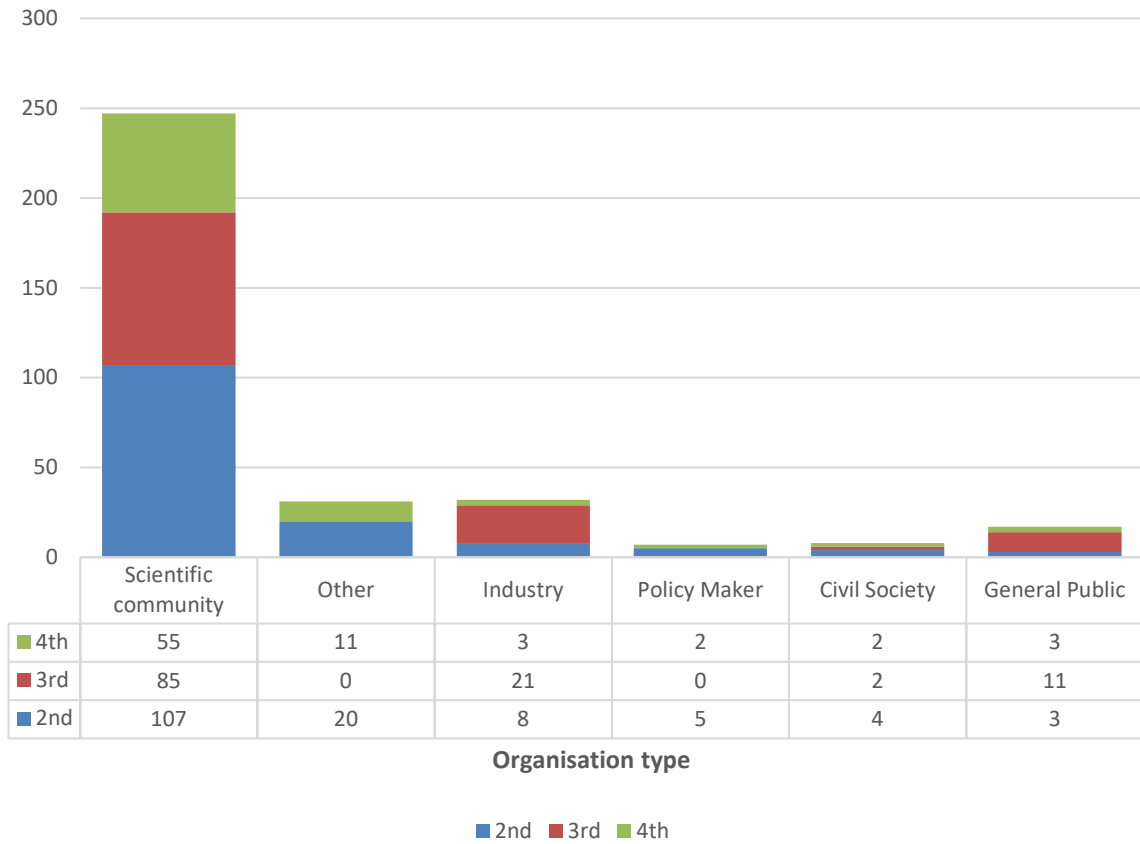


Figure 18. Different types of registered organisations during the 2nd, 3rd and 4th Annual Virtual EXCELSIOR Workshop.



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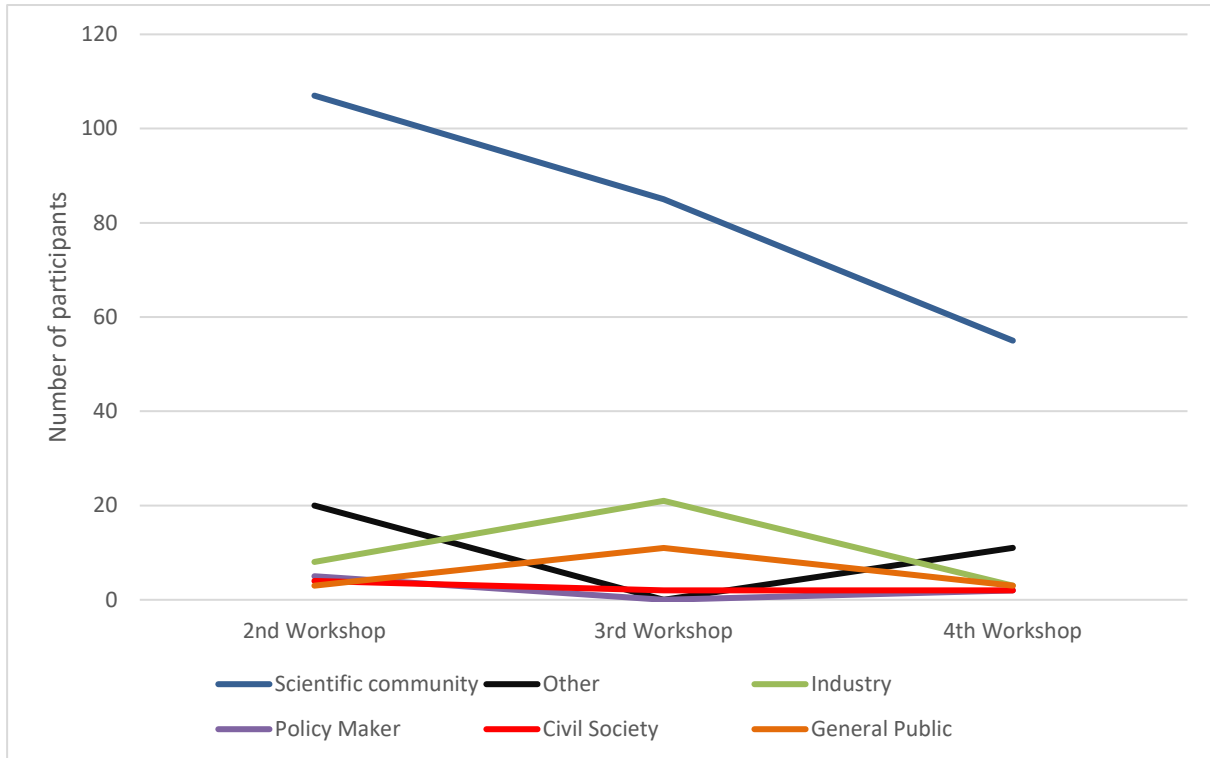


Figure 19. Time series of the different types of registered organisations for the 2<sup>nd</sup>, 3<sup>rd</sup> and 4<sup>th</sup> Annual Virtual EXCELSIOR Workshop

**Error! Reference source not found.** shows the participation of men and women in the 2<sup>nd</sup>, the 3<sup>rd</sup> and the 4<sup>th</sup> Annual Virtual EXCELSIOR Workshop. The majority of the participants of all workshops were male participants, whereas female participants were on average around 35% of the audience. It is evident that there is an improvement of gender balance in participation with the 4<sup>th</sup> Workshop achieving almost 50-50. Since this workshop focused on trends in the EMMENA region, where research in EO is dominated by male scientists, we consider the increased percentage of women participation a remarkable achievement.



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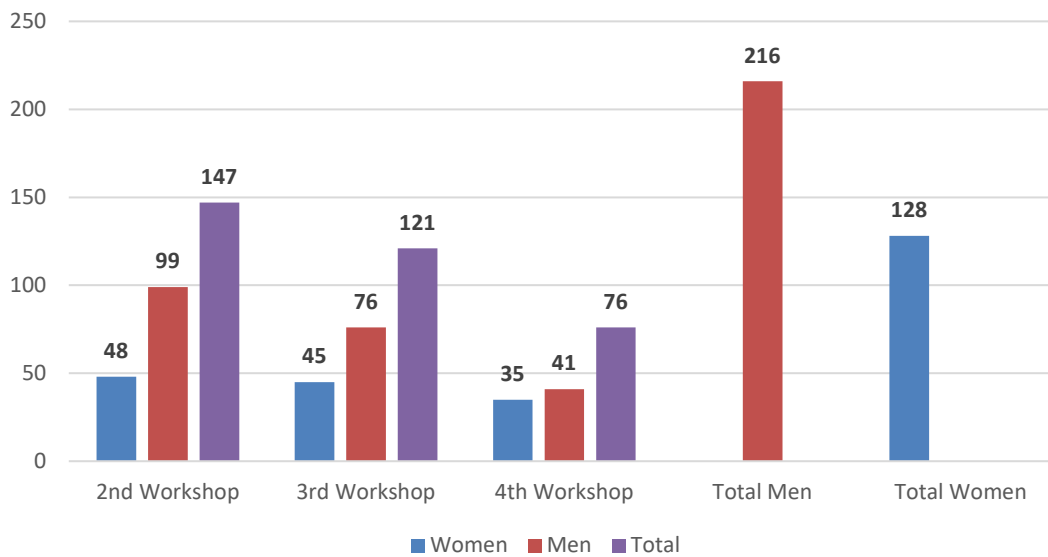


Figure 20. Number of Women and Men in the 2nd, 3rd and 4th Annual Virtual EXCELSIOR Workshop.

Overall, a reason for the decreased number of participants in the 3<sup>rd</sup> and 4<sup>th</sup> Workshop is that during the 2<sup>nd</sup> Workshop, the increased participation could be attributed to the COVID-19 restrictions that kept people at home and made virtual events more accessible and appealing. However, in the 3<sup>rd</sup> and 4<sup>th</sup> Workshop, as COVID-19 restrictions eased, people might have been more inclined to return to in-person activities, decreasing virtual event attendance. This trend is not uncommon as people prefer physical presence and interactions, when possible, which could explain the declining trend in virtual workshop participation. Figure 21 shows a global map with all the countries that have been registered for the three workshops.

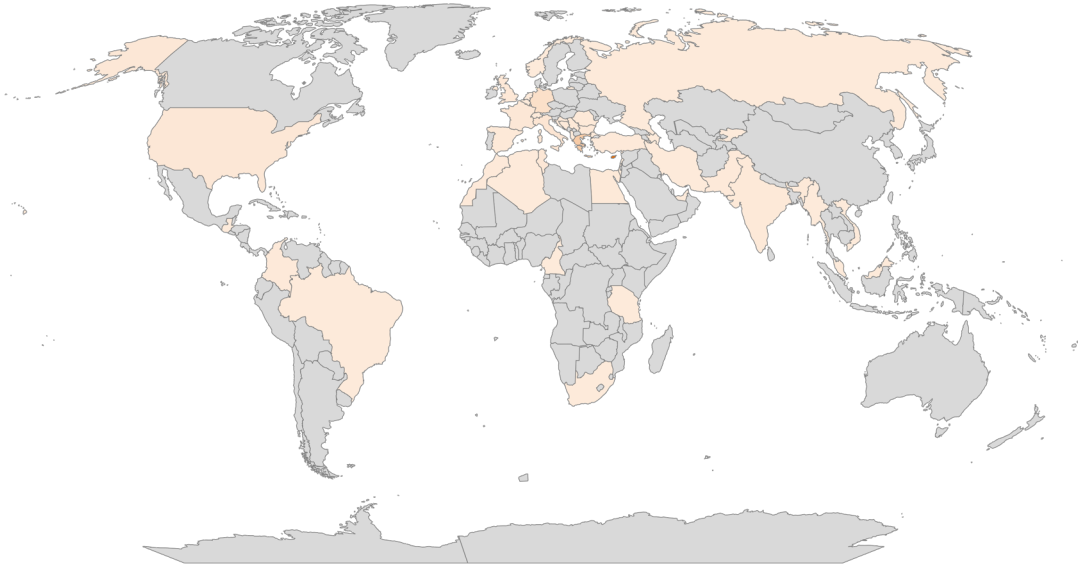
Based on the results and the statistics of the previous virtual workshops, the 5<sup>th</sup> upcoming Workshop will be organised as a hybrid event during the RSCy2024 conference. Joining forces with the Cyprus Remote Sensing Society, the Workshop is expected to benefit from a larger, diverse audience and to provide an excellent opportunity for cross-disciplinary exchange. Moreover, it will offer a unique platform for participants to engage with leading experts, researchers, and stakeholders in the remote sensing and Earth observation fields. The combined event will foster a rich and dynamic environment, enabling attendees to explore the latest advancements, share insights, and forge valuable connections.

The organisation of the 5<sup>th</sup> annual Workshop and the RSCy2024 conference aligns perfectly with ERATOSTHENES CoE's extroversial policy, enhancing the visibility and impact of both events. Additionally, the hybrid nature of the event, with options for both in-person and virtual attendance, ensures inclusivity and accessibility for participants from various regions, addressing any potential travel restrictions and enabling broader engagement.



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Figure 21. Zoom attendees per Country in all 3 Annual Virtual EXCELSIOR Workshops.



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## Appendix A – Additional material of the Second Virtual EXCELSIOR workshop

### Extensive agenda



## Atmospheric & Climate Research in EMMENA region

**8 June 2021, 09:00 - 17:00 EEST (06:00 - 14:00 UTC)**

The EXCELSIOR H2020 Teaming Project Consortium and the ERATOSTHENES Centre of Excellence (ECoE) organise the Second Virtual International Workshop on ‘**Atmospheric & Climate Research in EMMENA region**’. This Workshop is part of a series of annual workshops with the participation of all national and international stakeholders of EXCELSIOR, addressing all the different activities of the ECoE, i.e. infrastructure, research, education and innovation through entrepreneurship.

**Motivation:** Bringing together atmospheric researchers and EXCELSIOR stakeholders concerned with EMMENA to identify challenges and future projects.

**Free attendance via ZOOM. Please register through:** <http://tiny.cc/EWorkshop2>

### AGENDA

| Intro Session     |                             |  |   |
|-------------------|-----------------------------|--|---|
| 9:00-9:05         | Diofantos HADJIMITSIS       | CUT/ECoE   | Welcome from ECoE   |
| 9:05-9:10         | Nicolas MASTROYIAN NOPOULOS | RIF/Deputy Ministry of Innovation and Digital Policy | Welcome from the Chief Scientist for Research & Innovation of the Republic of Cyprus                      |
| 9:10-9:25         | Kyriacos THEMISTOCLEOUS     | CUT/ECoE   | Brief overview of EXCELSIOR   |
| 9:25-9:30         | Albert ANSMANN              | TROPOS   | Intro to the topic: The ERATOSTHENES Center of Excellence – a future hub of Atmospheric Science in EMMENA |
| 1.5 minutes break |                             |  |   |



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| EXCELSIOR Partners and Networks                           |                             |   |   |
|---|-----------------------------|---|---|
| 9:45 -10:00   | Johannes BÜHL               | TROPOS  | Ground-based remote sensing of aerosol, clouds and precipitation in EMMENA  |
| 10:00-10:15   | Sabine WÜST                 | DLR   | Remote sensing of atmospheric waves at different spatiotemporal scales and its potential in the field of medium and long term weather forecasting   |
| 10:15-10:30   | Haris KONTOES               | NOA   | Big EO data towards sector resilience - The EuroGEO e-shape project   |
| 10:30-10:45   | Paolo LAJ                   | ACTRIS  | Overview about ACTRIS   |
| 15 minutes break  |                             |   |   |
| General Atmospheric Research                              |                             |   |   |
| 11:00-11:15   | Ali Ahmed Abdelhamid WHEIDA | National Research Centre NRC Egypt  | Air pollution in Greater Cairo: Statistical Analysis for Monitoring Data  |
| 11:15-11:30   | Alexandra CHUDNOVSKY        | Tel-Aviv University, Israel   | Monitoring air pollution in Israel using combined remote sensing approach: current challenges and future perspectives.                              |
| 11:30-11:45   | Kleanthis NICOLAIDES        | Department of Meteorology   | East Mediterranean, an area of intense development. Is the meteorological infrastructure sufficient?  |
| 11:45-12:00   | Moritz HAARIG               | TROPOS  | "The eastern Mediterranean as an ideal testbed to validate lidar retrievals with airborne in situ measurements in preparation of EarthCARE mission" |
| 12:15-12:30   | Jean SCIARE                 | The Cyprus Institute  | The Eastern Mediterranean and Middle East Climate and Atmosphere Research Center (EMME-CARE)  |
| 1 hour break  |                             |   |   |
| Atmospheric Research with Airborne and Spaceborne Sensors |                             |   |   |
| 13:30-13:45   | Rob KOOPMAN                 | European Space Agency   | The EarthCARE Mission Status and Validation Programme   |
| 13:45-14:00   | Tommaso PARRINELLO          | European Space Agency   | Aeolus: ESA's wind mission. Overview, current status and future challenges  |
| 14:00-14:15   | Oliver REITEBUCH            | DLR Institute of Atmospheric Physics  | Performance of the Aeolus mission for global observations of wind and aerosol profiles  |
| 14:15-14:30   | Erich Franz STOCKER         | Goddard Space Flight Center / NASA  | GPM Data Reprocessing for V07   |
| 14:30-14:45   | Bernadett WEINZIERL         | University of Vienna, Faculty for Physics, Aerosolphysics and Environmental Physics | The A-LIFE field experiment in the Eastern Mediterranean - Overview and selected highlights   |
| 15 minutes break  |                             |   |   |
| Climate and Weather Modelling in and for EMMENA           |                             |   |   |



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|             |                    |                                 |   |
|-------------|--------------------|---------------------------------|---|
| 15:00-15:15 | Alexia TSOUNI      | NOA                             | Earth Observation assimilation for real time flood monitoring and response                  |
| 15:15-15:30 | Haris KONTOES      | NOA                             | EO based Early Warning System for Mosquito Borne Diseases- An operational application in EU |
| 15:30-15:45 | Eleni LOULLI       | CUT/ECoE                        | Precipitation and Drought monitoring with ground-based X-BAND radars in Cyprus              |
| 15:45-16:00 | Jeronimo ESCRIBANO | Barcelona Supercomputing Center | Impact of assimilating spaceborne lidar dust extinction in Northern Africa and Middle East  |
| 16:00-16:15 | Antonis GKIKAS     | NOA                             | Improving dust and marine modelling through Aeolus wind assimilation                        |
| 16:15-16:30 | Eleni DRAKAKI      | NOA                             | Optimisation of dust transport parameterisations in regional models                         |
| Q&A         |                    |                                 |   |

**CONSORTIUM**



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**Speakers’ announcement in the 2<sup>nd</sup> Virtual EXCELSIOR Workshop**



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**2<sup>nd</sup> Virtual EXCELSIOR Workshop** | **Atmospheric & Climate Research in the EMMENA region**

**INTRODUCING THE PRESENTATIONS:**

**GPM Data Reprocessing for V07.**

**Dr Erich Franz Stocker, NASA**

**EXCELSIOR** ERATOSTHENES Centre of Excellence | **ERATOSTHENES: EXcellence Research Centre for Earth SurveilLance and Space-Based Monitoring Of the EnviRonment**

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**2<sup>nd</sup> Virtual EXCELSIOR Workshop** | **Atmospheric & Climate Research in the EMMENA region**

**INTRODUCING THE PRESENTATIONS:**

**Overview about ACTRIS.**

**Dr Paolo Laj, ACTRIS**

**EXCELSIOR** ERATOSTHENES Centre of Excellence | **ERATOSTHENES: EXcellence Research Centre for Earth SurveilLance and Space-Based Monitoring Of the EnviRonment**

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## Screenshots during the 2<sup>nd</sup> Virtual EXCELSIOR Workshop



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**EXCELSIOR**  
ERATOSTHENES:  
Excellence Research Centre for Earth Surveillance  
& Space-Based Monitoring of the Environment

The eastern Mediterranean as an ideal testbed to validate lidar retrievals with airborne in situ measurements in preparation of EarthCARE mission

@excelsior2020eu

**Moritz Haorig<sup>1</sup>, Athena Floutsi<sup>1</sup>, Holger Baars<sup>1</sup>  
Bernadett Weinzierl<sup>2</sup>, Manuel Schöberl<sup>2</sup>, Maximilian Dollner<sup>2</sup>**  
<sup>1</sup>Leibniz Institute for Tropospheric Research (TROPOS)  
<sup>2</sup>University of Vienna

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Cyprus University of Technology, DLR, TROPOS, DEC

**EXCELSIOR**  
ERATOSTHENES:  
Excellence Research Centre for Earth Surveillance  
& Space-Based Monitoring of the Environment

Precipitation and Drought monitoring with ground-based X-BAND radars in Cyprus

@excelsior2020eu

**Eleni Loulli**  
Cyprus University Of Technology & ERATOSTHENES Centre Of Excellence, Cyprus

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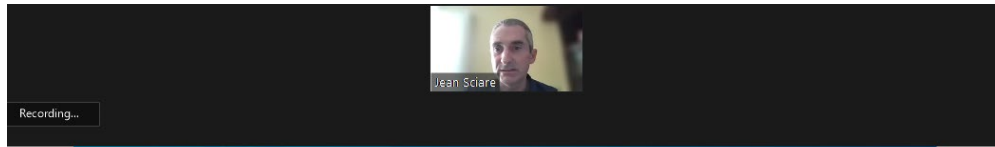
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**Jean SCIARE**

**Prof., Director of the Climate and Atmosphere Research Center (CARE-C), The Cyprus Institute**

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**Dr. Ali Wheida**

**Researcher, Theoretical Physics, National Research Centre (NRC), Egypt.**

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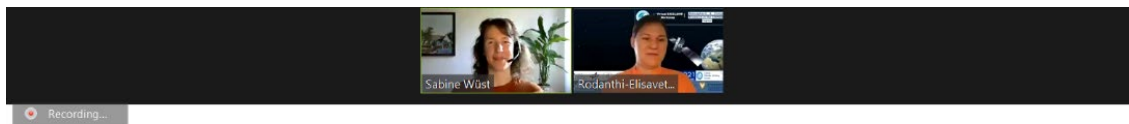
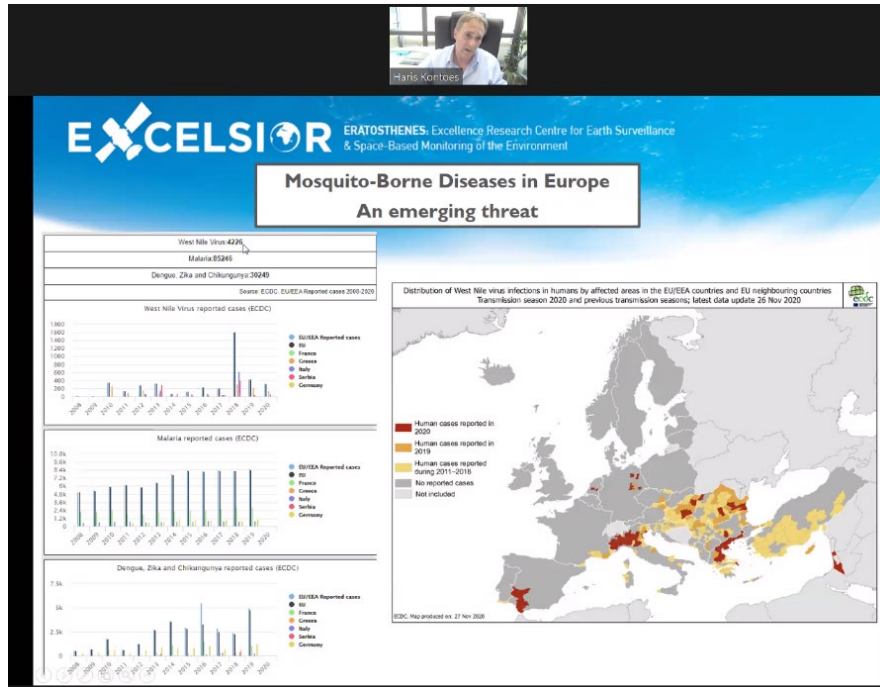
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## Remote sensing of atmospheric waves at different spatiotemporal scales and its potential in the field of medium and long term weather forecasting

Sabine Wüst<sup>1, 2</sup>, Lisa Küchelbacher<sup>1</sup>, Patrick Hannawald<sup>1, 2</sup>, Carsten Schmidt<sup>1</sup>, Michael Bittner<sup>1, 2</sup>

- 1 Deutsches Zentrum für Luft- und Raumfahrt, Earth Observation Center, Deutsches Fernerkundungsdatenzentrum
- 2 Universität Augsburg, Institut für Physik





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## Appendix B – Additional material of the Third Virtual EXCELSIOR workshop

### Extensive agenda



ERATOSTHENES project has received funding from the European Union’s Horizon 2020 research and innovation programme under grant agreement No 857510 (Call: WIDESPREAD-01-2018-2019 Teaming) and from the Government of the Republic of Cyprus through the Directorate-General for the European Programs, Coordination, and Development.



# Entrepreneurship and Innovation in Earth Observation workshop

ERATOSTHENES Centre of Excellence

### Agenda

|                        |  |
|------------------------|--|
| <b>Date &amp; Time</b> | 21 June 2022 (09:00 – 15:00 Cyprus Time) (06:00 – 12:00 UTC)   |
| <b>Location</b>        | ZOOM platform – Registrations: <a href="https://us02web.zoom.us/webinar/register/WN_9IWxbb3MRqahVq4PmfU0cQ">https://us02web.zoom.us/webinar/register/WN_9IWxbb3MRqahVq4PmfU0cQ</a> |
| <b>Type</b>            | 3 <sup>rd</sup> Virtual EXCELSIOR Workshop   |

| <i>Intro</i>     |                        |         |   |                            |
|------------------|------------------------|---------|---|----------------------------|
| Time (CY)        | Organisation           | Country | Title   | Presenter(s)               |
| 09:00-09:20      | DMRID                  | Cyprus  | Welcome notes   | Kyriakos Kokkinos          |
|                  | RIF                    | Cyprus  |   | Nikolas Mastrogiannopoulos |
| 09:20-09:40      | ECOE/CUT               | Cyprus  | ERATOSTHENES Centre of Excellence is paving the way for Cyprus to enter the space arena through EXCELSIOR H2020 Teaming project | Diofantos Hadjimitsis      |
| 09:40-10:00      | CyRIC                  | Cyprus  | Business and Innovation Support services to SMEs and Start-ups in EO  | Panayiotis Philimis        |
| <i>Session A</i> |                        |         |   |                            |
| 10:00-10:15      | AZO<br>ESA-BIC Bavaria | Germany | From SPACE OF INNOVATION to COMMERCIALISING SPACE   | Daniela Dobreva-Nielsen    |



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|                                   |                   |             |   |                         |
|-----------------------------------|-------------------|-------------|---|-------------------------|
| 10:15-10:30                       | EARSC             | Belgium     | Innovation fueled by Earth Observation (PARSEC & FIRE projects)                             | Weronika Borejko        |
| 10:30-10:45                       | ip-research       | Cyprus      | Patent knowledge for supporting strategic decisions   | Nicos Raftis            |
| 10:45-11:00                       | Planetek Italia   | Italy       | Joining data and algorithms: the new challenge for operational solutions                    | Sergio Samarelli        |
| <b>11:00 – 11:15 Coffee Break</b> |                   |             |   |                         |
| 11:15-11:30                       | Geosystems Hellas | Greece      | New space economy on the Built Environment - Urban / Cities / City Critical infrastructures | Betty Charalampopoulou  |
| 11:30-11:45                       | GEOFEM            | Cyprus      | Meeting Infrastructure Challenges   | Egli Michailidou        |
| 11:45-12:00                       | SATELLIGENCE      | Netherlands | Earth Observation data for sustainable agricultural supply chain monitoring                 | Rens Masselink          |
| 12:00-12:15                       | EOMap             | Germany     | Entrepreneurship and Innovation in Aquatic Earth Observation                                | Knut Hartmann           |
| 12:15-12:30                       | InoSens           | Serbia      | Role of SMEs in enabling innovation across diverse value chains: Case of InoSens            | Vladimir Mrkajic        |
| <b>12:30-13:30 Lunch Break</b>    |                   |             |   |                         |
| <b>Session B</b>                  |                   |             |   |                         |
| 13:30-13:45                       | CloudFerro        | Poland      | Scaling up your EO application using EO cloud (CloudFerro)                                  | Monika Krzyzanowska     |
| 13:45-14:00                       | GMATICS           | Italy       | Satellite data and Artificial Intelligence for the management of forests and urban green    | Marcelo Maranesi        |
| 14:00-14:15                       | GMV               | Spain       | Our journey to innovation in Earth Observation  | Antonio Tabasco Cabezas |
| 14:15-14:30                       | Serco             | Italy       | ONDA - Exploit your added value from satellite data   | Marco Cerri             |
| 14:30-14:45                       | iTRACASA          | Spain       | Unlocking paradigm changes in the world of Earth Observation using AI                       | Pablo Vega Ezquieta     |
| <b>14:45-15:00 Final remarks</b>  |                   |             |   |                         |



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## Speakers' announcement in the 3<sup>rd</sup> Virtual EXCELSIOR Workshop





**Kyriacos Kokkinos**  
*Deputy Minister of Research,  
Innovation and Digital Policy*



**Nikolas Mastroyiannopoulos**  
*Chief Scientist for Research  
and Innovation*

**Third Virtual EXCELSIOR workshop**

**Entrepreneurship & Innovation in Earth Observation**

**Tuesday, June 21, 2022**

09:00-15:00 EEST  
06:00-12:00 UTC

**Registrations:**  
[http://tiny.cc/ECoe\\_reg](http://tiny.cc/ECoe_reg)

**More information:**  
<https://eratosthenes.org.cy/event/third-excelnior-workshop/>



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





**Nicos Raftis**  
*ip research*

**Presentation title:**  
"Patent knowledge for supporting strategic decisions"

Nicos Raftis is a manufacturing engineer with 25 years' experience in new product development, intellectual property, and inventive problem solving. He started his career very early as an inventor and entrepreneur at the age of 22 while still studying at Cambridge. He qualified as a Chartered Engineer in 2002 and at the same year he went back to Cambridge for a PhD on enhancing creativity in new product development. He is an active practitioner of TRIZ (methodology for inventive problem solving) and KAI Adaptation-Innovation theory. Nicos Raftis and his team have won several international design awards including Red Dot and IF design for their innovative product designs. Since 2006, Mr Raftis is the director of IP Research Ltd, a company offering patent search and analysis services to support key decisions in the product development process.

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## Daniela Dobрева-Nielsen

*AZO - Space of Innovation*

**Presentation title:**  
"From SPACE OF INNOVATION to COMMERCIALIZING SPACE"

Daniela Dobрева-Nielsen has over 25 years of extensive international experience in developing and selling innovation programmes, enterprise technology solutions, multimedia and communication tools to institutional and industrial clients with proven track record of revenue and market-share growth. As the Head of Business Development of AZO, she is responsible for the strategic business development of the company, the acquisition of new and the further development of existing projects. Her focus lays on the identification of business opportunities and the subsequent acquisition of relevant partners, along with the development of advanced innovation and communication programmes for fostering Space innovation. Supporting Space entrepreneurs through cutting-edge matchmaking/coaching/acceleration/incubation programmes is another key area of Daniela's successful track-record. Working closely with variety of institutional and industrial stakeholders, she is widely recognised as a thought leader in the European Space innovation ecosystem and a trustworthy cooperation partner. Daniela holds a Master of Science in Electrical Engineering and a Certificate in Management from the Open University, London.



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## Monika Krzyżanowska

*CloudFerro*

**Presentation title:**  
"Scaling up your EO application using EO cloud (CloudFerro)"

Monika Krzyżanowska, CloudFerro, Poland – seismologist by education with almost 30 years of experience in building and implementing new projects for the professional electronics and space markets. As Business Development Director, promotes use of computing cloud by EO user community to support growing Copernicus data space and enhance European leadership



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## Knut Hartmann

**EOMAP**

**Presentation title:**  
"Entrepreneurship and Innovation in Aquatic Earth Observation"

Knut is Earth Observation analyst by passion and profession. He's COO of EOMAP, a company which maps and monitors water environments all over the world, remotely via satellites, out of their office on the other side of Munich. He joined EOMAP in 2011 when it was in an early start-up phase and has the pleasure to support and lead the growing team in many interesting projects around the globe. He's consulting mapping and surveying strategies on regional to international level. Prior to joining EOMAP he worked at an engineering firm and research and received a PhD in natural sciences.



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## Marco Cerri

**Serco**

**Presentation title:**  
"ONDA - Exploit your added value from satellite data"

Marco has a strong international experience in the Earth Observation sector, working and collaborating on important projects with the most relevant actors of the market. His experience covers the whole production chain of the satellite data, having worked in the data provider's side, the end user application market and the data management reality. A strong passion for business development strategies and a solid technical background ensures a clear identification of the customer's needs. After few years abroad, currently he is located in Frascati, Italy, in the beautiful area of the Roman Castles hills, seeking new commercial and research applications enabled by the Earth Observation growing sector as Account Manager at Serco Italy.



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## Vasiliki (Betty) Charalampopoulou

**GEOSYSTEMS HELLAS S.A**

**Presentation title:**  
"New space economy on the Built Environment - Urban / Cities / City  
Critical infrastructures"

Vasiliki (Betty) Charalampopoulou is GEOSYSTEMS HELLAS S.A. [GSH] President & CEO and a shareholder. [GSH] was established in November 2009 as the newest member of GEOSYSTEMS EU GROUP GEOSYSTEMS EU GROUP. Nowadays, [GSH] is a Greek SME with a German minority shareholder who was fully acquired from OHB SE on February 2022, so GSH is a "sister company" to OHB SE. Betty is a geologist, with a specialization on remote sensing, photogrammetry and GIS applications. In 1992, she graduated from the National and Kapodistrian University of Athens and since then, she has been working on research projects in the area of photogrammetry, remote sensing, earth observation and geoinformatics (GIS and WebGIS). She is actively enrolled in projects by H2020, ESA, GSRT and bi-National and in several commercial ones with a dynamic participation to the downstream space sector. As CEO and President, she has established methodologies and formulated strategies, gaining many distributions and collaborations. She has also established several international collaborations, being involved in working groups of EARSC, GEO, FIG, UNESCO, OGC, ESA, NASA, ISA etc. Have several collaborations with national and international universities, local governments and industries. In 2012, she established the company's R & D division and had Successful R & D projects under her supervision, with transferability to many industries and countries. She is also responsible for the distribution of roles and responsibilities in the company.



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## Vladimir Mrkajic

**InoSens**

**Presentation title:**  
"Role of SMEs in enabling innovation across diverse value  
chains: Case of InoSens"

As a Head of Research and Development at InoSens doo Vladimir Mrkajic is full-time engaged in European project planning, implementation & management activities (H2020, HORIZON EUROPE, UNDP, FAO). He has experienced the complexity of planning and implementation of research and innovation projects as well as the leadership thrill of a successful engagement and empowerment of citizens, organizations, expert and public authorities to work together. His interest and experience include projects in fields of deep-tech innovation, agritech, e-governance, earth observation, cascade funding for SME/start-ups/innovative entrepreneurs (open calls), and citizen science. Also, Vladimir is occasionally involved in academic and policy research, journalism and civic related activities in fields of sustainable mobility, urban waste management and sharing economy. Prior to joining InoSens doo, Vladimir worked as a postdoc researcher at the Department of Environmental Engineering (University of Novi Sad, Serbia). Vladimir holds a PhD from University of Novi Sad (Serbia). He is also a Master of Science graduate from Institute for Environmental Science and Technology (ICTA), Autonomous University of Barcelona, Spain. Vladimir has also studied in Portugal and Denmark.



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## Screenshots during the 3<sup>rd</sup> Virtual EXCELSIOR Workshop





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## EXPANDEO & the FIRE Forum 2022

Weronika Borejko

- Networking
- Leaving national market
- Getting in touch with the customers
- Legal and IP support
- Visibility

EARSC Awards 2022

## Planetek Group

Sergio Samarelli

- **Planetek Italia**  
Established in 1994 HQ in Bari Southern Italy, strong reputation in National and European Earth Observation.
- **Planetek Hellas**  
Established in 2006 Today main EO operator in Greece following the nation growth in space.
- **GEO-K and GAP**  
R&D *ateliers* with outstanding experience in EO, AI, Big Data and Optical and SAR algorithm design.

Over 100 people and 9M€ Turnover in 2021

21/06/2022



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## New space economy on the Built Environment - Urban / Cities / City Critical infrastructures

Geosystems Hellas S. A.  
Betty Charalampopoulou,  
CEO

[www.geosystems-hellas.gr](http://www.geosystems-hellas.gr)



### SHOWCASE


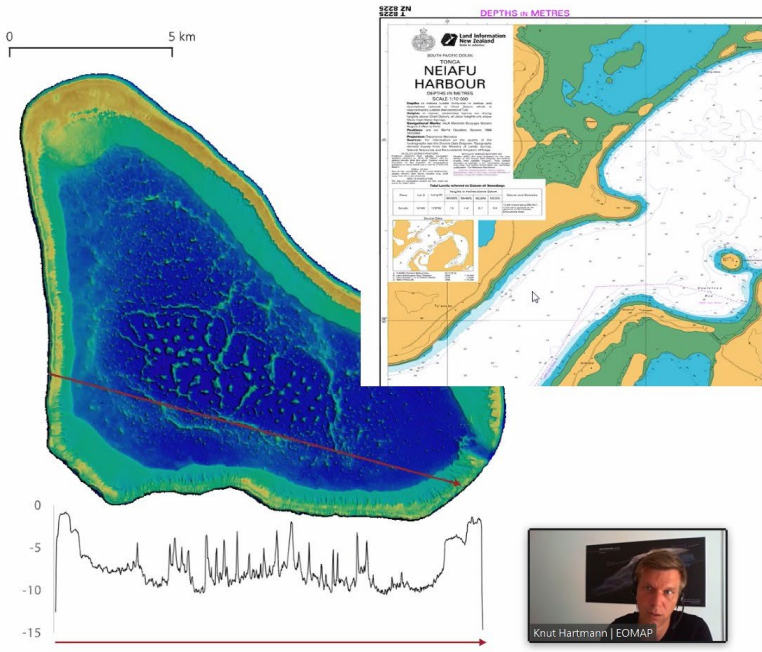
#### SATELLITE-DERIVED BATHYMETRY

EOMAP's bathymetric data are

- ...featured in more than dozen nautical charts in the Caribbean to Pacific
- ... part of the European and global harmonized grids
- ... integrated in the workflows of coastal planners and engineers

### How come?

EOMAP





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Recording... You are viewing Vladimir Mrkajic (noSens)'s screen View Options

## LandSense Pilots

LandSense technologies are deployed across various themes to illustrate the potential of citizen observatories to tackle environmental challenges

### Appendix C – Additional material of the Fourth Virtual EXCELSIOR workshop

#### EXTENSIVE AGENDA



## 4<sup>th</sup> EXCELSIOR Annual Virtual Workshop:

### “Earth Observation Research Trends in the EMMENA region – Part A”

Date & Time: 5<sup>th</sup> of July 2023, (10:00 – 12:50 Cyprus Time) (07:00 – 09:50 GMT)

Place: ZOOM platform – Link to join: [HERE](#) “active 10 minutes before the start”

| Morning sessions |                       |   |                       |
|------------------|-----------------------|---|-----------------------|
| Time (CY)        | Organisation          | Title   | Speaker               |
| 10:00 – 10:30    | ERATOSTHENES CoE/ CUT | Welcome note                                      | Diofantos Hadjimitsis |
|                  | ERATOSTHENES CoE/ CUT | Mapping of Earth Observation in the EMMENA region | Marinos Eliades       |



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|   |   |   |                       |
|---|---|---|-----------------------|
| 10:30 – 10:50   | ISA (Israel)                              | TBA - (Recorded video)  | Dan Blumberg          |
| 10:50 – 11:10   | EgSA (Egypt)                              | The Changing climate of the Mediterranean and the increase in Sea Surface Temperature   | Hesham El-Askary      |
| <b>11:10 – 11:30 Coffee Break</b>   |   |   |                       |
| 11:30 – 11:50   | Royal Centre for Remote Sensing (Morocco) | Space technology for socio-economic development: Activities and RD projects in Morocco  | Mohammed Faouzi Smiej |
| 11:50 – 12:10   | NOA (Greece)                              | The development of precision farming services over formerly data-poor regions   | Nikos Bartsotas       |
| 12:10 – 12:30   | Tel Aviv University (Israel)              | Monitoring complex air pollution conditions using a wide range of remote sensing techniques in the Eastern Mediterranean Region | Alexandra Chudnovsky  |
| 12:30 – 12:50   | University of Malta (Malta)               | Malta's current research trends on the use of Earth Observation data.   | Charles Galdies       |
| <b>12:50 – 13:50 Lunch Break</b>  |   |   |                       |
| <b>13:50 – 15:10 4<sup>th</sup> EXCELSIOR Annual Virtual Workshop Part B - Afternoon Sessions</b> |   |   |                       |

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## 4<sup>th</sup> EXCELSIOR Annual Virtual Workshop:



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## “Earth Observation Research Trends in the EMMENA region – Part B”

**Date & Time:** 5<sup>th</sup> of July 2023, (13:50 – 15:10 Cyprus Time) (10:50 – 12:10 GMT)

**Place:** ZOOM platform – Link to join: [HERE](#) “active 10 minutes before the start”

| Afternoon sessions                   |   |  |                      |
|--------------------------------------|---|--|----------------------|
| 13:50 – 14:10                        | National Institute of Fisheries Research (INRH) (Morocco) | Mapping of algal cover using Landsat and Sentinel images                         | Rachida Houssa       |
| 14:10 – 14:30                        | Tunisian National Institute of Agronomy (INAT) (Tunisia)  | Water resources in Tunisia: main constraints and current research trends         | Anis Chkirbene       |
| 14:30 – 14:50                        | Mediterranean Agronomic Institute of Chania (Greece)      | Promoting collaboration on Earth Observation with countries in MENA region       | Chariton Kalaitzidis |
| 14:50 – 15:10                        | GEOFEM (Cyprus)   | Addressing the impact of climate change on infrastructure using space technology | Styliana Stavrou     |
| <b>15:10 – 15:30 Closing remarks</b> |   |  |                      |

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## Speakers' announcement in the 3rd Virtual EXCELSIOR Workshop

### 4<sup>th</sup> Annual Virtual EXCELSIOR Workshop



Earth Observation Research Trends in the EMMENA region



Mohammed Faouzi Smiej

Doctor Mohammed Faouzi SMIEJ holds a PhD in signal processing from the University of Nancy I, France. He is currently Head of the Acquisition and Restitution Department at the Centre Royal de Télédétection Spatiale in Morocco. Mr. Smiej has over thirty years' experience in the field of geospatial information, particularly in:

- Implementation and management of satellite data acquisition and processing chains,
- Projects financed by international organizations in the agricultural field, particularly global monitoring of vegetation, land use, agricultural statistics, optimization of irrigation water resources, etc.
- Research projects involving machine learning techniques for predicting locust invasions and land use maps, in collaboration with national and international research institutions.
- Training sessions for users of Earth Observation data and university courses.

Wednesday July 5, 2023

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10:00 – 15:00 EEST  
07:00 – 12:00 UTC

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ZOOM

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https://cutt.ly/VwtN7QBq



### 4<sup>th</sup> Annual Virtual EXCELSIOR Workshop



Earth Observation Research Trends in the EMMENA region



Amal IAALY

Dr Iaaly is the GIS Center Director and an Assistant professor at the Faculty of Engineering at the University of Balamand. Dr Iaaly earned her Master's degree in Electrical Engineering from the University of Balamand. Afterwards, she pursued many professional certifications in GIS from ESRI and Lund University. In 2016, Dr Iaaly earned a research Doctorate in Business Administration from Grenoble Ecole de Management in France. The multidisciplinary nature of her educational background gave her a competitive edge in pursuing research at the intersection of engineering, GIS, and management. Dr Iaaly has been working in the field of GIS since 2001. She is a national GIS expert for the EU MASAR Consortium and other international NGOs in Lebanon. She has extensive experience in smart government, remote sensing, field data collection, geo-big data analysis, and smart government. She started her career as the head of the GIS department at the Chamber of Commerce in Tripoli and North Lebanon (CCIAAT) where she developed the first GIS system for Tripoli.

Dr. Iaaly teaches a variety of GIS courses and she is a strong advocate of applied research and that education must be directly linked to market and employment needs. thus, she took a proactive approach to bringing real-life projects to the GIS Center to build students' capacities through hands-on experience in real-life projects. By adopting this approach, many projects were executed that serve the community and build their capacity. She also works closely with NGOs on subjects related to sustainability and good governance through the use of GIS. Dr Iaaly is also involved in many volunteer works related to open geospatial data for humanitarian response in a time of crisis. She also designed a free Online Proctoring Solution at zero cost during the COVID-19 lockdown to help proctor e-assessment. During her work at the GIS Center, she received many international awards of excellence on various projects that she supervised.

Lately, Dr Iaaly was appointed as a National GIS Consultant for the MASRAR EU consortium in Lebanon and now she was appointed as an International GIS Consultant for MASAR in the region working in Erbil Iraq.

Wednesday July 5, 2023

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10:00 – 15:00 EEST  
07:00 – 12:00 UTC

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ZOOM

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https://cutt.ly/VwtN7QBq





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## 4<sup>th</sup> Annual Virtual EXCELSIOR Workshop



Earth Observation Research Trends in the EMMENA region

Charles GALDIES

Professor Charles Galdies has been involved in remote sensing, GIS and climatological research since 2002. His PhD study, which was carried out at Durham University UK, was related to the use of novel remote sensing data and GIS analysis to improve numerical weather and ocean predictions. As early as 1997-2000, he was the Technical Manager with the University of Malta on an R&D Project to apply Remote Sensing technology to monitor Maltese and Italian coastal waters. Between 1999 and 2002, he was also a Project Manager with the Euro-Mediterranean Centre on Insular Coastal Dynamics, University of Malta to coordinate a national survey commissioned by the National Statistics Office for the collection of Agricultural Land Cover Statistics using aerial remote sensing and GIS analysis at a pixel resolution of 12cm. Since then he has been teaching and researching these thematic areas at the University of Malta and has published widely on aspects related to remote sensing, Earth Observation and on climatology.



Wednesday July 5, 2023

10:00 – 15:00 EEST  
07:00 – 12:00 UTC

ZOOM



## 4<sup>th</sup> Annual Virtual EXCELSIOR Workshop



Earth Observation Research Trends in the EMMENA region

Hesham EL-ASKARY

Prof. El-Askary is the 2015 recipient of the Chapman University's elite Senior Wang-Fradkin Professorship award. He served as the regional coordinator on a \$3 million Euro grant from the European Union's (EU) Horizon 2020. He is an Earth System Scientist with a major interest in studying natural hazards using different remote sensing technologies and data sciences. He is involved in studying extreme events, air pollution problems over mega cities, climate change and its impacts on sea level rise and coral reefs for coastal areas. He also employs earth observations in studying impact of severe dust storms causing anomalous chlorophyll outbreaks in the marine environment, hurricanes intensification as well as transport of microbes' causing Kawasaki disease outbreaks. Recently Prof. El-Askary has been focusing on using earth observations for water resources management, precision agriculture along the sustainable development goals. He has published over a 150 refereed research publications, conferences full paper and book chapters in these research areas. Dr. El-Askary's research has been supported by National Science Foundation, NASA, United States Department of Agriculture and European Union. Dr. El-Askary has received the Saudi Arabia award hosted by the Arab Administrative Development Organization (ARADO) affiliated with the League of Arab states for the best published article in Environmental Management among 150 articles in 2006. He is also member of the Institute of Electrical and Electronics Engineers (IEEE), AGU, EGU, COSPAR, and Phi Beta Delta Honor Society.



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## 4<sup>th</sup> Annual Virtual EXCELSIOR Workshop



Earth Observation Research Trends in the EMMENA region

**Alexandra CHUDNOVSKY**

Alexandra A. Chudnovsky is an Associate Professor at the Porter School of the Environment and Earth Sciences, Faculty of Exact Sciences at the Tel-Aviv University (TAU), Israel. She holds a PhD in Geography (2007) from TAU with major focus in Remote Sensing and GIS. She gained additional expertise in aerosol research in Weizmann Institute of Science (2007-2009) and environmental health at Harvard School of Public Health (2010-2013). She served as visiting scientist at HSPH (2013-2021) and visiting associate professor at Imperial College London (2023). The central theme of her research is ecological effects of pollutants in air, water and soil. In particular, she studies the contribution of anthropogenic and desert dust pollution sources on air quality, vegetation exposure for health-related studies and land degradation via fusion of active and passive remote sensing techniques combined with GIS, environmental engineering and advanced statistical methods to generate a comprehensive view of the environment. At TAU, Alexandra leads AiR-Observation (AiR-O) laboratory teaching talented and highly motivated students and authored or co-authored over 70 peer-reviewed publications. Her research interests include monitoring of air pollution and its sources using passive and active remote sensing techniques, urban heat island phenomenon, studying vegetation exposure and vegetation quality. She is an Associated Editor at the International Journal of Applied Earth Observation and Geoinformation.



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<https://cutt.ly/VwtN7QBq>

## 4<sup>th</sup> Annual Virtual EXCELSIOR Workshop



Earth Observation Research Trends in the EMMENA region

**Anis CHKIRBENE**

Anis Chekirbane is a Tunisian researcher and academic affiliated with the National Agronomic Institute of Tunisia (INAT). With a Ph.D. from the University of Tsukuba in Japan and a diploma of National Engineer in Rural Engineering, Water and Forests from INAT. Moreover, he brings extensive expertise in water resources management and aquifer recharge. Anis has made significant contributions to numerous national and international research projects, focusing on topics such as integrated water resources management, treated wastewater reuse, and hydro systems pollution. He has served as a Principal Investigator for the international project "Adaptive Agreements on Benefits Sharing of Managed Aquifer Recharge in the Mediterranean regions – AGREEMAR," funded by PRIMA, and as a Co-Principal Investigator for the project "The Use of Modelling, Monitoring, and Smart Metering for Sustainable Groundwater Management in a Tunisian coastal aquifer (SMART-WATER)," funded by USAID in collaboration with Oklahoma State University. Anis has also worked as an international consultant for water-energy nexus projects, offering his expertise in strategic solar energy utilization for drinking water supply in Mauritania. His valuable contributions to the field are reflected in his numerous publications in esteemed scientific journals, where he serves as a reviewer. Anis Chekirbane's dedication to research and his wealth of experience make him a respected figure in the field of water resources management and aquifer recharge.



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## 4<sup>th</sup> Annual Virtual EXCELSIOR Workshop



Earth Observation Research Trends in the EMMENA region



Nikos BARTSOTAS

Nikolaos S. Bartsotas (NB) received his B.Sc. degree from the Physics Department of the University of Athens, followed by a M.Sc. in Environmental Physics / Meteorology and a Ph.D. in Atmospheric Modelling and Remote Sensing. He has a professional experience as a research scientist in: National Observatory of Athens - Beyond Center of Excellence Academy of Athens - Research Centre for Atmospheric Physics and Climatology Atmospheric Modelling & Weather Forecasting Group, University of Athens, Greece Innovative Technologies Center SA, Athens, Greece Weather and Marine Engineering Technologies, Athens, Greece He has been actively involved in a number of FP6/FP7/H2020 research programs, including Earth2Observe (Global Earth Observation for Integrated Water Resource Assessment), OPERANDUM (Open-Air Laboratories for Nature Based Solutions to Manage Hydro-Meteo Risks) as well as the implementation of operational forecasting platforms and staff training in agencies such as Qatar Meteorology Department (QMD), Saudi Aramco and National Center of Meteorology, Saudi Arabia. He is currently a pilot leader H2020 e-Shape - EuroGEO Showcases: Applications powered by Europe and a Project Manager in MedEWSa - Mediterranean and pan-European forecast and Early Warning System against natural hazards. He is a reviewer for the Journal of Hydrometeorology (American Meteorological Society) and Journal of Hydrology, as well a member of European and American Geophysical Unions (EGU and AGU).









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## 4<sup>th</sup> Annual Virtual EXCELSIOR Workshop



Earth Observation Research Trends in the EMMENA region



Styliana STAVROU

Styliana is a Remote Sensing Geologist at Geofem. Her academic studies combined the fields of geology through her first degree at the University of Patras and remote sensing through her Master’s degree at the Cyprus University of Technology, enabling her to work in geohazard assessment using both fields of expertise. She gained valuable experience working with real soil and rock samples in a testing laboratory before joining us to work in the fields of remote sensing and geohazards.









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### Screenshots during the 4<sup>th</sup> Virtual EXCELSIOR Workshop

**Geospatial Intelligent Solution**  
Sea Surface Temperature 2008-2022

Sea Surface Temperatures  
High: 35° C  
Low: 0° C

- Hezham El-Akary
- Eleni Louli
- Nikos Bartolotas
- Marinos Elades
- Stylianos Stavrou
- Alexandra Chudnovsky
- Marina Pekri
- Mohammed Fouzi Smiej

Operational Unit BEYOND Center for Earth Observation Research and Satellite Remote Sensing

**3. HIGH LEVEL MONITORING**

Large scale insurance product/risk monitoring that allows for assessment of the risk at which the insurance company is exposed to from a higher level.

I

RevAGRI High Level Monitoring

Location: Karditsa Date: 18/09/2020

Assessment Type: Flood Total Crop Area: 2000 ha

Estimated Damages: 487.71 M€

- Nikos Bartolotas
- Eleni Louli
- Marinos Elades
- Mohammed Fouzi Smiej
- Stylianos Stavrou
- Alexandra Chudnovsky
- Marina Pekri
- Charles Galides



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## Monitoring complex air pollution conditions using a wide range of remote sensing techniques in the Eastern Mediterranean Region

**Prof. Alexandra Chudnovsky Linzon**  
 AiR-O Lab, Head  
 Porter School of Environment and Earth Sciences  
 Faculty of Exact Sciences, Tel-Aviv University



4<sup>th</sup> EXCELSIOR Annual Virtual Workshop:





### Malta’s current research trends on the use of EO data

4th EXCELSIOR Annual Virtual Workshop  
 “Earth Observation research Terms in the EMMENA region”  
 5 July 2023

L-Università ta' Malta







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### Water resources in Tunisia

#### Groundwater exploitation

##### Shallow aquifers

##### Deep aquifers

#### Example of groundwater table decline (Zeus-Koutine aquifer)

Figure 29 : Fluctuation piézométrique de la nappe de Zeus Koutine (1982/2017)


(Source: DGRE, 2010)



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**CIHEAM**

A Mediterranean Intergovernmental organization


Established in 1962

13 Member states

4 Institutes + Headquarters

## The history of the CIHEAM

International Centre for Advanced Mediterranean Agronomic Studies



**AN INTERGOVERNEMENTAL ORGANIZATION**

Alexandra Chudn...  
Alexandra Chudnovsky

Eleni Louli

Chariton Kalatzidis  
Chariton Kalatzidis

Anis Chelorbane

Marinos Elades  
Marinos Elades

Styliana Stavrou  
Styliana Stavrou


Marina Pelri  
Marina Pelri

4th EXCELSIOR Annual Virtual Workshop: Earth Observation Research Trends in the EMMENA region



**CIHEAM**

## CIHEAM Action Plan (CAPMED 2025)



Alexandra Chudn...  
Alexandra Chudnovsky

Eleni Louli

Chariton Kalatzidis  
Chariton Kalatzidis

Anis Chelorbane

Marinos Elades  
Marinos Elades

Styliana Stavrou  
Styliana Stavrou

Marina Pelri  
Marina Pelri

**Protecting the planet**  
"by struggling against triple waste"

- Sharing knowledge and defending traditional know how
- Managing natural resources and energy (water, soil, forests, energy, biodiversity, sea...)
- Reducing agricultural losses and food waste throughout food chains

**Food security and nutrition**  
"by boosting sustainable agriculture and food"

- Promoting the Mediterranean diet
- Enhancing agro-ecological practices
- Improving food safety and quality
- Increasing access to food

**Inclusive development**  
"by investing in new generations and fragile territories"

- Youth employment and life-long learning
- Development of rural and coastal regions
- Gender equality and participation of vulnerable groups
- Emergence of smart rural territories and of inclusive agriculture and fishery models

**Crises and resilience**  
"by contributing to tensions management"

- Population mobility and migrations
- Climate change mitigation and adaptation solutions
- Animal and plant health
- Agricultural markets

4th EXCELSIOR Annual Virtual Workshop: Earth Observation Research Trends in the EMMENA region